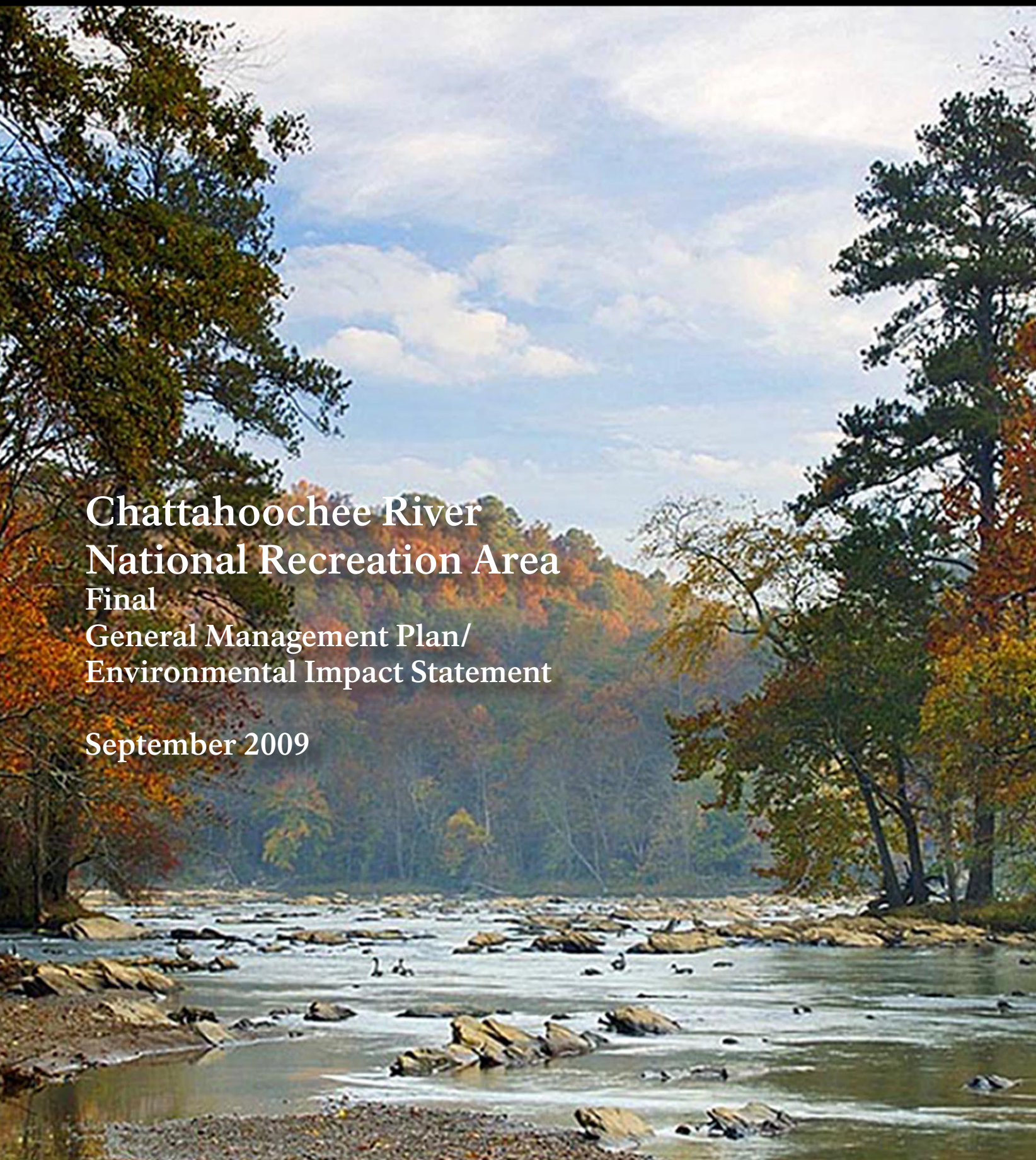
National Park Service
U.S. Department of the Interior

Chattahoochee River
National Recreation Area
Georgia



Chattahoochee River National Recreation Area

Final General Management Plan/ Environmental Impact Statement

September 2009

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General Management Plan/
Environmental Impact Statement

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National Recreation Area

Atlanta, Georgia
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United States Department of the Interior
National Park Service

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Chattahoochee River National Recreation Area
Final General Management Plan and Environmental Impact Statement
Atlanta, Georgia

This *Final General Management Plan / Environmental Impact Statement* evaluates six alternatives for the future management of the Chattahoochee River National Recreation Area. It defines the strategies that will allow for diverse visitor use of the Chattahoochee River National Recreation Area, protect park resources, and provide for the enjoyment of the people. The National Park Service is the lead agency for this project.

Alternative A would continue the current management practices into the future. There would be only minor changes in resources management, visitor programs, or facilities. Alternative B would minimize development in the park and maximize the opportunity for visitors to experience solitude in natural settings that are relatively insulated from the surrounding urban conditions. This alternative would allow continued use of existing facilities, while improving resource conditions through restoration and other means. Motorized boating would not be appropriate in several zones under Alternative B. Alternative C provides for a management system where visitors would be drawn toward a system of hubs in which administrative, commercial, and interpretive facilities are located, providing visitor information, restrooms, parking lot and roads, trail heads and river access. Visitors, in lower numbers, could enjoy the extensive natural habitats and cultural resources in the undeveloped portions of the park, where activities would be focused on achieving solitude. Motorized boating would not be appropriate in several zones under Alternative C. Alternative D would expand and distribute visitor access throughout the park, including newly acquired parcels, and would provide a wide variety of visitor experiences. New facilities would be developed or existing facilities would be refurbished. Connectivity to existing neighborhoods would be optimized and expanded. Alternative E extracts some features from Alternatives C and D, such as providing for more expanded access. Substantial acreage with less hardened forms of access would be maintained, providing more opportunities for relative quiet and solitude, and motorized boating and fishing would be appropriate throughout the park. The preferred alternative, Alternative F, is similar to Alternative E providing for more expanded access, and allowing for motorized boating and fishing throughout the park, while also maintaining opportunities for relative quiet and solitude. However, Alternative F zoning allows for more facilities and more of the built environment than Alternative E. The potential environmental consequences are addressed for each alternative, including impacts to natural resources, cultural resources, transportation, and visitor and community values.

This *Final General Management Plan/Environmental Impact Statement* has been distributed to other agencies and interested organizations and individuals for their review. The no-action period for this document will last for 30 days after the Environmental Protection Agency's notice of availability has been published in the *Federal Register*.

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SUMMARY

PURPOSE AND NEED FOR A GENERAL MANAGEMENT PLAN

This general management plan and environmental impact statement is the basic guidance document for managing the Chattahoochee River National Recreation Area for the next twenty years. The purposes of this plan are to specify resource conditions and visitor experiences to be achieved in the park and to provide the foundation for decision-making and preparation of more specific resource plans regarding park management. It represents an agreement by the National Park Service with the public on how the park will be used and managed during the plan period.

Chattahoochee River National Recreation Area was authorized by an act of Congress in 1978. The boundaries of the park were expanded to total 10,000 acres in 1999.The last general management plan for Chattahoochee River National Recreation Area was completed in 1989.The metropolitan area surrounding the park has changed significantly since 1989, and the patterns and types of visitor use have also changed. This plan represents the results of a multi-year planning process that began in 1999. The geographic area covered by this plan includes 10,000 acres of land located along 48 miles of the Chattahoochee River corridor extending from Buford Dam, Lake Lanier southward, to Peachtree Creek in Atlanta.

Three key management issues have been identified for the park.

- The first key management issue is to determine the most appropriate levels of service for visitor interpretation and education in the park. Key questions include:
    - How can the park accommodate an increasing numbers of visitors and still provide effective infrastructure, such as roads, parking areas, restrooms, and river access points?
    - How can the park provide effective educational and interpretive programs for increasing numbers of visitors?
- A second key management issue is to determine suitable locations for administration and visitor facilities. Key questions are:
    - What are the most appropriate locations to support administration and operations functions while minimizing resource disturbance?
    - Should these facilities be concentrated in a few locations or spread out over a larger geographical area?
    - What is the basis for deciding where facilities should be located, and what types should be constructed?
- The third key management issue is to determine how to manage the park to allow for quality visitor experiences while protecting natural and cultural resources. The park is located in a long, narrow river corridor surrounded by developing communities and the park is therefore highly sensitive to potential effects of encroachment and use. Key issues include:
    - Water quality in streams within the park, including the Chattahoochee River, can be adversely impacted by nonpoint runoff from impervious surfaces in adjoining developed areas. Pollutants such as fecal coliform bacteria and organic compounds can

be introduced via this mechanism. How can the National Park Service maintain water quality and aquatic life in streams within the park?

- Encroachment by development can lead to creation of numerous unauthorized trails in the park from adjoining residential areas. Unauthorized trails disturb native vegetation, encourage the spread of invasive plant species, and can lead to soil erosion, especially in steeper areas. How can the National Park Service manage trails to prevent or minimize the effects of unauthorized trails?
- Increased numbers of visitors require facilities as well as education and interpretation services. Construction and operation of facilities, along with associated roads and parking areas, can affect and have affected the park's natural habitats and cultural resources. How can the park manage the construction and operation of these facilities to minimize impacts on natural and cultural resources?

The potential solutions to these issues are reflected in the management alternatives analyzed in this general management plan and environmental impact statement. The alternatives address the adequacy and appropriateness of park services and facilities and the challenges posed by managing a large, linear park in the center of a metropolitan area.

ALTERNATIVES

Six alternatives were developed to provide different approaches for addressing the issues. The National Park Service developed four alternatives (A, B, C and D) and presented these preliminary alternatives to the public in the May 2004 Draft General Management Plan / Environmental Impact Statement. Based upon feedback regarding these alternatives, additional meetings were conducted, and two new alternatives (E and F) were developed and analyzed. The actual cost of implementing the approved general management plan will ultimately depend on future funding and servicewide priorities over the life of the plan, as well as the ability to partner with other agencies or groups. The approval of a general management plan does not guarantee that funding and staffing needed to implement the plan will be forthcoming. Funding for capital construction improvements is not currently shown in National Park Service construction programs. It is not likely that all potential capital improvements arising from this plan will be totally implemented during the life of the plan. Larger capital improvements may be phased over several years, and full implementation of the general management plan could be many years into the future. Additionally, the National Park Service is required to maintain all new or acquired assets in a good condition so they do not fall into disrepair. New and/or expanded assets will only be provided relative to the National Park Service's ability to maintain those facilities in good condition.

Alternative A

Alternative A, No Action, consists of a continuation of existing management patterns into the future, and provides a baseline for comparing and evaluating the changes and impacts of the other action alternatives. Under Alternative A, the park would be maintained and managed using the current management strategy. There would be no major changes in resources management, visitor services, interpretive programs, or facilities. There would be no increase in the level of public/private partnership activity the park would conduct due to staffing and funding limitations. Limited construction and continued maintenance would consist of repair and maintainenance of roads, boat ramps, trails, parking lots, and buildings.

Overall, because park staff resources are limited, interpretive activities would be minimal. The park is currently experiencing problems with soil erosion, sedimentation of streams from surrounding development, excessive growth of invasive species of plants, and increased adverse effects from unauthorized trails. In addition, cultural resources are being degraded through physical disturbance. In this sense, the park is not in compliance with all applicable National Park Service policies, mandates, and regulations. Implementation of Alternative A would result in a continuation of these problems and of non-compliance in some instances.

The overall effects of the Alternative A on natural resources would lead to gradual long-term reduction of the value of natural and cultural resources in the park, as a result of less effective resource and trail management.

Alternative B

Alternative B, Focus on Solitude, would implement management programs to minimize development in the park and maximize the opportunity for visitors to experience solitude in natural settings relatively insulated from the surrounding urban conditions, particularly in newly acquired areas. This alternative would involve reducing or minimizing recreational sites and facilities within the newly acquired areas of the park, but would allow continued use of existing facilities. Alternative B would redirect visitation patterns to provide experiences in a relatively natural area with few visitors. Motorized boating is not appropriate in several zones in Alternative B. This alternative would have the following specific features:

- Visitors would experience the natural environment, wherever feasible, through a system of non-paved walking trails, primitive areas of beauty, and locations along the riverbanks defined as river solitude zones where no trails or structures would be allowed near the river. Areas designated as river solitude zones could be viewed from the river in non-motorized vessels.

- This alternative would allow few new facilities to be constructed within park boundaries. Additional access could be provided by partnering with public and private entities. Newly acquired areas (from willing sellers, assuming funding is available) would be managed to provide maximum resource protection and solitude for visitors. River use would be encouraged through canoes, rafts, non-gas motorized vessels, and other recreation opportunities. Visitors would be provided with a quality experience in a wide variety of environments available in the park, with an emphasis on environmental education. Through various public/private partnering efforts, the visitor experience would be highly facilitated through learning.

- Parcels added to the park under the newly expanded boundaries would remain in, or be restored to, a largely natural state. Areas with significant cultural resources would be managed to protect values in accordance with Section 106 and 110 of the National Historic Preservation Act. Limited facilities would be added; for example, small gravel parking lots, primitive trails, and interpretive signage.

Alternative C

In this alternative, visitors would be drawn toward a system of relatively developed hubs in which administrative and interpretive facilities are located. Hubs, at a minimum, would provide visitor information, restrooms, parking lot and roads, trail head, and access to the river; such facilities would

be minimized outside hubs. The hubs would be placed at strategic locations (north, central and south) along the 48-mile-long park to optimize visitors' experience and understanding of the park. Motorized boating would not be appropriate in several zones in Alternative C. This alternative would have the following features:

- Visitors' experience would be focused on the interpretive activities and other facilities available in the hubs. Visitors, in lower numbers, could enjoy the extensive natural habitats and cultural resources in the undeveloped portions of the park. Visitor activities in natural areas outside the hubs would be focused on achieving solitude in an urban environment.

- Visitor services would be expanded while simultaneously maintaining greenspace throughout the park by coordinating public/private partnerships at carefully selected centers (hubs) of the park.

- The opportunity for instituting National Park Service education and interpretive programs, visitor services, and connectivity at key regional locations would be enhanced. This alternative would allow the National Park Service to concentrate limited resources into hub areas. This alternative would discourage expanded new entrances to the park and would encourage National Park Service supervision, education, and monitoring where use is greatest.

- The visitor experience would be more gregarious, with more opportunity for socializing and involvement in group activities and less opportunity for solitude in the vicinity of the hubs. However, the opportunity for solitude would still exist at park locations outside the hubs. A nine-mile river solitude zone would be established between McGinnis Ferry Road and Highway 20 that would provide visitors with the opportunity to experience the river in a relatively natural condition.

- Motorized vessels (gasoline-driven motors) would be defined as an appropriate use in the upper portion of Bull Sluice Lake. Bull Sluice Lake is the only lake within the 48-mile park, providing a unique recreation opportunity for the use of motorized vessels.

Alternative D

In this alternative, expanding and distributing access throughout the park, including newly acquired parcels, would provide diverse types of visitor experiences. New facilities would be developed or existing facilities would be refurbished. Connectivity to existing neighborhoods would be optimized, providing similar visitor experiences throughout the park. This alternative would have the following specific features:

- Because this linear park is located adjacent to the most densely developed neighborhoods and business communities of the metropolitan area, access to the park could be expanded in the future for current and new visitors.

- The National Park Service could expand visitor experiences to local visitors and day use visitors from business parks and neighborhoods and would provide trail linkages to city- and county-funded and supervised parks.

- Trails from existing and proposed developments would be managed to encourage use by an expanded group of visitors. This would require a higher level of self-help and individual reliance from a wide range of sources.

- A proactive National Park Service outreach program would de-emphasize solitude and emphasize a more social, community-based group experience. Expanding uses and access would require a redefinition of gathering spaces surrounding the national park, which would be used for picnics, celebrations, neighborhood meetings, and family walks. Visitor experience would be characterized as one of convenience and personal attachment.

- Facilities for the park would be necessarily distributed throughout the 48 miles, based on availability of resources and local community support to serve a greater and more diverse population of residents. This alternative would have the potential to strengthen community involvement in environmental protection of the park and its resources. Local self-help education and voluntary public/private partnerships could enhance park stewardship.

Alternative E

Alternative E was developed by extracting some features of both Alternatives C and D and by creating new zone types and management prescriptions that responded to public criticism of the May 2004 Draft. Alternative E provides expanded access to the park while at the same time maintains substantial acreage with less "hardened" forms of access (such as new developed parking and roads, trails and structures you would expect with the built environment), and therefore potentially more opportunities for relative quiet and solitude. Under Alternative E boating and fishing would be appropriate throughout the park wherever possible, and in accordance with State laws and private property rights.

Visitor experience would focus on the interpretive activities and other facilities available in the developed zones, as well as enjoyment of the natural habitats and cultural resources in the remainder of the park in other zones. Increased opportunities for partnering with local organizations and agencies would provide for increased stewardship of park resources. The opportunity for instituting National Park Service education and interpretive programs, and visitor services would be enhanced.

Alternative F, the Preferred Alternative

Alternative F, like Alternative E, was developed by extracting some features of both Alternatives C and D and by creating new zone types and management prescriptions that responded to public criticism of the May 2004 Draft. Alternative F provides more opportunities throughout the park for "hardened" types of access and facility development, such as boat ramps, paved trails, parking areas, and restrooms where zoned appropriate. Under Alternative F boating and fishing would be appropriate throughout the park wherever possible, and in accordance with State laws and private property rights.

Alternative F provides opportunities for the National Park Service to expand use to local visitors and increase connectivity to neighboring communities through trail linkages, partnering, and expanded interpretive, education and outreach activities. Like Alternative E, the increased reliance on cooperative efforts with local organizations and agencies would be necessary to enhance the levels of connectivity, avoid resource degradation, and increase resource protection through educational outreach activities.

Alternative F was selected as the preffered alternative by a decision making system called "Choosing by Advantages". The fundamental rule in this decision-making system is that sound decisions must be based on the importance of advantage. Alternative F was selected because it best balances the park's need to provide high-quality visitor experiences and protect park resources. This alternative addresses public comments and concerns received. Alternative F, the preferred alternative, would provide the greatest total advantage of the six alternatives.

ENVIRONMENTAL CONSEQUENCES

The process of determining environmental consequences included identifying the regulations and policies applicable to each impact topic, and then defining the methods to conduct the analysis. Impact thresholds for each impact topic are defined in terms of negligible, minor, moderate and major; and whether they would be short-term or long-term and adverse or beneficial effects. Cumulative effects were also assessed. The impact analysis compared future conditions under potential new types of management practices (action alternatives) to future conditions that would occur if current management practices were to continue unchanged (Alternative A, No Action). The following is a summary of effects. All future development projects are subject to compliance with the National Environmental Policy Act, the National Historic Preservation Act and other appropriate laws and regulations. Future project environmental reviews will be site specific and address cultural and natural resources, visitor experiences and park operations.

Impacts of Alternative A: The overall effects of Alternative A would lead to gradual long-term reduction of the value of natural and cultural resources in the park, as a result of less effective resource and trail management in comparison with the action alternatives. Because park staff resources are limited, interpretive activities would not increase. The park is currently experiencing problems with soil erosion, sedimentation of streams from surrounding development, excessive growth of invasive species of plants, and excessive use of unauthorized trails. In general, long- and short-term, minor to moderate, adverse effects to water resources would occur under Alternative A from minimal construction and maintenance of park facilities, the effects of increasing visitor use, staffing constraints, and the lack of implementation of resource stewardship strategies and other studies. Long and short-term, moderate, adverse effects to wetlands, floodplains, and terrestrial ecological resources would occur. Rare, threatened and endangered species would continue to be protected; however, without conducting additional survey work, effects to these species could occur, resulting in long-term, minor, adverse effects.

Long-term, minor to major, adverse effects to archeological resources would result from natural causes, inappropriate visitor use, development activities outside the park, and a lack of information about the locations and significance of archeological sites. Avoidance and other mitigation measures would help reduce adverse effects of new park construction, and long-term, minor benefits to sites would result from visitor education, ranger patrols, and protection from large development projects. In addition, few of the historic buildings, structures, landscapes and objects in the park would be afforded enhanced protection and preservation treatment and a corresponding adverse effect to the cultural landscape. If the historic resources are not monitored, maintained or receive increased levels of protection and preservation, Alternative A would have long-term, minor to major, adverse effects on historic buildings, structures, landscapes and objects in the park.

Under Alternative A, the majority of transportation effects would be localized to park entrances and short and long-term, adverse effects would be negligible. The overall effects on the availability, management, and connectivity of trails would be long-term, minor to moderate, and adverse.

Alternative A would have an overall long-term, moderate, adverse effects on visitor experiences and the traditional character of the park since no new programs, facilities or related increase in park staff levels would be expected to occur. Although the continued availability of existing recreational opportunities throughout the park would result in a beneficial effect, the majority of comments received expressed a preference for a more facilitated park experience with expanded access and more diverse recreational opportunities. Therefore, the effects of Alternative A on recreation would be long-term, moderate, and adverse. Park operations would become increasingly difficult to implement resulting in less effective park management. Alternative A would have a long-term, moderate, adverse effect on park operations.

Impacts of Alternative B: Alternative B would focus on providing visitors the maximum amount of opportunity to experience the natural features of the park, but with relatively few access points along the 48-mile corridor. Alternative B would have long-and short-term, minor, beneficial effects on water resources, aquatic resources, wetlands, and floodplains resulting from control of surface runoff, greater emphasis on habitat restoration and increased educational opportunities, and implementation of a resource stewardship strategy, fisheries management plan, integrated trail system study, and flow studies. Water resources in general would continue to be more heavily influenced by urban development surrounding the park than by activities in the park. Alternative B would have long-and short-term, minor to moderate, beneficial effects on terrestrial ecological resources and rare, threatened and endangered species due to a lesser amount of construction activity than under Alternative A, a greater emphasis on habitat restoration, increased educational programs, and development and implementation of resource stewardship strategies that include measures to control invasive species.

Under Alternative B, establishment of cultural resources zones, minimizing facilitated recreational activities, and changing visitor use patterns would benefit cultural resource sites. Development of resource stewardship strategies and collections management plan, inventory and preservation of sites, increased visitor education and interpretation, and enhanced site monitoring and ranger patrols all would contribute to long-term, moderate benefits to archeological resources. Some long-term, negligible to minor, adverse effects on archeological resources would result from development, visitor use and natural processes. Long-term, negligible to minor, adverse effects on some historic resources located outside of the cultural resource zones. The majority of the park's historic structures, buildings, objects, and landscapes would gain long-term, major benefits from placement in cultural resource zones, minimal development within the park, increased monitoring and ranger presence, rehabilitation and adaptive use/reuse, and enhanced interpretation leading to increased stewardship.

It is likely that motorized vehicle patterns in the park would continue to exhibit patterns and problems similar to those described for Alternative A, with projected long-term, negligible, and adverse effects. Long-term, negligible, beneficial effects on the availability, management, and connectivity of trails would occur since fewer new trails would be constructed compared to Alternative A, but an integrated trail system study and an increased level of partnering with local governments and organizations would be implemented.

Regarding the visitor experience overall, Alternative B would result in a long-term, moderate to major, beneficial effect on visitors who value solitude and isolation, and a long-term, moderate to major, adverse effect on visitors who value more varied, active recreational experiences and supportive facilities. Alternative B would have long-term, moderate, beneficial effect on traditional character and experiences by providing an emphasis on improving resource conditions and education programs. The effect of Alternative B on park operations would be long-term, negligible, and beneficial, largely due to the limited amount of development and the emphasis on a less facilitated visitor experience.

Impacts of Alternative C: Under this alternative, visitors would be drawn to a system of hubs and five developed zones distributed along the length of the 48-mile park corridor. This alternative would allow for increased educational opportunities for visitors through centralized facilities and access to resources and information from park rangers. Visitors would still have ample opportunity to experience solitude and other similar activities in natural areas between the hubs.

In general, Alternative C would have the potential for a greater amount of construction than Alternative A; however, these impacts would be offset somewhat by centralization of services and construction in hubs; implementation of a resource stewardship strategy, fisheries management plan, an integrated trail system study, and flow studies; and the increased educational opportunities and partnerships. The overall effect on water resources, aquatic resources, aquatic resources, wetlands, floodplains, and terrestrial ecological resources is long- and short-term, negligible, and adverse.

Alternative C would have long-term, negligible, adverse effects on rare, threatened and endangered species due to the combined effects of an intermediate amount of land disturbance centralized in hubs as compared with Alternative A, the emphasis placed on educational programs, expanded species inventories, and implementation of a resource stewardship strategy, which would address invasive species control and management.

Effects on archeological resources and cultural landscapes, historic buildings, structures and objects from natural processes and visitor use and from facility construction would be long-term, negligible to minor, and adverse. Alternative C would also result in long-term, moderate to major benefits from the establishment of cultural resource zones, implementation of collections management plan and resource stewardship strategies, concentration of development in the hubs following survey and analysis of the area of potential effect, rehabilitation and adaptive use of structures, increased monitoring and ranger presence, focused visitor use in hubs, and increased interpretation and education resulting in improved stewardship.

Alternative C would have a long-term, minor to moderate, adverse effect on vehicular transportation. Effects on trails would be long-term, minor to moderate, and beneficial in terms of availability, management, and connectivity of trails since more facilities would be feasible under Alternative C, and an integrated trail system study would be completed. In addition, an increased level of partnering with local governments and organizations would improve trail connectivity and resource stewardship.

The effect of Alternative C on visitor experience would be long-term, minor to moderate, and beneficial since both a facilitated experience and opportunities for solitude would be offered. Overall, this alternative would have a long-term, minor to moderate, beneficial effect on the recreational opportunity for the majority of park visitors. However, Alternative C is likely to have a long-term, moderate to major, adverse effect on visitors who prefer a wider range of access and motorized boating throughout the entire 48-mile corridor.

Alternative C would have a long-term, major, beneficial effect on maintaining the traditional character and experiences in the park. The overall effect on park operations would be long-term, moderate, and beneficial, largely due to the efficiency of providing centralized services in hubs.

Impacts of Alternative D: Alternative D would have a greater relative amount of land disturbing activity and more access in comparison to Alternative A. These impacts would be offset somewhat by implementation of a resource stewardship strategy, fisheries management plan, an integrated trail system study, and flow studies; and the increased staffing, educational opportunities, and partnerships afforded under this alternative. The overall effect on water resources, aquatic resources, wetlands and

floodplains is long- and short-term, minor, and adverse. The effects to terrestrial resources would be long and short-term, minor to moderate, and adverse; and long-term, negligible to minor, adverse effects on rare, threatened or endangered species primarily because visitor use would be expanded and distributed throughout the park.

Alternative D would provide more protection, monitoring, and interpretation of archeological sites than Alternative A and would have long-term, moderate benefits on archeological sites by establishing cultural resource zones; by increasing monitoring, numbers of rangers, and education programs; and by implementing resource stewardship strategies and collections management plans. However, this alternative would result in more visitors in sensitive areas and higher potential for site deterioration and loss from inappropriate recreational uses and vandalism. Implementation of this alternative would have long-term, direct and indirect, moderate adverse effects on archeological resources.

Effects of Alternative D on cultural landscapes, historic buildings, objects and structures would be long-term, direct and indirect, minor to moderate, and adverse due to increased numbers of recreational facilities and means of access into the park that could result in damage to structures and sites. Introduction of modern developments into the historic landscape also would have minor to moderate adverse effects. Long-term, indirect and direct, moderate beneficial effects of protection and preservation would accrue from development of cultural resource zones, rehabilitation, reuse, adaptive use of historic structures, implementation of resource stewardship strategies and collections management plans, and increased monitoring and ranger presence.

Transportation and traffic problems in the park and surrounding area would continue to increase under any of the alternatives, since traffic and transportation patterns and characteristics are largely controlled by factors outside the park. Overall, Alternative D would have a direct, long-term, moderate, adverse effect on transportation and traffic in the park and surrounding area, due to traffic congestion.

Alternative D would have a direct, long-term, moderate, beneficial effect on the availability, management, and connectivity of trails since more new trail construction would be appropriate, an integrated trail system study would be implemented, and an increased level of partnering would be coordinated to improve trail connectivity with surrounding local and county parks when compared to Alternative A.

Alternative D would cause a range of effects to the visitor experience and recreational opportunities. There would be a long-term, moderate to major, adverse effect on visitors who value solitude and isolation, and a long-term moderate to major, beneficial effect on visitors who value a more facilitated park experience and more diverse recreational opportunities. The traditional character of the park would be maintained under Alternative D through changes in management policy resulting in a long-term, major, beneficial effect on traditional character and experiences in the park. However, this alternative also has a simultaneous potential for having a long-term, minor to moderate, adverse effect on traditional park character, since a higher degree of isolation and solitude, experiencing the natural river environment, and similar values, would not be as achievable as compared to Alternative A.

Impacts of Alternative E: Alternative E would have a greater relative amount of land disturbing activity and more access with support facilities in comparison to Alternative A. The effects of these activities and uses would be offset somewhat by implementation of a resource stewardship strategy, fisheries management plan, an integrated trail system study, and flow studies; and increased staffing, educational opportunities, and partnerships. The overall effect on water resources and aquatic resources would be long- and short-term, negligible to minor, and adverse. Although the rationale

may differ for the intensity and duration of effects to wetlands and floodplains, terrestrial ecological resources, and rare, threatened or endangered species, the findings are the same as reported for Alternative C, that are previously described.

Adverse effects on archeological resources from natural processes, visitor use, and development of new facilities, would have long-term, direct and indirect, negligible to minor, adverse effects on archeological resources because mitigation measures would help reduce potential for site damage. Establishment of historic resource zones with additional ranger presence and monitoring, new educational programs, and implementation of resource stewardship strategies and collections management plans would have long-term, direct and indirect, moderate to major benefits to archeological resources.

Implementation of Alternative E would help protect and rehabilitate and reuse buildings, structures, landscapes, and objects within the historic resources zones. Increased ranger presence, monitoring, interpretation, and implementation of a resource stewardship strategy and a collections management plan would have long-term, moderate to major, beneficial effects in preserving these resources for the future compared to Alternative A. Effects from visitor use and natural processes would be long-term, negligible to minor, and adverse.

The dispersed nature of the access in Alternative E and lack of hubs would result in transportation related effects the same as described for Alternative D. In addition, the same level of partnering and enhanced trail connectivity would result in the same levels of intensity and duration of effect as Alternative D.

In comparison with Alternative A, Alternative E would provide visitors with a lower relative potential for experiencing solitude and isolation, and an expanded opportunity for more diverse, active forms of recreation experiences such as motorized boating, bicycling, horseback riding, and walking and hiking. The result would be a long-term, moderate, adverse effect on visitors who value solitude and isolation, and a long-term, moderate to major, beneficial effect on visitors who value a more facilitated park experience.

Alternative E would have a long-term, moderate, adverse effect on visitors who value more passive, less diverse forms of recreation and a long-term, moderate to major, beneficial effect on visitors who value more diverse opportunities for recreation (such as bicyclists, boaters and those who fish), increased park access points, and a more social experience.

The traditional character of the park would be maintained under Alternative E through changes in management policy resulting in a long-term, major, beneficial effect on traditional character and experiences in the park. However, this alternative also has a simultaneous potential for having a long-term, minor, adverse effect on traditional park character, since a higher degree of isolation and solitude, and similar values, would not be as achievable as compared to Alternative A.

Effects on park operations would be similar to Alternative D, however there would be less facility development compared to Alternative D, and overall there would be a long-term, negligible, beneficial effect on park operations due to strengthening of park partnerships, implementation of stewardship strategies, other plans, and increased staffing levels.

Impacts of Alternative F, the Preferred Alternative: Alternative F would have a greater relative amount of land disturbing activity and more access with support facilities in comparison to Alternative A. The effects of these activities and uses would be offset somewhat by implementation of a resource

stewardship strategy, fisheries management plan, an integrated trail system study, and flow studies; and increased staffing, educational opportunities, and partnerships. Although the rationale may differ for the intensity and duration of effects to natural resources (including water resources and aquatic resources, wetlands and floodplains, terrestrial ecological resources, and rare, threatened or endangered species), the results are the same as reported for Alternative D, that are previously described.

Protection of cultural resource sites within historic resource zones, implementation of a collections management plan and resource stewardship strategy, use of mitigation measures to reduce potential effects of development, increased ranger presence and site monitoring would have long-term, moderate to major, beneficial effects in preserving archeological resources for the future. Natural processes and construction activities associated with implementation of Alternative F would have long-term, indirect and direct, minor, adverse effects on archeological resources. Implementation of Alternative F would help protect and rehabilitate and reuse buildings, structures, landscapes, and objects within the historic resources zones. Increased ranger presence, monitoring, interpretation, and implementation of a resource stewardship strategy and a collections management plan would have long-term, moderate to major, beneficial effects on preserving these resources for the future compared to Alternative A. Effects from visitor use and natural processes would be long-term, minor, and adverse.

The same transportation effects as those described under Alternative D are applicable to Alternative F. Approximately 66 percent of the park would be zoned in a maner that is readily accessible to visitors and zoned for a more facilitated experience, which is a level similar to Alternative D. The dispersed nature of access and lack of hubs would also result in transportation effects the same as described for Alternative D. The same level of partnering to enhance trail connectivity throughout the park would also be the same as that described for Alternative D. In addition, off-road bicycling would be appropriate on designated trails in the developed zone, natural area recreation zone, and rustic zone, which is comparable to Alternative D. Individual preferences as to where these zones occur may result in differences in opinion regarding the benefits of Alternatives E and F.

In comparison with Alternative A, Alternative F would provide visitors with a lower relative potential for experiencing solitude and isolation, and an expanded opportunity for more active forms of recreation experiences such as motorized boating, bicycling, horseback riding, and walking and hiking. The result would be a long-term, moderate to major, adverse effect on visitors who value solitude and isolation, and a long-term, moderate to major, beneficial effect on visitors who value more facilitated experiences and park use.

The traditional character of the park would be maintained under Alternative F through changes in management policy resulting in a long-term, major, beneficial effect on traditional character and experiences in the park. However, this alternative also has a simultaneous potential for having a long-term, minor to moderate, adverse effect on traditional park character, since a higher degree of isolation and solitude, and similar values, would not be as achievable as compared to Alternative A.

The effects of Alternative F on park operations are the same as described for Alternative E above.

NEXT STEPS

The Chattahoochee River National Recreation Area *Final General Management Plan / Environmental Impact Statement* includes letters from governmental agencies, any substantive comments on the supplemental draft document, and National Park Service responses to those comments. Following

distribution of the *Final General Management Plan / Environmental Impact Statement* and a 30-day no-action period, a record of decision approving a final plan will be signed by the National Park Service regional director. The record of decision will document the NPS selection of an alternative for implementation. With the signed record of decision, the plan can then be implemented, depending on funding and staffing. (A record of decision does not guarantee funds and staff for implementing the approved plan.) The Park must compete with other units of the National Park system for limited implementation funding.

CONTENTS

Page

SUMMARY v

CONTENTS xvii

CHAPTER 1 PURPOSE OF AND NEED FOR ACTION 1
A Guide to this Document 3
Purpose and Need for the General Management Plan 4
Introduction 4
Purpose of the Plan 4
Need for the General Management Plan 8
Brief Description of the Park 9
Geographic Area Covered by the General Management Plan 13
Planning Direction or Guidance 13
Park Mission 13
Mission Goals 15
Special Mandates and Administrative Commitments 15
Servicewide Mandates and Policies 15
Planning Opportunities and Issues 27
Decision Points 27
Impact Topics – Resources and Values at Stake in the Planning Process 29
Issue Topics Considered but Dismissed 33

CHAPTER 2 ALTERNATIVES 37
Carrying Capacity 39
Potential Management Prescriptions 42
Management Zone 43
Developed Zone (Alternatives B, C, D, E and F) 43
Visitor Experience 47
Resource Condition or Character 47
Appropriate Kinds of Activities or Facilities 47
Natural Area Recreation Zone (Alternatives B, C, D, E and F) 47
Visitor Experience 47
Resource Condition or Character 48
Appropriate Kinds of Activities or Facilities 48
Natural Zone (Alternatives B, C, D, E and F, with Differences Noted) 48
Visitor Experience 48
Resource Condition or Character 49
Appropriate Kinds of Activities or Facilities 49
River Solitude Zone (Alternatives B and C Only) 49
Visitor Experience 49
Resource Condition or Character 50
Appropriate Kinds of Activities or Facilities 50

CONTENTS (CONTINUED)

Page

Cultural Resource Zone (Alternatives B, C and D only) 50
Visitor Experience 50
Resource Condition or Character 50
Appropriate Kinds of Activities or Facilities 51
Historic Resource Zone (Alternatives E and F only) 51
Rustic Zone (Alternatives E and F only) 51
Visitor Experience 51
Resource Condition or Character 52
Appropriate Kinds of Activities or Facilities 52
River Zone (Alternatives E and F only) 52
Visitor Experience 52
Resource Condition or Character 52
Appropriate Kinds of Activities or Facilities 53
Formulation of Alternatives 53
Visitation, Land Acquisitions, and Facilities 55
Partnering 56
Alternative A: Continue Current Management or No Action Alternative 56
Alternative B: Focus on Solitude Alternative 57
Alternative C: Centralized Access 59
Alternative D: Expanded Use 62
Alternative E 64
Alternative F: Preferred Alternative 64
Comparative Cost Analysis 69
Range of Annual Costs 69
One-Time Costs 71
Total Life-Cycle Costs 72
Chattahoochee River National Recreation Area Fee Program 72
Mitigation Measures Common to all Action Alternatives 73
Selecting the Preferred Alternative 76
Environmentally Preferred Alternative 78
Summary of Environmental Consequences 80

CHAPTER 3 AFFECTED ENVIRONMENT 89
Natural Resources 91
Water Resources 91
Surface Water Hydrology and Watershed Characteristics 91
Water Supply and Allocation 96
Water Quality 98
Water Quality Parameters 104
Aquatic Resources 112
Factors Controlling Diversity and Abundance of Aquatic Resources 112
Biological Indicators 113
Fish Inventories 115
Cold Water Fisheries 115
Temperature and the Chattahoochee River Fishery 117
Benthic Macroinvertebrates 117

CONTENTS (CONTINUED)

Page

Amphibians and Reptiles 117
Bivalve Mollusks 118
Aquatic Plants 119
Invasive Aquatic Species 119
Wetlands and Floodplains 119
Terrestrial Ecological Resources 122
Rare, Threatened, or Endangered Species 123
Prime and Unique Farmlands 130
Cultural Resources 132
Archeological Resources 134
Historic Buildings, Structures, Landscapes, and Objects 135
Transportation 137
Regional Transportation Conditions 137
Transportation Conditions in Relation to the Park 139
Visitor and Community Values 141
Traditional Park Character and Visitor Experience 141
Recreational Opportunities 142
Community Characteristics 148
Land Use 148
Economics 150
Park Operations 151
Staffing 151
Park Infrastructure and Facilities 152
Commercial Services 152

CHAPTER 4 ENVIRONMENTAL CONSEQUENCES 153
Impact Assessment Methodology 155
Impact Assessment Section Organization 159
Water Resources 160
Aquatic Resources 167
Wetlands 175
Floodplains 182
Terrestrial Ecological Resources 189
Rare, Threatened and Endangered Species 196
Prime and Unique Farmland 203
Archeological Resources 208
Cultural Landscapes, Historic Buildings, Structures and Objects 221
Section 106 Summary 229
Archeological Resources 229
Historic Buildings, Structures, Landscapes, and Objects 230
Alternatives 231
Transportation 232
Visitor and Community Values 242
Park Operations 258
Sustainability and Long-Term Management 263

CONTENTS (CONTINUED)

Page

CHAPTER 5 RECOMMENDATIONS FOR FUTURE PLANNING EFFORTS....267
Cultural Resources....279
Natural Resources....279
Flow Studies....270
Fisheries Management....270
Integrated Trail System Study....270
Commercial Services Plan....271
Partnering....271
Tracking Cumulative Effects....272
Easement Study....272
Comprehensive Interpretive Plan....272

CHAPTER 6 CONSULTATION AND COORDINATION....273
Summary of Public Involvement....275
Consultation with Other Agencies / Officials and Organizations....276
Comments, Changes to, and Responses to Comments on the Supplemental Draft Plan....277
List of Recipients....297
List of Preparers....297

BIBLIOGRAPHY....299

GLOSSARY OF TERMS....317

APPENDICES....323
Appendix A: List of Relevant Legislation....325
Appendix B: Park-Specific Special Mandates and Commitments....331
Appendix C: Species Lists....343
Appendix D: Choosing By Advantages Summary....349
Appendix E: Park Legislation....357
Appendix F: Agency Coordination....375
Appendix G: Summary of Transportation and Other Major Improvement Projects....409
Appendix H: List of Agencies or Entities Receiving a Copy of This Plan....415

LIST OF FIGURES

Figure 1 Regional Map....6
Figure 2 Vicinity Map....7
Figure 3 Park Boundaries....11
Figure 4 Alternative A: No Action....58
Figure 5 Alternative B: Focus on Solitude Alternative....60
Figure 6 Alternative C: Centralized Access....63
Figure 7 Alternative D: Expanded Use Alternative....65
Figure 8 Alternative E....66
Figure 9 Alternative F: Preferred Alternative....68
Figure 10 Water Features....92
Figure 11 Prime Farmland....131

CONTENTS (CONTINUED)

Page

LIST OF TABLES

Table 1 Indicators and Standards for Chattahoochee River National Recreation Area....40
Table 2 Management Prescriptions – Alternatives B,C, & D....44
Table 3 Management Prescriptions – Alternatives E & F....45
Table 4 Cost Summary for Each Alternative....70
Table 5 Revenue Generated from Park Fee Programs, 2003 to 2006....72
Table 6 Projected Fee Revenue, 2007 to 2012....73
Table 7 Summary of Mitigation Measures Associated with the Action Alternatives....74
Table 8 Summary of Impacts of the Alternatives....81
Table 9 Named Creeks within Chattahoochee River National Recreation Area....93
Table 10 Streams in the Park That Partially Support or Do Not Support Their Designated Uses....99
Table 11 Summary of Water Quality Data at Two Locations on the Chattahoochee River within the Park Boundary, 2003-2004....104
Table 12 Summary of BacteriALERT Program E. coli Data Reported from Two Locations on the Chattahoochee River within the Park....106
Table 13 2006 Fish Consumption Guidelines for Segments of the Chattahoochee River within the Park....110
Table 14 Index of Biotic Integrity and Index of Well-Being Scores for Tributary Streams in the Park....113
Table 15 Summary of Acreages and Percentages of Each National Wetland Inventory Wetland Type That Occurs in the Park....120
Table 16 List of Federally Protected Species that Potentially Occur in the Four-County Area Surrounding the Park or within the Park....125
Table 17 List of State Protected Species Known to Occur within the Park or within 3 Miles of the Park....127
Table 18 Main Street/Highway Access Points for the Park and Associated Areas....139
Table 19 Summary of Issues Raised During Public Meetings....142
Table 20 Principal Recreational Amenities Summarized According to Park Unit....144
Table 21 Annual Visitation 2000 – 2005....147
Table 22 Population Growth in the Metropolitan Atlanta Area from 2000 to 2004....148
Table 23 Percentages of Park Acreage by Zone....156
Table 24 Impact Thresholds for Water Resources....161
Table 25 Impact Thresholds for Aquatic Resources....168
Table 26 Impact Thresholds for Wetlands....176
Table 27 Impact Thresholds for Floodplains....182
Table 28 Impact Thresholds for Terrestrial Ecological Resources-Vegetation....190
Table 29 Impact Thresholds for Terrestrial Ecological Resources-Wildlife....190
Table 30 Impact Thresholds for Rare, Threatened and Endangered Species....197
Table 31 Impact Thresholds for Prime Farmlands....203
Table 32 Impact Thresholds for Archeological Resources....210
Table 33 Impact Thresholds for Cultural Landscapes, Historic Buildings, Structures and Objects....221
Table 34 Impact Thresholds for Local and Regional Transportation....233
Table 35 Impact Thresholds for Visitor and Community Values....243
Table 36 Impact Thresholds for Park Operations....259

CONTENTS (CONTINUED)

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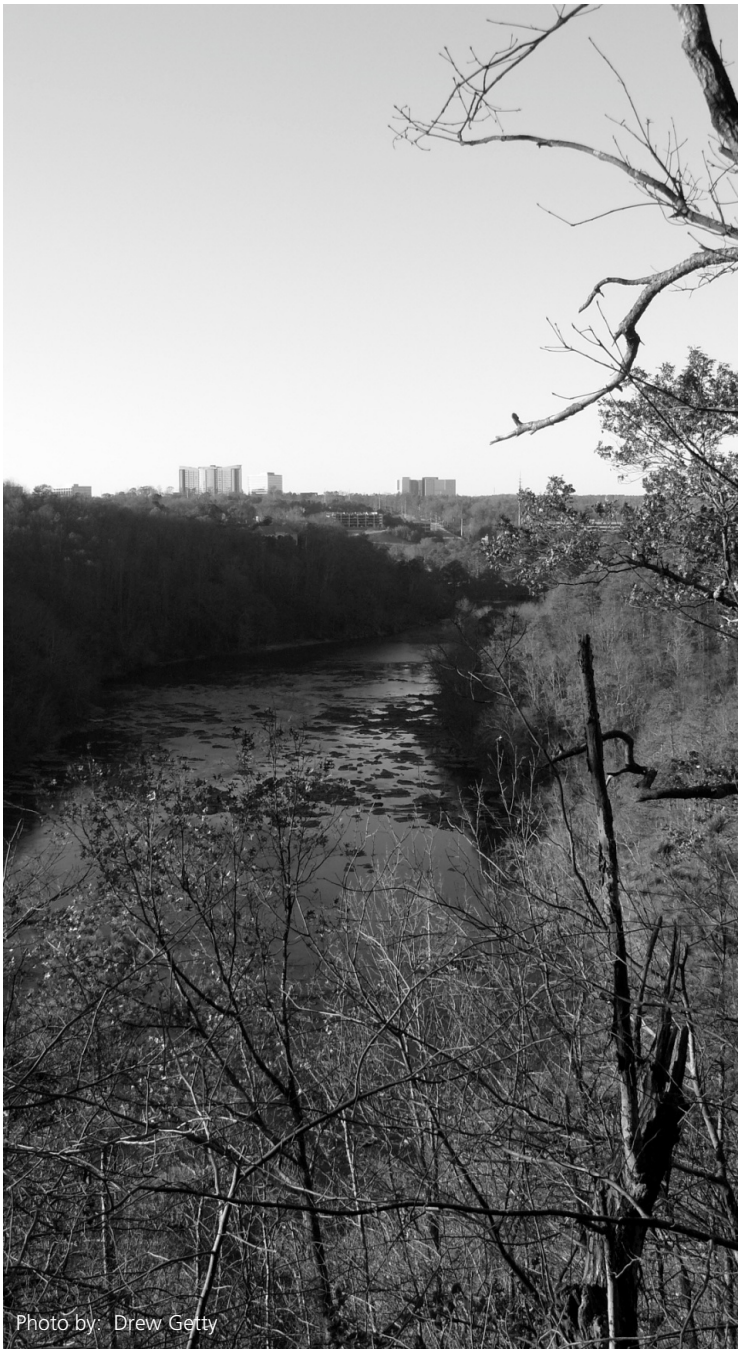
Chapter 1

PURPOSE AND NEED FOR ACTION



Palisades Overlook

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CHAPTER 1
PURPOSE OF AND NEED FOR ACTION

A GUIDE TO THIS DOCUMENT

This *Final General Management Plan / Environmental Impact Statement* incorporates comments received and presents updated information collected during the planning, baseline and impact assessment process.

The organization of this document is in accordance with the Council on Environmental Quality's implementing regulations for the National Environmental Policy Act and the National Park Service's 2006 Management Policies (Chapter 2), 2004 Park Planning Program Standards and "Environmental Analysis" (DO-12).

Chapter 1: Introduction sets the framework for this document. The chapter provides a description of why the plan is being prepared and what needs it must address. It gives guidance for the alternatives that are considered, which are based on Chattahoochee River National Recreation Area's legislated mission, its purpose, the significance of its resources, special mandates and administrative commitments, servicewide mandates and policies, and other planning efforts in the area.

The chapter also details the planning opportunities and issues that were raised during public meetings and planning team efforts. This chapter concludes with a statement of the scope of the environmental impact analysis — specifically what impact topics were or were not analyzed in detail.

Chapter 2: Alternatives, Including the Preferred Alternative, begins by describing the management prescriptions and zones that were developed for Chattahoochee River National Recreation Area for future management. An overview of how the alternatives were developed and a description of each alternative is provided. Alternative A is the continuation of current management and trends in the park (or Alternative A, No Action). Alternatives B, C and D are as previously described in the May 2004 Draft. Alternatives E and F were developed based upon additional public comment subsequent to publishing the May 2004 Draft document.

Mitigation measures proposed to minimize or eliminate the impacts of some proposed actions are described just before the discussion of future studies and/or implementation plans that will be needed. The evaluation of the environmentally preferred alternative is followed by summary tables of the alternative actions and the environmental consequences of implementing those alternative actions. The chapter concludes with a discussion of alternatives or actions that were dismissed from detailed evaluation.

Chapter 3: The Affected Environment describes those areas and resources that would be affected by implementing actions in the various alternatives. The topics addressed include natural resources, cultural resources, visitor use and experience, and the socioeconomic environment.

Chapter 4: Environmental Consequences analyzes the impacts of implementing the alternatives. Each of the impact topics described in Chapter 3 "Affected Environment" are analyzed. Methods that were used for assessing the impacts in terms of the intensity, type, and duration of impacts are outlined at the beginning of the chapter.

Chapter 5: Recommendations for Future Planning Efforts provides an overview of the other plans and studies to be prepared and implemented.

Chapter 6: Consultation and Coordination describes the history of public involvement and agency coordination conducted during the planning effort. Agencies and organizations who receive copies of the document are also listed.

The **Appendixes** present supporting information for the document, along with references, and a glossary.

PURPOSE AND NEED FOR THE GENERAL MANAGEMENT PLAN

INTRODUCTION

This *Final General Management Plan / Environmental Impact Statement* presents and analyzes six alternative future directions for the management and use of Chattahoochee River National Recreation Area. Alternative F is the National Park Service's preferred alternative. Potential environmental impacts of all alternatives are identified and assessed in this document.

General management plans are intended to be long-term planning documents that establish and articulate a management philosophy and framework for decision making and problem solving in the parks. General management plans usually provide guidance for a 15 to 20 year timeframe.

General management plans represent the broadest level of planning conducted by the National Park Service and are intended to provide overall guidance for making informed decisions about future conditions in national parks. The general management plan does not address site-specific projects such as trail location, education centers, boat ramps, or other structures. These types of detailed proposals are addressed in the future implementation phase of National Park Service planning by preparing National Environmental Policy Act environmental assessments that tie, or "tier" directly to the general management plan. The general management plan provides the basis for making decisions about site-specific proposals in the future, and can be used by park managers to decide what activities are appropriate for different areas of the park.

The detailed actions directed by general management plans or in subsequent implementation plans are accomplished over time. Implementation of the approved plan will depend on future funding and servicewide priorities. The approval of this general management plan does not guarantee that funding and staffing needed to implement the plan will be forthcoming. Funding for capital construction improvements is not currently shown in National Park Service construction programs. It is not likely that all potential capital improvements arising from this plan will be totally implemented during the life of the plan. Larger capital improvements may be phased over several years, and full implementation of this plan could be many years into the future.

PURPOSE OF THE PLAN

The purpose of this general management plan and environmental impact statement is to present a plan for managing the Chattahoochee River National Recreation Area for the next 15 to 20 years. The Chattahoochee River National Recreation Area is a 48-mile-long park located in an urban and suburban area between Atlanta and Lake Lanier, Georgia. The park boundaries include 10,000 acres of land situated in a narrow corridor along the Chattahoochee River. The region map and vicinity map

(Figures 1 and 2, respectively) show the location of the park boundaries in relationship to the state of Georgia and the Atlanta region.

The approved general management plan will be the basic document for managing the Chattahoochee River National Recreation Area for the next 15 to 20 years. The purposes of this general management plan are to:

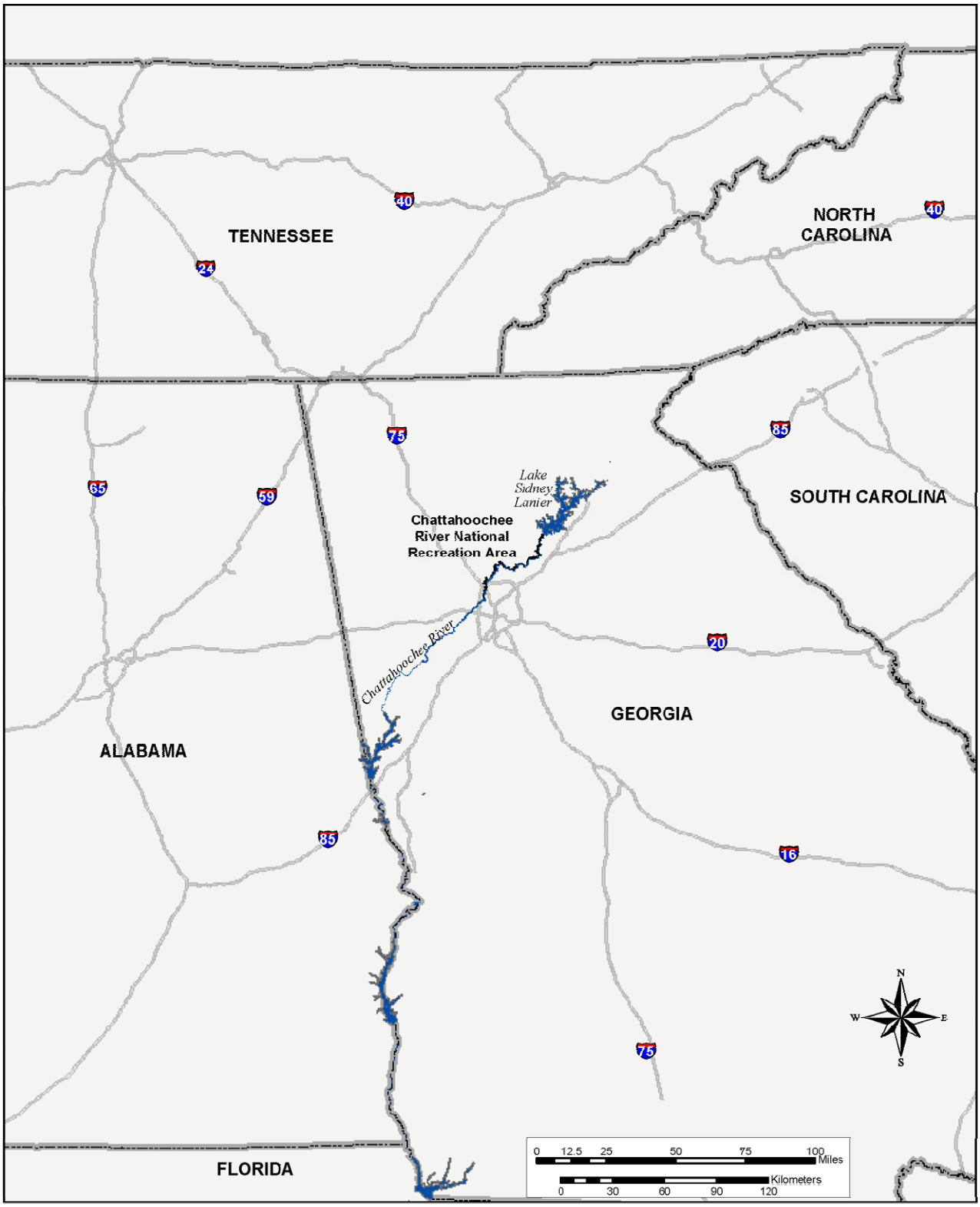
- Specify resource conditions and visitor experiences to be achieved in the park.
- Provide the basic foundation for decision-making regarding the management of the park.

When completed, the general management plan will represent a commitment to the public by the National Park Service on how the park will be used and managed. As such, it is intended to:

- Confirm the significance of the park;
- Establish the direction and values that should be considered in planning to achieve the purposes defined in the establishing legislation of the park;
- Define management prescriptions (desired future conditions) that establish the goals of the National Park Service and the public with regard to visitor experience, natural resources, and cultural resources, including the types and locations of resource management activities, visitor activities, and development that are appropriate within each management zone;
- Determine areas to which the management prescriptions should be applied to achieve the overall management goals of the park;
- Illustrate ranges and types of appropriate management actions suitable to maintain and improve conditions;
- Assist National Park Service staff in determining whether actions proposed by the National Park Service or others are consistent with the goals embodied in the management zone where the action would occur and;
- Serve as the basis for shorter-term management documents such as five-year strategic plans, annual performance plans, and implementation plans.

Some future visitor experience, natural resource, and cultural resource conditions in the park are specified in law and policy. Others are open to debate and must be determined through planning. The alternatives in this general management plan address the resource and experience conditions that ultimately are consistent with federal laws and regulations and National Park Service policies.

The National Park Service views the public as integral team members in establishing the desired resource and experience conditions that will guide the management of the park. Measures taken by the National Park Service to include the public as a partner in general management planning for the



Regional Map

Figure 1

Chattahoochee River National Recreation Area

U.S. Department of the Interior - National Park Service

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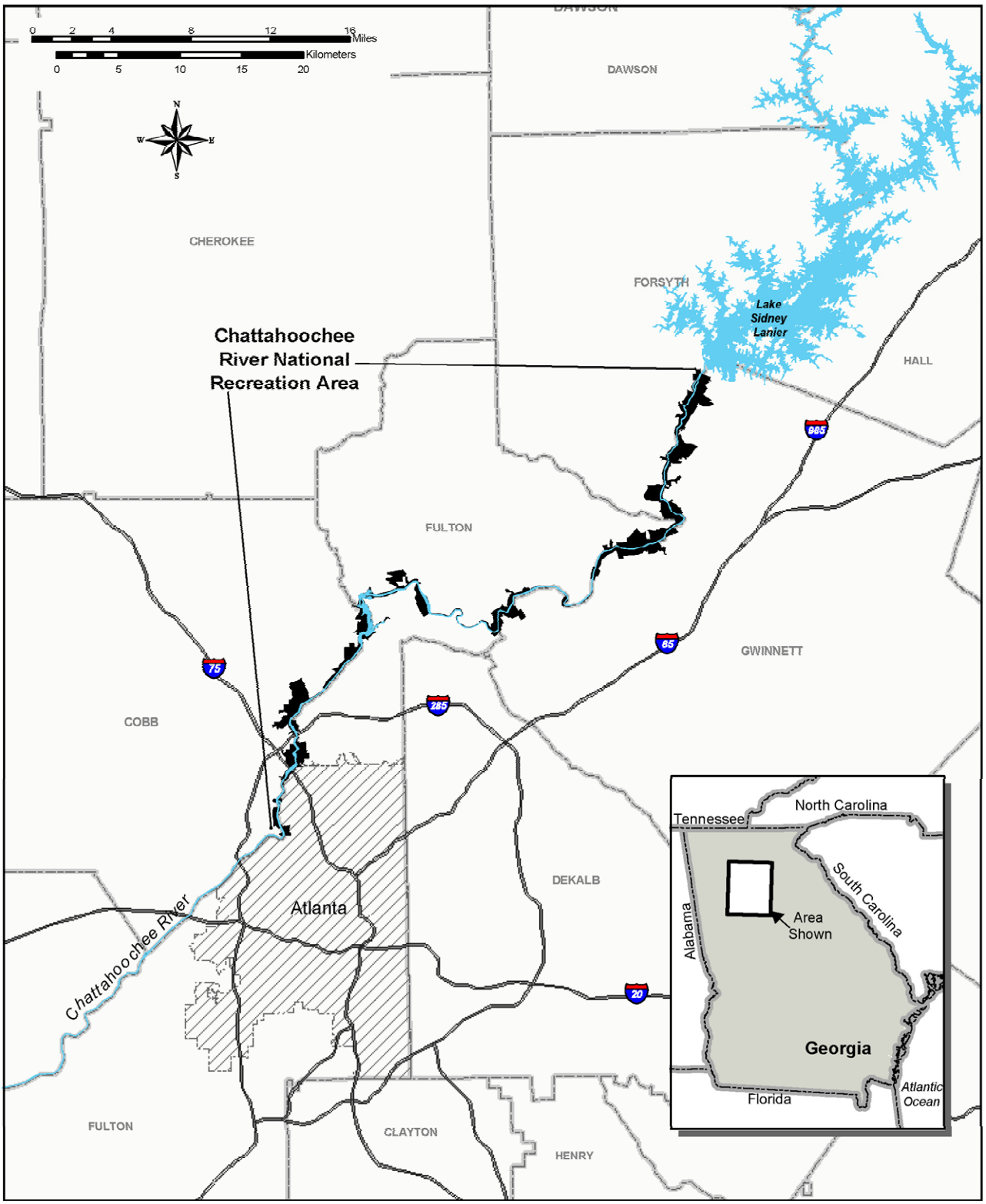

Vicinity Map

Figure 2

Chattahoochee River National Recreation Area

U.S. Department of the Interior - National Park Service

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Chattahoochee River National Recreation Area are outlined below and detailed in Chapter 6. The National Park Service:

- Solicited public participation in the planning process and incorporated suggestions from the public into the proposed park management alternatives;

- Performed public scoping to identify important impact topics and evaluated the effects of the alternatives on those impact topics in the draft environmental impact statement;

- Invited the public to comment on the Draft General Management Plan issued in May 2004 and used that input in the revision of alternatives and preparation of this plan.

Because the general management plan does not propose site-specific actions or describe how particular programs or projects should be ranked or implemented, those decisions will be addressed during the more detailed planning associated with strategic plans, annual performance plans, and implementation plans. Such plans will be derived from the goals, future conditions, and appropriate types of activities established in this general management plan. The general management plan provides a broad-scale set of prescriptions and zones within the park that serve as a decision-making tool for the future, when site-specific proposals for various park facilities or programs are made. These future proposed activities will be evaluated in separate National Environmental Policy Act documents that will be tiered to the general management plan, allowing the National Park Service to make informed decisions that conform to the National Environmental Policy Act.

NEED FOR THE GENERAL MANAGEMENT PLAN

A general management plan is needed to meet the requirements of the National Parks and Recreation Act of 1978 and National Park Service policy, which mandate development of a general management plan for each park. The last general management plan for Chattahoochee River National Recreation Area was prepared in 1989, and many conditions in the park and surrounding area have changed since then.

The Act of October 30, 1984 (Public Law 98-568) increased the park size from 6,300 acres to 6,800 acres to protect the 48-mile segment of the Chattahoochee River and adjoining lands. President Jimmy Carter, a native of Georgia, was instrumental in initiating this expansion. In 1999, the authorized boundary of the park was expanded from 6,800 acres to 10,000 acres. The general management plan must be updated to consider these new parcels of land. This general management plan does not propose any further boundary adjustments during the life of the plan.

This general management plan provides broad direction for the park's future. It is needed to assist park managers in making purposeful decisions based on a deliberate vision of the park. In view of the rapidly developing nature of the Chattahoochee River corridor and the intense use of the park, the general management plan is a critical element in protecting the park's resources while at the same time providing for quality visitor experiences.

General management planning is needed to:

- Clarify the levels of resource protection and public use that must be achieved for the park, based on the park-specific purpose and significance, plus the body of laws and policies directing park management

- Determine the best mix of resource protection and visitor experiences beyond what is prescribed by law and policy based on the:
    - Purposes of the park
    - Range of public expectations and concerns
    - Resources occurring within the park
    - Effects of alternative management plans on existing natural, cultural, and social conditions
    - Long-term economic costs

- Establish the degree to which the park should be managed to:
    - Preserve and enhance its natural and cultural resources
    - Provide recreation
    - Accommodate urban transportation and connectivity

BRIEF DESCRIPTION OF THE PARK

In 1916, Congress passed the Organic Act, which created the National Park Service to "preserve unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations." Thus, any management actions in the park must recognize that preserving the natural and cultural resources and values of the park is paramount, and that any visitor activities associated with "enjoyment, education, and inspiration" can occur only to the extent that they do not impair the natural and cultural resources and values for future generations.

Congress established the Chattahoochee River National Recreation Area in 1978, and determined that the "natural, scenic, recreation, historic, and other values of a forty-eight-mile segment of the Chattahoochee River and certain adjoining lands in the State of Georgia from Buford Dam downstream to Peachtree Creek are of special national significance, and that such values should be preserved and protected from developments and uses which would substantially impair or destroy them."

Legislation passed on December 9, 1999 (Pub. L. 106-154, Sec. 1, 106 Stat. 1736) expanded the park to 10,000 acres (Appendix E). This law specified:

> "The Chattahoochee River National Recreation Area in the State of Georgia is a nationally significant resource;
>
> The Chattahoochee River National Recreation Area has been adversely affected by land use changes occurring inside and outside the recreation area;

The population of the metropolitan Atlanta area continues to expand northward, leaving dwindling opportunities to protect the scenic, recreational, natural, and historical values of the 2,000-foot-wide corridor adjacent to each bank of the Chattahoochee River and its impoundments in the 48-mile segment known as the area of national concern;

The State of Georgia has enacted the Metropolitan River Protection Act to ensure protection of the corridor located within 2,000 feet of each bank of the Chattahoochee River, or the corridor located within the 100-year floodplain, whichever is larger;

The corridor located within the 100-year floodplain includes the area of national concern;

Since establishment of the Chattahoochee River National Recreation Area, visitor use of the recreation area has shifted dramatically from waterborne to water-related and land-based activities;

The State of Georgia and political subdivisions of the state along the Chattahoochee River have indicated willingness to join in a cooperative effort with the federal government to link existing units of the recreation area through a series of linear corridors to be established within the area of national concern and elsewhere on the river; and

If Congress appropriates funds in support of the cooperative effort described in paragraph (7), funding from the State, political subdivisions of the State, private foundations, corporate entities, private individuals, and other sources will be available to fund more than half the estimated cost of the cooperative effort."

The expansion of the park from 6,800 acres to 10,000 acres was the result of more than 15 years of coordination by the National Park Service in cooperation with the Trust for Public Land and other organizations. The non-federal land holdings within the expanded park boundary can be acquired by the National Park Service only if the owners are "willing sellers." The National Park Service is currently negotiating with multiple landowners regarding acquiring additional parcels. Parcels within the 10,000 acre legislated boundary that are owned by the National Park Service are depicted in Figure 3. No boundary adjustments or expansions beyond the currently authorized 10,000-acre limit are proposed as part of this general management plan.

The park boundary currently includes 15 land "units" encompassing over 5,000 acres, as well as the more than 2,000 acres of streambed, Bull Sluice backwaters, and other floodplain areas of the Chattahoochee River (personal communication, Chris Hughes, NPS 2006h). The units, shown on Figure 3, were assigned names that reflected the local community features and historical resources. The 15 units, from north to south, are:

Bowman's Island	Abbotts Bridge	Vickery Creek
Orrs Ferry	Medlock Bridge	Gold Branch
Settles Bridge	Jones Bridge	Cochran Shoals
McGinnis Ferry	Holcomb Bridge	Johnson Ferry
Suwanee Creek	Island Ford	Palisades

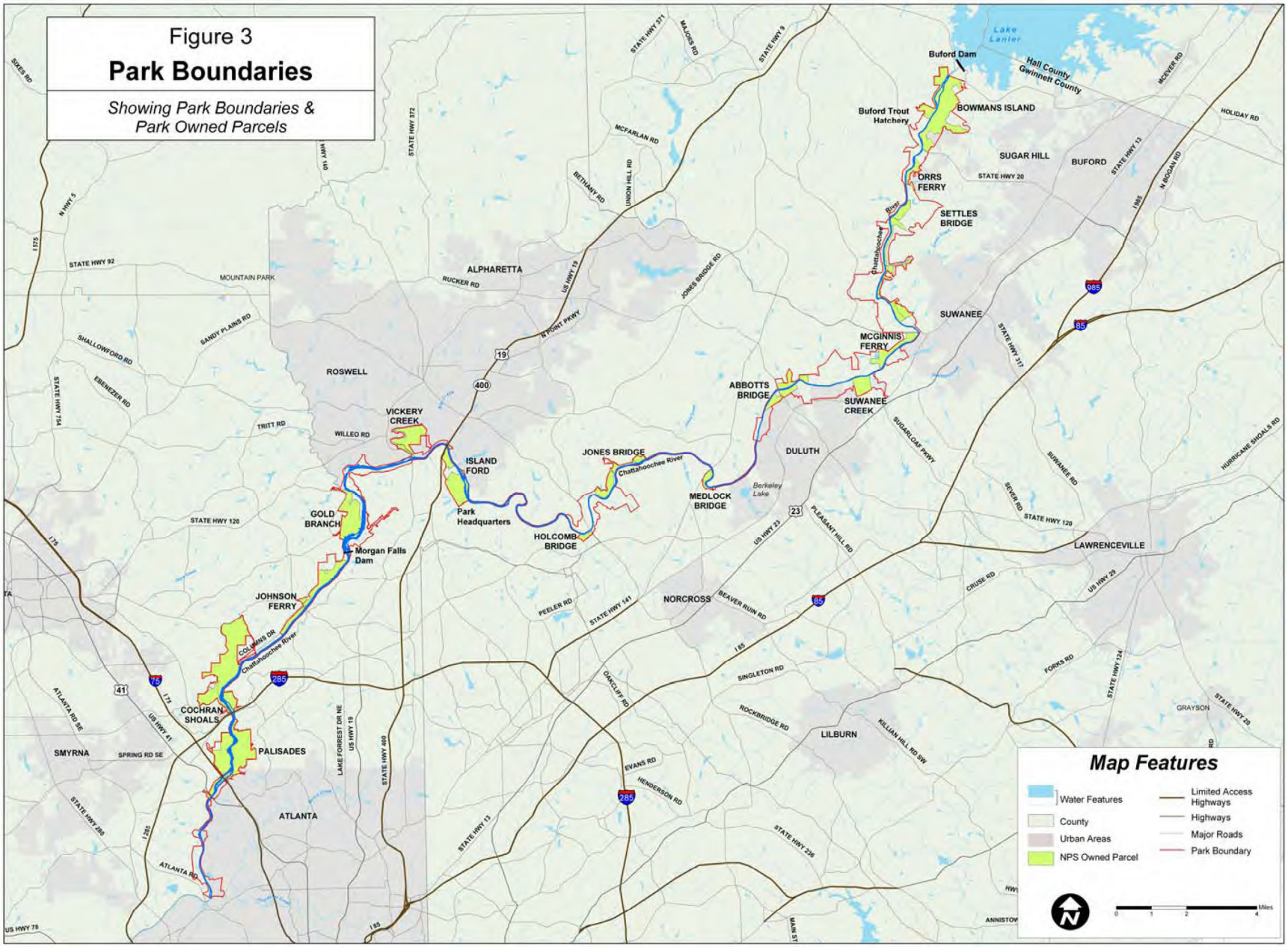
Figure 3
Park Boundaries
Showing Park Boundaries & Park Owned Parcels
Lake Lanier
Buford Dam
Hall County
Gwinnett County
Buford Trout Hatchery
BOWMANS ISLAND
SUGAR HILL
BUFORD
ORRS FERRY
SETTLES BRIDGE
SUWANEE
MCGINNIS FERRY
ABBOTTS BRIDGE
SUWANEE CREEK
DULUTH
ALPHARETTA
ROSWELL
MOUNTAIN PARK
VICKERY CREEK
ISLAND FORD
Park Headquarters
JONES BRIDGE
Chattahoochee River
MEDLOCK BRIDGE
Berkeley Lake
HOLCOMB BRIDGE
GOLD BRANCH
Morgan Falls Dam
JOHNSON FERRY
COCHRAN SHOALS
PALISADES
SMYRNA
ATLANTA
NORCROSS
LILBURN
LAWRENCEVILLE
GRAYSON
Map Features
Water Features
County
Urban Areas
NPS Owned Parcel
Limited Access Highways
Highways
Major Roads
Park Boundary
Miles

The 1989 general management plan included the management of a proposed U.S. Army Corps of Engineers water re-regulation dam, which was to be built a short distance below the existing Buford Dam. However, that project was never constructed and is no longer being considered by the U.S. Army Corps of Engineers. Therefore, the alternatives in this general management plan have eliminated consideration of the dam in the Chattahoochee River National Recreation Area.

Since the 1989 plan was prepared, the Atlanta area has grown rapidly. The counties that surround the 48-mile Chattahoochee River National Recreation Area (Cobb, Fulton, Forsyth, Gwinnett, and DeKalb) have been among the fastest growing in the nation. This has resulted in construction of industrial, commercial, and residential developments close to the narrow, linear park. The numbers of visitors and the variety of visitor uses have fluctuated over the years. As a result, the updated general management plan addresses problems associated with physical encroachment and increased levels and diversity of visitor use. The following is a summary of three key management issues that have been identified for the park.

The first key management issue is how to determine the most appropriate levels of service for visitor interpretation and education in the park, in view of the increasing numbers of people and types of uses. Key questions are:

- How can the park accommodate increasing numbers of visitors and still provide effective infrastructure such as drinking water, restrooms, roads, and parking areas?

- How can the park provide effective educational and interpretive programs for increasing numbers of visitors?

A second key management issue is to determine suitable locations for administration and visitor facilities. Key questions include:

- What are the most appropriate locations to support administration and operations functions, with a focus on minimizing resource disturbance?

- Should these facilities be concentrated in a few locations or spread out over a larger geographical area?

- What is the basis for deciding where facilities should be located and what types should be constructed?

The third key management issue is how to manage the park to protect natural and cultural resources and to allow for quality visitor experiences. The park is located in a long, narrow river corridor surrounded by communities and is therefore highly sensitive to potential effects of encroachment and overuse. Key issues include the following:

- Physical disturbance of soils on construction sites in areas immediately around the park can lead to soil erosion in streams within the park and the Chattahoochee River, with resulting adverse impacts on aquatic life and water quality.

- Water quality in streams within the park, including the Chattahoochee River, can be adversely affected by nonpoint runoff from impervious surfaces in adjoining developed areas. Pollutants

such as fecal coliform bacteria, trace metals, and organic compounds can be introduced via this mechanism.

- Encroachment by development can lead to creation of numerous unauthorized trails in the park created by people in adjoining residential areas. Unauthorized trails disturb native vegetation and can lead to soil erosion, especially in steeper sloped areas.

- Increased numbers of visitors require water and wastewater infrastructure as well as education and interpretation services. Construction and operation of appropriate facilities, along with associated roads and parking areas, can affect the park's natural habitats and cultural resources.

The potential solutions to these issues are reflected in the management alternatives analyzed in this general management plan and environmental impact statement. The alternatives address the adequacy and appropriateness of park services and facilities and the challenges posed by managing a large, linear park in the center of a major, metropolitan area.

GEOGRAPHIC AREA COVERED BY THE GENERAL MANAGEMENT PLAN

The Chattahoochee River National Recreation Area includes a maximum of 10,000 acres of land distributed along a 48-mile, linear corridor between Peachtree Creek, Atlanta, and Buford Dam. The vicinity and regional maps (Figures 1 and 2) show the area covered by this general management plan. The park includes the original 15 units as well as the newly acquired land.

PLANNING DIRECTION OR GUIDANCE

Park Mission

The primary purpose of the original Chattahoochee River National Recreation Area was to recognize the unique geological features associated with the Palisades area south of Johnson Ferry. The cliffs in the area were formed by geological processes (continental drift) associated with the Brevard Fault. The original park, established in 1978, included an area primarily in the vicinity of these cliffs, which form an imposing rampart overlooking the Chattahoochee River. The cliffs, together with the surrounding native forested uplands and river bottom areas along the 48-mile river corridor, were determined to be a unique resource worthy of national park status. There are a broad range of cultural resources present in this area, including a major Native American rock shelter, Civil War sites, and industrial mill sites.

The purposes of the park as defined by the most recent legislation are as follows:

- "To increase the level of protection of the open spaces within the area of national concern along the Chattahoochee River and to enhance visitor enjoyment of the open spaces by adding land-based linear corridors to link existing units of the recreation area;

- To ensure that the Chattahoochee River National Recreation Area is managed to standardize acquisition, planning, design, construction, and operation of the linear corridor; and

- To authorize the appropriation of Federal funds to cover a portion of the costs of the Federal, State, local, and private cooperative effort to add additional areas to the recreation area so as

to establish a series of linear corridors linking existing units of the recreation area and to protect other open spaces of the Chattahoochee River corridor."

In addition, the House Report states, "the National Recreation Area is 'not' intended to provide playing fields, highly developed recreation centers or many other worthwhile programs offered by these agencies. Rather, the river and the associated lands are to be the resource base upon which the National Park Service can function to provide opportunities consistent with national park operations."

As part of this general management plan, the following formal statement of the purpose of the park was developed:

"The purpose of Chattahoochee River National Recreation Area is to lead the preservation and protection of the 48-mile Chattahoochee River corridor from Buford Dam to Peachtree Creek, and its associated natural and cultural resources, for the benefit and enjoyment of the people."

Creating this purpose statement was the first step in the development of this general management plan. The statement forms the basis for all subsequent steps in the planning process.

Park Significance. The significance of the natural and cultural resources in Chattahoochee River National Recreation Area is summarized in the statements that follow. This information was used in the planning process to ensure that the park's natural and cultural resources are protected in accordance with the governing laws, regulations, policies, and mandates.

Geological Significance. The park's entire 48-mile-long corridor runs along the Brevard Fault Zone, which forms the Chattahoochee River channel. Typically, rivers meander and change course over time. Because it is essentially "locked" in place by the fault, the Chattahoochee River is one of the oldest and most stable river channels within the United States.

The Brevard Fault is a major geological feature extending for more than 320 miles. It forms, in part, the dividing line between two physiographic provinces: the Appalachian Mountains and the Piedmont Plateau. The steep and rocky Palisades section of the park is generally considered to be the best location along the entire Brevard Fault Zone to view and study this major geologic feature.

Biological Significance. The park contains a diverse assemblage of relatively undisturbed mesic hardwood floodplain, bluff, and ravine forests; seasonally and temporarily flooded bottomland forested wetlands; and emergent and scrub-shrub wetlands.

The mixed habitat types within the old and stable Chattahoochee River channel form a biological link with the Appalachian Mountains. This has resulted in high biodiversity within the park. For example, more than 950 species of plants exist within the park, including species associated with both the southern piedmont and mountain habitats. This number of plants is one of the highest within the national park system. It is especially noteworthy that this unusually high level of biodiversity is located in an area accessible to a large metropolitan population.

The diverse habitats in the park support numerous rare plants and animals, including both aquatic and terrestrial species. This includes several species defined as special status by the Georgia Department of Natural Resources Natural Heritage Program and U.S. Fish and Wildlife Service. These species warrant special regulations to assist their long-term survival and protection.

Significance of Cultural Resources. The park vicinity has been occupied by humans since the Archaic period, approximately 8,000 years before Christ (B.C.). Some of the park's remaining prehistoric features include fish weirs, rock-shelters, quarries, and prehistoric occupation sites. In addition, the park contains numerous Woodland Period sites along the river corridor (1000 B.C. –1000 A.D.), as reported in the 1989 General Management Plan (NPS 1989). The Woodland period (1000 B.C. to 1000 A.D.) is one of the least investigated periods of Georgia prehistory and represents an area of potentially high archeological significance and research potential for the park. There are no similar counterparts in the region.

The park contains approximately 197 archeological sites (NPS 2005a). These sites, and the more than 14,000 associated archeological artifacts, document the historical and prehistoric use and cultural adaptation of the early cultures, up to and including the Creek and Cherokee Nations. The Chattahoochee River is considered to have been the transitory border between these two great cultures.

The park also contains numerous historic archeological sites and standing structures, including Civil War sites, pre-Civil War home sites and farmhouses, at least 10 early ferry crossings, and pre-Civil War paper mill and woolen mill sites. The mills are listed on the National Register of Historic Places.

***Recreation Significance*.** The park constitutes an important outdoor recreation resource to several million people located in the Atlanta metropolitan area. The park's greenspace and the river improve the quality of life by serving as a sanctuary and by providing a variety of outdoor recreation opportunities such as hiking, nature viewing, paddling, bicycling, boating, and fishing. The Chattahoochee River is inhabited by approximately 15 species of game fish.

The park provides a scenic river corridor with opportunities for natural solitude and seclusion within relatively undisturbed forests, wetlands, bluffs, ravines, and open water areas. The opportunity is enhanced by the proximity to a major metropolitan area.

Mission Goals

This section defines in broad terms the ideals that the National Park Service is striving to attain, as they apply to Chattahoochee River National Recreation Area.

Special Mandates and Administrative Commitments

Special mandates and administrative commitments refer to park-specific requirements. These formal agreements often are established concurrently with the creation of a park. The Chattahoochee River National Recreation Area does not have any special mandates that would affect this general management plan and future planning activities.

Servicewide Mandates and Policies

As with all National Park Service units, management of the Chattahoochee River National Recreation Area is guided by numerous congressional acts and executive orders in addition to the enabling legislation. Many of the laws and executive orders that guide park management, with their legal citations, are listed in Appendix A. These include the 1916 Organic Act creating the National Park Service, the General Authorities Act of 1970, and the Act of March 27, 1978, relating to the management of the national park system. Others have much broader application, such as the Endangered Species Act, the National Historic Preservation Act, Executive Order 11988 addressing

flood plain protection, Executive Order 11990 addressing the protection of wetlands, and Executive Order 13112 that established the National Invasive Species Council. An overview of these and other laws and regulations is provided in Appendix B.

The National Park Service has established policies for all units under its stewardship. These are identified and explained in the National Park Service guidance manual *Management Policies 2006* (NPS 2006f).

These service-wide legal mandates and policies can be categorized as:

- Natural resource management requirements
- Cultural resource management requirements
- Visitor experience and park use requirements
- Special use management requirements

The alternatives considered in this document incorporate and comply with the provisions of these mandates and policies. Desired conditions prescribed by servicewide mandates and policies, and the corresponding regulatory and legal sources of each, are summarized in the sections that follow. Detailed inventories or steps to be taken to implement management policies will be developed in individual management plans and stewardship strategies. These are identified in Chapter 5, "Recommendations for Future Planning Efforts."

The National Park Service is required to comply with these established laws and mandates. Consequently, this general management plan does not consider whether it is appropriate to protect endangered species, control exotics species, improve water quality, protect archeological sites, provide for handicapped access, or conserve artifacts, since these actions are required.

Natural Resource Management Requirements. Categories included under natural resource management requirements include air quality, water resources, geologic resources, native species, and wildfire.

Air Quality – Current laws and policies require that the following conditions be achieved in the park:

Desired Conditions	Sources
Air quality in the park meets national ambient air quality standards for specified pollutants.	Clean Air Act *NPS Management Policies*
Park activities do not contribute to deterioration in air quality.	Clean Air Act *NPS Management Policies*

The National Park Service cannot control air quality within the metropolitan Atlanta area regional airshed, which encompasses the park. Therefore, the park must cooperate with regional agencies and the United States Environmental Protection Agency to monitor air quality and to work toward air

quality improvements. The National Park Service will take the following kinds of actions to meet legal and policy requirements related to air quality in the park:

- Conduct air quality monitoring in conjunction with regional air quality agencies.
- Participate in regional air pollution control planning efforts.
- Review permit applications for major new air pollution sources that could affect the park.
- Conduct park operations in compliance with federal, state, and local air quality regulations.
- Coordinate with local and federal agencies to promote regional trail and pedestrian linkages to the park.

Water Resources – Current laws and policies require that the following condition be achieved in the park.

Desired Condition	Source
Surface waters and groundwater are protected or restored such that water quality as a minimum meets all applicable federal and Georgia water quality standards.	Clean Water Act Executive Order 11514 NPS Management Policies State of Georgia Erosion and Sedimentation Act (OCGA 12-7-1) The Metropolitan River Protection Act (OCGA 12-5-440) Georgia Planning Act of 1989 (OCGA 12-2-8)
NPS and NPS-permitted programs and facilities are maintained and operated to avoid pollution of surface waters and groundwater.	Clean Water Act Executive Orders 12088; 13423 NPS Management Policies Georgia Erosion and Sedimentation Act (OCGA 12-7-1) The Metropolitan River Protection Act (OCGA 12-5-440) Georgia Planning Act of 1989 (OCGA 12-2-8)
Natural floodplain values are preserved or restored.	Executive Order 11988 Rivers and Harbors Act Clean Water Act NPS Management Policies Georgia Planning Act of 1989 (OCGA 12-2-8) NPS 77-1

Desired Condition	Source
The natural and beneficial values of wetlands are preserved and enhanced.	Executive Order 11990 Rivers and Harbors Act Clean Water Act NPS Management Policies NPS 79-1

The National Park Service will continue to take the following kinds of actions to meet legal and policy requirements related to water resources:

- Continue to support the goals of the Atlanta Regional Commission and the Metropolitan North Georgia Water Planning District as they relate to the Chattahoochee River watershed and its tributaries and continue to participate in regional programs as a partner.

- Continue to work closely with other agencies in assuring proper monitoring, inspection, and repair of sanitary sewers in and adjacent to the park to reduce the impacts of these structures. Sewer spills pose a potential threat to water quality, aquatic resources, aesthetic quality, and visitor safety in the park. In addition to wastewater concerns, review of water withdrawal permit applications is an important consideration. Coordinating agencies include, but are not limited to, the:

    - Georgia Department of Natural Resources, Environmental Protection Division
    - Cobb County, Gwinnett County, Forsyth County, Fulton County and DeKalb County governments
    - Local city governments
    - Atlanta Regional Commission
    - U.S. Environmental Protection Agency
    - Metropolitan North Georgia Water Planning District

- Support the investigation and mitigation of artificially accelerated streambank erosion and stream bed incision and their effects on natural riparian habitats.

- Apply best management practices to all pollution-generating activities and facilities in the park, such as maintenance and storage facilities and parking areas.

- Minimize the use of pesticides, fertilizers, and other chemicals and manage them in accordance with National Park Service policy and federal regulations.

- Promote greater public understanding of water resource issues in the park and encourage public support for and participation in improvements in the Chattahoochee River watershed.

Geologic Resources –Current laws and policies require that the following condition be achieved in the park.

Desired Condition	Source
Include Brevard Fault and associated cliffs in original park area	Park enabling legislation
Maintain natural soil resources and processes in as natural a condition as possible, except where special management considerations are allowable under policy. Areas of special management considerations are determined through management zoning decisions in this general management plan.	Park enabling legislation NPS Management Policies
Retain soils classified by the U.S. Department of Agriculture, Natural Resources Conservation Service as prime or unique farmland soils.	Council on Environmental Quality 1980 memorandum on prime and unique farmlands

Soils in some portions of the park are adversely affected by accelerated erosion, compaction, and deposition caused by human activities. The National Park Service will take the following kinds of actions to comply with legal and policy requirements:

- Survey areas of the park with soil resource problems and take actions appropriate to specific management zones to prevent further artificial erosion, compaction, or deposition and to restore original contours, as practical.
- Avoid disturbance of prime farmland soils.
- Participate in interagency efforts to reduce artificial erosion from accelerated runoff and streamflows, in conformance with "Water Resources," above.
- Apply best management practices to problem areas of soil erosion and compaction in a manner that stops or minimizes erosion, restores soil productivity, and re-establishes or sustains a self-perpetuating vegetative cover.

Native Species – Current laws and policies require that the following conditions be achieved in the park.

Desired Condition	Source
Federal- and state-listed threatened and endangered species and their habitats are protected and sustained.	Endangered Species Act Official Code of Georgia Annotated (OCGA) 12-16-1 Georgia Environmental Policy Act NPS *Management Policies*
Populations of native plant and animal species function in as natural condition as possible except where special management considerations are warranted (such as trout stocking programs).	Executive Order 13112 Park enabling legislation NPS *Management Policies*
Native species populations which have been severely reduced in or extirpated from the park are restored where feasible and sustainable.	Executive Order 13112 Park enabling legislation NPS *Management Policies*

Desired Condition	Source
Invasive plant species are reduced in numbers and area, or are eliminated, from the natural areas of the park. In the park, these include Chinese privet, English ivy, kudzu, Japanese honeysuckle, and other species.	NPS *Management Policies* Executive Order 13112 Aquatic Plant Control Act
The National Park Service will continue to coordinate with the Georgia Department of Natural Resources Wildlife Resources Division regarding the release and management of trout within park boundaries.	Park enabling legislation NPS *Management Policies*

The park contains the oldest and most extensive protected areas of native vegetation in the Atlanta metropolitan area. However, because the park is more than 48 miles in length and extremely narrow, the potential for adverse impacts of encroaching development on native animals and vegetation is high. The park will continue to coordinate with the Georgia Department of Natural Resources regarding the trout stocking program, and the emphasis on native species in this section does not imply that trout would be removed from the park. The National Park Service will take the following actions to comply with legal and policy requirements related to native terrestrial and aquatic species (exclusive of trout).

- Conduct further inventories of plants and animals in the park. Use these inventories as a baseline against which to regularly monitor the distribution and condition of selected species, including indicators of ecosystem condition and diversity, rare or protected species, and invasive species. Modify management plans based on the results of monitoring.

- Encourage and support active and diverse research that contributes to management knowledge of native species in the park.

- Implement measures to restore native species and natural habitats where appropriate. For example, protect and restore natural aquatic and floodplain habitats in the park where they can be sustained, including freshwater springs and ephemeral wetlands.

- Continue to coordinate with Georgia Department of Natural Resources, Wildlife Resources Division to manage the stocked trout fisheries within the park.

- Continue to participate in regional ecosystem-level undertakings to restore native species, such as the regional Biosphere Program.

- Limit plantings of nonnative species to noninvasive plants that are appropriate for cultural resource or historic zones or operational needs.

- Control or eliminate invasive plants and animals, exotic diseases, and pest species where there is a reasonable expectation of success and sustainability. Base control efforts on the potential threat to:
    - Legally protected or uncommon native species and habitats
    - Visitor health or safety
    - Scenic and aesthetic quality
    - Common native species and habitats
- Provide interpretive and educational programs on preservation of native species.

Fire Management – Current laws and policies require that the following conditions be achieved in the park.

Desired Condition	Source
Fire management procedures in the park will be in accordance with the approved Fire Management Plan. Fire management procedures could include techniques such as prescribed burns, fuel reduction, and similar methods.	NPS *Management Policies* Director's Order #18

Large wildfires in the park, if they were to occur, could pose a threat to residences and commercial development adjoining the park and would produce unacceptable levels of air pollution. To prevent such fires, the National Park Service may take the following kinds of actions to comply with fire management legal and policy requirements.

- Suppress all wildfires as quickly as possible.
- Maintain a cooperative agreement with the various local fire departments for wildfire suppression in the park.
- Consider limited controlled burns for natural resources management.

Cultural Resource Management Requirements. Categories included in cultural resource management requirements include the following: archeological resources, historic structures and districts, cultural landscapes, ethnographic resources, and collections. Coordination was conducted with American Indian Tribes (Creek and Cherokee Nations) to identify any concerns and issues regarding places of traditional cultural importance (ethnographic resources) in the park. The existing literature and park records were also investigated to determine whether these resources exist in the park. No ethnographic resources have yet been identified to date.

Many of the historic structures in the park form an integral part of a larger cultural landscape. For this reason, the discussion of historic structures and landscapes in this document has been combined. (The term "historic properties" as defined in 36 CFR 800 refers to any cultural resource, including archeological resources that are eligible for the National Register.)

Archeological Resources – Current laws and policies require that the following conditions be achieved in the park.

Desired Condition	Source
Archeological sites are identified and inventoried, and their significance is determined and documented. Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable, or that removal of artifacts or physical disturbance is justified by research or interpretive requirements. In those cases where disturbance or deterioration is unavoidable, anticipated adverse effects to the site are mitigated. Such mitigation commonly consists of recordation and data recovery by archeologists who meet the Secretary of the Interior's Professional Qualifications Standards. Mitigation could also include other measures such as site burial.	National Historic Preservation Act Executive Order 11593 Executive Order 13007 Archeological and Historic Preservation Act Archeological Resources Protection Act *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (1983) Programmatic Memorandum of Agreement among the NPS, Advisory Council on Historic Preservation, and National Council of State Historic Preservation Officers (NPS 1995a) NPS *Management Policies* Director's Order #28: Cultural Resource Management Guideline (June 11, 1998) Director's Order #28A: Archeology 36 Code of Federal Regulations 800 National Environmental Policy Act Native American Graves Protection and Repatriation Act National Parks Act of August 25, 1916 The Antiquities Act of 1906

While there has never been an official National Park Service archeological overview and assessment completed for the park, there have been several systematic assessments of the park cultural resources (O'Grady and Poe, 1980; Parsons 2001b; NPS 2005a), including predictive models for cultural resources. Studies completed in the park have generally focused on assessing sites prior to ground-disturbing activities such as road widening, bridge building, trail building, and boat ramp improvements. Researchers have evaluated the park as a whole to determine the presence of prehistoric and Civil War-era artifacts. Occasional sites, such as rock shelters were noted, and Civil War gun positions and possible picket posts were recorded. There are 100 known archeological sites in the park that are sufficiently significant to warrant nomination to the National Register of Historic Places (NPS 2005a). Actions that the National Park Service will take to meet legal and policy requirements related to archeological sites include:

- Survey and inventory archeological resources, document their significance and nominate to the National Register those that seem to meet Register criteria.

- Treat all archeological resources as eligible for listing on the National Register of Historic Places pending the concurrence of the Georgia State Historic Preservation Officer or a formal eligibility determination by the Keeper of the National Register if the National Park Service and the Georgia State Historic Preservation Officer do not agree on a site's eligibility.

- Protect all archeological resources determined eligible for listing or listed on the National Register of Historic Places and consult with the Advisory Council on Historic Preservation

and the Georgia State Historic Preservation Officer in accordance with the National Historic Preservation Act.

Review and assess all proposed undertakings that could affect archeological resources to ensure that all feasible measures are taken to avoid disturbing resources, minimize damage to them, or recover data that otherwise would be lost.

Historic Structures, Districts, and Landscapes – Current laws and policies require that the following conditions be achieved in the park for cultural landscapes and for historic structures, such as buildings, bridges, roads and trails.

Desired Condition	Source
Historic structures and landscapes are inventoried and their significance and integrity are evaluated under National Register criteria. The qualities of historic structures and landscapes that contribute to their actual listing or their eligibility for listing on the National Register of Historic Places are protected in accordance with the Secretary of the Interior's standards, unless it is determined through a formal process that disturbance or natural deterioration is unavoidable.	National Historic Preservation Act 36 Code of Federal Regulations 800 Executive Order 11593 Archeological and Historic Preservation Act *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (1983) Programmatic Memorandum of Agreement among the NPS, Advisory Council on Historic Preservation, and National Council of State Historic Preservation Officers (NPS 1995a) NPS *Management Policies* *Director's Order #28: Cultural Resource Management Guideline* (June 11, 1998)

Many of the historic structures in the park exhibit deterioration due to their age and a lack of systematic preservation maintenance. The National Park Service will take the following kinds of actions to meet legal and policy requirements related to historic properties.

- Complete a systematic survey, inventory, and evaluation of historic and cultural landscape resources under National Register criteria in compliance with Section 110 of the National Historic Preservation Act.

- Submit the inventory and evaluation results to the Georgia State Historic Preservation Officer for concurrence. Complete National Register nomination forms for eligible properties, and submit to the Keeper of the National Register for review and listing on the National Register.

- Determine the appropriate level of preservation for each historic property formally determined to be eligible for listing or actually listed on the National Register, subject to the Secretary of the Interior's standards.

- Implement and maintain the appropriate level of preservation for such properties.

- Analyze character-defining features of the landscape(s) as well as design elements, such as materials, colors, shape, massing, scale, architectural details, and site details of historic structures in the park. These cultural resources could include such features as bridges, trails, roads and intersections, curbing, signs, picnic tables, and embayments. Use this information to guide rehabilitation and maintenance of sites, structures and landscapes to ensure that

future park developments are compatible with the historic character in scale, design and materials.

- Complete analyses of historic structures to identify those potentially eligible for listing in the National Register and to assist in future management decisions regarding their treatment.

- Complete cultural landscape inventory (ies) to identify landscapes potentially eligible for listing in the National Register and to assist in future management decisions for landscapes and associated features, both cultural and natural.

- Update the National Park Service's List of Classified Structures and the Cultural Landscape Database.

Museum Collections– Current laws and policies require that the following conditions be achieved in the Chattahoochee National Recreation Area.

Desired Condition	Source
Museum collections are organized for public and research use. The collection is maintained to document and support the park's resource management and interpretive programming. Historic properties are inventoried and their significance and integrity documented.	NPS Management Policies Director's Order 24: Museum Collections Management Antiquities Act of 1906 Historic Sites Act of 1935 Management of Museum Properties Act of 1955 National Historic Preservation Act of 1966 Endangered Species Act of 1973 Archeological Resources Protection Act of 1979 Native American Graves protection and Repatriation Act of 1990 National Parks Omnibus Management Act of 1998

The park's museum planning documents include a Scope of Collections Statement developed in 1986 (NPS 2005a). This states that the museum collection should be maintained to document and support the park's resource management and education and outreach (interpretive) programming efforts. Natural resource specimens located within the park boundary must be accessioned and catalogued into the park's museum collection. The types of collection will illustrate the phenomena of nature and man's influences along the river corridor in the park. The museum collection preserves those features of the park that cannot safely be left onsite, and serve the needs of staff and visitors.

Visitor Experience and Park Use Requirements – Current laws and policies require that the following conditions be achieved in the Chattahoochee National Recreation Area.

Desired Condition	Source
Visitor and employee safety and health are protected.	NPS *Management Policies*
Visitors understand and appreciate park values and resources and have the information necessary to adapt to the park environments. Visitors have opportunities to enjoy the park in ways that leave park resources unimpaired for future generations.	NPS Organic Act Park enabling legislation NPS *Management Policies*
Park recreational uses are promoted and regulated. Basic visitor needs are met in keeping with the park purposes.	NPS Organic Act Park enabling legislation Title 36 of the Code of Federal Regulations NPS *Management Policies* NPS Ban on Personal Watercraft
To the extent feasible, facilities, programs, and services in the park are accessible to and usable by all people, including those with disabilities.	Americans with Disabilities Act Architectural Barriers Act Rehabilitation Act NPS *Management Policies*

Regulations governing visitor use and behavior in units of the national park system are contained in Title 36 of the U.S. Code of Federal Regulations (36 Code of Federal Regulations). These regulations have force of law and include a variety of use limitations, such as limits on commercial activities. The following two regulations are especially pertinent to planning for the park because of issues raised by the public during scoping:

- Pets must be crated, caged, restrained on a leash (6 feet long or less), or otherwise physically confined at all times (36 Code of Federal Regulations 2.15).

- Bicycles are prohibited except on roads, parking areas, and designated routes (36 Code of Federal Regulations 4.30).

The National Park Service will take the following kinds of actions to meet legal and policy requirements related to visitor experience and park use:

- Provide opportunities for visitors to understand, appreciate, and enjoy the park.

- Ensure that all park programs and facilities are accessible to the extent feasible.

- Continue to enforce the regulations in 36 Code of Federal Regulations.

These laws, regulations, and policies leave room for judgment regarding the best mix of types and levels of visitor use activities, programs, and facilities. The alternatives presented and evaluated in this draft general management plan represent three approaches to visitor experience and park use.

Special Use Management Requirements – Special park uses refer to the use of National Park Service lands for non-park purposes. There are two instruments that may be used to authorize a special park use: (1) a special use permit, or (2) a right-of-way permit.

The special use and/or right-of-way permit addresses an activity that takes place in the park and provides a benefit to an individual, group or organization; requires written authorization and some degree of management control from the National Park Service in order to protect park resources and the public interest; is not prohibited by law or regulation; and is neither initiated, sponsored, nor conducted by the National Park Service.

A special use permit is issued by the park superintendent to an individual or organization to allow the use of National Park Service administered resources and to authorize activities under 36 CFR Part 1-7. The special use permit is designed to impose conditions to manage the activity and prevent impairment or degradation of resources, to obtain the signature of the permittee agreeing to the conditions, and to establish a written account of the special use for the administrative record. Those activities may include but are not limited to agricultural grazing, special events, specimen collection for research, distribution of printed material, commercial photography, or public assembly.

A right-of-way permit is the instrument issued by a regional director to authorize any new utilities, including water and sewer conduits and telecommunication facilities, on National Park Service lands. This includes those utilities not owned by the National Park Service, but which serve the National Park Service and/or National Park Service concession facilities. The authority for issuing a right-of-way permit is found in the legislation and policy documents listed in the right-hand column of the table below.

Current laws and policies require that the following conditions be achieved in the park with regard to the management of special uses.

Desired Condition	Source
Park resources or public enjoyment of the park are not denigrated by nonconforming* uses. Telecommunication structures are permitted in the park to the extent that they do not jeopardize the park's mission and resources. No new nonconforming* use or rights-of-way are permitted through the park without specific statutory authority and approval by the Director of the NPS or his/her representative and only if there is no practicable alternative to such use of NPS lands.	Telecommunications Act 16 United States Code 5 16 United States Code 79 23 United States Code 317 36 Code of Federal Regulations 14 NPS *Management Policies* *Reference Manual # 53, Special Park Uses* (NPS 2000b)

*Nonconforming in this context means any structure or use which is not part of the park infrastructure, administrative facility inventory, or an operational, interpretive, or maintenance activity.

The park has ongoing special use concerns associated with the presence of sanitary sewer lines, natural gas transmission lines, and water supply lines within the boundaries. Combined sanitary and storm water sewers periodically discharge raw sewage into the Chattahoochee River during storm events. The water resource section of Chapter 3 describes the types of actions that the National Park Service will take to meet legal and policy requirements related to sanitary and combined sewers as well as other types of discharges.

Telecommunication Facilities - A new special use concern at the park involves the management of requests for the installations of telecommunications facilities on National Park Service lands. The Telecommunications Act of 1996 (47 USC 332 note) directs all federal land management agencies to process, in good faith, applications from a Federal Communications Commission licensee or from an agency regulated by the Department of Commerce through the National Telecommunications and Information Administration.

Unlike other nonconforming uses, the National Park Service is legally obligated to permit telecommunication infrastructure within the park if such facilities can be structured to avoid conflict with the park's mission. Should the proposal cause unavoidable conflict with the park's mission, the permit will be denied (NPS 2006f). The National Park Service anticipates receiving multiple applications for telecommunication installations within the park.

The National Park Service will take the following kinds of actions to meet legal and policy requirements related to the use of park lands for telecommunications infrastructure:

Determine appropriate locations and stipulations before permitting telecommunication infrastructure on park lands. The goal will be to ensure that telecommunications facilities are located where they would have the least impact on park resources and values, are not located in scenic, historic, and/or sensitive areas integral to the park's mission, ensure visitor and neighbor safety, and the quality of visitor experiences are protected while endeavoring to respond positively to applications. Maximum potential for future co-location would also be considered. Sites and stipulations will be based in part on the management zoning established in this general management plan. For the purposes of this general management plan, telecommunications facilities would only be appropriate in the "developed zone" and would be subject to fulfill compliance and assessment requirements for the entire footprint of the new facilities and will not result in unacceptable impacts (NPS 2006f).

PLANNING OPPORTUNITIES AND ISSUES

Decision Points

Decision points were generated for the park by soliciting comments at six public meetings held throughout the corridor during the fall of 2000, and through input from various stakeholder groups and the general public during the review of the 2004 Draft General Management Plan / Environmental Impact Statement document. Decision points are statements that specify a range of possible future conditions in the park, based on public input. The decision points are used as the basis for developing the alternatives in the environmental impact statement for the general management plan.

A variety of issues and concerns were identified by the general public, park staff, and other agencies for this general management plan. Additional information on issues identification is provided in Chapter 6, "Consultation and Coordination." Some of the comments were outside the scope of this general management plan. Some concerns identified during scoping are already prescribed by law, regulation, or policy, or would be in violation of such requirements. These types of issues are discussed in the preceding section, "Servicewide Mandates and Policies." Because they are mandatory requirements, these matters are not subject to the decision making process presented in this general management plan.

Other issues identified during scoping were at an operational or developmental level of detail. Such issues are most appropriately associated with the park's five-year strategic plan or annual

implementation plans. Those plans will be based on the resource conditions and visitor experiences to be achieved in the park that are established in the final general management plan.

Based on public comments and agency concerns, three decision points were identified. This general management plan focuses on addressing these decision points, which are summarized as follows:

Should present practices of management, preservation, and protection of natural and cultural resources be maintained, or should these management, preservation, and protection practices be expanded in volume, type, and scope?

This decision point was developed in response to concerns expressed by the public regarding the potential impacts of projected increased future development and increased visitor use on the park. This decision point was developed in recognition of the rapidly developing nature of the areas surrounding the park, and the park's mandate to prevent impairment.

Natural and cultural resources within the park, including the Chattahoochee River, are threatened by the effects of encroaching development and increased public use. Encroachment can adversely affect water quality and aquatic life of streams within the park as a result of soil erosion and stormwater runoff from impervious areas developed outside park boundaries. Trails weaving into the park created by new developments in areas adjoining the park can eliminate valuable riparian habitat along the Chattahoochee River and cause soil erosion. Sewage spills pose a potential threat to water quality and aquatic resources in the park, including the Chattahoochee River. Encroachment can also lead to physical disturbance of natural habitats and cultural resources within the park. Increased park use can also adversely affect cultural resources which has already occurred at some locations in the park.

Expanding management activities to increase the level of protection for natural and cultural resources will require funding and analysis of alternative means of accomplishing funding objectives. Associated cost will depend on the specific level of protection required or proposed. This decision point provides the initial step that recognizes the need for added protection and the associated costs.

Should the park enhance visitor access and use with associated facilities, or should the park restrict use and access to selected areas?

This decision point was developed in response to public comments indicating a desire for increased access to the park, especially trails. Other possible ways of increasing access could include new facilities such as boat ramps, interpretive centers, restrooms, parking areas, and roads. The park is used by approximately 2.5 million people each year, and is ranked 30th in the nation for visitor use (NPS 2006a). Although the Organic Act directs the National Park Service to allow visitors the opportunity to enjoy the natural and cultural resources in the park, it also specifies that these same resources cannot be impaired by these types of activities and projects. This decision point was used to develop management alternatives that defined a range of levels of access that would allow the public to enjoy and experience the natural and cultural resources within the park while protecting these same resources.

Should the park widen its circle of influence, or should the park restrict its focus to activities within park boundaries?

This decision point explores the issue of whether the National Park Service should actively seek to partner with surrounding governments and organizations to enhance, protect, or restore park values, or should the National Park Service continue with its current management practices. This decision point was developed because, as a narrow corridor heavily influenced by adjoining development, the park might be more effectively managed if the surrounding local governments and stakeholder organizations were involved. The park is currently managed primarily on an internal basis, with limited input by the surrounding city and county governments or stakeholder organizations. Current management coordination with surrounding governments and other groups primarily involves negotiation of utility easements, property acquisitions, or review of projects that adjoin the park and are collocated along the river corridor and that might impact park resources directly or indirectly. Increased partnering with surrounding governments and stakeholder organizations implies that the park would receive support from these organizations.

Impact Topics – Resources and Values at Stake in the Planning Process

Specific resources and values, called impact topics, focus the planning process and the assessment of potential consequences of the alternatives. The following four criteria were used to determine park resources and values:

- *Resources cited in the establishing legislation for the park.* The establishing legislation for the park is included in Appendix E. A summary of relevant elements of the legislation is provided in the sections "Park History and Use Relative to Management Planning" and "Park Purposes."

- *Resources critical to maintaining the significance and character of the park.* The section "Park Significance" describes the defining features of the park that were used to establish the resources that are critical to maintaining its significance and character.

- *Resources recognized as important by laws or regulations.* Appendix A provides a list of many important congressional acts and executive orders that guide the management of all National Park Service facilities, including the park. A summary of some of the relevant elements of these acts and orders is provided in the section "Servicewide Mandates and Policies."

- *Values of concern to the public during scoping and development of the general management plan.* The National Park Service conducted an extensive public information and scoping program to acquire input from the public and from other agencies. This helped the National Park Service develop alternatives and identify resources and values of high interest in the park.

These criteria were applied to a set of impact topics/National Environmental Policy Act resource categories by checking off which were applicable. This approach helped establish each impact topic as a resource or value at stake in the planning process. A more detailed description of each impact topic and the effects of each of the proposed management alternatives are described in Chapters 3 and 4, respectively.

Natural Resources. A major reason for establishing the Chattahoochee River National Recreation Area was to protect its natural resources and its abundant natural scenery, which are particularly valuable because the park lies within a large metropolitan area. The following summarizes each type of natural resource in the park and the corresponding, relevant regulatory and legal framework.

Water Resources and Aquatic Resources – The establishing legislation for the park specifies that the Chattahoochee River, including the bed of the river, and its tributaries are essential resources to be protected. In addition, many federal laws and executive orders protecting the nation's waters apply to the Chattahoochee River watershed.

As the park's name suggests, the Chattahoochee River is fundamental to the park's character. The vegetated river corridor and its tributaries represent a unique natural resource in the Atlanta metropolitan area. Even though the developing urban areas surrounding the park affect water quality and quantity, the Chattahoochee River and its tributaries are inhabited by numerous species of native fish and other aquatic species, as well as the stocked trout fisheries maintained by the Georgia Department of Natural Resources, Wildlife Resources Division. The importance of the Chattahoochee River as a central scenic and recreational attraction in the park was reaffirmed by numerous public comments and by the approximately 2.5 million visitors to the park each year.

Wetlands and Floodplains – These are included in the discussion of water resources in "Servicewide Mandates and Policies." Wetlands and floodplains are regulated by legislation and executive orders because of their value as biological resources and their contributions to flood control, respectively.

Wetlands are located along the Chattahoochee River floodplain and at seeps (places where water trickles out of the ground to form pools) along the lower slopes of the valley walls and along tributaries. The floodplains along the Chattahoochee River and major tributaries support mature mesic southern bottomland hardwood forests as well as a variety of forested, scrub/shrub, and emergent wetland types. These sensitive habitats have unusually large numbers of plant and animal species and contribute significantly to the biological diversity of the park. For example, over 980 species of plants have been identified within the park boundaries. The 48-mile corridor is located in an area where the ranges of northern and southern species overlap, adding to the overall diversity of the area.

Terrestrial Ecological Species – The statements of park significance include several references to the forest's contribution to the park's character. The rich southern mesic hardwood forests within the boundaries of the park comprise an essential component of the landscape and scenic qualities of the park, buffer the park from the surrounding urbanization, and provide habitat for wildlife and plant species. During scoping, many comments were received about the value of the native forests and the need to maintain them.

Native animals represent an important park resource that captures the public's imagination. During scoping, many people commented on the value of seeing wildlife in the park, especially in contrast to the surrounding urban environment. The white-tailed deer, the largest and most conspicuous mammal, was the most frequently mentioned. Recreational birding also was identified as a popular park activity. Birding is especially popular, for example, in the wetlands at the Cochran Shoals unit.

Rare, Threatened, or Endangered Species – The Endangered Species Act and *Management Policies* (NPS 2006f) requires the protection of rare species and their habitats. The Chattahoochee River National

Recreation Area provides habitat for several federally endangered and threatened species and a large number of species of plants and animals listed by the Georgia Natural Heritage Program.

Prime and Unique Farmlands –In 1980, the Council on Environmental Quality directed that federal agencies assess the effects of their actions on farmland soils classified by the Natural Resource Conservation Service as prime or unique. Prime farmland soil has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oil seed crops and is available for these uses (i.e., it is not urban or developed land nor is it under water). Unique farmland is land that is used for the production of high value food crops, such as fruits, vegetables and nuts. A number of the soil types in the park have been classified as prime farmlands; however, no unique farmland has been identified within park boundaries. Given the historic regional farm practices sustained in the area, and the existence of prime farmland within the park corridor, this topic was recognized as an impact topic.

Cultural Resources. The park's archeological resources and historic structures and sites are recognized as exceptional because they illustrate significant aspects of the historic development of the area from prehistoric times to the present. Historic features such as the Sope Creek Mills and the Hyde Farm help define the significance and character of the park and are protected by multiple legislative, executive, and National Park Service policies.

These historic features also form an integral part of the park's cultural landscapes, which reflect the relationship between what is natural and what is man-made. According to the Secretary of the Interior's guidance document (1996), a cultural landscape is "a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.

Archeological Resources - The park contains approximately 197 known archeological sites (NPS 2005a). These sites, and the more than 14,000 associated archeological artifacts, document the historical and prehistoric use and cultural adaptation of the early cultures, up to and including the Creek and Cherokee Nations. The Chattahoochee River is considered to have been the transitory border between these two great cultures.

Of the recorded sites there are numerous historic archeological sites and standing structures, including Civil War sites, pre-Civil War home sites and farmhouses, at least 10 early ferry crossings, and pre-Civil War paper mill and woolen mill sites. The mills are listed on the National Register of Historic Places.

Historic Buildings, Structures, Landscapes, and Objects - Cultural landscapes reflect the relationship between what is natural and what is man-made. According to the Secretary of the Interior's guidance document (1996), a cultural landscape is "a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values."

A cultural landscape inventory documents the qualities and attributes of a cultural landscape that make it significant and worthy of preservation. The goal of the National Park Service is to locate and evaluate cultural landscapes and provide information on their location, historical development, characteristics and features, and management to assist park managers in planning, programming, and recording treatment and management decisions.

Seven cultural landscapes have been identified as having sufficient integrity to be considered potentially eligible for the National Register. These landscapes include the Island Ford complex, Sope Creek Mill complex, Scribner Cemetery area, Collins/Yardum homesite area, Hyde Farm/Power House, Rogers Homestead, and the Allenbrook/Ivy Mill Complex.

Local and Regional Transportation. Local and regional transportation was identified as an impact topic primarily because of concerns expressed during scoping. Many members of the public identified the value of both paved and unpaved trails and expressed a desire to have an expanded trail system. The scoping comments pointed out that trails should be effectively linked to the various local communities located along the 48-mile park.

Other people value the park corridor for the opportunity to promote nonmotorized and less polluting alternatives to automobiles, especially bicycle use. Public comments reflected the desire to increase use of off-road bicycles and other walking trails in the park through development of an interconnected trail system. Other people expressed concern about the effects of increased off-road bicycling on erosion and water quality.

Visitor and Community Values. In reviewing the range of comments received, the following topics appear to capture the values expressed by the public.

Traditional Park Character and Visitor Experience – The significance statements presented near the beginning of this general management plan reflect the importance of the overall visitor experience in defining the park's character. Frequent scoping comments were concerned with protecting the park's natural qualities, not only for the ecological resources, but for its restorative value to people as a place of natural beauty and escape from the nearby urban setting. Scenery, opportunities to learn about the natural world, natural quiet, and the ability to hear natural sounds were often highlighted. There was near unanimity that the natural character should be preserved and protected from disturbance from development.

People also emphasized the traditional, familiar character of the park's recreational features and their desire to see this character maintained. While many said that park facilities need repair and improved maintenance, the public appeared to be mostly satisfied with the range of recreational opportunities offered by the park. Upon review of the 2004 Draft General Management Plan / Environmental Impact Statement, additional comments regarding the ability to fish and boat throughout the park, and increased opportunities to bicycle in the park were voiced. Other comments emphasized:

- The lasting value of the park as a gathering place for family and friends.
- The importance of shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have become associated with the park.
- Individual and physically challenging recreation such as biking, boating, fishing, jogging, and hiking.
- The historic resources present within the park and their appreciation by the public.

Community Character – Community character also was identified as an impact topic during scoping. Most of those who commented described the park as a major asset to the quality of life in the Atlanta metropolitan area. The scenic and recreational amenities are much appreciated, and many said that

proximity and access to the park were important factors in their choice of neighborhoods. A number of people who identified themselves as park neighbors also stressed that their neighborhoods could be affected by changes in park experiences.

Issue Topics Considered but Dismissed

As described in the "Consultation and Coordination" section, the identification of issues and development of alternatives evolved through a series of meetings and other opportunities for public input. However, not all issues raised by the public are included in this general management plan.

As the National Park Service learned more about public concerns, the alternatives were modified to more effectively address the public's comments. This evolution resulted in the elimination from further consideration of some possible management actions that were proposed early in the process. Other issues raised by the public were not considered because they:

- Were not feasible
- Are already prescribed by law, regulation, or policy
- Would be in violation of laws, regulations, or policies

The following is a discussion of the impact topics and a rationale for eliminating them from further consideration. The decisions regarding categorization of the issues were made by a National Park Service planning team based upon review of public comments and best available data.

Air Quality – The United States Environmental Protection Agency has established primary and secondary national ambient air quality standards or criteria pollutants under the provisions of the Clean Air Act. Twenty counties surrounding the park including Cobb, Gwinnett, Fulton, and Forsyth counties are collectively designated as a marginal eight-hour ozone nonattainment area. During scoping, members of the public expressed concerns over threats to air quality from heavy traffic in the Atlanta Region. Poor regional air quality has the potential to adversely affect biotic resources, cultural resources, and visitor health and experiences. The National Park Service would continue to cooperate with local agencies to monitor air quality, yet it cannot change the regional conditions. Providing opportunities for park linkages through trails is a consideration under all alternatives. In comparison to the regional air quality concerns there would be negligible to minor effects that would result from park actions taken under any alternative. This impact topic was eliminated from further consideration.

Groundwater Quantity: Implementation of a particular management alternative would not have any impact on groundwater quantity, either positive or negative. Groundwater quantity is affected by various physical, geological, and hydrologic factors outside the control of park management.

Groundwater Quality: Facilities would be required to comply with appropriate design, build, and operating specifications and procedures. There would be negligible impacts to groundwater quality. Groundwater quality is affected by factors such as transportation- or industrial-related spills of hazardous chemicals or industrial and commercial operations outside of park boundaries.

Special Status Species that do not occur in the Park: Management alternatives would have a negligible affect on rare, threatened, or endangered species in areas outside the park or in

neighboring states. The park provides temporary habitat for some migratory species of protected animals from other states and from outside the park boundaries, but habitat for these species within the park would be preserved under any alternative selected, even with varying degrees of fragmentation. Therefore, this issue does not merit further analysis.

Physiography/Topography: Alternative park management activities could result in some ground disturbing activities related to construction of parking lots, buildings, and roads. However, these activities would result in negligible impacts to topography or physiography within the park boundaries.

Climate: None of the management alternatives would result in climate modification.

Wild and Scenic Rivers: The Chattahoochee River is not a federally-designated Wild and Scenic River, and therefore no impacts would occur.

Museum Collections: The museum collection at the park includes objects ranging from an herbarium collection numbering in the hundreds, to macroinvertebrate specimens and cultural heritage objects found in structures acquired by the National Park Service. The macroinvertebrate specimens, numbering over 1,000, were consolidated in the park's Water Quality Lab in 2005. A freshwater mussel survey of the park has also been completed and specimens are included in the park's museum. Specimens housed at the Savannah River Ecological Laboratory in Savannah, Georgia include small-mammal and fish inventories as well as a herpetological survey. The majority of the park's archeological collection is housed in the Southeast Archeological Center in Tallahassee, Florida. The park has no collections that fall within the scope (funerary objects, sacred objects, and objects of cultural patrimony) of the Native American Graves Protection and Repatriation Act of 1990. A Regional Museum Storage Plan approved May 2006, recommends that all long-term collections be moved from the park. In addition, under all alternatives, a Collections Management Plan would address collections for the park in a comprehensive manner.

Any activities associated with any of the proposed alternatives in the future would include environmental assessments tiered to this document and specific effects regarding museum collections would be evaluated at that time, such as collection of natural history specimens or cultural history artifacts related to additional survey work. Each of the proposed alternatives is estimated to cause negligible to minor effects and be similar in nature. Therefore, this impact topic was dropped from further evaluation.

Indian Trust Resources: Designated Indian Trust Resources do not exist within the park and therefore would not be impacted by any management alternative.

Sacred Sites: No Native American sacred sites have as yet been identified within the park. Project-specific consultation has been initiated with potentially interested Tribes; however, this has not led to the identification of any sacred sites in the park, and no formal study to identify such sites has been carried out. At this time it is not possible to assess potential impacts to sacred sites by any of the management alternatives. Any activities proposed in the future would include environmental assessments tiered to this document and potential sacred sites, should they be identified in the future, would be evaluated at that time. No impacts to known sacred sites are predicted at this time.

Ethnographic Resources: Some places of traditional cultural importance may be eligible for inclusion in the National Register of Historic Places as traditional cultural properties because of their association with cultural practices or beliefs of a living community that are rooted in that community's history and are important in maintaining the continuing cultural identity of the community. Few traditionally associated peoples retain ties to resources in the Chattahoochee River National Recreation Area today. Contemporary representatives of the Cherokee Nation, which is the present-day federally recognized tribe most likely to have an affiliation with the park, claim no remaining connection with the park. Cherokee representatives believe the lands along the river between Lake Lanier an Standing Peachtree are farther south than the Trail of Tears segment involving their ancestors (NPS 2005a). Other descendant groups may be associated with the park. However, such descendants of ferryboat captains, fishermen, mill workers, or others, have not established claims or groups that connect them to sites or resources within the park. Additional research may identify links to contemporary groups, such as descendants of the above and of resort lodge owners or visitors, churches that used the river for baptisms, farm families, etc. Any activities proposed in the future would include environmental assessments tiered to this document and potential ethnographic resources, should they be identified in the future, would be evaluated at that time. No impacts to known ethnographic resources are predicted at this time.

Noise: The largest noise generator in the vicinity of the park is traffic. The alternatives considered would result in negligible impacts to the overall traffic patterns or volumes projected to occur in the areas surrounding the park. Traffic in the area would continue to increase, as described in the transportation section of Chapter 4, regardless of whether any of the management plan alternatives are instituted.

Socially or Culturally Disadvantaged Populations: Executive Order 12898 regarding "Federal Actions to address Environmental Justice in Minority Populations and Low-Income Populations." requires, as of February 11, 1994, that each federal agency make achieving environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health effects of its programs, policies, or activities on minority or low-income populations. The order applies to all federal actions that require National Environmental Policy Act documentation, and has three general objectives: 1) focus the attention of federal agencies on the human health and general environmental conditions in minority and low-income communities with the goal of achieving environmental justice; 2) foster nondiscrimination in federal programs that could substantially affect human health or the environment; and 3) give minority and low-income communities greater opportunities for public participation on matters relating to human health and safety.

An assessment of the alternatives assessed during the planning process determined that there would be no discernable adverse effects upon any minority or low-income population or community. Environmental justice was dismissed as an impact topic, and the following is a summary of the rationale for this conclusion:

Although there are minority and or low-income populations in the vicinity of the park, implementation of the plan would not result in any identified effects specific to any minority or low-income population or community. Development of new park facilities that might occur under any of the alternatives would occur in compliance within prescribed zones located throughout the 48-mile park corridor. Adverse human health or socioeconomic effects on minority or low-income populations or communities are not projected anywhere along the park corridor.

Impacts on the socioeconomic environment are expected to be negligible and would not alter the character of any local community in a negative way. Connections or increased access to the park at any location along the 48-mile park will have a beneficial effect on the social and economic resources in these areas.

The park staff and planning team actively solicited public participation as part of the planning process and gave equal consideration to all input regardless of age, race, income status, or other socioeconomic or demographic factors.

Energy Resources: Implementation of the alternatives would involve varying use of energy resources, but these impacts would be minor in nature and would result in negligible impacts to regional energy resources.

Public Health and Safety: The National Park Service is charged with providing a safe and healthy environment within the park boundaries. This would be required under any management alternative and does not require additional analysis.

Natural or Depletable Resource Requirements & Conservation Potential: The management alternatives would result in the negligible depletion of natural resources and would not adversely affect potential conservation of natural resources within the park.

Chapter 2

ALTERNATIVES

Cochran Shoals

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CHAPTER 2
ALTERNATIVES

This section describes the alternatives that were developed. The formulation of alternatives was a multi-step process.

The National Park Service identified management prescriptions that potentially were applicable to the park. Each management prescription was defined by desired visitor experiences and resource conditions. These were developed based upon public input during the scoping phase of the planning process in 2002. The input provided helped establish the kinds of activities or facilities (or prescriptions) that would achieve targeted conditions.

Management zones were defined and then mapped to specific areas of the park to create three action alternatives that are evaluated in the Draft General Management Plan and Environmental Impact Statement that was presented in May 2004. These action alternatives were: the Focus on Solitude Alternative, Centralized Access Alternative, and Expanded Access Alternative. These alternatives were subsequently named Alternatives B, C and D, respectively. In addition, the No Action, or Continue Current Management Alternative (Alternative A) was analyzed.

After the June 2004 publication of the Draft GMP/EIS, NPS received strong stakeholder (including the State of Georgia) and public objections to the treatment of fishing and boating as well as bicycling activities in some of the plan alternatives. In response to public comment and in consultation with the State of Georgia, the planning team made major revisions to the document including the development of two new alternatives (Alternatives E and F). Because Alternatives B, C, & D treated zoning in the river itself according to the zoning of the adjacent land, it was necessary to create a separate river zone to address the public comments in the two new alternatives.

The two alternatives were presented to the park's stakeholders and then to the general public in a series of public meetings in December 2005. Over 500 reviewers commented on the new alternatives. The planning team then developed the environmental analysis of the alternatives, updated some of the data in the original document, made other corrections and revisions suggested by public comments and estimated the costs of all the alternatives.

The National Park Service employed the Choosing by Advantages process during a workshop on September 18 & 19, 2006 to select the agency preferred alternative, which resulted in the selection of Alternative F as the preferred.

Each of these steps is described in the sections that follow. Detailed descriptions are provided for the prescriptions, management zones, and each of the alternatives.

CARRYING CAPACITY

The statutory requirement for addressing user capacity in General Management Plans was established in the 1978 National Parks and Recreation Act (16 USC 1a-7). User capacity is defined as the type and level of visitor use that can be accommodated while sustaining the desired resource and visitor experience conditions in the park. Table 1 presents a set of indicators that measure whether or not desired resource conditions and visitor experiences are being achieved and presents standards that provide limits of acceptable change for the indicators. The park would then monitor the indicators and take management action as needed to meet the standards. As park management gains knowledge

from applying and testing the indicators and standards in the field, there may be the need for revision and refinement. This would be carried out with the engagement of our partners, stakeholders, and the general public.

Table 1. Indicators and Standards for Chattahoochee River National Recreation Area

Topic	Indicator	Standard	Monitoring Examples	Management Strategies
Damage to Cultural Resources	1. Number of unauthorized trails leading to, through, and from site. 2. General damage or defacement of historic structures, ruins, and exposed surface archeological sites not caused by natural forces.	1. Two unauthorized trails leading to a resource site. 2. No artifacts, ruins and historic structures, or exposed surface archeological sites with evidence of damage or defacement.	1. Counts of unauthorized trails at a percentage of sites within each park unit. 2. Counts of unauthorized trails at all sites within each park unit 3. Quantify the evidence for attempts to remove or vandalize artifacts and surface occurring archeological deposits.	1. Increase educational efforts and revise visitor handouts to make people aware of how certain activities cause damage. 2. Institute regular resource management staff monitoring patrols. 3. Provide regular guided tours to site (requires staff presence). 4. Build physical barriers to reduce or channel access to site from trail or public viewpoint. 5. Increase number of high visibility ranger patrols in locales with highest percentage of new damage. 6. Limit number of people actually within site boundaries (requires staff presence). 7. Close site to all public use.

Table 1. Indicators and Standards for Chattahoochee River National Recreation Area (continued)

Topic	Indicator	Standard	Monitoring Examples	Management Strategies
Unauthorized Trails	1. Total length of all unauthorized trails in a park unit. 2. Number of unauthorized trails branching off from designated trail system.	1. Unauthorized trails do not exceed 5% of total trail length in a park unit. 2. Two intersections within 100 feet of designated trail.	1. Measure length of unauthorized trails in each park unit. 2. Count number of intersections with designated trails.	1. Increase education. 2. Clearly delineate designated trails with signs. 3. Determine if trail leads to an area that should have an authorized trail. 4. Increase enforcement patrols and/or block trails. 5. Limit/permit activities that are creating most of the trails.
Visitor Experience on the River	1. Number of reported visitor incidents on the river. 2. Number of reported visitor accidents on the river.	1. Three reported incidents per quarter between designated river access points. 2. Zero accidents related to river use.	1. Count number of reported incidents or complaints. 2. Count number of reported accidents.	1. Increase education regarding river safety and use. 2. Increase number of high visibility ranger patrols.
Visitor Experience on Land	1. Number of reported visitor incidents on land. 2. Number of reported visitor accidents on land.	1. Three reported incidents per quarter in a land unit. 2. Zero accidents in a land unit.	1. Count number of reported incidents or complaints. 2. Count number of reported accidents.	1. Increase education regarding trail safety and etiquette. 2. Increase number of high visibility ranger patrols.
River Access	Length of time watercraft user must wait from arrival at launch until launch is available for use.	Waiting times do not exceed 10 minutes more than 10% of the time.	Clock wait times.	1. Increased management of ramps or launches by park staff. 2. Construct more ramps or launches. 3. Coordinate with other agencies (local, state) for ramp/launch improvements.

Table 1. Indicators and Standards for Chattahoochee River National Recreation Area (continued)

Topic	Indicator	Standard	Monitoring Examples	Management Strategies
Parking	1. Amount of time (duration) parking lots are full. 2. Number of times (frequency) parking lots are full.	1. A parking lot is full five hours a week. 2. A parking lot is full twice a week.	1. Clock amount of time parking lot is full. 2. Count number of times a parking lot is full.	1. Increased management of parking lots by park staff. 2. Expand or redesign parking lots to accommodate more vehicles. 3. Construct more parking lots. 4. Pursue shared off-site parking.

POTENTIAL MANAGEMENT PRESCRIPTIONS

This section defines all management prescriptions that could be applied to the park under any of the alternatives. The management prescriptions define the desired future resource conditions and visitor experiences, including the appropriate kinds and levels of management and use.

A management prescription is an approach for administering or treating the resources or uses of a specified area, based on desired outcomes. Management prescriptions include target goals or objectives for one or more resources and/or visitor experiences that are present within the prescription area. The alternatives for the park consist of multiple zones with different management prescriptions. Together, the management prescriptions within an alternative meet all goals of the park.

Different physical, biological, and social conditions are emphasized in each zone. The factors that define each management prescription are the:

- Desired visitor experience
- Desired natural and cultural resource conditions

These factors then indicate the types of park related activities or facilities that are appropriate within the zone. Facilities, as outlined in Tables 2 and 3, include all types of structures or other man-made items that facilitate visitor use. For example, the types of facilities the park supports include trails, river access facilities such as boat launches or ramps, signs, contact stations, kiosks (small structures used to convey information, some may be manned, many are not.)

Regardless of the target visitor experience or resource condition, all management prescriptions conform to park-specific purpose, significance, and mission goals and to the servicewide mandates and policies. For example, an archeological site would be protected, regardless of whether it occurs in any given zone. However, the use of that site for educational purposes could vary, depending on the management prescription assigned to the area where the resource is located. Other types of special use such as utilities rights-of-way or telecommunications facilities would be considered individually, on a case-by-case basis for each permit application in accordance with the terms of the park's legislation,

regulations, and management planning documents (see also Chapter 1; NPS 2006f). As such, these types of uses and facilities are not included as individual prescriptions, but would individually be evaluated to ensure that unacceptable impacts are prevented and that an individual proposal would not cause unavoidable conflicts with the park's mission (NPS 2006f).

The management prescriptions identified as potentially applicable to the park are described below and summarized in Tables 2 and 3. Table 2 summarizes the management prescriptions by zone that were developed for Alternatives B, C and D. The management prescriptions and zones that were developed for Alternatives E and F based upon public input are summarized in Table 3.

For Alternatives B, C and D, where two different zones appear on opposite sides of the same stretch of the Chattahoochee River, the zone with the fewest restrictions would apply to the river. Comments received subsequent to the May 2004 Draft indicated that this zoning application should be changed for several reasons, including the following: this type of zoning would cause confusion, desire to maintain use of motorized vessels in the entire park and, the desire for the river to be one zone. As a result, the river zone was created where boating and fishing are allowed in all park waterways in Alternatives E and F. Two other new zones were created in response to public input regarding the May 2004 Draft. These new zones are the historic resource zone and the rustic zone. The differences, as well as other changes resulting from public comment, are described by zone in the sections that follow.

MANAGEMENT ZONES

The prescriptions emphasize desired conditions and visitor experiences for natural resources, cultural resources, recreation areas, visitor facilities, and administration and operations areas. The management prescriptions were applied to specific areas of the park called zones. Management zoning is the method used by the National Park Service to identify and describe the appropriate variety of natural resource conditions, cultural resource conditions, and visitor experiences to be achieved and maintained in the different areas of a park. Management zones also define appropriate levels and types of facilities and development for various areas of the park. Management zones do not specify the location, design particulars, or footprint of any facility nor do they guarantee that any particular type of facility, although permitted by the zone definition, will ever be developed within that zone. No facilities of any kind will be proposed for areas that are not suitable by virtue of environmental conditions or the presence of important cultural resources. No facilities will be proposed without further site specific environmental analysis and opportunities for public review and comment. The following is a summary of each zone developed during the completion of this general management planning effort.

DEVELOPED ZONE (ALTERNATIVES B, C, D, E AND F)

The developed zone would provide access and the "built environment" to support a wide variety of recreational and educational opportunities. This zone would be characterized by a relatively high density of people in a relatively urbanized setting. The opportunity for solitude would be low, but the potential for educational opportunities would be high. This area would be characterized by the highest proximity to basic facilities such as buildings, roads, parking lots, and paved trails.

Table 2. Management Prescriptions – Alternatives B, C, & D

CATEGORY	NATURAL AREA RECREATION ZONE	NATURAL ZONE (FORMERLY URBAN PRIMITIVE)	DEVELOPED ZONE	RIVER SOLITUDE ZONE (FORMERLY PRISTINE RIVER ZONE)	CULTURAL RESOURCE ZONE
TYPES OF ACTIVITIES					
Day hiking	Yes	Yes	Yes	No Trails	Yes
Off-road Bicycling	Yes, on designated trails only	No	Yes, on designated trails only	No	No
Picnicking	Yes	Yes, no facilities	Yes	Yes, no facilities	No
Fishing	Yes	Yes	Yes	Yes, from river only	No
Equestrian	Yes, existing trails only	No	Yes	No	No
Scientific research	Yes	Yes	Yes	Yes, limited activities only	Yes
Canoeing, rafting, kayaking	Yes	Yes	Yes	Yes, on river only	Yes
Habitat restoration	Yes	Yes	Yes	Yes	Yes
Motorized Vessels (No personal watercraft, or PWCs, allowed)	Yes	No	Yes	No	No
Types of Facilities					
Trails	Yes, unpaved trails only	Yes, primitive trails only	Yes	No	Yes
River Access Facilities (ramps, step-downs, boardwalks, docks, etc.)	Yes	Yes, existing only – no new river access facilities	Yes	No	No
Visitor & Admin. Facilities	Yes, limited in size & impact	Yes, existing only – no new visitor & admin. facilities	Yes	No	Yes
Parking areas	Yes	Yes, existing only – no new parking areas	Yes	No	Yes
Picnic areas	Yes	Yes, existing only - no new picnic areas	Yes	No	No
Restrooms	Yes	Yes, existing only – no new restrooms	Yes	No	Yes
Roads	Yes, limited access roads	Yes, existing only – no new roads	Yes	No	No
Bridges	Yes, non-motorized vehicles & pedestrians	Yes, foot bridge only	Yes	No	No
Kiosks	Yes	Yes	Yes	Yes	Yes

Note: Under Alternaitves B, C, & D, there is not a separate zone type for the river itself. Where two different zones appear on opposite sides of the same stretch of river, the zone with the fewest restrictions would apply to the river.

Table 3. Management Prescriptions – Alternatives E & F

CATEGORY	NATURAL AREA RECREATION ZONE	NATURAL ZONE (FORMERLY URBAN PRIMITIVE)	DEVELOPED ZONE	RIVER ZONE	HISTORIC RESOURCE ZONE	RUSTIC ZONE
Types of Activities						
Day hiking	Yes	Yes	Yes	N/A	Yes	Yes
Off-road Bicycling	Yes, on designated trails only	No	Yes, on designated trails only	N/A	No	Yes, on designated trails only
Picnicking	Yes	Yes, no facilities	Yes	Yes, no facilities	Yes	Yes, no facilities
Fishing	Yes	Yes	Yes	Yes	Yes	Yes
Equestrian	Yes, existing trails only	No	Yes	N/A	No	No
Scientific research	Yes	Yes	Yes	Yes	Yes	Yes
Canoeing, rafting, kayaking	Yes	Yes	Yes	Yes	Yes	Yes
Habitat restoration	Yes	Yes	Yes	Yes	Yes	Yes
Motorized Vessels (No PWCs allowed)	N/A	N/A	N/A	Yes	N/A	N/A
Types of Facilities						
Trails	Yes, unpaved trails only	Yes, primitive trails only	Yes	N/A	Yes	Yes, primitive trails only
River Access Facilities (ramps, step-downs, boardwalks, docks, etc.)	Yes	Yes, existing only, no new river access facilities	Yes	Yes	Yes, existing only, no new river access facilities	Yes, step-downs, boardwalks, docks, viewing platforms only
Visitor & Admin. Facilities	Yes, limited in size & impact	Yes, existing only, no new visitor/admin. Facilities	Yes	N/A	Yes, appropriate within cultural context	No
Parking areas	Yes	Yes, existing only, no new parking areas	Yes	N/A	Yes, appropriate within cultural context	Yes, existing only – no new parking
Picnic areas	Yes	Yes, existing only, no new picnic areas	Yes	N/A	Yes, appropriate within cultural context	No
Restrooms	Yes	Yes, existing only, no new restrooms	Yes	N/A	Yes, appropriate within cultural context	Yes, existing only – no new restrooms
Roads	Yes, limited access roads	Yes, existing only, no new roads	Yes	N/A	Yes, appropriate within cultural context	Yes, existing only – no new roads

Table 3. Management Prescriptions – Alternatives E & F

CATEGORY	NATURAL AREA RECREATION ZONE	NATURAL ZONE (FORMERLY URBAN PRIMITIVE)	DEVELOPED ZONE	RIVER ZONE	HISTORIC RESOURCE ZONE	RUSTIC ZONE
Types of Facilities						
Bridges	Yes, non-motorized vehicles & pedestrians	Yes, foot bridge only	Yes	Yes, existing vehicular bridges and bridges sup-portive of non-motorized use –	Yes, appropriate within cultural context	Yes, bridges supportive of non-motorized use - appropriate
Kiosks	Yes	Yes	Yes	Yes	Yes, appropriate within cultural context	Yes

N/A: Not Applicable

Visitor Experience

In this zone, visitors would have convenient access to public park buildings and facilities and ample opportunity for social experiences, with a high probability of encountering other visitors or park staff. The developed zone would act as a core area for services, transportation, information, and facilities. Visitors of all ages and athletic ability would be able to use outdoor skills and experience introductory-level park adventure and education, degree of challenge or risk associated with these activities would be low. Facilities would provide a strategically attractive option for users to fulfill short park visits.

Resource Condition or Character

Resources in the developed zone may be modified for visitor and park operational needs. Visitors and facilities would be intensively managed for resource protection and visitor safety. These changes would be instituted in a manner harmonious with the natural environment. The developed zone would thus consist of a built environment with high levels of impervious surface and developed areas for park facilities. The area would be predominantly natural, but the sights and sounds of people would be clearly evident as visitors experience the park.

Appropriate Kinds of Activities or Facilities

A wide variety of activities would be allowed in the developed zone. Appropriate activities would include day hiking, off-road and street biking, horseback riding, jogging, picnicking, nature and cultural resource observation, interpretative activities, fishing, canoeing, rafting, kayaking, and boating.

Types of acceptable facilities in this zone would include trails, visitor center, administrative facilities, parking areas, boat ramps, scientific research areas, restrooms, roads and bridges, visitor contact stations and kiosks, and interpretive centers.

Should the park receive requests for telecommunications facilities, the location of such facilities would be considered appropriate in the developed zone if they do not interfere with the park's mission, nor cause unacceptable impacts on park resources, values or purpose (see also, Chapter 1; NPS 2006f).

NATURAL AREA RECREATION ZONE (ALTERNATIVES B, C, D, E AND F)

The concept of this zone is to allow certain types of active recreation in a relatively undisturbed natural environment. The number of visitors in this zone would be relatively high, so the opportunity for experiencing solitude would be moderate as compared with the natural zone. Unpaved trails would be appropriate in this zone, as would activities such as off-road bicycling in designated areas.

Visitor Experience

The natural area recreation zone would be essentially natural, but would experience a relatively high amount of visitor use. At certain times of day or season, opportunities for solitude would occur, but in general the probability of encountering other visitors would be moderate to high. The degree of isolation and feeling of closeness to nature would be low to moderate, limited by the presence of other people. The outdoor challenge for visitors in this zone would be moderate and greater than in the

developed zone. Access to this zone would be relatively easy. A high diversity of experiences would be possible in this zone, with a moderate amount of facilitation by the National Park Service.

Resource Condition or Character

This zone would require a moderate to high degree of management to protect visitors and resources within this zone because of the large numbers of users in a natural setting. Some portions of the natural environment could be modified for trails and other uses, but the overall setting would consist of natural habitats. There would be a low tolerance for natural resource degradation, and resources would be managed to maintain natural conditions free of exotic vegetation to the extent practicable. Any trails or other facilities would harmonize with the natural environment. The sights and sounds of people would be clearly evident.

Appropriate Kinds of Activities or Facilities

A wide variety of activities would be appropriate in the natural area recreation zone, but with specific restrictions. Appropriate activities would include day hiking, off-road bicycling on trails and street bicycling, picnicking, nature observation, interpretative activities, scientific research, fishing, and boating. Unpaved trails would be designed to accommodate a variety of exercise/recreational pursuits that may vary from activities on foot to those on bicycle and horseback, however horseback riding would be appropriate on existing equestrian trails in this zone. Facilities in the natural area recreation zone would be minimal to support the activities described above, including restrooms, kiosks, rain shelters, and picnic tables. Access roads, parking and river access facilities would also be considered appropriate in this zone.

NATURAL ZONE (ALTERNATIVES B, C, D, E AND F, WITH DIFFERENCES NOTED)

The natural zone was referred to as the urban primitive zone in the May 2004 Draft. The zone was renamed to reflect public sentiment that the park is located in an urban setting and the word primitive was not appropriate. Based upon this input, the zone was renamed the natural zone.

Motorized boating would not be considered appropriate in the natural zone for Alternatives B, C and D. Based upon public and agency feedback, the river zone was created and applied to Alternatives E and F, making fishing and boating (motorized and non-motorized) appropriate activities throughout the park, in all waters. Note that for Alternatives E and F, the prescription for motorized vessels in the natural zone and all zones other than the river zone reads, "not applicable" in Table 2 to reflect this difference.

The natural zone would provide a relatively undisturbed environment that visitors interested in nature and natural settings could enjoy. Few people would be encountered in this zone, and hiking and nature observation would be appropriate activities on unpaved trails. The concept of this zone is to allow visitors to experience a relatively natural environment with a relatively low probability of encountering many people during a given visit to the park.

Visitor Experience

In the park's natural zone, opportunities for closeness to nature, tranquility, and the application of outdoor skills would be common. The level of encounters with other visitors and staff would be low.

Visitors would need an average degree of outdoor skills and would employ a moderate variety of these types of skills during their stay in the park. This zone would feel farther away from comforts and conveniences than the developed zone. Visitors would be able to have a large variety of outdoor experiences.

Resource Condition or Character

A moderate level of management would be provided for resource protection and visitor safety in the natural zone. National Park Service tolerance for resource degradation due to visitor use in this zone would be very low. Habitats would be restored and maintained in as natural a condition as possible. Subtle onsite controls and restrictions could be present, such as trail markers or restrictions on off-trail use. The area would be predominantly natural, and the sights and sounds of people would be infrequent.

Appropriate Kinds of Activities or Facilities

A variety of experiences would occur in the natural zone. Appropriate activities would include day hiking on unpaved trails, nature observation, interpretative activities, fishing, and scientific research. The use of motorized vessels would be considered appropriate in Alternatives E and F, but not under Alternatives B, C and D. Existing facilities would be maintained in this zone.

RIVER SOLITUDE ZONE (ALTERNATIVES B AND C ONLY)

The river solitude zone was referred to as the pristine river zone in the May 2004 Draft. The zone was renamed to reflect public sentiment that the park is located in an urban setting and the word, pristine" was not appropriate. Therefore, the zone was renamed the river solitude zone.

The concept of the river solitude zone is to provide visitors with an experience as close to a natural, undisturbed river corridor as possible. Trails would not be allowed in the core of this area, and access would primarily be by boat (non-motorized). In recognition of the fact that the park is located in a rapidly developing corridor, this zone is expected to be relatively limited in extent. As the areas surrounding the park develop, encroachment on this zone may occur. This area would provide a comparatively high degree of solitude and enable visitors to appreciate the natural values of the Chattahoochee River environment.

Visitor Experience

This would be a special limited access part of the park that would allow visitors to float down a relatively undisturbed section of the Chattahoochee River. This area would allow visitors to feel very close to nature, even in an urban setting. This would require strict preservation of a portion of the river corridor habitats on both sides of the river, so that modern development would not be noticeable in the river viewshed wherever possible; thus, the degree of isolation would be very high. This zone would provide a good opportunity to experience solitude and tranquility in an urban setting, which would be a highly valued experience for many. The degree of challenge or risk would be high since no facilities and few park staff would be present, and the visitor would need to know how to apply outdoor skills. Visitors would therefore need a high degree of self-reliance. The possibility of encountering other visitors would be lower in this zone compared to others.

Resource Condition or Character

This zone would be restored to and maintained at its natural state to the extent practicable. In an urban park, this translates into a relatively high degree of management for exotic species of plants and a high degree of protection of the resources from degradation by human uses. There would be zero tolerance for resource degradation in this zone. The management focus of this alternative would be on the natural environment.

Appropriate Kinds of Activities or Facilities

The types of allowable experiences in this zone would include nature observations, limited river-based interpretative activities, use of non-motorized vessels, and fishing from the river only. Viewing would be allowed only from the river. Boat take-outs and put-ins would be allowed above and below this zone. Trails would only occur along the perimeter of this zone, away from the river. No constructed facilities of any type would be appropriate in this zone.

CULTURAL RESOURCE ZONE (ALTERNATIVES B, C AND D ONLY)

This zone was established with the specific goal of protecting cultural resources within the park, while allowing the public to enjoy and understand the value of these resources. The number of visitors to cultural resource zones would be moderate, but variable, depending on the type of resource and location. Opportunity for solitude and enjoyment of the natural environment would also be variable in this zone.

Visitor Experience

This zone would be a clearly defined area that includes archeological or historic resources. This zone could include individual sites already listed on the National Register of Historic Places or, in the future, could include formally designated cultural landscapes. Limited access would be provided for visitors to observe and learn about the resources, with the primary objective to protect the resource and to maintain its character. Additional goals would be to rehabilitate resources according to National Park Service guidelines and to protect the rehabilitated resource in the future.

This zone would be managed to restore features that were originally associated with the resource in accordance with National Park Service policies. This might require habitat manipulation to achieve similar plant communities that were present historically (such as crops associated with a farmstead, or a landscape associated with a former mill site) . However, development of park facilities in this zone would be in context with the historical or archeological resources while allowing for an optimal visitor experience. Natural resources would be protected where consistent with cultural resource values.

The probability of encountering other visitors would be moderate. The visitor would experience a variable degree of isolation and feeling of closeness to nature, depending on where the resource is located. The outdoor challenge and diversity of experience for a visitor in this zone would be low.

Resource Condition or Character

This zone would require a high degree of management to protect visitors and resources because of the potentially high numbers of users in the vicinity of identified and highly sensitive cultural resources.

The natural community could be altered to the degree necessary to restore or maintain the character of identified cultural resources, and there would be a low tolerance for resource degradation.

Some portions of the natural environment within this zone could be modified for trails and other uses that could include impervious surfaces. Any trails or other facilities would harmonize with the cultural and natural environment where practical. The sights and sounds of people would be clearly evident, but variable.

Appropriate Kinds of Activities or Facilities

A more limited variety of activities would be allowed in this zone in order to protect identified cultural resources and values. Appropriate kinds of experiences would include day hiking, nature observation, interpretative activities, scientific research, canoeing, rafting, kayaking, and use of non-motorized vessels. Facilities in this zone would include trails, restrooms, kiosks, and opportunities for interpretive activities. All facilities and uses within this zone would be consistent with the inherent cultural resource values.

HISTORIC RESOURCE ZONE (ALTERNATIVES E AND F ONLY)

This zone was established as a result of public input on the May 2004 Draft. The historic resource zone is the same as the cultural resource zone with regard to the visitor experience and intended character with a few exceptions. The types of activities that differ are picnicking, fishing, and use of motorized vessels which would be considered appropriate in the historic resource zone. In addition, the Chattahoochee River is zoned within the river zone in Alternatives E and F, where boating and fishing activities are appropriate.

Facilities such as visitor and administration facilities, picnic areas, roads, and bridges would be considered appropriate as long as they were developed in the context of the historic resource. In addition, existing river access facilities would be maintained.

RUSTIC ZONE (ALTERNATIVES E AND F ONLY)

The rustic zone was established as a result of public input on the May 2004 Draft. The rustic zone is a land-based zone that would provide a relatively undisturbed environment that the visitor interested in nature and natural settings could enjoy. Based upon public input, off-road bicycling would be an appropriate activity on unpaved trails in the rustic zone. The concept of this zone is to allow visitors to experience a relatively natural environment with a relatively low to moderate probability of encountering other visitors during a given visit to the park.

Visitor Experience

In the park's rustic zone, opportunities for closeness to nature, tranquility, and the application of outdoor skills would be common. The level of encounters with other visitors and staff would be low. Some trails may be considered more popular than others and the likelihood of encountering other visitors would be expected to be moderate on certain trails. Visitors would need an average degree of outdoor skills and would employ a moderate variety of these types of skills during their stay in the park. Depending on the skill level of the individual, the degree of challenge could range from moderate to high. This zone would feel farther away from comforts and conveniences than the

developed zone, and access would be somewhat limited. Visitors would be able to have a large variety of outdoor experiences.

Resource Condition or Character

A moderate level of management would be provided for resource protection and visitor safety in the rustic zone. National Park Service tolerance for resource degradation due to visitor use in this zone would be low. Habitats would be restored and maintained in as natural a condition as possible. Subtle onsite controls and restrictions could be present, such as trail markers or restrictions on off-trail use. The area would be predominantly natural, and the sights and sounds of people would be infrequent.

Appropriate Kinds of Activities or Facilities

A variety of experiences would occur in the rustic zone. Appropriate activities would include day hiking on unpaved trails, off-road bicycling, nature observation, fishing, and scientific research. No new facilities would be constructed such as new roads, paved boat ramps, restrooms, or parking areas. There would less of the built environment, where visitor and administrative facilities and formal picnic areas would not be appropriate.

RIVER ZONE (ALTERNATIVES E AND F ONLY)

This zone was established as a result of public input on the May 2004 Draft. The concept of the river zone is to provide visitors with a river experience to fish, boat and recreate on the Chattahoochee River. Access would primarily be by boat ramps and step down facilities for canoes, rafts, kayaks and motorized vessels (personalized watercraft are not allowed). This zone would provide a moderate degree of solitude on stretches of the river and enable visitors to appreciate the natural values of the Chattahoochee River environment. Boating and fishing are appropriate in all park waterways within the park under Alternatives E and F.

Visitor Experience

The river zone would allow visitors to feel close to nature, even in an urban setting, which is a highly valued experience for many. The degree of challenge or risk would be high since access points along the river are strategically placed along the 48 mile corridor, and few park staff would be present. The visitor would need to know how to apply outdoor skills including safe boating, swimming, and have a high degree of self-reliance. The possibility of encountering other visitors would be moderate in this zone and would be expected to vary according to location along the Chattahoochee River. The visitor may fish, boat and recreate in the river zone in accordance with State law and private property rights.

Resource Condition or Character

This zone would be restored and maintained at its natural state to the extent practicable. In this urban setting, this translates into a relatively high degree of management for exotic species of plants and a high degree of protection of the resources from degradation by human uses and development actions outside the park. There would be low tolerance for resource degradation in this zone, with access to the river via trails, step-down ramps for hand-carried boats, boat access ramps, boardwalks, and docks where appropriate. The sights and sounds of people would be expected along these access

points and would vary according to location along the river corridor. The management focus of this alternative would be on the natural environment and enjoyment of the river experience.

Appropriate Kinds of Activities or Facilities

The types of appropriate activities in the river zone would include nature observation, limited river-based interpretative activities, scientific research, boating, and fishing. The facilities and services would be related to the river experience and would include boat ramps into the river; step-down facilities into the water for canoes, rafts and kayaks; and boardwalks and docks where appropriate.

FORMULATION OF ALTERNATIVES

The following six alternatives are considered in this general management plan:

Alternative A: Continue Current Management or No Action Alternative

Alternative B: Focus on Solitude Alternative

Alternative C: Centralized Access Alternative

Alternative D: Expanded Use Alternative

Alternative E

Alternative F: Preferred Alternative

The management alternatives in this general management plan have been developed according to guidelines provided in *Director's Order No. 12*. The five action alternatives embody the range of what the public and the National Park Service want to see accomplished with regard to visitor experience, natural resource conditions, and cultural resource conditions. They are based on outcomes, or actual conditions on the ground, as expressed by the management prescriptions. Implementation of any of the management alternatives would be allowable under the existing laws, regulations, policies, and mandates of the National Park Service. Alternative A, which is defined as continuing the current park management practices into the future, is provided in accordance with National Environmental Policy Act guidelines.

The following is a summary of the detailed steps used to develop the alternatives:

Written public comments were received at six separate meetings held in each of the four counties that encompass the park and two local cities in the project area during the fall of 2000. All public meetings were announced in the newspaper and through posting in area libraries and other public places. The public submitted comment cards that were provided by the National Park Service. Over 200 written comments were received.

Comments were initially sorted by topic and the following issue categories resulted: (1) Access, (2) Facility Needs, (3) Ecology, (4) Impacts, (5) Use, (6) Boundaries, (7) Trails, (8) Outreach, (9) Private Property, (10) Transit, (11) Fisheries/Fishing, (12) Enforcement, and (13) Restoration.

The organized comments were reviewed by the National Park Service planning team, then further sorted into the following categories per the requirements of National Park Service planning guidelines: (1) things that cannot be done because they are inconsistent with existing

laws or National Park Service policies; (2) actions that must be done because they are mandated by existing laws, regulations, policies, or mandates; (3) interests or concerns that have been raised that are appropriate to consider in a general management plan; and (4) actions that are more appropriately addressed by other types of plans, such as an implementation plan.

A set of decision points was developed from the smaller set of comments carried forth for consideration in the general management plan. Decision points are generalized statements that describe a range of possible future conditions in the park.

The resources within the park that are at stake and which could be impacted by implementation of a general management plan alternative were identified, and a determination regarding whether they could be impacted was made. If the answer was yes, then these were carried forward into the list of impact topics to be considered in this document. Topics that were not determined to be affected were not carried forward.

This information was used to develop a range of desired future conditions, or prescriptions, for the park. These were developed without mapping or relating the prescriptions to features on the ground in the park.

A set of management alternatives was then developed by applying the prescriptions to zones on a map.

The draft management alternatives were tested to make sure that there were clearly defined differences as required by the National Environmental Policy Act and National Park Service Management Policies 2006 (NPS 2006f). A set of final management alternatives was developed in a series of workshops held by the planning team.

The draft management alternatives were then applied to zones on maps as National Environmental Policy Act alternatives. One map was created for each management alternative. Alternative A was also mapped using the information contained in the 1989 General Management Plan and Environmental Impact Statement.

The Draft General Management Plan / Environmental Impact Statement was issued in May 2004. During the 60 day public comment period for the May 2004 Draft, many concerns were raised regarding recreational opportunities for fishers, boaters, bicyclists and others in terms of access and type of use. Based upon the level of concern, additional meetings were held with stakeholders during the fall of 2005. The National Park Service, in partnership with the Georgia Department of Natural Resources, developed two new alternatives, Alternatives E and F.

A newsletter was published in November 2005 and three public meetings were conducted in December 2005 to discuss the new alternatives. An additional thirty day comment period closed January 2006.

The Supplemental Draft General Management Plan was issued in June 2008, and comments were accepted until December 1, 2008. All alternatives (A through F) are analyzed in this document. Responses to comments are provided in Chapter 6.

The formalized description of the management alternatives as developed and adopted during the National Park Service planning process is presented in the paragraphs that follow. Each management alternative takes into

consideration National Park Service mandates as well as laws and policies, and provides for appropriate levels of protection of the resources in accordance with these laws and policies. The planning team followed this premise during the development of each alternative.

VISITATION, LAND ACQUISITION, AND FACILITIES

Current annual visitation at Chattahoochee River National Recreation Area is approximately 2.5 million visitors. This visitation is confined to the river and the acreage currently owned by the National Park Service. The park has the authority to acquire land within its boundary and the General Management Plan establishes management zoning for areas within the authorized boundary that are not now owned by National Park Service should funding become available to acquire land from willing sellers.

It is also assumed (based on historical trends that may or may not continue into the future) that any new visitor access facilities, on newly acquired lands or previously undeveloped park lands, would result in an overall increase in park visitation. Potential facilities, under any alternative, for undeveloped park owned lands would include the following:

Bowmans Island (eastern section) – primitive trails, interpretive kiosk

Orrs Ferry – unpaved trails

Settles Bridge – restroom, unpaved trails

McGinnis Ferry – primitive trails, interpretive kiosk

Suwanee Creek – primitive trails

Abbots Bridge (northern section) – unpaved trails

Holcomb Bridge – parking, unpaved trails

Johnson Ferry North (upper section) – unpaved trails

Hyde Farm – trails

Island Ford (western section) – primitive trails

The National Park Service is committed to the planning, design and operation of facilities using sustainable practices/principles, including the use of pervious paving systems. These types of systems and other efficient technologies will be considered for each project while taking into consideration social, economic and environmental benefits. Sustainable practices/principles will be considered in accordance with National Park Service Management Policies (NPS 2006) and executive orders. These practices and principles are planning and design considerations and will be addressed during implementation with site specific conditions in mind.

Planning for future facilities, including trails, includes environmental review in compliance with the National Environmental Policy Act, the National Historic Preservation Act, and other laws and regulations. Future project environmental reviews will be site specific, and address number, location, and cultural and natural impacts as well as park operations (i.e. maintenance, management, enforcement, safety and use) and have opportunities for public input. Visitor experiences, including potential use conflicts are included in the environmental review process.

PARTNERING

Each of the action alternatives promotes partnering as a means to increase park stewardship, increase knowledge and protection of park resources, improve park conditions, improve visitor experiences, and support the park in meeting its mission. Partnering opportunities would be sought to help defray costs for projects or programs. These partnerships would be identified by additional National Park Service staff who would focus on the realization of productive partnerships. This would include the expansion and reinvigoration of existing partnerships as well as the possible creation of new partnerships. Examples would include partnerships with educational institutions to conduct research projects to meet park resources management needs; partnerships with private and public entities for sharing parking and/or comfort stations (outside the park) to provide visitor services and allow access to the park; partnerships with other agencies for potential new river access facilities under joint management; expanded partnering with local fishing groups to address river clean ups, research, water quality and aquatic resource education. These types of partnering opportunities would be made possible by newly proposed dedicated staff to promote such activity. Should partners and in many cases funding sources not be identified, some of the projects would not be undertaken. The success of increased partnering would be linked to the willingness of partners to participate, the capabilities of partners to team on projects or provide services, and the potential for partners to provide support funding. The role of partnering under each management alternative is described in the sections that follow. Current meetings with park stakeholders and partners would be expected to continue several times a year under each alternative.

ALTERNATIVE A: CONTINUE CURRENT MANAGEMENT OR NO ACTION ALTERNATIVE

National Environmental Policy Act guidelines require an assessment of the impacts of Alternative A, which is defined as continuing the current park management practices into the future. Current management practices, policies, or park programs– such as maintenance, law enforcement, and operational practices – would continue to be implemented with no major changes. Limited construction and continued maintenance would consist of repair and maintenance of roads, boat ramps, trails, parking lots, and buildings. Current resources management programming would remain unchanged from the present level. Such programming includes preserving historic ruins, mills, archaeological resources, and wetlands; removing invasive species; river bank preservation; and water quality monitoring.

Visitor services such as environmental education, search and rescue, interpretation (on and off site), concessions, facility planning and maintenance (restrooms/ water fountains), and access to the river would remain unchanged. Existing partnerships would be expected to continue at existing levels. Stakeholders and partners would be invited to the park for updates about park activities several times a year. There would be no increase in the level of public-private partnership activity the park would conduct due to staffing and funding limitations.

Visitors would have a wide variety of experiences in the park, such as hiking, fishing, and boating. The goal would be to protect resources through regulatory compliance and National Park Service policies.

The strategy of Alternative A would provide limited development, principally to expand park access within the authorized boundary at the request of local governments and stakeholders on their terms but in compliance with National Park Service mandates for environmental protection; cultural, historic and natural preservation; recreation; and education. However, the park is currently not in full

compliance with all of these requirements. Continuation of past practices would therefore imply that the park would continue to be out of compliance.

A map of Alternative A, the Continue Current Management/No Action Alternative is depicted as Figure 4.

ALTERNATIVE B: FOCUS ON SOLITUDE ALTERNATIVE

Under the Focus on Solitude Alternative, hereafter referred to as Alternative B, management programs would be implemented that would minimize development in the park and maximize the opportunity for visitors to experience solitude in natural settings. This approach would involve reducing or minimizing recreational sites and facilities within the newly acquired areas of the park, but would allow continued use of the existing facilities in the original named units to adhere to present practices. Some areas subject to heavy use would be allowed to continue in this manner, with the option to improve conditions through various means; for example, by changing visitor use patterns to mitigate potentially adverse impacts on natural and cultural resources. Newly acquired areas (from willing sellers, assuming funding is available) would be managed to provide maximum resource protection and solitude for visitors. It is also assumed (based on historical trends that may or may not continue into the future) that any new visitor access facilities, on newly acquired lands or previously undeveloped park lands, would result in an overall increase in park visitation. The focus on solitude in the newly acquired areas would redirect visitation initiatives to having an experience in a relatively natural area, create sanctuary locations along the river, and insulate visitors from the urban conditions that surround the park.

As a rapidly expanding city of the 1990s, Atlanta has been highly successful in developing commerce, business, and growth, but has not been as effective at controlling nonpoint sources of water pollution, maintaining good air quality, and providing a suitable amount of parks and greenspace to serve the expanding communities. Recognizing the crowded urban environment surrounding the park, this alternative offers a respite from active lifestyles in the area.

Not unexpectedly, solitude is listed as the most desired visitor experience in the 1989 and 1994 visitor surveys for the park. Visitors are predominantly seeking a peaceful natural setting for observing wildlife, forests, the river, and cultural and historic scenes. This alternative would provide for this experience in newly acquired portions of the park as well as in those areas of the park where this is currently possible.

Under Alternative B, visitors would experience the natural environment wherever feasible. This would be provided through a system of unpaved walking trails, primitive areas of beauty, and locations along the riverbanks defined as river solitude zones allowing no structures of any kind and only limited trails located away from the river. Areas designated as river solitude zones could be viewed from the river in non-motorized vessels. Trail access would, however, be provided in other areas of the park under other planning prescriptions. These areas would provide visitors with solitude during day hikes.

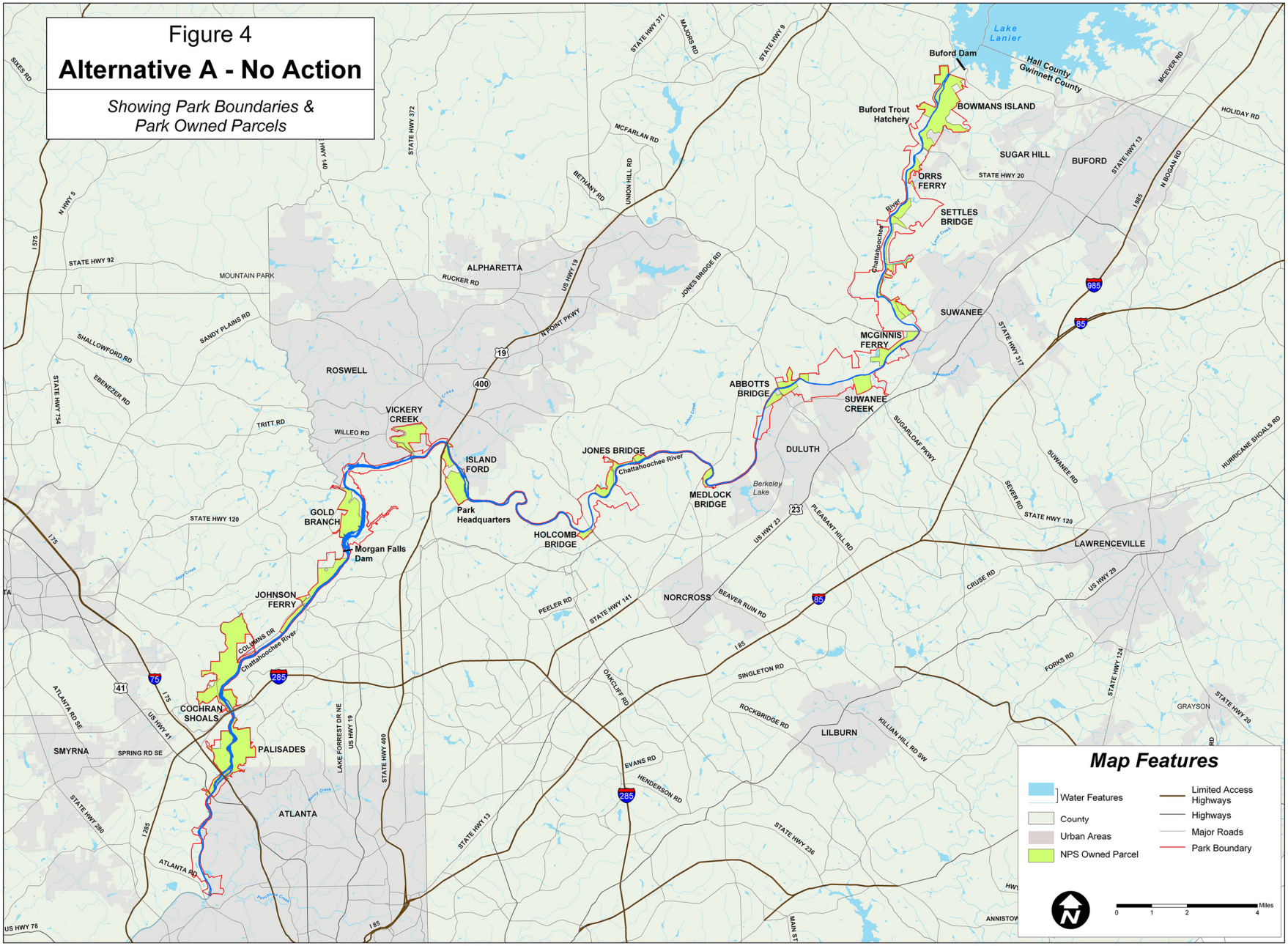
Figure 4
Alternative A - No Action
Showing Park Boundaries & Park Owned Parcels
Lake Lanier
Buford Dam
Hall County
Gwinnett County
Buford Trout Hatchery
BOWMANS ISLAND
SUGAR HILL
BUFORD
ORRS FERRY
SETTLES BRIDGE
SUWANEE
MCGINNIS FERRY
ABBOTTS BRIDGE
SUWANEE CREEK
DULUTH
ALPHARETTA
ROSWELL
MOUNTAIN PARK
VICKERY CREEK
ISLAND FORD
Park Headquarters
JONES BRIDGE
Chattahoochee River
MEDLOCK BRIDGE
Berkeley Lake
HOLCOMB BRIDGE
GOLD BRANCH
Morgan Falls Dam
JOHNSON FERRY
COCHRAN SHOALS
PALISADES
SMYRNA
ATLANTA
NORCROSS
LILBURN
LAWRENCEVILLE
GRAYSON
Map Features
Water Features
County
Urban Areas
NPS Owned Parcel
Limited Access Highways
Highways
Major Roads
Park Boundary
Miles

This alternative emphasizes planning representative of "un" development, in that any construction of park facilities that violates minimum standards for preservation of natural habitat, aesthetic beauty, and cultural and historical resources would be inappropriate. The basis for this alternative is that the park corridor along the Chattahoochee River would be a green buffer or oasis from the busy life of urban Atlanta.

This alternative would allow only minimal growth within park boundaries. Certain targeted locations within the existing park framework could also be returned to a natural state. Newly acquired additions, (from willing sellers) along the park corridor, would remain in the more natural state. Additional access could be provided by partnering with public or private entities such as office parks, apartment complexes or public parks that abut Chattahoochee River National Recreation Area lands. Other types of partnering would be pursued to increase the level of education about park resources. Unpaved trails would provide internal linkages to various existing facilities and gateways within the park. River use would be encouraged through canoes, rafts, and non-motorized vessels in the river solitude zone, and recreation opportunities such as fishing, bird watching, research, education, and preservation would be emphasized. No new paved roads would be built under this alternative.

In this alternative, visitors would receive a quality experience in the wide variety of environments available in the park, with an emphasis on environmental education. The visitors experience would be highly facilitated through learning. Targeted facilities within existing developed areas would be restored to a more natural condition. For example, parking lots and buildings would be removed in select areas.

Parcels added to the park under the expanded boundaries would remain in, or be restored to, a largely natural state. Areas with significant cultural resources would be managed to protect values in accordance with Section 106 and 110 of the National Historic Preservation Act. Limited facilities would be added, for example, small gravel parking lots, primitive trails, and interpretive signage.

The distribution of zones under Alternative B is shown in Figure 5. The zones applied to Alternative B include the natural area recreation zone, cultural resource zone, natural zone, river solitude zone, and developed zone.

ALTERNATIVE C: CENTRALIZED ACCESS

The Centralized Access Alternative, hereafter referred to as Alternative C, provides for a management system where visitors would be drawn toward a system of hubs in which administrative, commercial, and interpretive facilities are located. Hubs, at a minimum, would provide visitor information, rest rooms, parking lots and roads, trail heads, and river access. Additional trailheads and parking lots would be minimized outside hubs. The hubs would be placed at strategic locations along the 48-mile-long park to optimize visitor experience and meet the challenges of the linear shape of the park.

Visitor experience would focus around interpretive activities and other facilities available in the hubs. Visitors, in lower numbers, could enjoy the extensive natural habitats and cultural resources in the undeveloped portions of the park, where activities would be focused on achieving solitude in an urban environment.

The majority of the park would be managed in its natural state, with access provided primarily via the hubs. Levels of visitor use within the developed hubs would be relatively high, and a wide variety of experiences would be possible.

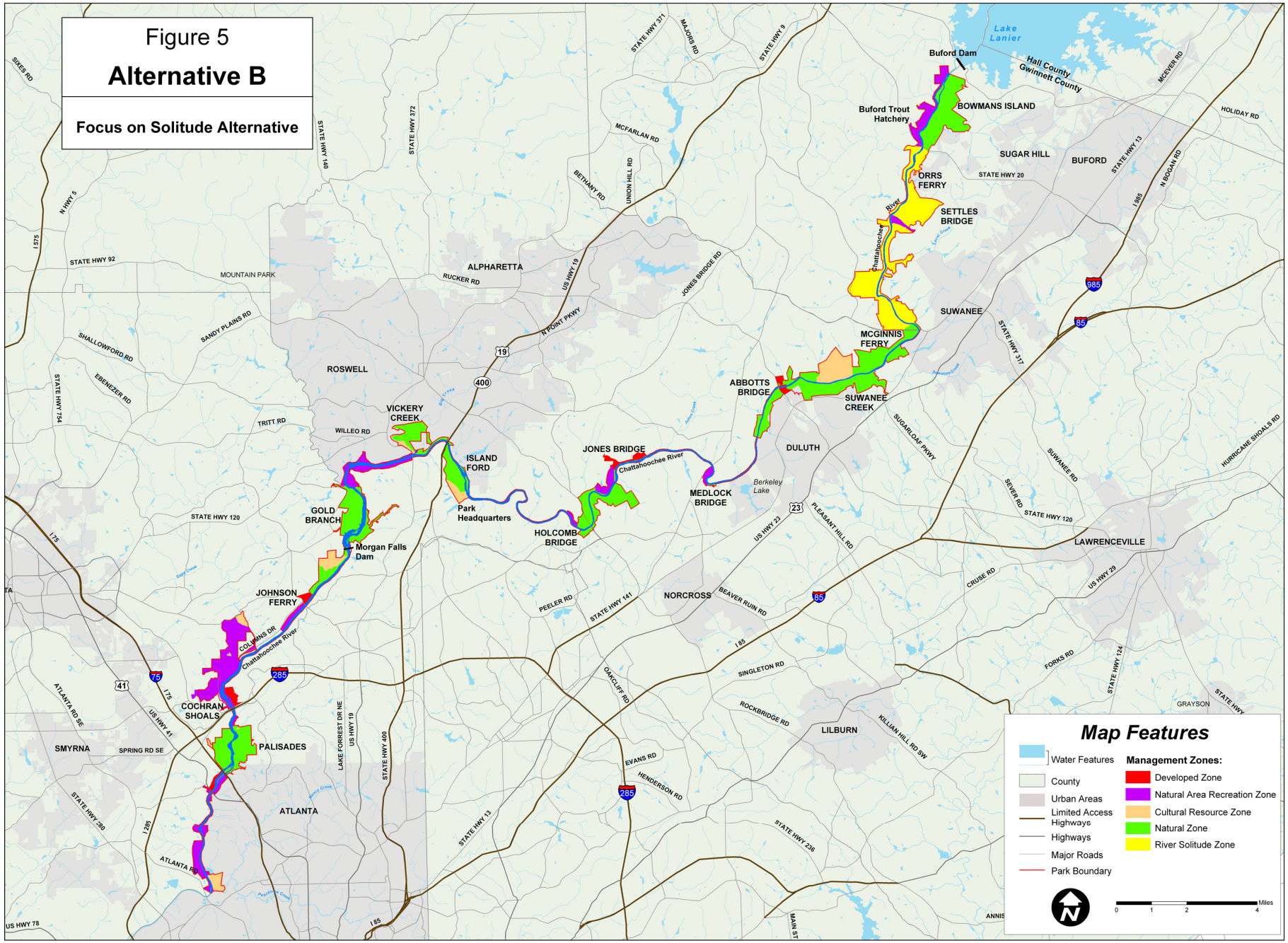
Figure 5
Alternative B
Focus on Solitude Alternative
Lake Lanier
Buford Dam
Hall County
Gwinnett County
Buford Trout Hatchery
BOWMANS ISLAND
SUGAR HILL
BUFORD
ORRS FERRY
SETTLES BRIDGE
SUWANEE
MCGINNIS FERRY
ABBOTTS BRIDGE
SUWANEE CREEK
DULUTH
MEDLOCK BRIDGE
Berkeley Lake
JONES BRIDGE
Chattahoochee River
HOLCOMB BRIDGE
Park Headquarters
ISLAND FORD
VICKERY CREEK
ROSWELL
ALPHARETTA
MOUNTAIN PARK
GOLD BRANCH
Morgan Falls Dam
JOHNSON FERRY
COCHRAN SHOALS
PALISADES
SMYRNA
ATLANTA
NORCROSS
LILBURN
LAWRENCEVILLE
GRAYSON
Map Features
Water Features
County
Urban Areas
Limited Access Highways
Highways
Major Roads
Park Boundary
Management Zones:
Developed Zone
Natural Area Recreation Zone
Cultural Resource Zone
Natural Zone
River Solitude Zone
Miles

Services would be expanded under Alternative C, while maintaining green space throughout the 10,000-acre park. This would be accomplished by coordinating public/private partnerships at carefully selected centers (hubs) of park development and management. The centers would be selected to better provide access at designated areas along the north, central, and southern portions of the park. These centralized areas would provide: (1) park services; (2) National Park Service staff as required; (3) developed, multi-modal facilities where shuttles and automobiles could be parked; and (4) visitor access to trail heads to remote zones. The centralized access points would provide put-in or rental boating facilities for water access, visitor participation opportunities at the more active park recreation facilities, and on-site informational materials on cultural and natural resources throughout the park.

A centralized access strategy would also enhance the opportunity for instituting National Park Service education programs at key regional locations to better reach a growing population and service area. This alternative would allow the National Park Service to concentrate its limited resources in heavily populated core areas of the corridor rather than distributing staff and resources uniformly. The centralized access concept envisions higher minimum standards for transportation connectivity, and places greater emphasis on public-private partnerships with educational non-profits, cities, counties, and regional agencies. This alternative would discourage expanded new entrances to the park and would encourage National Park Service supervision, education, monitoring, and enforcement where park use is greatest.

The visitor experience in this alternative would be more participatory, with more opportunity for socializing and involvement in group activities and less opportunity for solitude near the hubs. However, opportunities for solitude would still exist at various locations in the park. In particular, a nine-mile river solitude zone would be established between McGinnis Ferry Road and Highway 20, with the exception of a limited access point for visitors and non-motorized vessels at Settles Bridge.

A survey of this area by the National Park Service during the preparation of the general management plan and environmental impact statement determined that it was characterized by a high degree of natural qualities, despite the fact that development has occurred in some areas on either side of the river. This feature would provide visitors with the opportunity to experience the river in a relatively natural condition. When viewing from the river, a boater would see a forested buffer of large trees for the majority of the nine-mile stretch of river. Inclusion of this extensive river solitude zone in this alternative is one of its major features. No trails would be allowed on the river bank in this zone, and no fuel-powered vessels would be allowed; vessels with electric motors would, however, be allowed.

A special feature of this alternative is that it would define the use of motorized vessels (gasoline-driven motors) as an appropriate use in the upper portion of Bull Sluice Lake, located in the vicinity of the City of Roswell. Under this alternative, use of motorized vessels would be allowed from Highway 9, just north of River mile 317, to River mile 315 within the lake. Appropriate uses would include cruising in gas-powered vessels. Bull Sluice Lake is the only lake within the 48-mile park and provides a unique recreation opportunity for use of motorized vessels. The lake is located within heavily developed Roswell, and is conveniently situated for this purpose.

The use of motorized vessels would not be permitted in Bull Sluice Lake below River Mile 315, which demarcates the northern end of the area currently defined as the Gold Branch Unit. This is a several-hundred acre area that remains in a relatively naturally forested state. The lake in this area is also characterized by extensive freshwater emergent wetlands that provide an unusual non-motorized boating opportunity for visitors in non-motorized vessels. This alternative would allow continued use of the upper part of the lake for motorized vessels, while the lower part of the lake in the vicinity of the

Gold Branch Unit would be zoned natural zone where motorized vessels would not be appropriate. The distribution of zones in Alternative C is shown in Figure 6. The zones applied to Alternative C include the natural area recreation zone, cultural resource zone, natural zone, river solitude zone, and developed zone.

ALTERNATIVE D: EXPANDED USE

In this alternative, expanding and distributing access throughout the park, including newly acquired parcels, would provide a variety of visitor experiences. New facilities would be developed or existing facilities would be refurbished. Connectivity to existing neighborhoods would be optimized, providing similar visitor experiences throughout the park.

In the metropolitan Atlanta region, parks are at a premium. Expanding use of the park to meet the resultant demand is a viable alternate that could be achieved within the limits imposed by the various laws, regulations, policies, and mandates of the National Park Service. According to National Park Service-sponsored surveys, typical visitors to the park are young, single males, business-oriented, generally white, and suburban. Access to the park could be expanded in the future for all visitors, including families, and visitors from business parks and neighborhoods as this linear park is located adjacent to the most densely developed neighborhoods and business communities of the metropolitan area. Alternative D would also provide trail linkages to city- and county-funded and supervised parks.

This alternate concept would provide an opportunity for a general broadening of park knowledge and interest in the National Park Service through increased use of the park.

People in urban areas such as Atlanta seldom experience relatively undisturbed natural areas or view wildlife in a natural habitat. Under this alternative, social trails from existing and proposed developments would be managed to encourage use by an expanded user group. Alternative D would require a higher level of self-help and individual reliance from a wide range of associations and from parents, business organizations, and local governments. This alternate concept would require a proactive National Park Service outreach program. Alternative D would de-emphasize solitude and emphasize a more social, community-based group experience that envisions the park as an extension of the surrounding communities. Expanding uses and access would require a redefinition of gathering spaces surrounding the national park that would be used for picnics, celebrations, neighborhood meetings, and family walks, and would be characterized as a visitor experience of convenience and personal attachment.

Facilities for the park would be necessarily distributed throughout the 48 miles, based on availability of resources and local community support. The park plan would emphasize expanded citizen involvement and enforcement of access restrictions. A greater and more diverse population of residents would be served. Alternative D would have the potential to strengthen community involvement in environmental protection of the park and its resources. Local self-help education and voluntary public/private partnerships could enhance park stewardship. Increased effort and staffing would engage partners to work cooperatively on park projects that primarily address expanded use and access needs.

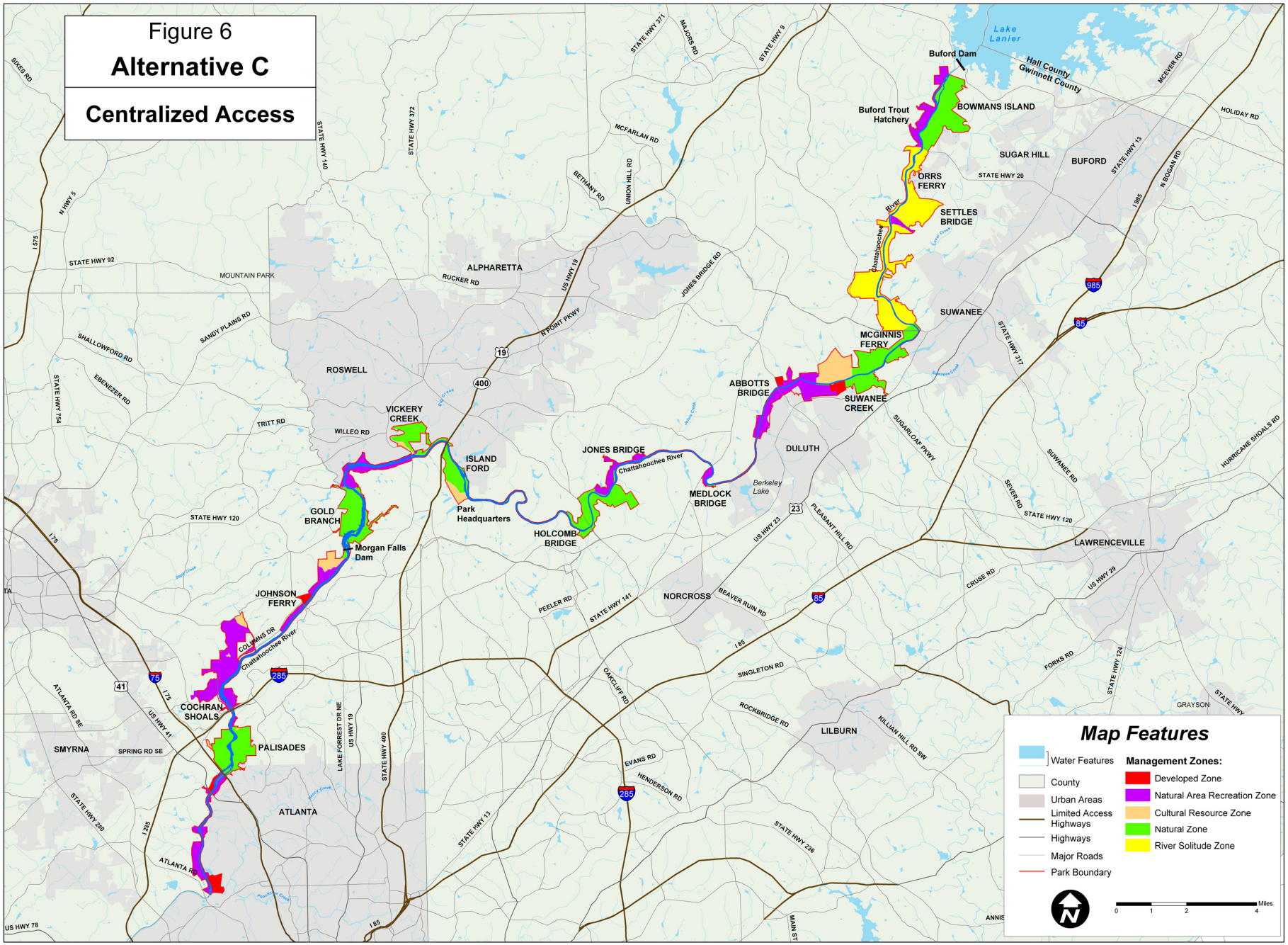
Figure 6
Alternative C
Centralized Access
Lake Lanier
Buford Dam
Hall County
Gwinnett County
Buford Trout Hatchery
BOWMANS ISLAND
SUGAR HILL
BUFORD
ORRS FERRY
SETTLES BRIDGE
SUWANEE
MCGINNIS FERRY
ABBOTTS BRIDGE
SUWANEE CREEK
DULUTH
LAWRENCEVILLE
NORCROSS
LILBURN
GRAYSON
ALPHARETTA
ROSWELL
MOUNTAIN PARK
VICKERY CREEK
ISLAND FORD
Park Headquarters
JONES BRIDGE
Chattahoochee River
MEDLOCK BRIDGE
Berkeley Lake
HOLCOMB BRIDGE
GOLD BRANCH
Morgan Falls Dam
JOHNSON FERRY
COCHRAN SHOALS
PALISADES
SMYRNA
ATLANTA
Map Features
Water Features
County
Urban Areas
Limited Access Highways
Highways
Major Roads
Park Boundary
Management Zones:
Developed Zone
Natural Area Recreation Zone
Cultural Resource Zone
Natural Zone
River Solitude Zone
Miles

The distribution of zones under Alternative D is depicted in Figure 7. The zones applied to Alternative D include the natural area recreation zone, cultural resource zone, natural zone, and developed zone.

ALTERNATIVE E

Alternative E does not have an easily articulated theme. This alternative was developed by extracting some features of both Alternatives C and D and by creating new zone types and management prescriptions (described previously) that responded to public criticism of the May 2004 Draft. Alternative E provides expanded access to the park while at the same time maintains substantial acreage with less hardened forms of access (such as new parking areas and roads, trails and structures you would expect with the built environment), and therefore potentially more opportunities for relative quiet and solitude. Visitor experience would focus around the interpretive activities and other facilities available in the developed zones strategically placed throughout the 48-mile length of the park including Settles Bridge, Suwanee Creek, Abbotts Bridge, Medlock Bridge, Johnson Ferry, and the southern end of the park at the western edge of Palisades and Fort Peachtree. Visitors, in lower numbers, could enjoy the extensive natural habitats and cultural resources in the undeveloped portions of the park, where activities would be focused on achieving solitude in an urban environment.

The majority of the park would be managed in its natural state, with access provided primarily via the developed zones or other existing parking areas. Levels of visitor use within the developed zones would be relatively high, and a wide variety of experiences would be possible. Alternative E would also enhance the opportunity for instituting National Park Service education programs at key regional locations to better reach a growing population and service area. The level of outreach would be increased compared to Alternative A. The focused development of public-private partnerships would increase opportunities to expand visitor knowledge and park stewardship through work with educational non-profit groups, recreation groups, cities, counties, and regional agencies. Organizations would be sought to support the park's mission in terms of project funding. This alternative would allow the National Park Service to concentrate its limited resources rather than distributing staff and resources uniformly as in Alternative D.

The distribution of zones in Alternative E is shown in Figure 8. There are six zones that apply to Alternative E: the developed zone, natural area recreation zone, natural zone and three new zones, the river zone, rustic zone and historic resource zone. Under Alternative E boating and fishing would be limited only by natural conditions on the river. This feature of the alternative has been applied to all waterways in the park so that fishing and boating are permitted wherever they are possible and in accordance with State laws and private property rights.

ALTERNATIVE F: PREFERRED ALTERNATIVE

Alternative F, like Alternative E, was developed by extracting some features of both Alternatives C and D and by creating new zones and management prescriptions (described previously) that responded to public criticisms of the May 2004 Draft. In general, Alternative F provides more opportunities throughout the park for "hardened" types of access and development (such as boat ramps, paved trails, parking areas, restrooms, etc) and increased diversity of experience.

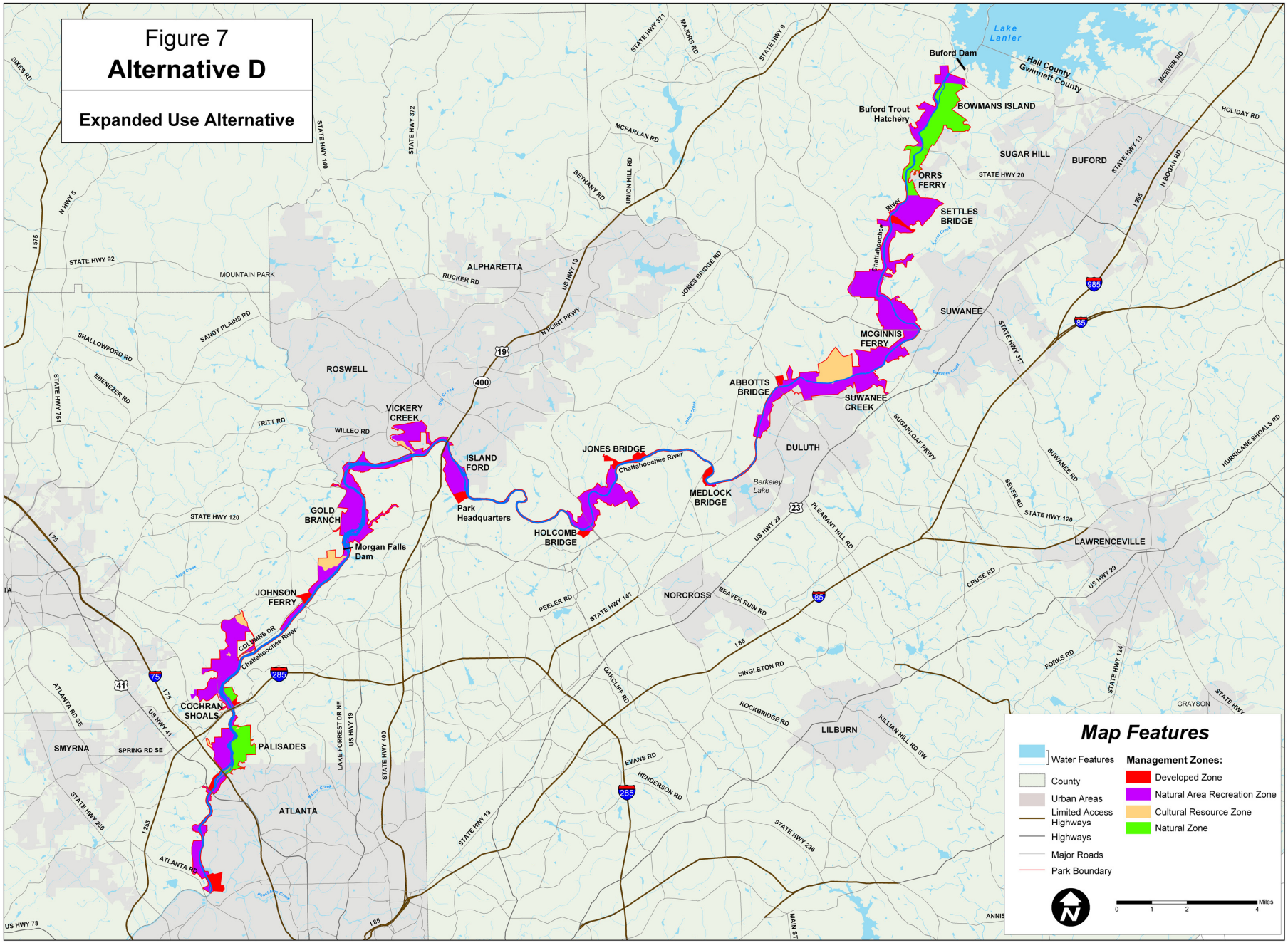
Figure 7
Alternative D
Expanded Use Alternative
Lake Lanier
Buford Dam
Hall County
Gwinnett County
Buford Trout Hatchery
BOWMANS ISLAND
SUGAR HILL
BUFORD
ORRS FERRY
SETTLES BRIDGE
SUWANEE
MCGINNIS FERRY
ABBOTTS BRIDGE
SUWANEE CREEK
DULUTH
LAWRENCEVILLE
NORCROSS
LILBURN
GRAYSON
ALPHARETTA
ROSWELL
MOUNTAIN PARK
VICKERY CREEK
ISLAND FORD
Park Headquarters
JONES BRIDGE
Chattahoochee River
MEDLOCK BRIDGE
Berkeley Lake
HOLCOMB BRIDGE
GOLD BRANCH
Morgan Falls Dam
JOHNSON FERRY
COCHRAN SHOALS
PALISADES
SMYRNA
ATLANTA
Map Features
Water Features
County
Urban Areas
Limited Access Highways
Highways
Major Roads
Park Boundary
Management Zones:
Developed Zone
Natural Area Recreation Zone
Cultural Resource Zone
Natural Zone
Miles
0
1
2
4

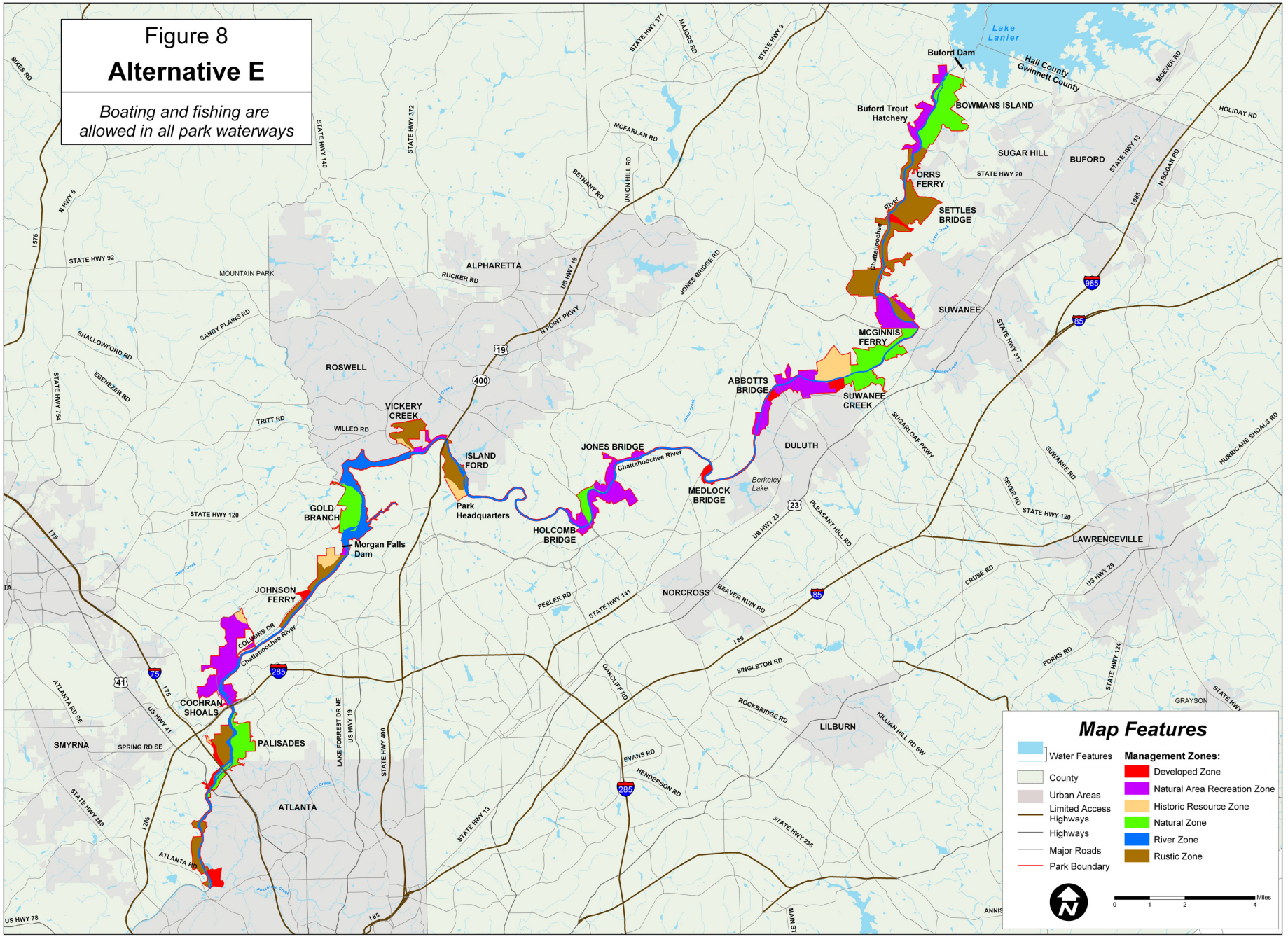
Figure 8
Alternative E
Boating and fishing are allowed in all park waterways
Lake Lanier
Buford Dam
Hall County
Gwinnett County
Buford Trout Hatchery
BOWMANS ISLAND
SUGAR HILL
BUFORD
ORRS FERRY
SETTLES BRIDGE
SUWANEE
MCGINNIS FERRY
SUWANEE CREEK
ABBOTTS BRIDGE
DULUTH
MEDLOCK BRIDGE
Berkeley Lake
JONES BRIDGE
Chattahoochee River
HOLCOMB BRIDGE
ISLAND FORD
Park Headquarters
VICKERY CREEK
GOLD BRANCH
Morgan Falls Dam
JOHNSON FERRY
ROSWELL
ALPHARETTA
MOUNTAIN PARK
LAWRENCEVILLE
NORCROSS
LILBURN
GRAYSON
COCHRAN SHOALS
PALISADES
SMYRNA
ATLANTA
Map Features
Water Features
County
Urban Areas
Limited Access Highways
Highways
Major Roads
Park Boundary
Management Zones:
Developed Zone
Natural Area Recreation Zone
Historic Resource Zone
Natural Zone
River Zone
Rustic Zone
Miles

Implementation of Alternative F would increase the opportunities for the National Park Service to expand use to local visitors and increase connectivity to neighboring communities. It would provide diverse opportunities for recreational use and different types of trail linkages to city- and county-funded and supervised parks. This alternate concept would provide an opportunity for a general broadening of park knowledge and interest in the National Park Service through increased use of the park, increased partnering, and increased opportunities for interpretation, education and outreach.

Increased reliance on cooperative efforts with local communities would be necessary to enhance the levels of connectivity, to assist with protection to avoid resource degradation related to park use, and to augment educational outreach activities.

Facilities for the park would be necessarily distributed throughout the 48 miles, based on availability of funding resources and local community support. A greater and more diverse population of visitors would be served. The zoning for Alternative F compared to Alternative E is summarized in the paragraphs that follow.

The distribution of zones in Alternative F is shown in Figure 9. There are six zones that apply to Alternative F: the developed zone, natural area recreation zone, natural zone and three new zones, the river zone, rustic zone and historic resource zone. Both Alternatives E and F include the river zone that allows for boating and fishing limited only by natural conditions on the river. This feature of the alternative has been applied to all waterways in the park so that fishing and boating are permitted wherever they are possible and in accordance with State laws and private property rights.

The zoning of both sides of the river from Buford Dam to State Highway 20 is the same in Alternative F as in Alternative E. The Forsyth County side of the river is zoned natural area recreation zone and the Gwinnett County side is zoned natural zone. The relatively high level of natural resource integrity and opportunities for solitude on the Gwinnett County side of the river provides a rationale for limiting developed facilities in that area to primitive pedestrian trails. Zoning the Forsyth County side for the natural area recreation zone accommodates the existing use of horses on trails and allows for bicycle use and the installation of river access facilities such as step-down ramps.

From Highway 20 south to McGinnis Ferry Road, the zoning on both sides of the river consists of natural area recreation zone for Alternative F and rustic zone trasitioning to natural area recreation zone for Alternative E. The developed zone proposed for Settles Bridge remains the same under both Alternatives E and F. From McGinnis Ferry Road to Medlock Bridge, Alternatives E and F are zoned identically.

From Medlock Bridge Road to I-285 there are several zoning differences between Alternatives E and F. Under Alternative F, the area surrounding the existing Chattahoochee River Environmental Education Center (CREEC) is zoned as a developed zone to accommodate greater flexibility to expand the CREEC facility or add future outbuildings such as restrooms or additional parking spaces. This area is zoned as natural area recreation zone under Alternative E. In addition, the rustic zone within the Johnson Ferry North section of the park in Alternative E is zoned as natural recreation area zone in Alternative F. This zoning would allow a more gradual transition from the developed zone at the Johnson Ferry Road area to the Hyde Farm area. From I-285 south to the confluence of Peachtree Creek, the majority of the Cobb County side of the Palisades area is zoned as rustic zone in Alternative E and natural zone in Alternative F.

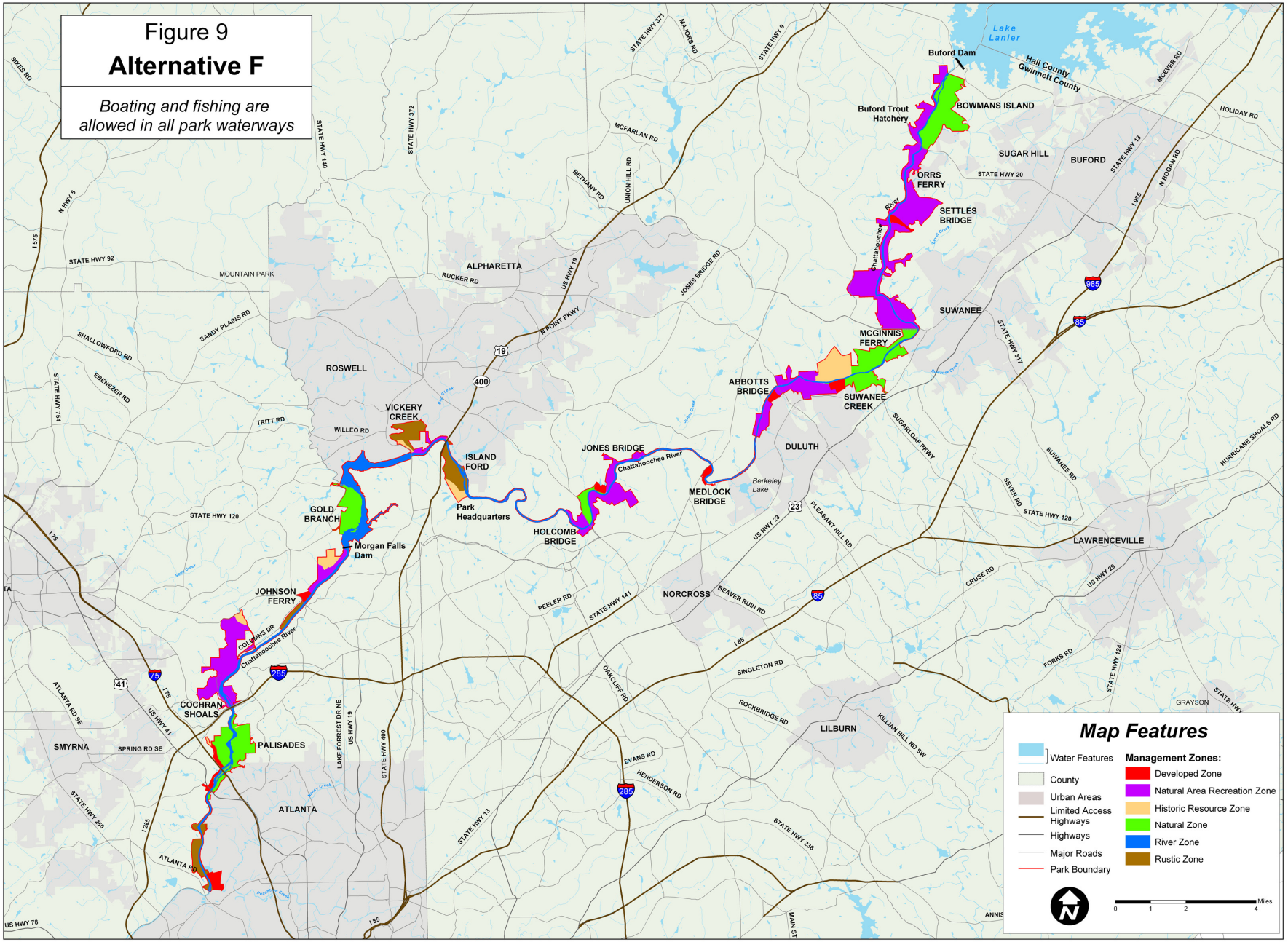
Figure 9
Alternative F
Boating and fishing are allowed in all park waterways
Lake Lanier
Buford Dam
Hall County
Gwinnett County
Buford Trout Hatchery
BOWMANS ISLAND
SUGAR HILL
BUFORD
ORRS FERRY
SETTLES BRIDGE
SUWANEE
MCGINNIS FERRY
SUWANEE CREEK
ABBOTTS BRIDGE
DULUTH
MEDLOCK BRIDGE
JONES BRIDGE
Chattahoochee River
Berkeley Lake
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Morgan Falls Dam
JOHNSON FERRY
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Highways
Major Roads
Park Boundary
Management Zones:
Developed Zone
Natural Area Recreation Zone
Historic Resource Zone
Natural Zone
River Zone
Rustic Zone
Miles
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4

COMPARATIVE COST ANALYSIS

The actual cost of implementing the approved general management plan will ultimately depend on future funding and servicewide priorities over the life of the plan, as well as the ability to partner with other agencies or groups. The approval of a general management plan does not guarantee that funding and staffing needed to implement the plan will be forthcoming. Funding for capital construction improvements is not currently shown in National Park Service construction programs. It is not likely that all potential capital improvements arising from this plan will be totally implemented during the life of the plan. Larger capital improvements may be phased over several years, and full implementation of the general management plan could be many years into the future. Additionally, the National Park Service is required to maintain all new or acquired assets in a good condition so they do not fall into disrepair. New and/or expanded assets will only be provided relative to the National Park Service's ability to maintain those facilities in good condition.

Cost estimates were developed through an evaluation of capital and annual operating costs for each of the alternatives. Cost estimates presented in the General Management Plan are not used for budgeting purposes. The estimates in this section regarding the general costs of implementing the alternatives were developed based on fiscal year 2006 dollars and the Cost Estimating Guideline with Class C Cost Data: New Construction (NPS 2001a and 2006g). The National Park Service uses a broad range of costing techniques including Class A, Class B, and Class C levels of cost estimating. Class A and B estimates are based upon detailed information, and represent design and construction finances at the time of actual development activities. The capital costs estimates calculated for a General Management Plan are in the form of category "C" estimates, which are general, or order-of-magnitude, estimates. A Class D estimate was prepared to provide an order-of-magnitude estimate for a proposed visitor center for Alternatives C, D, E and F. The National Park Service facility planning model was used based upon general design and construction assumptions. The accepted industry range of Class C and D estimates is –30 percent to +50 percent. Therefore, a $1,000,000 estimate has an actual range of between $700,000 and $1,500,000.

A summary of the range of annual costs, initial one-time costs and total life cycle costs is presented in Table 4 for comparing the alternatives, with a description that follows.

Range of Annual Costs

The range of annual costs includes personnel, maintenance, and operations costs. These costs are summarized in Table 4. The park's operations costs for fiscal year 2006 were $2,837,000. Staffing costs are based on the assumption that the park will continue to expand up to the authorized 10,000 acres. The park has the authority to acquire land within its boundary and the GMP provides zoning to guide management decisions should acquisition of lands within the boundary become feasible. However, any acquisition will be based on the availability of funding and willing sellers. No acquisitions or boundary adjustments beyond the currently authorized 10,000-acre limit are proposed in this general management plan. The costs for staffing have been adjusted to address the need for additional full time employees, or equivalents, for the existing level of service and for expanded geographic responsibilities, expanded partnering responsibilities, increased levels of management and enforcement relative to the increased size of the park, and increased population of the adjacent communities.

Table 4. Cost Summary for Each Alternative

	Alternative A: No Action	Alternative B: Focus on Solitude	Alternative C: Centralized Access	Alternative D: Expanded Use	Alternative E	Alternative F
Range of Annual Costs (Includes personnel, maintenance, and operations) FY06 Operations Costs ($2,837,000)	$3,462,500 - $3,482,500 8 additional FTEs	$3,462,500 - $3,622,500 8 –10 additional FTEs	$4,324,600 - $4,484,600 18 – 20 additional FTEs	$4,633,600 - $4,793,600 20 – 22 additional FTEs	$4,621,600 - $4,781,600 20 – 22 additional FTEs	$4,599,600 - $4,759,600 20 – 22 additional FTEs
Range of Initial One-Time Costs (Includes construction, rehabilitation, general improvements).	$3.8 – $4.9 million Projects include: • Improve existing park facilities (restrooms, picnic areas, trails, parking areas, river access facilities) • Cultural resource stabilization / rehabilitation	$5.5- $7.2 million Projects include: • Improve existing park facilities (restrooms, picnic areas, trails, parking areas, river access facilities); remove facilities as appropriate • Cultural resource stabilization / rehabilitation • Develop administrative offices separate from the historic Island Ford lodge that serves as a visitor center	$20.4 - $26.5 million Projects include: • Centralized trailhead access at three hubs • Education / visitor contact station at four locations within developed zones • Improvement / addition of park facilities (restrooms, picnic areas, trails, parking areas, river access facilities) • Cultural resource stabilization / rehabilitation • Construct a new visitor center	$22.1 - $28.8 million Projects include: • Education / visitor contact station at three locations within developed zones • Expand facilities / services throughout park corridor • Cultural resource stabilization / rehabilitation • Construct a new visitor center	$20.6 - $26.8 million Projects include: • Education / visitor contact station at four locations within developed zones • Expand facilities / services throughout park corridor • Cultural resource stabilization / rehabilitation • Construct a new visitor center	$20.6 - $26.7 million Projects include: • Education / visitor contact station at four locations within developed zones • Expand facilities / services throughout park corridor • Cultural resource stabilization / rehabilitation • Construct a new visitor center
Total Life-Cycle Costs over the Life of the Plan (Includes total maintenance, operations, personnel, and capital costs over20 years, expressed in present worth)	$40.5 - $41.8 million	$42.2 - $45.5 million	$66.8 - $74.6 million	$71.8 - $80.2 million	$70.2 - $78.0 million	$69.9 - $77.7 million

Additional Assumptions:
1. The base year for all estimates is 2006 with the exception of the estimate for the new visitor center, which is a 2007 estimate.
2. The initial one-time construction costs are Class “C” estimates, developed into net and gross construction costs and inclusive of all design and supplemental services.
At this level of planning, there are many unknown factors and a contingency of 30% was added to the total cost to create the higher range of estimates.
3. Annual operating costs are inclusive of personnel, equipment, vehicles, materials and supplies, utilities, and other services.
4. Life-cycle costs reflect the present worth of all expenditures of a 20-year period at a discount rate of 7 percent.
5. A cost cannot be estimated at this time for natural resource restoration, which includes actions to address invasive exotic species, streambank restoration, and wetlands restoration.
These costs cannot be quantified due to site-specific details that are not available for a Class “C” evaluation.

The existing (No Action) staffing level would increase from 32 full time employees on staff (in 2006) by 8 full time employees. These (8) are not new positions. They represent 8 full-time staff positions that are on the currently approved organizational chart and are vacant positions. Filling these positions will allow the park to fulfill current management obligations in line with the No Action alternative. There would be no new initiatives associated with these positions. These 8 positions are included in the totals for all the action alternatives. The annual costs for Alternative A would range from $3,462,500 to $3,482,500.

It is estimated that Alternative B would require an estimated 8 to 10 additional personnel to address the proposed increase in environmental restoration, cultural and historic preservation, trail monitoring, and educational outreach. Example positions to be filled would be compliance officers and resource protection rangers. The annual costs for Alternative B would therefore range from $3,462,500 to $3,622,500.

The estimated increase in staff for Alternative C would be 18 to 20 additional full time employees, or equivalents, to address education and service delivery, principally through the hub locations. New staff under this alternative would include an environmental compliance specialist, park rangers for interpretation and visitor services, maintenance employees, and a Geographic Information Systems specialist. Proposed staff would also address visitor needs at the proposed visitor center. The annual costs for Alternative C would range from $4,324,600 to $4,484,600.

The range of costs projected for Alternative D is based upon an estimated 20 to 22 additional full time employees, or equivalents, to address education and service delivery required to meet the dispersed needs of the linear park. New staff under this alternative would include resource monitoring and environmental compliance specialists, a Geographic Information Systems specialist, visitor protection rangers, and maintenance employees. Proposed staff would also address visitor needs at the proposed visitor center. For Alternative D, the annual costs would range from $4,633,600 to $4,793,600.

Alternative E, with an estimated 20 to 22 additional full time employees, or equivalents, would have an estimated cost range of $4,621,600 to $4,781,600. Alternative F would also have an estimated 2o to 22 additional full time employees, or equivalents. New staff under both of these alternatives would include resource monitoring and environmental compliance specialists, park rangers for interpretation and visitor services, a Geographic Information Systems specialist, visitor protection rangers, and maintenance employees. Proposed staff would also address visitor needs at the proposed visitor center. The annual cost range estimated for Alternative F would be from $4,599,600 to $4,759,600.

The actual cost of staffing each alternative would vary according to the government service rating, experience level, and education and professional certifications as well as the deployment of staff needed to provide minimum levels of satisfactory park services.

One-Time Costs

The range of initial one-time costs including construction, rehabilitation, and general improvements planned are outlined on Table 4 for each alternative. Alternative D would require the highest range of initial one-time costs ($22.1 to $28.8 million) due to expanded access throughout the park and the dispersed services required. Alternatives E and F have similar initial one-time costs, ranging from $20.6 to $26.8 million for each alternative to provide additional visitor education center and interpretive services and expanded park facilities/services throughout the park corridor. The range of initial one-time costs for Alternative C includes centralizing services at 3 hubs and improving other park facilities, for an estimated $20.4 to $26.5 million. The range of initial one-time costs for

Alternatives B and A is estimated at $5.5 to $7.2 and $3.8 to $4.9 million, respectively. The differences are primarily attributed to the level of costs required to maintain, restore, or improve park facilities. Alternatives C, D, E and F include the costs for building and operating a new visitor center. Although some visitor services are provided at park headquarters at Island Ford, there is no visitor center under current conditions (Alternative A) or one proposed under Alternative B.

Total Life-Cycle Costs

Table 4 lists the total life-cycle costs over the life of the plan, a 20-year period of time. The estimated Class C costs are based on costs for similar types of development in other parks provided by the National Park Service Denver Service Center. Life-cycle costs include the costs of operating buildings, the personnel required to provide park services, maintenance, and replacement costs of alternative elements, as summarized in Table 4. The total life-cycle costs range on the low end of $40.5 million for Alternative A to the high end of $80.2 million for Alternative D. The total life-cycle costs for Alternative B range from $42.2 to $45.5 million, Alternative C ranges from $66.8 to $74.6 million and Alternatives E and F range from $70.2 to $78.0 million and $69.9 to $77.7 million, respectively.

Chattahoochee River National Recreation Area Fee Program

Under the Fee Demonstration Program, fees retained by the park will be primarily dedicated to address repair and back-logged maintenance projects, including projects relating to health and safety, and for visitor services including non-personal services such as waysides and signs. Additional fee revenue will support habitat, facility improvements and natural and cultural resource preservation projects. Therefore a portion of the costs projected for the various alternatives would be funded with these revenues. Future planning for these projects would identify specific sources of funding.

It should be noted that the cost of collection for fee revenue is currently at 45% and will be further reduced over the next 5 years to 24% through the implementation of automated fee machines. These machines will allow the park to reduce the number of staff hours currently required in the collection and operation of the fee program.

Table 5 presents actual revenues from the various fee programs from fiscal years 2003 to 2006, and Table 6 presents projected fee revenue through fiscal year 2012.

Table 5. Revenue Generated from Park Fee Programs, 2003 to 2006

FEE RECEIPTS:	**ACTUAL**			
TYPE	**FY03**	**FY04**	**FY05**	**FY06**
Annual & Daily Park	$529,744	$455,384	$498,655	$521,420
Golden Age Passport	$3,480	$3,020	$3,440	$4,660
National Park Pass	$800	$1,250	$1,268	$1,300
Golden Eagle Hologram	$100	$120	$105	$90
TOTAL	**$534,124**	$459,774	$503,468	$527,470

Table 6. Projected Fee Revenue, 2007 to 2012

FEE RECEIPTS:	PROJECTED						
TYPE	**FY07YTD**	**FY07**	**FY08**	**FY09**	**FY10**	**FY11**	**FY12**
Annual & Daily Park	$319,178	$ 580,000.00	$ 650,000.00	$ 660,000.00	$ 665,000.00	$670,000.00	$675,000.00
Golden Age Passport	$3,740	$5,800	$6,000	$6,500	$6,700	$6,800	$7,000
National Park Pass	$400	$1,700	$3,500	$4,000	$4,200	$4,300	$4,500
Golden Eagle Hologram	0	$0	$0	$0	$0	$0	$0
TOTAL	$327,058	$587,500	$659,500	$670,500	$675,900	$681,100	$686,500

MITIGATION MEASURES COMMON TO ALL ACTION ALTERNATIVES

Mitigation involves measures taken to avoid, reduce, or minimize potentially adverse impacts. It is a key concept in resource management planning. Here, it provides a means for accommodating visitor interactions and park operations with natural and cultural resources and their tolerances for disturbances.

Mitigation and best management practices are regularly used to ensure that the park's natural and cultural resources are protected and preserved for future visitors without impairment. In the legislation creating the National Park Service, Congress charged it with managing lands under its stewardship "in such manner and by such means as will leave them unimpaired for the enjoyment of future generations"(NPS Organic Act, 16 United States Code 1). As a result, the National Park Service routinely evaluates and implements mitigation whenever conditions occur that could adversely affect the sustainability of park resources.

Mitigation was included throughout the formulation of the alternatives included in this general management plan. Table 7 provides a summary of mitigation measures proposed for the action alternatives. Measures taken to protect natural resources include siting new facilities in previously disturbed areas while also avoiding sensitive resources whenever feasible to avoid causing new impacts. Boardwalks, fences, signs, and similar measures would be used to route people away from sensitive resources, such as wetlands or riparian habitats or historic resources, while still permitting access to important viewpoints. Wetland and sensitive riparian habitats would be delineated by qualified specialists and clearly marked before construction work proceeded. In addition, all action alternatives would include development and implementation of a resource stewardship strategy, a fisheries management plan, a collections management plan, flow studies, a commercial services plan, and an integrated trail system study, which would provide direction for use of mitigative measures.

Construction zones would be identified and fenced with temporary fencing or a similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required. All protection measures would be clearly stated in construction specifications, and workers would be instructed to avoid areas beyond the fencing. Measures to control dust and erosion during construction could include the following: watering dry soils; using silt fences and sedimentation controls; stabilizing soils during and after construction with specially

Table 7. Summary of Mitigation Measures Associated with the Action Alternatives

Impact Category	Mitigation Measures
Water Resources and Aquatic Resources	Best management practices would be implemented to control the amount and quality of runoff. These would include erosion control measures such as type C silt fencing in slopes greater than 3 percent, mulching, sedimentation ponds, and use of cocoa fiber and seeding of native vegetation. Monitoring for invasive species would be conducted. Restoration efforts would include site specific mitigative measures. Resource stewardship strategies, flow studies, and a fisheries management plan would be developed and implemented. Development and implementation of other plans would provide preferences for mitigative measures. Increased levels of partnering and coordination would help increase awareness, help institute watershed management practices and improve conditions.
Floodplains and Wetlands	Floodplains and wetlands would continue to be protected by conducting individual environmental assessments for any construction project directly or indirectly affecting wetlands and/or floodplains. Best management practices would also be employed.
Terrestrial Ecological Resources	Completing environmental assessments prior to construction, minimizing tree clearing, avoiding sensitive upland forested areas, and controlling the presence and distribution of invasive species, would be practiced. Use of public education materials, revegetation of disturbed areas with native plants, erosion control measures, and barriers to control potential impacts on plants from trail erosion or unauthorized trails.
Rare, Threatened, and Endangered Species	Efforts to document and protect these species populations currently present in the park would be completed. Restoration and /or monitoring plans would be developed as warranted. Plans include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
Prime Farmlands	Conducting an environmental assessment, developing detailed mapping, and/or instituting best management practices would result in minimization or avoidance of impacts.
Archeological Resources	Avoidance and minimization of potentially adverse effects on archeological resources would be achieved during a site-specific environmental assessment by: (1) identification of resources that could potentially exist on each site by completion of archeological field surveys and reports; and (2) completion of data recovery and preservation actions on proposed construction sites where archeological resources are identified. A resource stewardship strategy would also be prepared. If, during construction, any previously unknown archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy would be developed in accordance with 36 CFR Part 800.13. In addition to data recovery and preservation, mitigation could also include other measures such as site burial.

Table 7. Summary of Mitigation Measures Associated with the Action Alternatives (continued)

Impact Category	Mitigation Measures
Historic Buildings, Structures, and Objects	These resources would be afforded enhanced protection and preservation through systematic integrated inventory, research, and preservation programs in cultural resource and/or historic resource zones as well as a resource stewardship strategy. Rehabilitation of historic structures and cultural landscapes would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance with park resource values. Efforts would be made to avoid adverse impacts to cultural resources by identifying historic properties prior to an undertaking, avoiding effects to historic properties where possible, and by using visual screens and/or sensitive designs that are compatible with historic resources. Studies carried out in advance of undertakings to identify historic properties and assess effects will comply with the requirements of Sections 106 and 110 of the NHPA, 36 CFR 60, 36 CFR 800, and National Park Service Director's Order 28 and 28A: Archeology. Mitigation measures may include data recovery of identified National Register eligible archeological sites and documentation of built resources in accordance with Historic American Buildings Survey/Historic American Engineering Record standards. If, during construction, any previously unknown resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed in accordance with 36 CFR Part 800.13.
Transportation	Mitigative measures related to transportation features in the park are addressed under other impact topics, and include development and implementation of best management practices during construction and operation of transportation related facilities, including trails, bridges, roads, and parking areas. Traffic calming studies would be considered during development of site specific environmental assessments to address transportation related impacts. Use of sustainable materials and minimization of impervious surfaces would be used where practical. An integrated trails study would be completed and implemented that would identify standard mitigation measures for trail construction and maintenance (pedestrian, equestrian, and bicycle). Coordination with neighboring communities in the vicinity of hubs (Alternative C), organizations and neighborhoods along the corridor (Alternatives D, E and F) would serve to develop communication networks to address park transportation concerns, increase awareness and minimize/avoid adverse effects associated with overcrowding of parking areas and congestion (for example, reduction of individual vehicular trips to parking areas). Use of shuttles and alternative transportation solutions during special events would continue to be used for all alternatives to minimize localized, short-term adverse impacts to local traffic.
Visitor and Community Values	Additional interpretive activities, educational and outreach activities would promote understanding among park visitors. Developing partnerships and increasing the level of coordination would aid connectivity and promotion of shared facilities and programs.

designed fabrics, certified straw, or other materials; covering haul trucks; and revegetating disturbed areas with native species as soon as possible after construction, with measure taken to avoid introduction of invasive species.

Standard noise abatement measures would be implemented during park operations and construction activities. These measures could include: scheduling activities to minimize impacts, use of the best available noise control techniques, use of hydraulically or electrically powered tools, and keeping distance from sensitive uses or resources.

Following completion of construction activities, all areas of disturbed soils and vegetation would be regraded and revegetated as soon as possible. Natural topographic features would be restored to the extent possible using excavated soils from other park projects, and native species would be used in all revegetation efforts. Restoration efforts would be maximized by using salvaged topsoil and native vegetation and by monitoring revegetation success for several growing seasons as appropriate. Undesirable species would be monitored and control strategies initiated if needed. For all action alternatives, mitigation actions would occur prior to construction to minimize immediate and long-term impacts to rare, threatened, and endangered species. Surveys would be conducted for such species as warranted. Facilities would be sited and designed so as to avoid adverse effects to such species whenever possible. If avoidance is infeasible, adverse effects would be minimized and compensated for, as appropriate, and in consultation with appropriate resource agencies.

Efforts would also be made to avoid adverse impacts to cultural resources by identifying historic properties prior to an undertaking, avoiding effects to historic properties where possible, following the Secretary of the Interior's Standards for Archeology and Historic Preservation and by using visual screens and/or sensitive designs that are compatible with historic resources. Studies carried out in advance of undertakings to identify historic properties and assess effects will comply with the requirements of Sections 106 and 110 of the National Historic Preservation Act, 36 CFR 60, 36 CFR 800, and National Park Service Director's Order-28 and 28A: Archeology. Mitigation measures, in consultation with the Georgia State Historic Preservation Office, may include data recovery of identified National Register eligible archeological sites and documentation of built resources in accordance with Historic American Buildings Survey/Historic American Engineering Record standards. If, during construction, any previously unknown archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed in accordance with 36 CFR Part 800.13.

The National Park Service will conduct additional background research, resource inventory, and national register evaluations where information about the location and significance of cultural or natural resources is lacking. Results of site specific studies are incorporated into planning and compliance documents. Whenever possible, projects would be located in previously disturbed or existing developed areas and designs would be completed that avoid known or suspected resources of concern.

SELECTING THE PREFERRED ALTERNATIVE

The National Park Service uses a decision-making system called Choosing by Advantages to select a preferred alternative in the general management planning process. Choosing by Advantages was originally developed by Jim Suhr, author of *The Choosing by Advantages Decisionmaking System*. This decision-making system is based on determining the advantages of different alternatives for a variety

of factors. The fundamental rule in this system is that sound decisions must be based on the importance of advantages.

One of the greatest strengths of this system is its fundamental philosophy: decisions must be anchored in relevant facts. This minimizes the subjectivity in the decision-making process and makes the decision as objective as possible. For example, the question "Is it more important to protect natural resources or cultural resources?" is "unanchored"; it has no relevant facts on which to make a decision. Without such facts, it is impossible to make a defensible decision. The Choosing by Advantages system instead asks us to decide which alternative gives the greatest advantage in protecting natural resources and cultural resources. To answer this question, relevant facts would be used to determine the advantages that the alternatives provide for both kinds of resources. For example, we may have facts that show that two alternatives disturb or restore equal amounts of vegetation, so neither alternative would be more advantageous than the other in protecting natural resources. On the other hand, we may have relevant facts that show that one alternative would disturb five known archeological sites, while the other alternative would disturb only one. This alternative, then, would be more advantageous since it provides natural resource protection (equal to the other alternative) and also provides the greatest advantage for cultural resources.

The planning team used the Choosing by Advantages system to select Alternative F as the preferred alternative for this Final document as the National Park Service's proposed action. Details of the Choosing by Advantages workshop conducted to make this decision are provided in Appendix D.

The first step in the CBA process is to decide the factors that will be used in the decision. For the Chattahoochee River National Recreation Area, the planning team selected the following three factors:

1. Protect Cultural and Natural Resources
    a. Protects and enhances water quality
    b. Preserves and enhances biodiversity
    c. Preserves and enhances cultural resources
2. Provide for Visitor Enjoyment
    a. Provides visitor services and recreational opportunities
    b. Provides interpretive and educational opportunities
    c. Provides access for a variety of users
3. Improve Efficiency of Park Operations
    a. Extent to which the alternative benefits operational efficiency and effectiveness

The planning team discussed each alternative for each factor and reached a consensus regarding how each factor should be characterized for each of the 6 alternatives under consideration, including the no-action (continue current management policies and strategies) alternative. In addition, cost estimates for each alternative were considered in this process.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

According to Council on Environmental Quality regulations implementing the National Environmental Policy Act, and the National Park Service National Environmental Policy Act guidelines (*Director's Order #12*), an environmentally preferred alternative must be identified in environmental documents. Section 101(b) of the National Environmental Policy Act identifies the following six criteria to help determine the environmentally preferred alternative:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.

2. Ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings.

3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.

4. Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choices.

5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.

6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The environmentally preferred alternative would cause the least damage to the biological and physical environment, and would best protect, preserve, and enhance historical, cultural, and natural resources. Alternative E is the environmentally preferred alternative in its ability to best meet the six national environmental criteria as described in the paragraphs that follow.

1. Alternative B would best protect the environment by limiting the level and intensity of use of the built environment. The amount of acreage in developed zones and natural area recreation zones would be less than other alternatives. In addition, the river solitude zone would be provided and greater focus would be placed on the restoration of natural resources, with a lower potential for new facilities. All other alternatives would fulfill this criterion to a lesser degree through protection of known natural and cultural resources located in the park.

2. Each of the alternatives would meet criterion 2 by providing visitors with safe, healthful, productive, esthetically and culturally pleasing surroundings. Under Alternative A, there would be increased challenges to meet and maintain such conditions, however because staffing and funding levels would not be expected to change dramatically. For example, the diversity of educational opportunities would continue to be limited, and the park's ability to respond to the ever-increasing demand to address compliance issues with regard to natural and cultural resource protection would continue to be a challenge. Alternatives E and F would allow more diverse types of use than the other alternatives, increased staffing, as well as increased potential for river access and boating and other types of access throughout the park, thereby creating increased opportunities to enjoy more of the park. Therefore, Alternatives E and F would better serve criterion 2.

3. Overall, Alternatives E and F would allow for the widest range of beneficial uses of the environment and to observe and appreciate resources with a minimum of inadvertent or unintentional damage. In comparison between Alternatives E and F, Alternative E would have more acreage zoned as rustic zone, compared to Alternative F, thereby allowing for less of a hardened landscape, less acreage zoned where facility development is appropriate, and less of a facilitated experience. In addition, the opportunities for the built environment are lower in Alternative E than F, with Alternative F having a higher percentage of acreage zoned developed zone and natural area recreation zone and, for these reasons, it is estimated that there would be less inadvertent or unintentional damage under Alternative E than F. Alternative F, however, provides increased access for a greater variety of park visitors than Alternative E.

   Based on public input on action Alternatives B and C, restricting the type of boat use (motorized versus nonmotorized) in the river solitude zone would be too limiting for many visitors. Alternative D provides for expanding and distributing access throughout the park, including newly acquired parcels, thereby providing the widest opportunity for increased and diverse visitor experiences. Compared to other alternatives, the emphasis would be more on social experience than solitude. New facilities would be developed or existing facilities would be refurbished, and connectivity to existing neighborhoods would be optimized. However, Alternative D would be more dependent on the successful development of public/private partnerships than would other action alternatives and there would be a higher potential for inadvertent or unintentional damage to natural and cultural resources compared to all other alternatives.

   There is no discernable difference across Alternatives D, E and F when comparing the level of risk of health or safety, particularly when evaluating the potential increase in park personnel available to respond or provide assistance to visitors. Staffing levels would be similar for Alternatives D, E and F, two fewer new staff members would be proposed under Alternative C, and Alternative B would have the least new staff additions compared to all the action alternatives.

   In summary, Alternatives E and F would best meet the objective of this criterion.

4. Each of the alternatives preserve important historical, cultural and natural aspects of our national heritage and maintain, wherever possible an environment which supports diversity and variety of choice. In terms of access to areas that may allow greater choice in the fulfillment of this experience, Alternatives E and F offer a greater variety of recreational opportunities to explore the park through diverse means and accessibility than Alternatives A, B, C and D. Alternatives B, C and D limit the type of river access and use while Alternatives E and F provide additional choice in type of use and access while also providing additional opportunities for interpretive experiences and education.

5. Alternatives D, E and F provide additional opportunities for use of existing and new facilities along the corridor, compared to Alternatives A, B, and C. Facilities would be centralized in Alternative C. Alternative D provides the greatest degree of flexibility for locating facilities, and the greatest potential for related adverse effects. Each of the action alternatives provide equal opportunity for commercial services to operate in the future, however, Alternatives E and F provide more opportunities for river services due to fewer river use restrictions in place without the river solitude zone. (A commercial services plan would also be prepared in the future). Alternatives E and F balance resource use and visitor conditions, given the distribution of zones for each alternative, and river access and type of river use are the same for both alternatives (i.e. boating and fishing are appropriate in all park waterways). Opportunities for sharing park resources are similar under both Alternatives E and F, with differences described under criterion 3.

6. Alternative B would best meet this criterion, as it would improve renewable resource conditions for wildlife and vegetation. All other alternatives would maintain existing conditions or result in localized reductions in the quality of renewable resources through construction and subsequent alteration or loss of habitat. Where new facilities are constructed, sustainable design principles would be used where applicable. None of the alternatives proposes a long-term change in use of depletable resources; therefore, no discernable difference exists between the alternatives for this factor.

Some specific actions under Alternative B may achieve similar, or in some cases greater, levels of protection for certain cultural and natural resources than under Alternatives E and F. Yet, based on potential resource and visitor impacts and on proposed mitigation for impacts to natural and cultural resources, Alternative E best meets the six criteria as defined above. Whereas Alternative F integrates resource protection with greater opportunities for an appropriate range of visitor use, Alternative E, however, provides an advantage for the protection of cultural and natural resources while concurrently attaining the widest range of beneficial uses of the environment without degradation or other undesirable and unintended consequences.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

A summary of environmental consequences is provided in Table 8 that shows each alternative's potential effects by impact topic. Detailed descriptions of the context, intensity, and duration of impacts, called thresholds, are provided in Chapter 4 Environmental Consequences.

Table 8. Summary of Impacts of the Alternatives

Impact Category	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Natural Resources						
Water Resources	*Direct and indirect effect:* ***Long-term and short-term, minor to moderate, adverse***. *Cumulative effect:* ***Long-term and short-term, moderate to major, adverse***.	*Direct and indirect effect:* ***Long-term and short-term, minor, beneficial.*** *Cumulative effect:* ***Long-term and short-term, moderate, adverse***.	*Direct and indirect effect:* ***Long-term and short-term, negligible, adverse.*** *Cumulative effect:* ***Long-term and short-term, moderate, adverse***.	*Direct and indirect effect:* ***Long-term and short-term, minor adverse.*** *Cumulative effect:* ***Long-term and short-term, minor to moderate, adverse***.	*Direct and indirect effect:* ***Long-term and short-term, negligible to minor, adverse.*** *Cumulative effect:* ***Long-term and short-term, minor to moderate, adverse***.	***Same as Alternative D.***
Aquatic Resources	*Direct and indirect effect:* ***Long-term and short-term, minor to moderate, adverse***. *Cumulative effect:* ***Long-term and short-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term and short-term, minor, beneficial.*** *Cumulative effect:* ***Long-term and short-term, moderate, adverse***.	*Direct and indirect effect:* ***Long-term and short-term, negligible, adverse.*** *Cumulative effect:* ***Long-term and short-term, moderate, adverse***.	*Direct and indirect effect:* ***Long-term and short-term, minor adverse.*** *Cumulative effect:* ***Long-term and short-term, minor to moderate, adverse***.	*Direct and indirect effect:* ***Long-term and short-term, negligible to minor, adverse.*** *Cumulative effect:* ***Long-term and short-term, minor to moderate, adverse***.	***Same as Alternative D.***
Wetlands	*Direct and indirect effect:* ***Long-term and short-term, moderate, adverse***. *Cumulative effect:* ***Long-term and short-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term and short-term, minor, beneficial.*** *Cumulative effect:* ***Long-term and short-term, moderate, adverse***.	*Direct and indirect effect:* Long-term and short-term, negligible, adverse. *Cumulative effect:* ***Long-term and short-term, moderate, adverse***.	*Direct and indirect effect:* ***Long-term and short-term, minor adverse.*** *Cumulative effect:* ***Long-term and short-term, minor to moderate, adverse***.	***Same as Alternative C.***	***Same as Alternative D.***

Table 8. Summary of Impacts of the Alternatives (continued)

Impact Category	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Floodplains	*Direct and indirect effect:* ***Long-term and short-term, moderate, adverse****.* *Cumulative effect:* ***Long-term and short-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term and short-term, minor, beneficial.*** *Cumulative effect:* ***Long-term and short-term, moderate, adverse****.*	*Direct and indirect effect:* ***Long-term and short-term, negligible, adverse.*** *Cumulative effect:* ***Long-term and short-term, moderate, adverse****.*	*Direct and indirect effect:* ***Long-term and short-term, minor adverse.*** *Cumulative effect:* ***Long-term and short-term, minor to moderate, adverse****.*	***Same as Alternative C.***	***Same as Alternative D.***
Terrestrial Ecological Resources	*Direct and indirect effect:* ***Long-term and short-term, moderate, adverse****.* *Cumulative effect:* ***Long-term and short-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term and short-term, minor to moderate, beneficial.*** *Cumulative effect:* ***Long-term and short-term, moderate, adverse****.*	*Direct and indirect effect:* ***Long-term and short-term, negligible, adverse.*** *Cumulative effect:* ***Long-term and short-term, moderate, adverse****.*	*Direct and indirect effect:* ***Long-term and short-term, minor to moderate, adverse.*** *Cumulative effect:* ***Long-term and short-term, minor to moderate, adverse****.*	***Same as Alternative C.***	***Same as Alternative D.***
Rare, Threatened or Endangered Species	*Direct and indirect effect:* ***Long-term, minor, adverse.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, minor to moderate, beneficial.*** *Cumulative effect:* ***Long-term, minor to moderate, adverse.***	*Direct and indirect effect:* ***Long-term, negligible, adverse.*** *Cumulative effect:* ***Long-term, minor to moderate, adverse.***	*Direct and indirect effect:* ***Long-term, negligible to minor, adverse.*** *Cumulative effect:* ***Long-term, minor to moderate, adverse.***	***Same as Alternative C.***	***Same as Alternative D.***

Table 8. Summary of Impacts of the Alternatives (continued)

Impact Category	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Prime Farmland	*Direct and indirect effect:* ***Long-term and short-term, negligible, adverse.*** *Cumulative effect:* ***Long-term and short-term, minor, adverse.***	*Direct and indirect effect:* ***Long-term and short-term, negligible, beneficial.*** *Cumulative effect:* ***Long-term and short-term, minor, adverse.***	***Same as Alternative B.***	*Direct and indirect effect:* ***Long-term and short-term, minor, adverse.*** *Cumulative effect:* ***Long-term and short-term, minor, adverse.***	***Same as Alternative B.***	***Same as Alternative D.***
Cultural Resources						
Archeological Resources	*Direct and indirect effect:* ***Long-term, minor to major, adverse, and long-term, minor, beneficial.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, negligible to minor, adverse, and long-term, moderate beneficial.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, negligible to minor, adverse, and long-term, moderate beneficial.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, moderate, adverse, and long-term, moderate beneficial.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, negligible to minor, adverse, and long-term, moderate to major beneficial.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, minor, adverse, and long-term, moderate to major, beneficial.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***
Cultural Landscapes, Historic Buildings, Structures and Objects	*Direct and indirect effect:* ***Long-term, minor to major, adverse.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, negligible to minor, adverse, and long-term, major, beneficial.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, negligible to minor, adverse, and long-term, major beneficial.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, minor to moderate, adverse, and long-term, moderate beneficial.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, negligible to minor, adverse, and long-term, moderate to major beneficial.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, minor, adverse, and long-term, moderate to major, beneficial.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***
Transportation						

Table 8. Summary of Impacts of the Alternatives (continued)

Impact Category	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Vehicular / Traffic-Related Effects	*Direct and indirect effect:* ***Long-term, negligible, adverse.*** *Cumulative effect:* ***Long-term, moderate, adverse.***	*Direct and indirect effect:* ***Long-term, negligible, adverse.*** *Cumulative effect:* ***Long-term, moderate, adverse.***	*Direct and indirect effect:* ***Long-term, minor to moderate, adverse.*** *Cumulative effect:* ***Long-term, moderate, adverse.***	*Direct and indirect effect:* ***Long-term, moderate, adverse.*** *Cumulative effect:* ***Long-term, moderate, adverse.***	***Same as Alternative D.***	***Same as Alternative D.***
Availability, Management, and Connectivity of Trails	*Direct and indirect effect:* ***Long-term, minor to moderate, adverse.*** *Cumulative effect:* ***Long-term, minor to moderate, adverse.***	*Direct and indirect effect:* ***Long-term, negligible, beneficial.*** *Cumulative effect:* ***Long-term, negligible, beneficial.***	*Direct and indirect effect:* ***Long-term, minor to moderate, beneficial.*** *Cumulative effect:* ***Long-term, minor to moderate, beneficial.***	*Direct and indirect effect:* ***Long-term, moderate, beneficial.*** *Cumulative effect:* ***Long-term, moderate, beneficial.***	***Same as Alternative D.***	***Same as Alternative D.***
Effect on an Individual's Decision to Walk or Ride a Bicycle to the Park	*Direct and indirect effect:* ***Long-term, negligible, adverse.*** *Cumulative effect:* ***Long-term, minor, beneficial.***	*Direct and indirect effect:* ***Long-term, moderate, adverse.*** *Cumulative effect:* ***Long-term, minor, adverse.***	*Direct and indirect effect:* ***Long-term, minor to moderate, beneficial.*** *Cumulative effect:* ***Long-term, minor to moderate, beneficial.***	*Direct and indirect effect:* ***Long-term, moderate, beneficial.*** *Cumulative effect:* ***Long-term, moderate, beneficial.***	***Same as Alternative D.***	***Same as Alternative D.***

Table 8. Summary of Impacts of the Alternatives (continued)

Impact Category	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Visitor Experience and Community Values						
Visitor Experience	*Direct and indirect effect:* ***Long-term, moderate, adverse.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, moderate to major, beneficial*** effect for those who prefer solitude. ***Long-term, moderate to major, adverse*** effect for those who prefer a more facilitated experience. *Cumulative effect:* ***Long-term, moderate, adverse.***	*Direct and indirect effect:* ***Long-term, minor to moderate, beneficial.*** *Cumulative effect:* ***Long-term, moderate, beneficial.***	*Direct and indirect effect:* ***Long-term, moderate to major, adverse*** effect for those who prefer solitude. ***Long-term, moderate to major, beneficial*** effect for those who prefer a more facilitated experience. *Cumulative effect:* ***Long-term, moderate, beneficial.***	*Direct and indirect effect:* ***Long-term, moderate, adverse*** effect for those who prefer solitude. ***Long-term, moderate to major, beneficial*** effect for those who prefer a more facilitated experience. *Cumulative effect:* ***Long-term, moderate, beneficial.***	*Direct and indirect effect:* ***Long-term, moderate to major, adverse*** effect for those who prefer solitude. ***Long-term, moderate to major, beneficial*** effect for those who prefer a more facilitated experience. *Cumulative effect:* ***Long-term, moderate, beneficial.***

Table 8. Summary of Impacts of the Alternatives (continued)

Impact Category	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Recreational Opportunity	*Direct and indirect effect:* ***Long-term, moderate, adverse.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, moderate to major, beneficial*** effect for those who value solitude and less diverse types of recreation. ***Long-term, moderate to major, adverse*** effect for those who prefer more diverse, active types of recreation. *Cumulative effect:* ***Long-term, moderate, adverse.***	*Direct and indirect effect:* ***Long-term, minor to moderate, beneficial*** for the majority of park visitors. ***Long-term, moderate to major, adverse*** effect on visitors who prefer access for motorized boating throughout the park. *Cumulative effect:* ***Long-term, moderate, beneficial.***	*Direct and indirect effect:* ***Long-term, moderate to major, adverse*** effect for those who value solitude and less diverse types of recreation. ***Long-term, moderate to major, beneficial*** effect for those who prefer increased access and diverse opportunities for recreation, including motorized boating. *Cumulative effect:* ***Long-term, moderate to major, beneficial.***	*Direct and indirect effect:* ***Long-term, moderate, adverse*** effect for those who value solitude and less diverse types of recreation. ***Long-term, moderate to major, beneficial*** effect for those who prefer more facilitated experiences and diversity of use. *Cumulative effect:* ***Long-term, moderate to major, beneficial.***	*Direct and indirect effect:* ***Long-term, moderate to major, adverse*** effect for those who value solitude and less diverse types of recreation ***Long-term, major, beneficial*** effect for those who prefer facilitated experiences and diversity of use. *Cumulative effect:* ***Long-term, major, beneficial.***
Traditional Character of the Park	*Direct and indirect effect:* ***Long-term, moderate, adverse.*** *Cumulative effect:* ***Long-term, moderate to major, adverse.***	*Direct and indirect effect:* ***Long-term, moderate, beneficial.*** *Cumulative effect:* ***Long-term, moderate, adverse.***	*Direct and indirect effect:* ***Long-term, major, beneficial*****.** *Cumulative effect:* ***Long-term, minor to moderate, beneficial.***	*Direct and indirect effect:* ***Long-term, major, beneficial, and long-term, minor to moderate adverse.*** *Cumulative effect:* ***Long-term, minor to moderate, beneficial.***	*Direct and indirect effect:* ***Long-term, major, beneficial, and long-term, minor, adverse.*** *Cumulative effect:* ***Long-term, minor to moderate, beneficial.***	*Direct and indirect effect:* ***Long-term, major, beneficial, and long-term, minor to moderate adverse.*** *Cumulative effect:* ***Long-term, minor to moderate, beneficial.***

Table 8. Summary of Impacts of the Alternatives (continued)

Impact Category	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Park Operations	*Direct and indirect effect:* ***Long-term, moderate, adverse***. *Cumulative effect:* ***Long-term, moderate adverse.***	*Direct and indirect effect:* ***Long-term, negligible, beneficial***. *Cumulative effect:* ***Long-term, moderate, adverse.***	*Direct and indirect effect:* ***Long-term, moderate, beneficial***. *Cumulative effect:* ***Long-term, moderate, beneficial.***	*Direct and indirect effect:* ***Long-term, negligible, adverse.*** *Cumulative effect:* ***Long-term, negligible, adverse.***	*Direct and indirect effect:* ***Long-term, negligible, beneficial***. *Cumulative effect:* ***Long-term, negligible, adverse.***	***Same as Alternative E.***

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Chapter 3
AFFECTED ENVIRONMENT

Fog over the Chattahoochee River

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CHAPTER 3
AFFECTED ENVIRONMENT

NATURAL RESOURCES

This section describes the characteristics of the existing natural environment that could be affected by the proposed action alternatives and the no action alternative (continue current management). In compliance with the guidelines contained in the National Environmental Policy Act and Section 1502.15 of the regulations for implementing that act developed by the Council on Environmental Quality (1978), the description of the affected environment focuses on only those environmental aspects potentially subject to the effects resulting from the proposed park access and development policies. As discussed in the "Purpose and Need for the Plan" section, the National Park Service has identified impact topics that may be affected by the proposed actions or the no action alternative (continue current management). This section establishes the basis for Chapter 4, Environmental Consequences, which addresses the effects that the alternatives may have on the impact topics within the affected environment.

WATER RESOURCES

The Chattahoochee River and its tributaries are included as an impact topic based on the criteria presented in "Impact Topics – Resources and Values at Stake in the Planning Process" in Chapter 1.

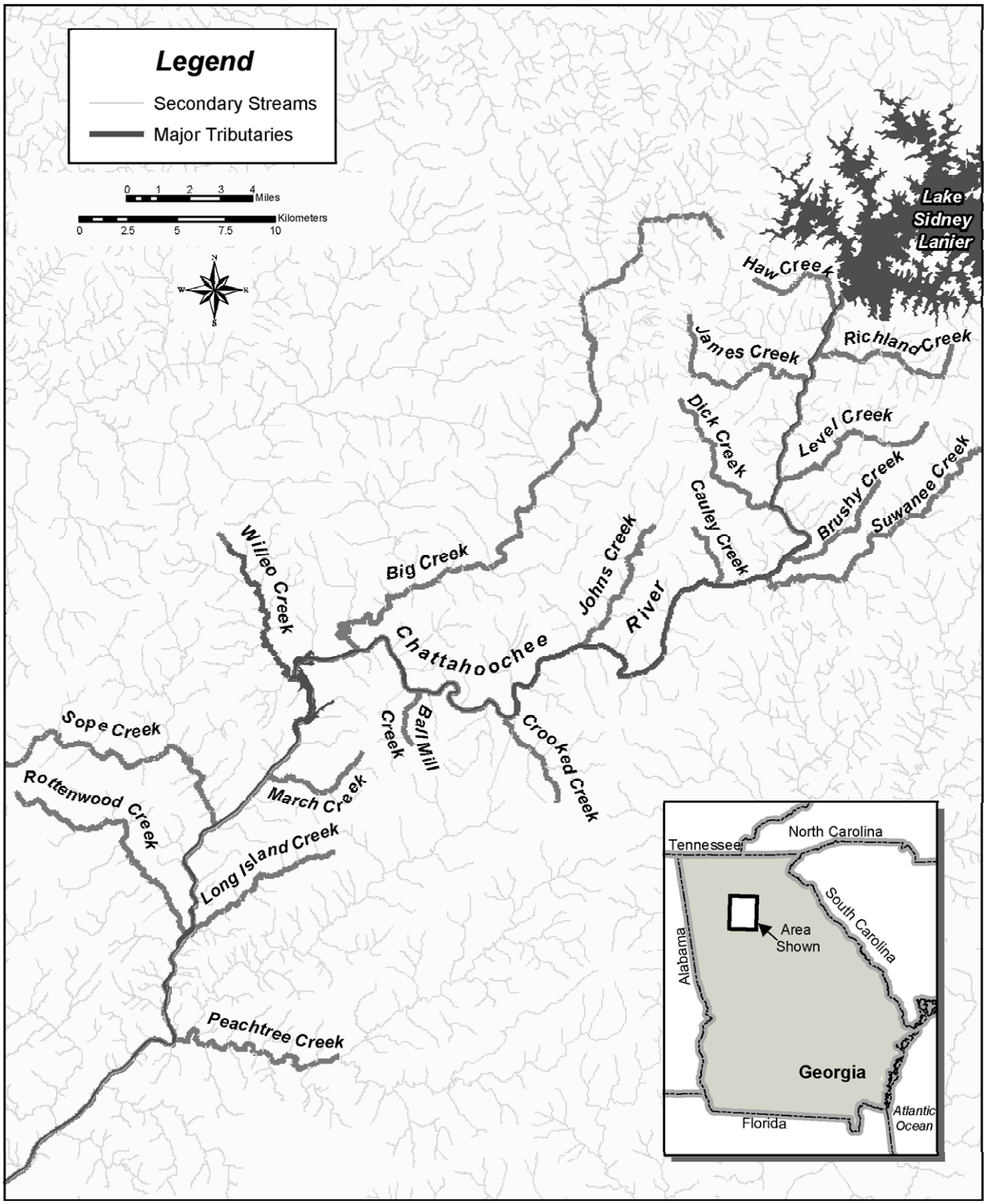
The river is the primary natural feature within the park. Within the park boundaries, the Chattahoochee River flows 48 miles from Buford Dam near Sugar Hill to the confluence with Peachtree Creek in Atlanta. Land uses within the watershed include urban, suburban residential, agricultural, and forested areas.

Surface Water Hydrology and Watershed Characteristics

The surface water hydrology of the Chattahoochee River is largely determined by the geological setting and processes that have formed the watershed, as well as hydrologic flow regulation by Buford Dam and its reservoir, which has altered the Chattahoochee River both physically and chemically. The river within the park is located within the Piedmont Province, Southern Piedmont Section, Upland Georgia Subsection, flowing along the Brevard Fault in a northeast to southwest direction within the Gainesville Ridges District. This district is characterized by "a series of northeast-trending, low, linear, parallel ridges separated by narrow valleys" (Clark and Zisa 1976). The ridge formations and Brevard Fault result from forces associated with continental drift. Faulting produced the "Palisades" cliffs, located in the extreme southern end of the park. The Palisades were the original basis for designating the park as a National Recreation Area.

This geological setting produces a relatively long and narrow watershed, surrounded within the vicinity of the park by rapidly developing urban and suburban areas. These features channel a large amount of nonpoint runoff into the river in this narrow watershed during storm events, which affect park characteristics, especially water quality (refer to the "Water Quality" subsection for additional information).

The portion of the Chattahoochee River watershed encompassed by the park, extending from river mile 348.3 at Buford Dam to river mile 300.5 at Peachtree Creek, drains 416 square miles below Buford Dam. The major tributaries and watersheds associated with the park are shown on Figure 10 in sequence from north to south and listed in alphabetical order in Table 9 (NPS 2000c). The majority of these tributaries flow through urban or suburban areas subject to excessive amounts of nonpoint runoff. Numerous minor tributaries and groundwater springs also drain to the Chattahoochee River within the park.



Water Features

Figure 10

Chattahoochee River National Recreation Area

U.S. Department of the Interior - National Park Service

J:\gis\738738\Maps\Draft_Report\Water_Features.mxd

Table 9. Named Creeks within Chattahoochee River National Recreation Area (with Watershed Area in Square Miles for Dominant Water Bodies)

Arrowhead Creek
Bagley Creek
Ball Mill Creek (3.5)
Bennett Creek
Bentley Creek
Big Creek (also known as Vickery Creek) (103)
Bishop Creek
Brushy Creek
Camp Creek
Cauley Creek
Caney Creek
Cheatam Creek
Cobb Creek
Crooked Creek (9.2)
Daves Creek
Dick Creek (8.8)
Foe Killer Creek
Fox Creek
Gunby Creek
Harris Creek
Haw Creek (3.8)
Heards Creek
Hog Waller Creek (also known as Hog Wallow Creek)
Ivy Creek
James Creek (10.6)
Johns Creek (13.1)
Kelly Mill Branch
Level Creek
Little Ivy Creek
Long Indian Creek
Long Island Creek (19.6)
March Creek (5.3)
Mill Creek
Mulberry Creek
Nancy Creek
Nannyberry Creek
Owl Creek
Peachtree Creek (131)
Poorhouse Creek
Richland Creek (15.2)

Table 9. Named Creeks within Chattahoochee River National Recreation Area (with Watershed Area in Square Miles for Dominant Water Bodies) (continued)

Rottenwood Creek (6.4)
Sawmill Branch
Seven Branch Creek
Sewell Mill Creek
Sibley Creek (also known as Terrel Mill Branch)
Seven Branch
Sope Creek (35.4)
Suwanee Creek (51.2)
Terrel Mill Branch (see Sibley Creek)
Vickery Creek (see Big Creek)
Willeo Creek (19.8)

Source: NPS 2000c
* Creeks bordered at least in part by Chattahoochee River National Recreation Area parcels are bolded.

Buford Dam: The flow of the river is dominated by controlled releases from Buford Dam, which was constructed in 1957 forming Lake Lanier upstream of the park. Buford Dam is managed by the Mobile District, United States Army Corps of Engineers. Flow is also affected significantly by storm events, which contribute large amounts of water to the river via overland flow and major tributaries. Average daily mean flow rates from 1994 to 2004 have been approximately 1,700 cubic feet per second (USGS 2006a). The Georgia Environmental Protection Division has established a minimum flow of 750 cubic feet per second in the Chattahoochee River at the confluence of Peachtree Creek to provide for the protection of water quality, aquatic habitat, aquatic life, and recreation.

Releases provide electrical power during peak demand periods. These surges create rapid and large changes in water levels and velocities downstream of Buford Dam. Higher flows created during peak release periods create rapid and large (up to eight feet below the dam and at Settles Bridge) variations in water levels and current velocities immediately downstream of Buford dam (USACE 1985). The surges have resulted in significant erosion of the riverbanks for as far as 20 miles downstream, significant widening of the river, and increased numbers of trees falling into the river (NPS 2000c).

Key facts summarizing the flow regime in the river are as follows:

- Drier years are characterized by lower than average streamflows.
- Wetter years produce high flows that are two to three times higher than high flows in dry years.
- Flow periods follow seasonal patterns, with higher flows in July and lower flows usually in autumn.
- Between 1994 and 2004, the average minimum and maximum discharges from Buford Dam were 644 cubic feet per second and 10,422 cubic feet per second, respectively (USGS 2006a).
- The average annual mean discharge at the USGS Norcross gauging station (approximately in the center of the park) from 1903 to 2003 is 2,240 cubic feet per second (USGS 2006a).

- The average annual mean discharge at the USGS Buford Dam gauging station from 1988 to 2003 was 1,820 cubic feet per second (USGS 2006a)
- The Buford Dam outlet has a maximum capacity of 11,600 cubic feet per second (USACE 2006).
- The two largest tributaries within the park are Big Creek (mean daily discharge of 111 cubic feet per second) and Suwanee Creek (mean daily discharge of 69 cubic feet per second). The five highest peak flows for these two creeks measured between 1985 and 2004 range from 3,140 to 5,820 cubic feet per second for Big Creek and from 2,900 to 4,350 cubic feet per second for Suwanee Creek (USGS 2006a).

Morgan Falls Dam: Morgan Falls Dam, located at river mile 312.6, was constructed from 1902 to 1904, and created Bull Sluice Lake, the only lake located within the park boundary (Figure 10). Bull Sluice Lake is bordered by cliffs over 200 feet high rising on the east side of the lake opposite Gold Branch. This shallow lake has rapidly filled with sediment, due to the large amount of suspended solids entering the river from nonpoint runoff, and is being invaded by cattail marshes that form extensive wetlands.

The Morgan Falls Hydroelectric Project is licensed to Georgia Power under the authority of the Federal Energy Regulatory Commission and is operated under an agreement with the Atlanta Regional Commission referred to as the "Statement of Policy." The Statement of Policy is considered a short-term policy in providing water for withdrawals along the river until a long-term arrangement is developed or until the expiration of the current license in 2009 (Georgia Power 2004a).

According to Georgia Power (2004a): "The policy establishes, among others, the following key elements:

- Georgia Power shall attempt to release water from the project for governmental and industrial uses during the term of the policy, and [Atlanta Regional Commission] has the responsibility of coordinating the allocation of such water to the utilities withdrawing water along the river.
- Georgia Power shall endeavor to provide a minimum release, during off peak power periods, of up to 1,164 cubic feet per second from the project, as required on a weekly basis by [Atlanta Regional Commission], within limitations imposed in the policy.
- Atlanta Regional Commission] agrees to develop and coordinate the implementation of a water management system, in cooperation with the various utilities, the [U.S. Army Corps of Engineers], [Georgia Environmental Protection Division], and Georgia Power."

In order to continue operating and maintaining an existing hydroelectric project, licenses must be renewed periodically. The relicensing process addresses power generation, natural resources, recreation, and aesthetics at hydroelectric projects. The current license for the Morgan Falls Hydroelectric Project expires February 28, 2009. Georgia Power began the relicensing process in 2003 and must submit a relicensing application to the Federal Energy Regulatory Commission by February 28, 2007. Georgia Power proposes to continue operating the Morgan Falls Project in a manner consistent with the existing Statement of Policy (Georgia Power 2004b).

In accordance with the Commission's integrated licensing process and following the Commission's National Environmental Policy Act scoping process, a Proposed Study Plan was issued by Georgia Power on June 25, 2004 and later issued a Revised Study Plan on October 26, 2004. The Revised Study

Plan outlines the framework for eight individual studies that characterize baseline resource conditions within the Morgan Falls Hydroelectric Project boundary, including:

- Geology and Soils
- Water Resources
- Fish and Aquatic Resources
- Wildlife and Botanical Resources
- Wetlands, Riparian, and Littoral Habitat
- Rare, Threatened, and Endangered Species
- Recreation and Land Use
- Cultural Resources (Georgia Power 2004b).

Information contained within these study reports is referenced in the pertinent subsections of this general management plan.

As part of the licensing process, the Federal Energy Regulatory Commission must consult with the National Park Service in order to seek a balance between the project's operations and the park's resource protection interest. Since 2004, the National Park Service has been engaged in the relicensing process with the Federal Energy Regulatory Commission, Georgia Power (the license applicant) and other stakeholders including the Atlanta Regional Commission; the State of Georgia; local municipalities; other Federal, state, and local entities; the Upper Chattahoochee Riverkeeper; American Rivers; and several other non-governmental organizations. An important purpose of the relicensing process is to study the potential impacts of the Morgan Falls Hydroelectric Project on park resources. Particular issues of concern to the park include:

- Shoreline erosion related to dam operations
- Sedimentation in Bull Sluice Lake and tributaries such as Big Creek
- Dredging as a potential alternative
- Sediment contamination in Bull Sluice Reservoir
- Impacts to threatened and endangered species
- Effects on recreation
- Impacts on shoal bass habitat below Morgan Falls and in tributaries to Bull Sluice Lake (NPS 2006b).

Water Supply and Allocation

The Atlanta region relies on surface water for 98 percent of its water usage due to limited regional groundwater resources. The Chattahoochee River Basin supplies 80% of the water for metropolitan Atlanta and is one of the smallest rivers in the country serving a major metropolitan area (MNGWPD 2006).

Approximately 178 million gallons per day are withdrawn from Lake Lanier for municipal use. Within the park boundary, a total of approximately 415 million gallons per day are withdrawn from the Chattahoochee River by four municipalities (Cobb County-Marietta Water Authority, DeKalb County Water System, City of Atlanta, and Atlanta-Fulton County Water Resources Commission). The projected baseline water use for the Chattahoochee River Basin for the year 2030 ranges from 522 to

600 million gallons per day (MNGWPD 2003b). Approximately 71 million gallons per day of treated water is returned to the river within the park boundary by seven wastewater treatment plants within three counties (Georgia Power 2004a). An additional 344 million gallons per day of treated water is returned to the river below Peachtree Creek (Georgia Power 2004a).

Severe droughts in 1980-1982, 1985-1989, and 1988-2000 (USGS 2000) brought the water supply issue to the forefront in the Atlanta region. The growing need for water resources prompted a change in the release patterns of water from Lake Lanier in 1988. In order to "enhance water supply availability," the United States Army Corps of Engineers reallocated approximately 20 percent of the release from hydropower production to water supply (NPS 2000c). In addition, legal actions between Georgia, Florida, and Alabama led to the development of the Alabama-Coosa-Tallapoosa / Apalachicola-Chattahoochee-Flint River comprehensive study in 1991 to address the water supply issue. The objectives of this study were to: (1) make water use demand estimates though 2050; (2) estimate the ability of supplies to meet demands; and (3) develop water supply management alternatives. A draft National Environmental Policy Act programmatic environmental impact statement was also prepared and released by the United States Army Corps of Engineers, Mobile District in conjunction with the comprehensive study (USACE 1998). This document addressed the issues associated with implementing a range of low, moderate, or high flow conditions that could potentially result under a given water allocation formula. In 1997, Alabama, Georgia and Florida approved an Interstate Compact for the Apalachicola-Chattahoochee-Flint River, the objective of which was to provide an equitable basis for sharing of water supplies between the users. However, after numerous extensions of negotiation deadlines, the Apalachicola-Chattahoochee-Flint River Compact expired in 2003 without an extension, and negotiations on a water agreement ceased (GADNR 2003a). Subsequent to 2003, litigation between Georgia, Alabama, Florida, the United States Corps of Engineers, and Southeastern federal power customers continued with appeals from various involved parties as of September 2005 (Metro Atlanta Chamber of Commerce, 2005). Extended negotiations are expected.

The park is located within the 16-county Metropolitan North Georgia Water Planning District (District), which was established by the Georgia legislature in 2001 to address the need for comprehensive water resources management in the metropolitan area. The District is a planning entity dedicated to developing comprehensive regional and watershed-specific plans for stormwater management, wastewater management, and water supply and conservation. The District adopted three plans in September 2003 (amended February 2006): the *District-wide Watershed Management Plan*, *Long-term Wastewater Management Plan*, and *Water Supply and Water Conservation Management Plan*. The plans are aimed to protect water quality and public water supplies in and downstream of the Metropolitan Atlanta region, protect recreational values of the waters in and downstream of the region, and minimize potential adverse impacts of development on waters in and downstream of the region. In addition, basin advisory councils were established for the 6 watersheds contained within the District, including the Chattahoochee River Basin (MNGWPD 2006).

In addition to the District's management efforts, the state has developed management objectives for water resources throughout the state, including the Chattahoochee River. The 2004 Comprehensive State-wide Water Management Planning Act mandates the development of a state-wide water plan that supports a far-reaching vision for water resource management. The Water Council is a coordinating committee created by the Comprehensive Statewide Water Management Planning Act. The Water Council's purpose is to:

- Ensure coordination, cooperation and communication among state agencies and their water-related efforts in the development of a comprehensive statewide water management plan;
- Provide input to the Environmental Protection Division of the Georgia Department of Natural Resources concerning development of the plan;

- Review, modify if necessary, and approve the final draft of the proposed plan; and
- Recommend such proposed plan for consideration by the General Assembly (GADNR 2006d).

The Comprehensive State-wide Water Management Planning Act does not define the mechanisms by which the state is to achieve its vision for water management. For this reason the Environmental Protection Division, using products from the efforts of the 2001 Joint Water Study Committee and with oversight of the Water Council, prioritized four major water management objectives to guide the research and planning strategies for the initial plan development:

1. Minimize withdrawals of water by increasing conservation, reuse, and efficiency;
2. Maximize returns to the basin through managing interbasin transfers and uses of on-site sewage disposal systems, and land application of treated wastewater where water quantity is limited;
3. Meet instream and off stream demands for water through surface storage, aquifer management and reducing water demands; and
4. Protect water quality by reducing discharges of pollutants to streams and runoff from land, so as not to exceed the assimilative capacity of the streams (GADNR 2006d).

The Georgia Environmental Protection Division is developing the first Statewide Comprehensive Water Plan to be provided to the Georgia Water Council in 2007 (GADNR 2006d). This initial statewide plan will focus on policy framework and an array of tools necessary for developing the region-specific management strategies to be developed for subsequent editions of the statewide plan. The process used to develop the state-wide plan provides for meaningful participation, coordination, and cooperation among interested and affected stakeholders and citizens as well as all levels of governmental and other entities managing or utilizing water (GADNR 2006d).

The National Park Service is striving to more thoroughly understand the dynamics of water flow requirements on its resources. The park has collaborated with the U.S. Geologic Survey to determine the effects of flow regulations on aquatic habitat and biota. In 2004, a project was initiated by the two agencies to study to obtain cross-sectional measurements and instream flow data for the Chattahoochee River. In addition, the park and U. S. Geological Survey have jointly funded a project to develop a quantitative "decision model" for evaluating the effects of river regulation on native fish. The effects of flow requirements on the suitability of trout habitat have also been studied by Nestler et. al. 1986 and the U.S. Army Corps of Engineers (USACE 1998). In addition, the effects of flow requirements on recreation were studied by the park in 2000. A survey of 23 individuals concluded that a flow of 1000 to 1200 cfs is preferential for powerboat fishing and wade- and tube-fishing, while a range of 1000 cfs to 6000 cfs was preferred for non-motorized boating (shell rowing, kayaking, canoeing, and rafting) (CH2M Hill 2000). The need for additional flow studies is summarized in Chapter 5.

Water Quality

The purpose of this section is to provide a summary of existing baseline data available as of March 2006. The water quality conditions of the park reported in this general management plan represent a snapshot in time, as it is recognized that the river and its tributaries are dynamic systems with changing influences.

Water quality in the Chattahoochee River and its tributaries within the park is protected under law by Georgia's water use classifications and standards (GADNR 2005d). These regulations include standards for fecal coliform bacteria, dissolved oxygen, pH and temperature for waters used for drinking water, recreation, and fishing. Generalized visual water quality criteria also apply within the

park. The Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6-.03, Water Quality Standards (amended November 2005), established standards for toxic materials, including metals and other inorganic compounds, toxic priority pollutants, pesticides and herbicides.

Waters of the Chattahoochee River and its tributaries within the park are designated as suitable for "drinking water supplies, recreation, and fishing." However, reaches of the Chattahoochee River and many tributary streams in the park do not meet these designated uses, primarily due to exceedance of fecal coliform standards (Table 10). Section 305(b) of the Clean Water Act requires each state to submit a biennial report that identifies waters in the state that do not meet their designated uses. Section 303(d) of the Clean Water Act requires states to list their waters not supporting their designated uses; that is, not meeting water quality standards for those uses. This list is referred to as the 303(d) list and includes an assessment of the water quality conditions, the extent and causes of documented violations, and the actions being taken to correct the water quality problems. Table 10 presents a summary of waterbodies within the park that are proposed for listing on the draft 2006 303(d) list due to non-compliance with fecal coliform, fish consumption guidance, and impacted biota standards (Methier 2006). These water quality issues are discussed in further detail in the subsequent sections.

Table 10. Streams in the Park That Partially Support or Do Not Support Their Designated Uses

Stream	Use Classification	Criterion Violated	Evaluated Causes
Chattahoochee River from Johns Creek to Morgan Falls Dam	Recreation / Drinking Water	Fecal Coliform, pH	Urban Runoff
Chattahoochee River from Morgan Falls Dam to Peachtree Creek	Recreation / Drinking Water	Fecal Coliform, Fish Consumption	Urban Runoff
Ball Mill Creek	Fishing	Fecal Coliform	Urban Runoff
Big Creek	Drinking Water / Fishing	Fecal Coliform	Urban Runoff
Bishop Creek	Fishing	Fecal Coliform	Urban Runoff
Camp Creek	Fishing	Fecal Coliform	Urban Runoff
Crooked Creek	Fishing	Fecal Coliform	Urban Runoff
Foe Killer Creek	Fishing	Fecal Coliform	Urban Runoff
Hog Waller Creek	Fishing	Fecal Coliform	Urban Runoff
James Creek	Fishing	Fecal Coliform	Urban Runoff, Nonpoint Sources
Johns Creek	Fishing	Fecal Coliform	Urban Runoff
Kelly Mill Branch	Fishing	Fecal Coliform	Urban Runoff
Level Creek	Fishing	Fecal Coliform	Urban Runoff
Long Island Creek	Fishing	Fecal Coliform, Biota Impacted	Urban Runoff
March Creek	Fishing	Fecal Coliform	Urban Runoff
Nancy Creek	Fishing	Fecal Coliform, Biota Impacted	Urban Runoff
Peachtree Creek	Fishing	Fecal Coliform	Urban Runoff, Combined Sewer Overflow
Richland Creek	Fishing	Fecal Coliform	Urban Runoff
Rottenwood Creek	Fishing	Fecal Coliform	Urban Runoff
Sewell Mill Creek	Fishing	Fecal Coliform	Urban Runoff

Table 10. Streams in the Park That Partially Support or Do Not Support Their Designated Uses (continued)

Stream	Use Classification	Criterion Violated	Evaluated Causes
Sope Creek	Fishing	Fecal Coliform	Urban Runoff
Suwanee Creek	Fishing	Fecal Coliform	Urban Runoff
Willeo Creek	Fishing	Fecal Coliform	Urban Runoff

Source: Methier 2006

Each water body that does not meet the water quality criteria required by its respective designated uses, the state must develop a total maximum daily load for the pollutant of concern to ensure that applicable water quality standards can be attained and maintained. Total maximum daily load is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards. This is the sum of point source loads and nonpoint source loads, plus a margin of safety. The objective is to allocate allowable loads among different pollution sources so that appropriate control actions can be taken to achieve water quality standards. Tools used to meet total maximum daily load requirements include best management practices, regulations, land acquisition, infrastructure investment, and pollutant trading. A total maximum daily load evaluation has been completed for stream segments within the park for both fecal coliform (GADNR 2003b) and PCBs in fish tissue (GADNR 2003c).

The following is a summary of potential sources of pollution within the park including nonpoint source runoff, wastewater releases, and accidental spills.

Nonpoint Source Runoff: Stormwater runoff from impervious and exposed surfaces in urban and suburban areas contains suspended solids, trace metals, organic compounds, and various pathogens. Impervious surfaces include roads, parking lots, and rooftops. Increased runoff also causes increased flooding, streambed scouring, sedimentation, bank erosion, and accumulation of litter and other solid waste. Data contained within the Gwinnett County Watershed Protection Plan (2000) indicate that the percentage of impervious surface within Chattahoochee Basin watersheds in Gwinnett County range from 11% in the Level Creek watershed to 38% in the Crooked Creek watershed.

It is estimated that stormwater runoff from urban areas and nonpoint sources is a contributing factor to 99 percent of the designated use violations in streams within the Metropolitan North Georgia Water Planning District (MNGWPD 2003c). Urban runoff is also the predominant evaluated cause for violations of designated uses for streams within the park (Table 10).

Cleared construction sites are a primary source of suspended solids. Under the National Pollutant Discharge Elimination System construction stormwater permit system, the Georgia Environmental Protection Division regulates discharges of stormwater from construction sites greater than 1 acre. Also, in 2003 the Georgia General Assembly passed House Bill 285 which requires all people involved in land development, design, review, permitting, construction, monitoring, or inspections to attend certification courses in erosion and sedimentation control (Georgia General Assembly 2003).

As discussed in the "Community Characteristics" subsection, the Atlanta area is one of the most rapidly growing areas in the country. As a result, nonpoint pollution has increased greatly over the last 20 years. If not controlled, problems associated with nonpoint pollution are expected to continue to get worse. The county governments that surround the park have instituted a series of watershed studies designed to assess water quality problems and develop solutions in the form of best management practices that will allow each county to meet its total maximum daily load restrictions. In addition, the Metropolitan North Georgia Water Planning District has also produced a *District-Wide Watershed Management Plan* (2003c) which provides strategies and recommendations for effective watershed management and the control of stormwater runoff. It also includes the specific tasks and

milestones for implementing these recommendations, as well as guidance on funding watershed and stormwater management efforts at the local level.

Six model ordinances are included in the District's approach to protect water quality and address stormwater impacts. The ordinances include:

- Ordinance for Post-Development Stormwater Management for New Development and Redevelopment
- Floodplain Management / Flood Damage Prevention Ordinance
- Illicit Discharge and Illegal Connection Ordinance
- Conservation Subdivision / Open Space Development Ordinance
- Litter Control Ordinance
- Stream Buffer Protection Ordinance.

All cities and counties within the District are required to adopt either the model stormwater ordinances or ordinances at least as effective. A survey of local governments was conducted in October 2005 to determine how many jurisdictions have adopted the ordinances. Within or near park boundaries, all six ordinances had been adopted by unincorporated Cobb, Forsyth, and Gwinnett Counties, as well as the Cities of Cumming, Buford, Duluth, Alpharetta, and Roswell. The City of Atlanta has adopted all ordinances with the exception of the Conservation Subdivision / Open Space Development Ordinance, and unincorporated Fulton County has adopted three of the six ordinances (MNGWPD 2005).

Wastewater and Releases: An inventory of wastewater treatment facilities within the portion of the Chattahoochee River Basin represented by the Metropolitan North Georgia Water Planning District was compiled in 2002. A total of 93 permitted municipal and industrial wastewater facilities were identified with a collective discharge of approximately 405 million gallons per day (MNGWPD 2003a). Within the park boundaries, approximately 71 million gallons per day of treated water is returned to the river by seven municipal wastewater treatment plants within three counties (Georgia Power 2004a). It is anticipated that an additional 345 million gallons per day of wastewater treatment capacity will be needed for the area represented by the Metropolitan North Georgia Water Planning District by the year 2030. This will be achieved by constructing new facilities, expanding existing facilities, and phasing out smaller facilities. Plans for accommodating additional treatment capacity are detailed in the *Long-term WastewaterManagement Plan* (MNGWPD 2003a).

According to the Metropolitan North Georgia Water Planning District, most wastewater treatment plants consistently perform well, producing better quality effluent than required by their discharge permit. Many plants in the District have among the most stringent requirements in the country. Problems at wastewater treatment plants or in streams due to wastewater management are reportedly localized, documented, tracked, and addressed. In addition, the Georgia Environmental Protection Division has recently taken a zero tolerance policy toward violations in some areas, causing increased attention to preventing and resolving discharge issues (MNGWPD 2003a).

While the quality of wastewater discharged to the river has improved due to improved treatment plant technologies, sanitary sewer overflows and combined sewer overflows remain a problem within the Metropolitan Atlanta area. In 2001, Georgia Environmental Protection Division records indicated that approximately 82 million gallons of raw or partially treated sewage were spilled into the Chattahoochee River and its tributaries within the park. In 2001, two-thirds (67%) of these sewage spills occurred in Peachtree Creek and its tributaries. Since 2001, the annual average amount of reported sewer spills has been much lower, ranging between 1.3 and 4.1 million gallons per year. The

park has also maintained a list of sewer spills that are not included on the state's reported list (Harvey 2006a). The National Park Service is coordinating with the Georgia Environmental Protection Division on improving the recordation of spills. In addition, the National Park Service recently mapped the extensive network of sewer pipelines that are located within the park and the watershed surrounding the park (NPS 2001c). Many pipelines go through the park under easement agreements with local governments. Some lines, especially older lines that cross small- or medium-size tributaries, have experienced leaks and breaks due to action by flowing water and abrasion of sediments. For instance, Long Island Creek is proposed for listing on the draft 2006 303(d) list for impacted biota which may be partially attributed to a leaking sewer line (Methier 2006).

The City of Atlanta is undertaking a program to address sanitary and combined sewer overflows. In 2002, the Department of Watershed Management was formed in conjunction with the Clean Water Atlanta initiative to administer all water-related services and functions for the City of Atlanta. The primary goals of the program are compliance with two consent decrees. The First Amended Consent Decree addresses improvements in the City's sanitary sewer system and requires the elimination of sanitary sewer overflows. Under this Consent Decree, the City is repairing, replacing or rehabilitating all 2,200 miles of sewer throughout the City and implementing long-term prevention and maintenance strategies under "Operation Clean Sewer." Compliance with this Consent Decree is required by 2014. Compliance with a second Consent Decree, the Combined Sewer Overflow Consent Decree, must be in place by November 2007. The City has submitted and received regulatory authorization to implement the refined Combined Sewer Overflow Remediation Plan, which will enable the City to achieve the highest water quality at the lowest cost within the shortest time frame (Clean Water Atlanta 2006a and 2006b).

Land Application Systems: Land application of treated wastewater consists of distribution of effluent by spray application over fairly large vegetated areas. Spray application is generally preceded by primary and some secondary treatment processes on centrally collected wastewater to remove solids and some organic materials. Application to vegetated areas, in turn, completes the removal of nutrients and dissolved organics through natural physical, chemical, and biological treatment pathways. As with effluent discharged to septic system drain fields, some portion of the effluent sprayed onto the large vegetated areas used for land application may migrate into streams through stream/groundwater interactions. Application rates are calculated and these systems are designed to meet site specific conditions in order to prevent runoff to surface water bodies.

Land application sites are regulated by the state through a Land Application System Permit and/or a National Pollutant Discharge and Elimination Permit. Several municipal, industrial, and private permitted land application systems are located in the four county area encompassing the park. The permitted capacities of these systems range from 0.0075 million gallons per day to 5 million gallons per day, with most systems permitted for less than 1 million gallons per day (Steele 2006). Land application systems in the vicinity of the park with permitted capacities greater than 1 million gallons per day include Cauley Creek Water Reclamation Facility (5 million gallons per day) and Fowler and James Creek Water Reclamation Facility (1.25 million gallons per day). The Cauley Creek facility is a dual permitted facility in which a portion of the permitted capacity is land applied (an annual average daily volume of 1 million gallons per day) and the remainder of the permitted flow is discharged to Cauley Creek under a National Pollutant Discharge and Elimination Permit (Fulton County Department of Public Works 2005).

Septic Systems: Septic systems have been proven to be an environmentally sound method for onsite wastewater treatment when properly designed, sited, constructed, and maintained. When they are not, they can become a source of ground and surface water contamination, as well as a public health hazard.

Septic systems in Georgia are governed by O.C.G.A. § 290-5-26, "On-Site Sewage Management Systems," administered by the Department of Human Resources. The Department has written the "Manual for On-Site Sewage Management Systems that details requirements for design, siting, and construction of septic systems. These regulations establish the minimum requirements that are enforced by County Boards of Health. Other local regulating agencies may also establish requirements, typically setting minimum lot sizes where septic systems will be allowed. Local wastewater utilities are involved only to the extent that if public sewer is available, septic systems are not permitted (MNGWPD 2003a).

There are an estimated 550,000 septic systems in the Metropolitan North Georgia Water Planning District, 37% of which are more than 20 years old (MNGWPD 2005). Highly developed counties, such as Fulton, have less than 10% of housing units using septic systems. Gwinnett and Forsyth Counties have between 40% and 90% of housing units using septic systems (MNGWPD 2003a).

Of special concern are those septic systems located in critical areas, or those areas where risks to public health and/or the environment are higher due to septic tank failure. The criteria for defining critical areas for septic tanks include:

- Locations in close proximity to water features, such as streams, rivers, lakes, and groundwater.
- Locations within watersheds of streams with impaired uses.
- Locations having unsuitable soil or rock.
- Locations within small water supply watersheds.
- Areas of concentrations of failing septic tanks.
- Other problem areas.
- Locations where consumptive use is an issue (MNGWPD 2003a).

These criteria result in the majority of the park falling under the definition of critical areas.

The system of regulating septic systems does not provide for their management. What little management of septic systems exists is through a variety of local ordinances and the overview of the Department of Human Resources Manual. Therefore, the Metropolitan North Georgia Water Planning District proposed recommended actions for all septic systems in the District, including improved siting, design and construction requirements, and improved maintenance requirements, such as mandatory pump-out intervals (MNGWPD 2003a).

Spills of other materials: The Georgia Oil or Hazardous Material Spills or Releases Act (O.C.G.A. 12-14-1 et seq.) requires that the Georgia Department of Natural Resources Emergency Operations Center be immediately notified of a reportable spill. A spill is reportable if it is a spill of a hazardous substance above the reportable quantity listed in 40 CFR 302.4 or a spill of a petroleum product which reaches the waters of the state (including the Chattahoochee River, tributaries, storm sewers, and drainage ditches) and causes a sheen. A database of reported spills is maintained by the Georgia Department of Natural Resources.

Accidental spills of fuel and numerous other chemicals have occurred on bridges crossing over the Chattahoochee River or other nearby roads within the park. Local or state emergency response teams handle the cleanup of these spills. The park tracks the types and quantities of materials released to the river in a database that is updated periodically with information obtained from the Georgia Department of Natural Resources database (Harvey 2006a).

Water Quality Parameters

The Georgia Department of Environmental Protection compiles monthly water quality data at municipal water intakes on the Chattahoochee River. The DeKalb County Department of Public Works water intake, located at river mile 325.3, and the Cobb County-Marietta Water Authority intake, located at river mile 310.5, are located within the park boundary. Table 11 summarizes data for 14 parameters collected at these intakes from 2003 to 2004 (Georgia Power 2006a). Water quality sampling is also being conducted in the Morgan Falls impoundment by Georgia Power as a component of the re-licensing process. These data are summarized in Georgia Power's *Water Resources Report* (2006a).

Table 11. Summary of Water Quality Data at Two Locations on the Chattahoochee River within the Park Boundary, 2003-2004

	DeKalb County Department of Public Works Intake (River Mile 325.3)				Cobb County-Marietta Water Authority Intake (River Mile 310.5)			
	N[1]	Mean	Min	Max	N	Mean	Min	Max
Temperature (°C)	41	11.03	5.96	17.49	41	13.28	5.91	21.61
Conductivity (µmhos/cm)	41	53.5	40	64	41	71.9	54	99
pH (standard units)	41	6.05	4.90	6.96	41	6.42	5.21	7.80
Alkalinity (mg/L)	11	13.6	10	20	11	18.6	12	45
Hardness (mg/L CaCO3)	25	15.5	10	26	25	22.1	14	50
Total Organic Carbon (mg/L)	25	2.51	1.4	4.2	25	2.72	1.7	4.8
Total phosphorous (mg/L)	12	0.0258	0.020	0.040	19	0.4263	0.020	0.090
Nitrate-Nitrite (mg/L)	25	0.299	0.09	0.49	25	0.635	0.28	1.20
Ammonia (mg/L)	13	0.062	0.03	0.15	15	0.062	0.03	0.12
Total suspended solids (mg/L)	24	18.6	1.7	86.0	25	26.6	1.3	120.0
Turbidity (NTU)	25	8.73	1.5	30.0	25	13.98	2.9	36.0
Biological Oxygen Demand (mg/L)	--	--	--	--	2	2.1	2.1	2.1
Fecal coliform bacteria (MPN colonies/100 mL)	24	615	20	9000	26	428	20	5000
E. coli (MPN colonies/100 mL)	27	393	10	6131	26	540	10	8664

[1] Sample N and reported values are only for those samples for which measurement exceeded detection limit.
N = number of samples
Min = minimum
Max = maximum
mg/L = milligrams per liter
mhos/cm = siemens per centimeter
NTU = nephelometric turbidity units
MPN = most probable number
NA = not applicable
Source: Georgia Power (2006a)

A Water Quality Monitoring Plan was developed as part of the *District-wide Watershed Management Plan* produced by the Metropolitan North Georgia Water Planning District (MNGWPD 2003c). The purposes of the monitoring plan are:

- To consolidate as many of the current monitoring requirements as possible into a larger, comprehensive program that could provide consistency in methodology and effort across the District;
- To help identify water quality impairments and improvements;

- To evaluate the effectiveness of the *District-wide Watershed Management Plan* as it is implemented; and
- To help local governments meet their existing regulatory monitoring requirements.

Database development and management is also a key component of the *Water Quality Monitoring Plan*. This comprehensive database that integrates local, federal, and interjurisdictional water quality data will be a useful tool for park managers.

The following is a summary of available water quality data and areas of concern associated with the Chattahoochee River and tributaries within the park.

Fecal Coliform Bacteria: Fecal coliform bacteria are utilized as indicators of fecal pollution and in assessing water quality for support of primary and secondary contact recreational activities. They also can indicate the presence of other harmful microorganisms, including those that can cause typhoid fever, hepatitis, gastroenteritis, dysentery and ear infections. All aerobic organisms, including the free-living, non-enteric bacterial community, use oxygen.

The State of Georgia has issued standards for fecal coliform (GADNR 2005d). In waters with a water use classification of "fishing" or "drinking water supplies", during the months of May through October, fecal coliform is not to exceed a geometric mean of 200 colonies per 100 milliliters (mL) of water based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours. Should water quality and sanitary studies show that fecal coliform levels from non-human sources occasionally exceed 200 colonies per 100 mL of water, then the allowable geometric mean fecal coliform shall not exceed 300 colonies per 100 mL of water in lakes and reservoirs and 500 colonies per 100 mL of water in free flowing freshwater streams. For the months of November through April, fecal coliform is not to exceed a geometric mean of 1,000 colonies per 100 mL of water and not to exceed a maximum of 4,000 colonies per 100 mL for any sample. In waters with a water use classification of "recreation", the year-round fecal coliform standard is the same as that outlined above for May through October in waters with a classification of "fishing" and "drinking water supply."

Sources of fecal coliform include nonpoint runoff, sewer line overflows, spills of raw sewage from sewer line breaks, and sewer line and septic system leaks. The park is surrounded by an extensive network of sewage lines, with several located inside the park. Domestic animals (cows, horses, dogs) and wildlife (duck, geese) also cause direct bacterial contamination of the river and tributaries. Failure to meet the fecal coliform standard is the most commonly listed cause of non-support of designated uses in the park and the Atlanta region. As a result, a total maximum daily load assessment was developed for fecal coliform for seventy-nine stream segments in the Chattahoochee River Basin in February 2003 by the Georgia Environmental Protection Division (GADNR 2003c).

In 1999, the U.S. Geological Survey in cooperation with the National Park Service began a two-year study designed to evaluate microbial contamination in streams in and near the park. This was accomplished by summarizing existing fecal coliform data and by data collection at several sites along the river. The following results were obtained from this study:

- The geometric-mean of fecal-coliform bacteria concentrations commonly exceeded Georgia Environmental Protection Division standards in samples collected from the Chattahoochee River near Paces Ferry Road, especially during May to October 1999 when water-contact recreation activities are expected to occur.
- The percentage of samples exceeding bacteria standards increased from the upstream monitoring site at Settles Bridge to the downstream monitoring site at Paces Ferry Road.

- The lowest fecal-coliform bacteria concentrations occurred in the Chattahoochee River and tributaries during low-flow conditions; whereas, the highest fecal-coliform bacteria concentrations occurred during storm-flow conditions.
- During low-flow and storm-flow conditions, fecal-coliform bacteria concentrations in tributary streams were generally higher than concentrations in the Chattahoochee River.
- During diurnal sampling, indicator-bacteria concentrations were lowest during the late afternoon, following the period of most intense sunlight and highest during the night (Gregory and Frick 2001).

In conjunction with this study, *Escherichia coli* (*E. coli*) ribosomal fingerprints (ribotypings) were identified in an attempt to distinguish sources of fecal coliform bacteria. This technique involves matching of genetic fingerprints of E. coli in water samples to strains of E. coli from fecal material samples in the watershed. Results indicated that the majority of E. coli ribotype patterns identified in this study were unshared, and the need for a larger scale environmental sampling effort was identified (Hartel *et al.* 2004).

Because of historically high levels of indicator bacteria in the Chattahoochee River, the concept of a bacteria alert network was proposed as a means to inform people when bacteria levels in the river exceed U.S. Environmental Protection Agency criteria (*E. coli* counts above 235 colonies per 100 mL of water). Thus, a program of bacteria monitoring called BacteriALERT was initiated on the Chattahoochee River within the park in the fall of 2000. BacteriALERT is a partnership between State and Federal agencies and non-government organizations. This partnership includes the Georgia Environmental Protection Division, the National Park Service, and the U.S. Geological Survey and non-governmental organizations such as the Upper Chattahoochee RiverKeeper, Georgia Conservancy, and Trust for Public Lands.

The main objective of this network is to obtain total coliform and *E. coli* bacteria counts. However, since *E. coli* bacteria counts cannot be instantly determined, turbidity values are used to predict *E. coli* counts, and water samples are collected occasionally. Results are posted on a publicly-accessible web site within 24 hours of data collection. A second objective is the statistical analysis and interpretation of these data under a wide range of seasonal, weather, and river conditions. Information is posted on the Internet at http://ga2.er.usgs.gov/bacteria. Samples are collected daily at two park locations: Medlock Bridge and Paces Ferry Bridge. Table 12 summarizes data collected from these two stations from fiscal year 2000 to 2005.

Table 12. Summary of BacteriALERT Program *E. coli* Data Reported from Two Locations on the Chattahoochee River within the Park

Sample Location:	Medlock Bridge					Paces Ferry				
Fiscal Year	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
Total number of samples	205	355	218	126	127	208	355	218	126	127
Number of samples exceeding EPA criterion (235 colonies/100 mL of water)	29	47	49	18	32	71	80	94	34	56
Percentage of samples out of compliance	14.1	13.2	22.5	14.3	25.2	34.1	22.5	43.1	27.0	44.1

EPA = Environmental Protection Agency
mL = milliliter
Source: U.S. Geological Survey, unpublished data

Water Temperature: Cold-water conditions in the mainstem Chattahoochee River, historically a warm-water stream, commenced in the 1957-58 timeframe with the completion of Buford Dam and the filling of Lake Lanier (Hess 1980). Releases from the deep, cold region of Lake Lanier referred to as the hypolimnion provide a thermal regime in the river suitable for introducing trout. Trout did not occur historically in the river. The Georgia Department of Natural Resources began managing the Buford Dam tailwater as a put-and-take trout fishery in 1960 with the introduction of invasive rainbow trout and brown trout (Gilbert and Reinert, 1978; Hess, 1980 in Georgia Power 2004a).

Temperatures in the river are largely controlled by releases from Buford Dam. During March through September, release of cold hypolimnetic water from Lake Lanier for power generation cools the river at the upper end of the park. During December and January, the release of warmer vertically mixed water to the river causes a mid-winter warming effect, reversing the pattern expected in a free flowing river. Water temperature can also be impacted by urban runoff, the loss of riparian trees, wastewater discharges, and residence time in Bull Sluice Lake reservoir (NPS 2000c).

The Chattahoochee River is designated as a secondary trout stream from Buford Dam to the intersection with the Interstate 285 West Bridge (GADNR 2005d). According to the Rules and Regulations for Water Quality Control (GADNR 2005d) a secondary trout stream is a stream showing no evidence of natural trout reproduction, but capable of supporting trout throughout the year. The rules also state that secondary trout waters shall not have temperature elevations exceeding 2°F above natural stream temperatures. The Georgia Wildlife Resources Division and Environmental Protection Division have recognized that water temperatures in the Chattahoochee River downstream of Morgan Falls Dam have caused acute, and perhaps chronic, trout mortality since the late 1980s. Because water conditions suitable for trout survival (water temperature) are man-made, not natural, the Wildlife Resources Division and Environmental Protection Division are working concurrently to develop tailwater-specific water temperature criteria designed to protect the trout fishery in the Chattahoochee River from Buford Dam to Peachtree Creek. Water temperature data will be collected from 2004 through 2006 (Martin 2006).

A second issue driving the need for development of new water temperature criteria is the documented reproduction of brown and rainbow trout below Buford Dam, which has prompted discussion to change the designation of the Chattahoochee River upstream of Morgan Falls Dam to a primary trout stream. If redesignated as a primary trout stream, more stringent water quality and temperature standards would be applicable.

In addition, lethal high temperature events that have occurred below Morgan Falls Dam since 1989 have also prompted the need for additional data collection. In support of the relicensing of Morgan Falls Dam, Georgia Power conducted a temperature study to characterize the effects of the Morgan Falls impoundment on summer water temperatures within the impoundment and immediately downstream. The results of this study are documented in Georgia Power's Water Resources Report (2006a). One conclusion drawn from this study is that stormwater runoff from the watershed upstream of the Morgan Falls impoundment is the predominant factor producing warm-water events potentially harmful to trout in the river downstream of the impoundment, rather than warm water from shallow flats within the impoundment (Georgia Power 2006a).

Dissolved Oxygen: Dissolved oxygen is a measure of the amount of oxygen contained in a quantity of water, which is often expressed as the milligrams of oxygen contained in one liter of water (mg/L). The amount of oxygen that can be dissolved in water is temperature dependant (cold water can contain more oxygen than warm water). Dissolved oxygen concentrations are an important indicator of water quality and a water body's ability to support aquatic life.

Low dissolved oxygen levels (less than 3 mg/L) occur in the river because water discharges from Buford Dam are taken from the lowest levels of the reservoir, the hypolimnion. In the hypolimnion,

water temperatures are low, but due to high rates of decomposition and bacterial activity, the biological oxygen demand is high, resulting in low amounts of dissolved oxygen. Most fish cannot survive in these low oxygen conditions, and avoid these anoxic (low oxygen) sections of the river closest to the dam. Dissolved oxygen levels quickly increase with distance from the dam, as the water is re-aerated by flowing downstream. However, in 2005, the Georgia Department of Natural Resources measured oxygen levels below the standard for secondary trout streams as far downriver as Settles Bridge, which is 5.4 miles from Buford Dam (Couch 2006).

The daily average dissolved oxygen standard for a secondary trout stream is 6.0 mg/L, and the minimum standard at any time is 5.0 mg/L (GADNR 2005d). Historically, water released from Buford Dam had low levels of dissolved oxygen, especially during late summer releases (September through October) from the deeper levels of the lake. Downstream re-aeration in shoals and vertical mixing in pools raised dissolved oxygen levels in 90% of the river within the park above the average 6.0 mg/L level desirable for trout streams (Couch 2006). In response to the problem of low dissolved oxygen in the Lake Lanier tailwater, the United States Army Corps of Engineers rehabilitated their existing turbines with auto venting turbines. During the fall seasons of 2000-2004, The United States Army Corps of Engineers made special low flow releases to enhance dissolved oxygen. Dissolved oxygen levels in the tailwater are being evaluated to determine the effects of this rehabilitation.

In the past, point-sources of wastewater from treatment plants introduced large quantities of oxygen-demanding organic material to the river. With improved treatment systems, however, these sources have been greatly reduced. In the 1960s and 1970s, dissolved oxygen levels generally ranged from 4 to 5 mg/L, and readings of 0 mg/L were not uncommon (NPS 2000c). Low dissolved oxygen in the river due to point source wastewater discharges have decreased significantly since the 1970s.

A study by Georgia Environmental Protection Division showed that between 1986 and 1995, dissolved oxygen levels at the three water intakes on the river within the park were all at greater than 80 percent saturation, exhibiting little annual variation (NPS 2000c). Dissolved oxygen levels in the tributaries of the Chattahoochee River between 1993 and 1995 were also acceptable, based on a study by Georgia Environmental Protection Division (NPS 2000c). In addition, continuous dissolved oxygen monitoring data collected by Georgia Power from 2003-2004 near the Morgan Falls impoundment indicate that applicable dissolved oxygen criteria are being met in this reach of the river (Georgia Power 2006a).

Metals: Low dissolved oxygen levels in the lowest layer (hypolimnion) of Lake Lanier create conditions where metals, such as iron, magnesium, and sulfides can be dissolved and passed downstream into the Chattahoochee River. The dissolved metals give the river a distinctive coloration in the fall when these anoxic conditions are common. These metals have also been associated with fish stress and trout mortality at the Buford Trout Hatchery. As the sulfides are released from the dam, they give the river a characteristically unpleasant odor, which has led to complaints from park neighbors in this reach of the river.

Erosion/Sedimentation: Runoff during storms carries sediment from construction sites and impervious surfaces such as roads, parking lots, driveways and rooftops into the Chattahoochee River and tributaries. This raises the levels of suspended solids in the water, increasing the turbidity levels. Elevated turbidity and sediment levels are common in streams and the Chattahoochee River in the park, especially after storm events. Suspended sediments have an adverse impact on aquatic life directly by clogging fish gills and filling in or coating benthic habitat in pools and riffles. Elevated turbidity also increases stream temperatures and lowers dissolved oxygen levels. Sediment particles may also carry pesticides, herbicides, metals, and grease and oil into receiving streams and the river, and contaminated sediments accumulate behind dams and collect in reservoirs. Legislation and planning efforts that address erosion and sedimentation are summarized in the “non-point source runoff” subsection.

Estimates of total suspended solids loading rates for four creeks in the Chattahoochee River Basin are presented in the Gwinnett County Watershed Protection Plan (2000). Loading rates ranged from 1,396 pounds/acre/year for Suwanne Creek to 2,438 pounds/acre/year for Crooked Creek. Three of the four creeks with available data exceeded the 1,600 pounds/acre/year watershed guideline established by the County for protection of the aquatic environment. Additional study results indicate that 55% of the total drainage area of Crooked Creek would require a best management practices retrofit to meet the 1,600 pounds/acre/year criterion. A 35% and 20% retrofit were estimated for Level and Richland Creeks, respectively.

Substantial sand and silt deposition has occurred in the Morgan Falls Dam impoundment as a result of erosion and sedimentation caused by runoff from agricultural lands, scouring of the river banks below Buford Dam from peak power releases, and land clearing and disturbance and associated runoff from impervious surfaces in rapidly urbanizing areas of metropolitan Atlanta (Georgia Power 2004a). In conjunction with the relicensing of Morgan Falls Dam, Georgia Power is conducting a study to characterize existing erosion and sedimentation within the Morgan Falls project area and to develop information for analyzing the potential effects of continued project operation on geology and soils. The results of this study are summarized in Georgia Power's *Geology and Soils Study Report* (2006b). The specific objectives of the study are to:

- Characterize the distribution, sources, and rate of sediment deposition within the Morgan Falls impoundment based on field reconnaissance and review and analysis of existing topographic/hydrographic survey and sediment characterization information.
- Evaluate whether sedimentation has reached or is approaching equilibrium in the project impoundment.
- Evaluate the impact of future sedimentation on usable storage capacity of the Morgan Falls impoundment and re-regulation of Buford Dam flows.
- Characterize surface sediment quality in the project area based on review of existing sediment data for the Chattahoochee River and Morgan Falls impoundment.
- Evaluate the feasibility and estimated costs of dredging, transporting, and disposing of sediment (Georgia Power 2004b).

Results of sediment quality monitoring from 1992 to 1995 in the Apalachicola–Chattahoochee–Flint River Basin were published by the United States Geological Survey in 1998 (Frick et al., 1998). The conclusions obtained from this study serve as a general overview of sediment quality within the basin. The study results indicated that the largest enrichments of trace elements and the highest concentrations of organic compounds in bed sediments are in the urban and suburban watersheds draining portions of Metropolitan Atlanta and in main-stem and reservoir settings on the Chattahoochee River downstream from Atlanta. Concentrations of mercury, cadmium, lead, and zinc in bed sediments of these urban and suburban watersheds increased in direct proportion to the amount of industrial land and transportation corridors in these watersheds. Sediment core samples collected from six reservoirs in the basin indicated the presence of organochlorine insecticides, particularly DDT and chlordane, and PCBs in sediments deposited as recently as 1994. It was determined that much of the current pollutant load of trace elements and organic compounds is from stormwater runoff from impervious surfaces in urban and suburban areas and local and regional industrial emissions.

Accumulation of Chemicals in Fish: Sampling of fish in the Chattahoochee River was first conducted in 1995 by the Georgia Environmental Protection Division for 43 parameters, including pesticides, herbicides, polychlorinated biphenyls, and organic substances. Of the 43 parameters, levels

of mercury, polychlorinated biphenyls (PCBs), and chlordane above those recommended by the U.S. Environmental Protection Agency and State of Georgia for fish consumption have been measured in fish from some locations within the park (NPS 2000c). As a result, the Environmental Protection Division recommended a set of fish consumption guidelines specifically for mercury, polychlorinated biphenyls, and chlordane in the Chattahoochee River from Buford Dam to Morgan Falls Dam, and a separate set of recommendations for the river below Morgan Falls Dam (NPS 2000c). These guidelines are revised annually based on ongoing sampling results.

Subsequent fish tissue data document a decline in chlordane levels, and chlordane was removed as a causative contaminate from the fish consumption guidance in 1999 (GADNR 2004). A summary of fish species occurring within the park included in the 2006 fish consumption guidance is provided in Table 13. The majority of tested fish species, including rainbow trout and brown trout, have no restrictions. Of the species with consumption restrictions, the contaminants of concern are mercury and polychlorinated biphenyls.

Table 13. 2006 Fish Consumption Guidelines for Segments of the Chattahoochee River within the Park

Species	Location	Recommendation	Contaminant of Concern
Largemouth Bass	Buford Dam to Morgan Falls Dam	1 meal/week	Mercury
Common Carp	Buford Dam to Morgan Falls Dam	No restrictions	--
Brown Trout	Buford Dam to Morgan Falls Dam	No restrictions	--
Rainbow Trout	Buford Dam to Morgan Falls Dam	No restrictions	--
Yellow Perch	Buford Dam to Morgan Falls Dam	No restrictions	--
Common Carp	Morgan Falls Dam to Peachtree Creek	1 meal/month	PCBs
Jumprock Sucker	Morgan Falls Dam to Peachtree Creek	1 meal/week	Mercury
Largemouth Bass	Morgan Falls Dam to Peachtree Creek	No restrictions	--
Brown Trout	Morgan Falls Dam to Peachtree Creek	No restrictions	--
Rainbow Trout	Morgan Falls Dam to Peachtree Creek	No restrictions	--
Bluegill Sunfish	Morgan Falls Dam to Peachtree Creek	No restrictions	--
Striped Bass	Morgan Falls Dam to Interstate 285	1 meal/month	PCBs, Mercury

Notes: PCBs = Polychlorinated biphenyls
Meal size ranges from 4 to 8 ounces.
One population of striped bass migrates annually between Morgan Falls Dam and West Point Lake. Sampled population reflects this stretch of the river.
Source: GADNR 2006b

Mercury is a naturally occurring metal that does not break down as it cycles between land, water, and air. The source of mercury in Georgia's fish is currently unknown; however, it may be attributed to the mercury content of soils and rocks, from municipal and industrial sources, atmospheric deposition, or from fossil fuel use (GADNR 2006b). The majority of mercury present in fish tissues is found in its bioavailable form, methylmercury, which is converted from inorganic mercury by sulfur reducing bacteria, commonly found in reservoirs and wetlands where low oxygen levels are common. Methylmercury is more toxic to living things than inorganic mercury, and becomes concentrated in animal tissues as it moves up the food chain through a process known as bioaccumulation. This can result in concentrations in fish tissues that are unsafe for human consumption.

Polychlorinated biphenyls were banned in 1976; however they do not break down easily and are persistent in aquatic sediments. In the past, polychlorinated biphenyls were used as coolants and lubricants in transformers, capacitors, and other electrical equipment because of their insulator properties.

In the park, the U.S. Environmental Protection Agency has made special reference to polychlorinated biphenyls because of the potential for carcinogenic and other types of health effects, recommending a level of not more than 100 parts per billion in fish and stating that the need for a health advisory is "clear, particularly for children and pregnant and nursing mothers" (NPS 2000c). The agency has recommended further research and testing of sport and native fish and sediments, and investigations of landfills as possible sources of polychlorinated biphenyls.

Currently, the Georgia Environmental Protection Division has placed a 12-mile segment of the Chattahoochee River between Morgan Falls Dam and Peachtree Creek on the draft 2006 303(d) list as only partially supporting its designated use as recreation and drinking water, due to violations of appropriate fish consumption guidelines. A total maximum daily load assessment was developed for polychlorinated biphenyls in fish tissues for seven segments of the Chattahoochee River, including Morgan Falls to Peachtree Creek, in January 2003 by the Georgia Environmental Protection Division (GADNR 2003b).

Sand and Gravel Mining: Sand and gravel mining occurs on private property along the riverbank in the vicinity of McGinnis Ferry Road and Abbotts Bridge Road. Historically, about six dredge operators mined sand and gravel in the riverbed under U.S. Army Corps of Engineer permits. Most of the mined material is used for road construction in the Atlanta area. Because dredging is normally associated with adverse impacts on benthic invertebrates, fish, and water quality, the Georgia Department of Natural Resources conducted field studies to estimate the nature of the potential effects of sand mining on the Chattahoochee River (Martin and Hess 1986). These studies concluded that:

- Abundance and diversity of fish increased at the majority of dredged sites, possibly due to increased habitat diversity and availability created by the dredging.
- Higher numbers of trout in some areas (Rogers Bridge) may have been misrepresented because dredging occurred in areas stocked regularly by the state.
- Removal of sand is generally beneficial to aquatic life, but removal of gravel and debris is detrimental to aquatic life, because these materials provide habitat for aquatic invertebrates.
- Dredging causes temporary localized increases in turbidity.
- Dredging results in deeper, wider channels with different fish assemblages, primarily related to slower current velocities.

The study recommended that dredging be limited to sand and that it not allow removal of trees, gravel, or cobble, which are beneficial to fish and invertebrates. This approach would mitigate the heavy sediment loads and erosion associated with surface water runoff resulting from other activities. The net effect of dredging in this instance, therefore, is to partially restore natural conditions by removing the unnaturally high amounts of sediment from the river bottom.

Sand and gravel mining in the park is regulated by the United States Army Corps of Engineers under Section 404 of the Clean Water Act; the Metropolitan River Protection Act allows sand and gravel mining as long as the operations do not disturb the riverbank. The National Park Service issues a special use permit for these operations. The National Park Service also has the authority to place conditions on Clean Water Act, Section 404 permits issued by The United States Army Corps of Engineers and can veto these permits if a project appears to be inappropriate. This allows the National

Park Service to control aspects of mining operations that might adversely impact water quality and aquatic life in the park (NPS 2000c).

AQUATIC RESOURCES

The existing conditions of aquatic resources in the park are summarized in terms of fish, benthic macroinvertebrates, amphibians, reptiles, bivalve mollusks, and invasive species. Habitats include the main stem of the Chattahoochee River, wetlands located in the floodplain of the park, and tributaries located within park boundaries. This section includes the following information regarding aquatic resources:

- A summary of the factors controlling diversity and abundance of aquatic resources.
- A description of biological indicators that have been used to characterize aquatic resources.
- A summary of the most recent fish inventories conducted to date.
- A description of cold-water fisheries.
- A summary of the effects of temperature on fisheries.
- Descriptions of the major characteristics of benthic macroinvertebrates, amphibians, reptiles and bivalve mollusks that occur in the park.
- A description of the types of invasive aquatic species that occur in the park.

The information presented in this section is based on interviews with local specialists and agency representatives, a literature review conducted by the National Park Service (NPS 2000c), survey results from the National Park Service Southeast Coast Inventory and Monitoring Program, and available literature.

Factors Controlling Diversity and Abundance of Aquatic Resources

The diversity and abundance of aquatic resources in the park can be used to define the ecological health of the river and tributaries in the park. The primary factors affecting the types, abundance and diversity of aquatic life in the park include the following:

- **Nonpoint runoff from developed areas within the watershed**: During storm events, nonpoint runoff from impervious surfaces in highly urbanized watersheds generates stormwater (refer to "Water Quality" subsection). The impervious surfaces include roads, parking lots, roof tops, and active construction sites. These releases cause large, short-term surges in water levels and flows, and high levels of total suspended solids. The large surges in flow cause increased erosion and sedimentation of benthic habitats, vertical riverbank erosion, widening of the river channel, and changing floodplain dimensions.
- **Regular, timed releases of water from Buford Dam**: Congress has authorized releases from Buford Dam for hydropower, flood control, and downstream navigation. In the spring, releases are also intended for fish spawning in downstream reservoirs (Martin 2006). River levels can change up to eight feet within the park within a short period of time as a result of these releases (NPS 2005b). The effects of these variable flows on aquatic life in the river are superimposed on the effects of flows produced by stormwater runoff from nonpoint sources.
- **Releases of cold water from the hypolimnion of Lake Lanier**: These releases have created conditions that are suitable for the development of a cold water fishery below Buford Dam to Peachtree Creek. A warm water fishery exists below the Morgan Falls Dam. In addition, releases of water from the hypolimnion of Lake Lanier have created the potential for low

oxygen conditions to develop below the dam, with associated potential effects on aquatic life (refer to the "Water Resources" subsection).

- **Effects of Morgan Falls Dam**: Morgan Falls Dam is a modified run-of-the-river hydropower generation low-head dam located at river mile 312.5. Although this is a modified run-of-the-river facility, the temperature regime of the river below Morgan Falls Dam is warmer than above the reservoir. This difference has affected the types, abundance, and diversity of aquatic life below the dam.

Biological Indicators

Fish and benthic macroinvertebrates are routinely used as indicators of biological health of aquatic systems. Biological health of an aquatic system is typically expressed as "biotic integrity", which is defined as the "the ability to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of the natural habitat of the region (Karr and Dudley 1981)." Biotic integrity is estimated using indices based on field data on the types, abundance and diversity of fish and benthic macroinvertebrates, combined with information on substrate type, hydrological conditions, and overall habitat features. Indices have been developed for both fish and benthic macroinvertebrates.

Two indices based on fish population data are used by the Georgia Department of Natural Resources, Wildlife Resources Division to assess the biological (biotic) integrity of streams in Georgia. These include the Index of Biotic Integrity and the Index of Well-Being. Both indices have been modified for use in the southeastern United States, since they were originally developed in the Midwest (GADNR 2005a).

The Index of Biotic Integrity was developed by Karr (1981) to assess the health of aquatic communities based on the functional and compositional attributes of the fish population. This index employs a set of 13 metrics to calculate a number that corresponds to a relative scale of biotic integrity. The Index of Well-Being was developed by Gammon (1976) to measure the health of aquatic communities based on the structural attributes of the fish population. This is a composite index that combines two parameters of fish diversity and two parameters of fish abundance in approximately equal measures to produce a single value reflective of the diversity and abundance of the fish community.

Together, these two fish indices provide a direct and quantitative assessment of the biotic integrity of an aquatic community based on an overall evaluation of its fish population (GADNR 2005a). The index scores for several tributaries within the park surveyed in 2003 are summarized in Table 14 (GADNR 2005b). Index of Biotic Integrity scores ranged from poor to very poor, while the Index of Well-Being scores ranged from good to fair.

Table 14. Index of Biotic Integrity and Index of Well-Being Scores for Tributary Streams in the Park

Location	Index of Biotic Integrity Score	Index of Well-Being Score	Notes
Ivy Creek near SR 324 (Gwinnett County)	26 – Poor	6.2 - Fair	The total number of fish collected was very low given the size of the stream. Overall habitat assessment scores were very low. Sand and silt was noted to have eliminated all riffles. Instream habitat was scarce, banks were poorly vegetated and unstable, and the riparian zone along one bank was occupied by an apartment building.

Table 14. Index of Biotic Integrity and Index of Well-Being Scores for Tributary Streams in the Park (continued)

Location	Index of Biotic Integrity Score	Index of Well-Being Score	Notes
Long Island Creek near Jett Park Road (Fulton County)	22 – Very Poor	7.8 - Good	An overall low number of fish were collected as well as low numbers of insect eating fish and benthic specialists. A high percentage of fish had external anomalies, which are often indicative of poor water quality. A leaking sewer pipe was noted. Poor habitat scores were assigned.
Nancy Creek near Wesley Road (Fulton County)	24 – Very Poor	6.8 - Fair	The total number of fish collected was very low given the size of the watershed and included only one benthic invertivore species, one sucker species, and one intolerant species. There was a very low percentage of insect eating minnows and an unhealthy predominance of sunfish. Stream banks were poorly vegetated and unstable.
Suwanee Creek near Woodward Mill Road (Gwinnett County)	20 – Very Poor	6.5 - Fair	Although 15 native fish species were observed, the total number of fish was very low and included no insect-eating minnows or sensitive species and a very low percentage of benthic specialists. A high percentage of fish had external anomalies, which are often indicative of poor water quality. Poor habitat scores were assigned.

Notes:

An Index of Biotic Integrity score of 60 indicates a perfect index score (best conditions), while scores of 24 or less are considered very poor.
An Index of Well-Being score of 8.1 is considered excellent for a drainage basin less than 15 square miles (Ivy Creek, Long Island Creek, and Suwanee Creek), while a score of 9.6 is considered excellent for a drainage basin greater than 15 square miles (Nancy Creek).

Source: GADNR 2005a, GADNR 2005b, and GADNR 2005c

Additional biotic integrity studies have been conducted within the park by DeVivo et al. (1997). Eight of the thirteen commonly used metrics were included in a preliminary Index of Biotic Integrity (IBI) specific to the Chattahoochee River Basin. Streams were also compared along a gradient of urbanization and were found to be inversely related to human population density. Streams in the most urbanized watersheds ranked between 'very poor' and 'fair' and the two predominantly forested watersheds scored the highest ranking of 'good'. Shallow, low energy shoreline habitats, which have been found to be the prime habitat for most fish species, are greatly reduced under the highly variable flow conditions. Several other studies of both fish and benthic macroinvertebrates have also been conducted within the boundaries of the park in support of watershed assessments conducted by Cobb, Gwinnett, Fulton and Forsyth Counties (e.g., Parsons 2001a; NPS 2000c).

Cross comparison and evaluation of the results indicate that nonpoint runoff, sedimentation, and modifications of flow regimes and available benthic habitat in area streams have combined to produce relatively low-diversity and low-quality populations compared to reference sites. Also, the differences in scores represent responses to different environmental stressors, as fish respond differently from benthic macroinvertebrates to the same stressor.

Other studies have concluded that variability in daily high and low flow discharge in the Chattahoochee River has been a major factor in contributing to low habitat diversity and availability of

benthic invertebrate food sources, which in turn results in lower fish population diversity (NPS 2000c). In summary, the effects of stormwater on flow and levels of total suspended solids in the river are superimposed on the effects of regulated flow releases. Together, these two factors have a major effect on fish and benthic macroinvertebrates in the park.

Fish Inventories

An inventory of fish species occurring within the park was conducted in 2005 by Auburn University for the National Park Service Southeast Coast Inventory and Monitoring Program. Results of this study are not yet final; however, preliminary field survey and historical data suggest that at least 70 species of fish potentially occur in the tributaries and main channel of the Chattahoochee River within the park (DeVivo 2006). A complete species list will be published by the Inventory and Monitoring Program upon data certification. A listing of fish species of concern is included in the "Rare, Threatened, or Endangered Species" subsection.

Cold Water Fisheries

A trout fishery was established in the Chattahoochee River downstream of Buford Dam in the early 1960s, prior to the establishment of the park, through stocking and has been supported by the Georgia Department of Natural Resources, Wildlife Resources Division's trout stocking program. This resulted in the classification of the Chattahoochee River, within the park, as a secondary trout stream, where there is no evidence of natural trout reproduction and trout are supported throughout the year. The river, within the park boundary is divided into two fisheries management sections. The river from Buford Dam downstream to the headwaters of Bull Sluice Reservoir is the Lanier Tailwater Section, and from Morgan Falls Dam downstream to the Interstate 285 West Bridge is the Morgan Falls Tailwater Section.

Since the 1960s, the Georgia Department of Natural Resources has managed the Lanier Tailwater Section of the river as a put-and-take trout fishery, and, in 1976, the Department constructed and began operating Buford Trout Hatchery, located approximately one and one-half miles downstream of Buford Dam. Catchable-size trout, nine inches long or larger, were stocked with the expectation that anglers would catch and keep these fish. Brook, brown, and rainbow trout have been stocked within the Lanier Tailwater Section. In the 1990s, brook trout stocking was discontinued by the Georgia Department of Natural Resources due to poor survival and angler return. Brown and rainbow trout stocking continued through 2005, when brown trout stocking was discontinued to facilitate an evaluation of the wild brown trout population. Since then, only rainbow trout have been stocked. Annual stocking numbers have ranged as high as 280,000, but have been between 150,000 and 160,000 since 2004.

Brown trout reproduction has been documented in the Lanier Tailwater Section each year since 1998 (GADNR 2006a). In 2004, it was estimated that 38% of brown trout occurring in this section of the park are river spawned (GADNR 2006a). The Georgia Department of Natural Resources ceased stocking brown trout in 2005 to assess brown trout reproduction and recruitment and its ability to sustain a fishery. The Department will continue to stock 159,000 rainbow trout, but brown trout will not be stocked in the Lanier Tailwater Section pending the results of the study. However, brown trout will continue to be stocked in the Morgan Falls Tailwater Section.

The Morgan Falls Tailwater Section was originally managed as a put-grow-and-take fishery. Fingerling brown trout (less than 6 inches long) were stocked with the expectation that they would grow and be harvested when they reached a size that anglers felt was acceptable. From the early 1980s through the 1990s, 50,000 to 150,000 fingerling trout were stocked annually into the Morgan Fall Tailwater Section. Since the late 1980s, excessive water temperatures have been a cause for acute, and perhaps chronic, trout mortality in this section of the river. This is largely due to an increased amount of impervious surfaces within the watershed that have produced large volumes of heated run-off that

ultimately enters the river. In the early 2000s, the Department of Natural Resources discontinued fingerling stockings and began managing a portion of the Morgan Falls Tailwater Section from the mouth of Sope Creek downstream to Paces Mill for "Delayed Harvest" fishing. Within the delayed harvest section, approximately 50,000 catchable rainbow and brown trout are stocked from November 1 through May 14 each year, and anglers may fish for, but not harvest, trout during this period. From May 15 through October 31, anglers may harvest trout from the delayed harvest section. Harvest is legal year round in the remainder of the Morgan Falls Tailwater Section.

A three-year study of buffer protection for north Georgia trout streams was prepared by the University of Georgia Institute of Ecology, for the Georgia Department of Natural Resources, Environmental Protection Division (Meyer et al. 2005). A buffer is the undisturbed natural area on either side of a stream. Disturbing the natural buffer by removing trees and groundcover can cause water temperatures to rise and sediment loads to increase. As a result of amendments to the Georgia Erosion and Sedimentation Act in the year 2000, the requirement for trout stream buffers was reduced from 100 feet in width to 50 feet in width. Meyer et al. (2005) compared the potential effectiveness of 50-foot versus 100-foot buffers in providing healthy conditions for trout. The study concluded that most trout streams on public land have buffers at least 100 feet wide; however, the majority of Georgia's trout streams are located on private land where the buffers are often narrower and may not be as effective in providing healthy conditions for trout. Mathematical equations were used to predict the consequences of removing or reducing buffer protection on trout populations. Those predictions suggest that young trout populations are significantly reduced when forested buffer width is reduced from 100 feet to 50 feet. Calculations derived from models indicated that, on average, in a stream where the forested riparian buffers were reduced from 100 ft to 50 ft along the length of the stream, significant thermal alteration would occur and the biomass of young trout would be reduced by over 80% as a consequence of this and increased amounts of fine sediments (Meyer et al. 2005).

An additional Georgia Department of Natural Resources, Environmental Protection Division study was conducted by DeMeo *et al.* (2005) to assess the effectiveness of the trout stream buffer program. This assessment examined the policy implications resulting from the 2000 amendments to the Georgia Erosion and Sedimentation Act relating primarily to trout streams in five areas: (1) implementation by local issuing authorities, (2) effectiveness of the buffer variance process, (3) occurrence of piping springs and small streams, (4) proper use of the forestry exemption, and (5) incidence of enforcement actions. In conducting this assessment, issues related to the availability and reliability of data and information on erosion and sedimentation control became apparent and ultimately hindered the assessment. In addition, the assessment was hampered by changing requirements as relevant laws were subsequently amended (DeMeo *et al.* 2005).

Physical Habitat Simulation (PHABSIM) studies by Nestler et al. (1984) concluded that the preferences of trout of all life stages for combinations of depth, velocity, and cover were all very similar within the park. In general, trout habitat below Buford Dam varies between optimum and near-optimum at lower flows (550-1050 cubic feet per second) to a minimum value at higher discharges (approaching 10,000 cubic feet per second). Fish habitat is optimal much of the day for several hours under typical conditions (NPS 2000c).

Trout feeding habitats in the park are not like those in a free-running river. In a naturally flowing river, sources of food, especially benthic macroinvertebrates, largely originate from within the river. Lower water temperatures, high levels of turbidity and sediment deposits, shifting sand substrates, changing water levels, and changing water velocities make benthic macroinvertebrates relatively unavailable as food for trout in the park for long portions of the year (NPS 2000c). Trout feeding habits vary with location in the river. For example, very large trout occur immediately beneath Buford dam, as these fish feed heavily on threadfin shad and yellow perch that are released from the lake between December and April. High mortality of shad and perch in the lake due to cold winter temperatures

produces a large food supply for these trout immediately beneath the dam (Scalley 2001). In areas farther downstream, trout feed on benthic macroinvertebrates during the same time of year. From June through August, trout in the river prefer to feed on terrestrial invertebrates. The shift to benthic macroinvertebrates occurs in September.

Temperature and the Chattahoochee River Fishery

The Georgia Wildlife Resources Division and Environmental Protection Division have recognized that water temperatures in the Chattahoochee River downstream of Morgan Falls Dam have caused acute, and perhaps chronic, trout mortality since the late 1980s. Because water conditions suitable for trout survival (water temperature) are man-made, not natural, Wildlife Resources Division and the Environmental Protection Division are working concurrently to develop tailwater-specific water temperature criteria designed to protect the trout fishery in the Chattahoochee River from Buford Dam to Peachtree Creek (see "Water Temperature" subsection).

Bull Sluice Lake and the stretch of the Chattahoochee River in the park below Morgan Falls Dam also support warm-water fish species such as shoal bass. Shoal bass are native to the Chattahoochee and the extensive shoal habitat downstream of Morgan Falls Dam likely sustained a healthy population prior to construction of Buford Dam in 1958. A small population of shoal bass still exists in this section. The Georgia Department of Natural Resources, in coordination with the National Park Service, began a shoal bass stocking program in 2003. Shoal bass fingerlings were stocked in 2003, 2004 and 2005, and survival and growth of these fish will be monitored over a five year timeframe to assess the success of these stockings (GADNR 2006a). In addition, striped bass are also found in the park between Morgan Falls Dam and Peachtree Creek. This species migrates into the park from West Point Lake located downstream, where a stocking program has been resumed by the Georgia Department of Natural Resources (GADNR 2006a).

Benthic Macroinvertebrates

An analysis of benthic macroinvertebrate data collected in the park between 1998 and 2005 by Pfitzer and Scalley was conducted by the University of Georgia (Eggert 2005). Macroinvertebrate samples were collected from Bowmans Island, Settles Bridge, Jones Bridge, Island Ford, Morgan Falls, and Cochran Shoals. The results are presented in the form of biotic indices, which are based on the pollution tolerance of benthic organisms. Pollution sensitive species will generally be found in lower numbers in degraded conditions, while pollution tolerant species are abundant. Based on biotic indices, water quality in the park ranged from good (Morgan Falls and Cochran Shoals) to fairly poor (Bowmans Island). The low biotic indices at Bowmans Island are possibly a result of low substrate quality resulting from highly variable discharges from Buford Dam. An analysis of seasonal data trends did not indicate any significant changes in water quality or habitat quality for benthic macroinvertebrates over time (Eggert 2005).

Several watershed assessments of tributaries within the park have included benthic macroinvertebrate surveys, including a study of North Fulton County covering Johns Creek and Cauley Creek (Parsons 2001a) and a study of Gwinnett County covering Crooked, Level, Richland and Suwanee Creeks (CH2M Hill 1998). These studies show that sedimentation and scouring from storm events have reduced the density and diversity of benthic populations in the majority of streams sampled. Numerous older studies of benthic macroinvertebrates in the tributaries of the park include studies by Georgia Environmental Protection Division (GADNR 1966, 1973), the Georgia Water Control Board (NPS 2000c), and the Georgia Wildlife Resources Division (Hess et al. 1981).

Amphibians and Reptiles

Many amphibians (frogs, salamanders) and reptiles (snakes, turtles) occur within the Chattahoochee River and its tributaries. Some species are locally very abundant in springs, seeps, and other

terrestrial/water interfaces such as backwater pools, sloughs, and the mouths of tributary streams where they enter the mainstem of the river (NPS 2000c). The National Park Service Southeast Coast Inventory and Monitoring Network has prepared a list of reptiles and amphibians that are known to occur within the park, which is included in Appendix C (NPS 2004a). A listing of amphibian and reptile species of concern is also included in the "Rare, Threatened, or Endangered Species" subsection.

In 2005, a study was conducted to determine the prevalence of a recently identified chytridiomycete fungus (*Batrachochytridium dendrobatidis*) at Chattahoochee River National Recreation Area. This fungus has been implicated in amphibian disease and associated worldwide population declines. Even though all tested frogs appeared healthy, five of the twenty adults (25%) tested positive for the fungus (Gibbons 2006). There are no known population declines associated with the fungus among amphibians in the Southeast, but this level of background infection warrants management concerns.

Bivalve Mollusks

Mussels are an important part of the aquatic ecosystem, providing food for wildlife. Mussels are also used as bioindicators because they are long lived (some live for up to 100 years) and relatively sessile. Because they have specific substrate requirements, siltation and sedimentation due to land disturbing activities in the watershed often result in the elimination of species. As filter feeders, they also bio-accumulate toxins in the water, making them sensitive to changes in local aquatic environment. Bivalve mollusks that have been reported in the park include clams and mussels.

A freshwater mussel status survey was conducted within the park in 2003 by O'Brien and Brim Box (2003). Eighteen locations within the park, including the Chattahoochee River mainstem, six tributaries, and Bull Sluice Lake, were investigated for the presence of freshwater mussels. One highly weathered valve of the sculptured pigtoe was found in the Chattahoochee River approximately 6 river miles downstream of Morgan Falls Dam, and aquatic snails (*Pleuroceridae*) were found at only one location. The invasive Asian clam (C*orbicula fulminea*) were documented in the main stem of the river at Island Ford, Big Creek (a major tributary), and four mainstem sites downstream of Morgan Falls dam (O'Brien and Brim Box, 2003). Eight mussel species were documented in the mainstem Upper Chattahoochee River from the late 1950's to the late 1960's, thus the 2003 study documents a decline in diversity.

Recent field surveys by park staff at the Johnson Ferry wetlands have found a previously undocumented native bivalve species belonging to the fingernail clam group (*Spheriidae*) (Harvey 2006b). Fingernail clams, also called pea clams, are common throughout North America, often found in a variety of aquatic habitats ranging from streams to standing water.

Three state and/or federally listed mussel species, the Gulf moccasinshell (*Medionidus penicillatus)*, sculptured pigtoe (*Quincuncina infucata*), and shinyrayed pocketbook (*Lampsilis subangulata*), are reported to occur in the four county area surrounding and including the park (GADNR 2006c, USFWS 2006). However, no live species were documented within the park during the 2003 survey. Many mussels have recently been listed as federally endangered because of loss of suitable habitat caused by increased siltation and dredging, reservoirs, introductions of nonindigenous species, and pollution. Contributing factors for their absence include naturally occurring poor habitat (as a result of local geology), drought, and hydrologic changes. The absence of mussels within the Chattahoochee River may be due to a combination of habitat alterations that have occurred over the past 160 years, including reservoir construction causing bank erosion, streambed scour, species changes, sedimentation, hydrology, water quality changes, and ecological barriers (O'Brien and Brim Box, 2003).

Aquatic Plants

A recent survey of the diversity of aquatic macrophytes was conducted by the National Park Service in the Chattahoochee River, its tributaries, and wetlands (Hay and Parker 2004). Aquatic plants play a central role in aquatic ecosystems by stabilizing sediments and providing food and shelter for waterfowl, fishes, and invertebrates. This study provides important baseline information on the presence or absence and relative abundance of aquatic plant species in the park.

Fifteen sites were surveyed between October 2002 and October 2003. The results are listed in Appendix C. A total of 41 aquatic plant species were identified, including both submersed and emergent species. In addition, a state protected species, loose watermilfoil (*Myriophyllum* cf. *laxum*), was identified by a non-flowering specimen. The potential presence of this threatened species is of management concern and should be verified by future surveys.

Invasive Aquatic Species

The Asian swamp eel, an invasive species, has been reported in the Chattahoochee River, apparently the result of an aquarium release (NPS 2000c). The presence of an eel-like fish was first noticed in 1991 in the ponds of the Chattahoochee River Nature Center. Subsequent assessments in 1996 have concluded that the eel may have eliminated native sunfish populations in the ponds (NPS 2000c). The potential expansion of the range of this species is currently being assessed in a study by the University of Georgia, and funded by the National Park Service.

The red shiner (*Cyprinella lutrensis*), an opportunistic species native to areas west of the Mississippi River, also occurs in the park (NPS 2000c). Red shiners have expanded their range to tributaries of the Chattahoochee River within the park, including Rottenwood Creek. They compete with native minnow populations and possibly displace native shiners by hybridization.

The invasive Asian clam (C*orbicula fulminea*) occurs in several areas of the park, including Island Ford, Big Creek, and four mainstem sites downstream of Morgan Falls Dam (O'Brien and Brim Box, 2003). The Asian clam has been reported as a major pest throughout the United States due to its high rates of infestation, displacement of native species, and alteration of substrate quality. It has also been known to clog water lines and distribution systems.

Four invasive aquatic plants were identified by Hay and Parker (2004): Brazilian waterweed (*Egeria densa*), wartremoving herb (*Murdannia keisak*), parrotfeather watermilfoil (*Myriophyllum aquaticum*), and alligatorweed (*Alternanthera philoxeroides*). Six invasive aquatic plant species were also documented during wetland surveys conducted by Georgia Power (2005a). In general, these species spread easily and grow quickly, in thick stands, which are capable of outcompeting native aquatic species. Furthermore, treatment of these species is difficult due to their ability to spread by fragmentation. Of these, Brazilian waterweed and alligatorweed are of the biggest concern. They are both listed in the Georgia Aquatic Plant Control Act, making illegal their possession, collection, transport, cultivation, or importation (Georgia House of Representatives 1996).

WETLANDS AND FLOODPLAINS

Wetlands and floodplains are included as an impact topic based on the criteria presented in "Impact Topics – Resources and Values at Stake in the Planning Process" in Chapter 2. The specific concerns related to this impact topic are discussed in Chapter 4. The Clean Water Act of 1977 and Executive Orders 11990 and 11988 identify wetlands and floodplains as national natural assets. These orders direct federal agencies to avoid the occupation, adverse modification, or degradation of wetlands and floodplains.

Wetlands serve a variety of important habitat, hydrologic, and water quality functions. They act as natural water purifiers, filtering sediment and absorbing pollutants in surface waters. Vegetation

provides erosion control and helps prevent the downstream movement of sediment. Wetlands help maintain flow regimes and provide flood control by storing excess water during rain events, reducing downstream flood damage. They also provide unique habitat for many fish, wildlife, and plant species, including many threatened and endangered species. Wetlands also offer recreational opportunities (NPS 1998c). Wetlands in the park are provided the special protection and conservation inherent in the National Park Service mission, which requires the park to play an active role in wetlands management, restoration, and public awareness (NPS 1998c).

Approximately 152 acres comprising 39 different types of wetlands are found throughout the park (United States Fish and Wildlife Service 2001). National Wetland Inventory maps delineating these areas are available at the park headquarters. Table 15 provides a summary of the number of acres and relative percentages of each major wetland type that occur in the park.

Table 15. Summary of Acreages and Percentages of Each National Wetland Inventory Wetland Type That Occurs in the Park

National Wetland Inventory Type	Acres of Each National Wetland Inventory Type	Percent of Total Acres
Palustrine Forested	21.5	14.2 percent
Palustrine Scrub/Shrub	10.3	6.8 percent
Palustrine Unconsolidated Bottom or Shore	7.8	5.2 percent
Palustrine Emergent	6.2	4.1 percent
Lacustrine	33.4	22.0 percent
Riverine	72.7	47.9 percent
Total:	151.9	100.0 percent

Source: United States Fish and Wildlife Service 2001

Although not commonly perceived by the public as a "typical wetland," riverine wetlands are included in the National Wetland Inventory system. As stated by the United States Fish and Wildlife Service, "The Riverine System includes all wetlands and deepwater habitats contained in natural or artificial channels periodically or continuously containing flowing water or which forms a connecting link between the two bodies of standing water. Upland islands or palustrine wetlands may occur in the channel, but they are not part of the Riverine System" (U.S. Fish and Wildlife Service 2001). Riverine wetlands provide valuable aquatic habitats for fish and invertebrates and are a source of primary production (aquatic vascular plants). They account for approximately 48 percent (72.7 acres) of National Wetland Inventory wetlands in the park.

Lacustrine wetlands (non-flowing open water areas partially occupied by wetland vegetation) make up approximately 22 percent (33.4 acres) of the wetlands within the park. Lacustrine wetlands are defined as "wetlands and deepwater habitats with all of the following characteristics: (1) situated in a topographic depression or a dammed river channel; (2) lacking trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 30 percent areal coverage, and (3) total area exceeds 20 acres." These areas include unconsolidated bottoms and areas populated by beds of rooted aquatic vegetation. Examples include the wetlands fringing the small pond in the Sope Creek area and the beaver pond in Cochran Shoals next to the running trail. These wetlands provide valuable wildlife habitat, help control flooding, mitigate pollutants from nonpoint surface runoff, and have high rates of primary production.

Palustrine forested wetlands make up approximately 14 percent (21.5 acres) of the total acreage of wetlands in the park. These wetlands are dominated by mature hardwood trees that inhabit the floodplains of the Chattahoochee River, tributary streams, and associated sloughs. These areas

experience variable degrees of flooding, but are flooded frequently enough to qualify as wetlands. Typical forested wetlands occur in floodplain areas at Bowmans Island, Island Ford, and Palisades. These wetlands provide important habitat for wildlife, protect the water quality of the river by stabilizing the stream and river banks, help control flooding, and produce plant material that helps support the adjacent aquatic ecosystem.

The remaining wetlands in the park include palustrine unconsolidated bottom or shore (approximately 5 percent; 7.8 acres), palustrine emergent (approximately 4 percent; 6.2 acres), and palustrine scrub/shrub (approximately 7 percent; 10.3 acres) (USFWS 2001). Numerous emergent and scrub/shrub wetlands occur throughout the park, generally associated with beaver pond complexes. For example, an extensive wetland complex associated with a large beaver pond at the southern end of the Cochran Shoals area includes palustrine emergent, lacustrine, and scrub/shrub wetland on the floodplain next to the river. A series of elevated boardwalk trails provides visitors an opportunity to observe these wetlands. These habitats provide excellent habitat for wildlife and are known to be excellent birding areas. In addition, they help control flooding, remove pollutants present in surface water runoff, recharge groundwater, and have high rates of primary production.

In support of the relicensing of Morgan Falls Dam, Georgia Power conducted a wetlands, littoral, and riparian habitat survey in 2005 for the purposes of describing floodplain, wetlands, riparian habitats, and littoral habitats in the vicinity of Morgan Falls Dam; listing plant and animal species that use representative habitat; identifying invasive species; and mapping wetlands habitat. The results of this study are documented in Georgia Power's *Wetlands, Littoral, and Riparian Habitat Study Report* (2005a). The study area included the Island Ford, Vickery Creek, and Gold Branch areas of the park. Three major types of wetland habitat were observed including riverine systems, open-water lacustrine systems, and palustrine wetlands. At least 35 species of aquatic macrophytes were documented, and 6 invasive aquatic plant species were also documented, including Brazilian waterweed, alligator weed, and parrot feather watermilfoil. It was determined that approximately 78 different species of resident and migratory birds use the diverse wetland habitats, including wading birds, waterfowl, shorebirds, and a wide variety of song birds. Common mammals in wetland and riparian habitats in the park include beaver, muskrat, and river otter. Common reptiles and amphibians associated with wetland and riparian habitats in the park include frogs, toads, salamanders, turtles, and snakes (Georgia Power 2005a).

An overview study of wetlands within the park concluded that the actual extent of wetlands in the park was probably larger than that depicted in the United States Fish and Wildlife Service National Wetland Inventory maps. In addition, some wetlands were not mapped by the National Wetland Inventory program. The study concluded that a detailed mapping of wetlands in the park should be conducted to provide a more accurate inventory (Garrow & Associates 1990). In addition, wetlands in some areas of the park have been partially drained due to past practices. The hydrology in these areas could be restored by plugging ditches or making other hydrological modifications. This would improve the functions and values of these wetlands significantly.

Floodplains and associated wetlands play a critical role in maintaining riverine systems by providing flood and erosion control, maintaining water quality, and providing important wildlife habitat. Due to the basic geologic characteristics of the area, the floodplains along the Chattahoochee River and its tributaries are relatively narrow, reducing the margin of flood protection. The frequency and height of floodplain overflows have increased in the park as a result of urbanization and associated increases in impervious surfaces in the watershed.

Despite these limitations, the Georgia RiverCare 2000 assessment assigned a "significant" rating to the floodplain of the Chattahoochee River within the park (Miller et al. 1998). This rating is largely based on the extent of wetlands within each floodplain and the implied ability of wetlands to control flooding and protect water quality. A floodplain area containing from 0.5 to 2 percent wetlands was

assigned a "significant" rating. This rating applies only to the mainstem of the Chattahoochee River and does not take into account floodplain values of the numerous tributaries present within the park, which provide additional values.

The Federal Emergency Management Agency delineated floodplains in the park in 1998; the resulting maps are available at the park headquarters. The water resources management plan (NPS 2000c) provides maps comparing the 100-year floodplain lines from this delineation to existing park boundaries. The United States Army Corps of Engineers has also prepared reports that provide maps and information for the 100-year floodplain in the park along the Chattahoochee River and Rottenwood Creek (USACE 1973, USACE 1974).

TERRESTRIAL ECOLOGICAL RESOURCES

The park lies within the Piedmont physiographic province and contains a wide variety of terrestrial habitat types, including fields, ravines, floodplains, hills, and cliffs. The park is aligned along a northeast/southwest gradient where a variety of coastal plain and Appalachian species overlap within the Piedmont province. As a result, the park has some of the most diverse vegetation in the country. A compilation of flora studies conducted within the park indicates at least 982 plant species are present including algae, bryophytes (mosses), ferns, gymnosperms (pines and cedars), monocots (sedges, rushes, grasses, orchids, etc.), and dicots (willows, maples, oaks, hollies, asters, etc. (NPS 2004b).

One of the primary natural features of the park is the interaction of the river with the associated floodplains and terrestrial habitats. These features combine to make a linear corridor of habitats arranged in a mosaic of natural beauty and high ecological value. Because many of the terrestrial habitats are relatively mature, second growth forests, they greatly augment the natural values of the park. The Palisades area includes unusual cliffs that were the basis of the original designation of the park as a nationally significant resource. The cliffs of the Palisades and associated bluffs are populated by near-original hardwood forests, a unique natural resource. These areas were too steep and escaped logging in the early 1900s (Wharton 1978). Other areas of the park also support near-original plant communities that are unique resources as well.

The present landscape and vegetation in the park is a mixture of fields, natural stands of second growth trees, some near-original stands of forest, and planted trees. The present forest is defined as a "modified second growth deciduous hardwood and hardwood-pine mixtures" (Wharton 1978). Residential development and other sources have introduced several invasive species, including privet, English Ivy, kudzu, Japanese honeysuckle, mimosa, princess tree, and periwinkle. Chestnut blight and pine beetle have affected native trees (NPS 2000c). Despite these issues, the Georgia RiverCare 2000 Assessment assigned a rating of "outstanding" for forest resources within the park (Miller et al. 1998). A rating of "significant" was assigned for river segments with 50 to 75 percent forested cover. This was the only standard used to rate forest resources.

The park provides habitat for a wide variety of wildlife, including birds, mammals, reptiles, and amphibians. The oak-hickory climax forest is the most widespread terrestrial habitat type in the park, but it is characterized by a lower overall diversity of species; wildlife diversity is greater in the mesic bluff and bottomland habitats (Wharton 1998). These habitats are present in the park, but are less common.

As many as 189 bird species, including neotropical migrant songbirds, raptors, waterfowl, and shorebirds use diverse wetland and upland habitats in the park. A listing of bird species observed in the park is reported in Georgia Power's Wildlife and Botanical Resources Study Report (2005b). The list is based on sightings by three Atlanta area birders who have explored the Chattahoochee River within the park, species sighted during nearly three decades of annual breeding bird surveys conducted along two routes in north-central Georgia for the United States Geological Survey breeding bird survey (Sauer et al., 2005), and species sighted during field reconnaissance conducted in

the vicinity of Morgan Falls in May 2005. Of particular note are the diversity of ducks and sandpipers that use the Chattahoochee River during seasonal migrations, the variety of birds of prey (hawks, kites, eagles, falcons) that use the area, the use of the Morgan Falls impoundment by sandhill crane (Grus canadensis), and the reported sighting of the federally threatened bald eagle (Haliaeetus leucocephalus) and federally endangered whooping crane (Grus americana) in the park (Georgia Power 2005b; NPS 2006c).

The park has not completed an avian inventory; however, it is one of several parks in the National Park Service Southeast Coast Inventory and Monitoring Network for which a study plan has been developed to inventory natural resources. In addition, a Draft Avian Conservation Implementation Plan was compiled by the U.S. Fish and Wildlife service in cooperation with the resource management staff at the park to serve as guidance to identify, document, and undertake bird conservation activities in the park and with neighboring communities, organizations, and adjacent landowners. This plan identifies goals, strategies, partnerships, and specific projects that would allow the park to participate in existing bird conservation planning and implementation efforts associated with the North American Bird Conservation Initiative (USFWS 2004).

Common species of mammals in the park include deer, raccoons, opossums, bats, squirrels, eastern cottontail rabbits, short-tailed shrew, pine vole, deer mouse, and chipmunk. The presence of coyotes has also been reported in the park. A field inventory of small mammals in the park was completed in fiscal year 2004 by the University of North Carolina at Wilmington for the National Park Service Southeast Coast Inventory and Monitoring Program. In addition, a summer bat survey was conducted in the park in 2004 by the U.S. Department of Agriculture Forest Service and Clemson University for the Inventory and Monitoring Program. Species lists will be published and available from the park upon data certification (NPS 2006d).

A complete list of reptiles and amphibians that are known to occur in the park or are presumed to be present, based on available habitat information, was compiled by the National Park Service Southeast Coast Inventory and Monitoring Program and is included in Appendix C (NPS 2004a). A total of 23 amphibian species and 40 reptile species are documented in the park including snakes, lizards, turtles, frogs, and salamanders.

The park is important to wildlife in part because it connects the Piedmont and Mountain physiographic provinces. As such, the park serves as a migratory route and a means of range extension for many forms of wildlife. For example, some species more common in mountainous area have moved south along the river corridor and into the park (NPS 1989, Wharton 1998). As the population of Atlanta continues to grow, the park will become increasingly important as a refuge for native wildlife in the area and along the river corridor, as these areas will be protected and managed by the National Park Service.

RARE, THREATENED, OR ENDANGERED SPECIES

Rare, threatened, or endangered species are included as an impact topic based on the criteria presented in "Impact Topics – Resources and Values at Stake in the Planning Process" in Chapter 2. The specific concerns related to this impact topic are discussed in Chapter 4.

The Chattahoochee River Corridor, including the park, is a biologically significant resource that harbors a variety of protected and rare species of plants and animals. The National Park Service is required under the Endangered Species Act to ensure that federally listed species and their habitats are protected on lands within the agency's jurisdiction. In addition, park policy and management actions include maintaining state- and heritage program-listed species as part of the park's natural heritage.

As such, the U.S. Fish and Wildlife Service and the Natural Heritage Program of the Georgia Department of Natural Resources, Wildlife Resources Division were contacted to obtain information concerning occurrence of protected and rare species within the park and the surrounding area. In addition, the National Park Service Southeast Coast Inventory and Monitoring Program also maintains lists of state- and federally-listed species that are known to be present in the park or to have historically occurred in the park as documented in the "NPSpecies" database as of August 2004 (NPS 2005c). The NPSpecies database is subject to revision following the completion of ongoing biological inventories, database quality assurance procedures, and any updates to federal and state listing status (NPS 2005c).

The U.S. Fish and Wildlife Service and the National Park Service Southeast Coast Inventory and Monitoring Program provided lists of protected species that occur or could occur in the four-county area surrounding the park (Table 13; Appendix F). As shown in Table 16, a total of ten federally-listed bird, mammal, fish , and invertebrate species and seven federally-listed plant species were identified as actually or potentially occurring in the four-county area surrounding the park. General habitat requirements are summarized by species in Table 16. This list includes federally-listed threatened and endangered species as wells as candidate species recognized by the U.S. Fish and Wildlife Service. In addition, park staff observed the federally endangered whooping crane in the park in March 2006 (NPS 2006c).

The Georgia Department of Natural Resources, Natural Heritage Program and the National Park Service identified several state-listed species known to occur within the park or within 3 miles of the park, including: 4 species of birds, 1 species of mammal, 6 species of fish, 4 species of invertebrates, and 15 species of plants (Table 17; Appendix F). Other protected or watch list species historically reported to potentially occur in the vicinity of the park include: peregrine falcon, greater sandhill crane, jack-in-the-pulpit, Boott's sedge, dark green sedge, pink ladyslipper, yellow ladyslipper, Shuttleworth's ginger, goldenseal, Canada lily, bunchflower, loose watermilfoil, Stone Mountain mint, Biltmore's carrion-flower, goldenrod, and mountain camellia. Many or most of these species could occur in the park, although detailed, site-specific surveys would be required to confirm their existence. These surveys would be conducted as part of site-specific environmental assessments conducted by the National Park Service in conjunction with proposed actions such as construction of roads, parking areas, trails, or buildings. These environmental assessments would be tiered to this general management plan and environmental impact statement as projects are developed by the National Park Service.

The Wildlife Resources Division of the Georgia Department of Natural Resources is in the process of completing the first comprehensive revision of Georgia's protected plant and animal lists since 1992. These lists specify what species are protected under Georgia's Wildflower Preservation Act and Georgia's Endangered Wildlife Act, and are increasingly used to help prioritize funding for conservation and research on rare species. The listing status of each species will be based upon the best available scientific data from Wildlife Resources Division biologists, other experts, and members of the general public. The Board of Natural Resources will make the final decision on which species will be added to or deleted from the lists. Wildlife Resources Divisions began accepting nominations and supporting data for proposed changes to the state protected species list in February 2006.

Table 16. List of Federally Protected Species that Potentially Occur in the Four-County Area Surrounding the Park or within the Park as Reported by the United States Fish and Wildlife Service and the National Park Service Southeast Coast Inventory and Monitoring Program

Common Name	Scientific Name	Federal Status	Habitats
Birds			
Bald Eagle	Haliaeetus leucocephalus	T	Inland waterways and estuarine areas in Georgia
Red Cockaded Woodpecker [1]	Picoides borealis	E	Nest in mature pine with low understory vegetation (<1.5meters); forage in pine and pine hardwood stands ≥ 30 years of age, preferable > 10 inch diameter at breast height
Whooping Crane [2]	Grus americana	E	Migratory
Wood Stork [1]	Mycteria americana	E	Primarily feed in fresh and brackish wetlands and nest in cypress or other wooded swamps
Mammals			
Gray Bat [1]	Myotis grisescens	E	Colonies restricted to caves or cave-like habitats; forage primarily over water along rivers or lake shores
Fish			
Amber Darter	Percina antesella	E	Gentle riffle areas over sand and gravel substrate that becomes vegetated (primarily with Podostemum) during summer; last taken in Etowah River in 1980; historic population in Shoal Creek probably extirpated by construction of Allatoona Reservoir in 1950
Cherokee Darter	Etheostoma scotti	T	Shallow water (0.1-0.5 meters) in small to medium warm water creeks (1-15 meters wide) with predominantly rocky bottoms; usually in sections with reduced current, typically runs above and below riffles and at ecotones of riffles and backwaters
Etowah Darter	Etheostoma etowahae	E	Shallow riffle habitat, with large gravel, cobble, and small boulder substrates. Usually found in medium and large cool water creeks or small rivers (15-30 m wide) with moderate or high gradients and rocky bottoms.
Invertebrates			
Gulf Moccasinshell Mussel	Medionidus penicillatus	E	Medium to large rivers with slight or moderate current over sand and gravel substrates; may be associated with muddy and sand substrates around tree roots
Shiny-rayed pocketbook mussel	Lampsilis subangulata	E	Medium creeks to the mainstems of rivers with slow to moderate currents over sandy substrates and associated with rock or clay

Table 16. List of Federally Protected Species that Potentially Occur in the Four-County Area Surrounding the Park or within the Park as Reported by the United States Fish and Wildlife Service and the National Park Service Southeast Coast Inventory and Monitoring Program (continued)

Common Name	Scientific Name	Federal Status	Habitats
Plants			
Black-Spored Quillwort	Isoetes melanospora	E	Shallow pools on granite outcrops, where water collects after a rain; Pools are less than one foot deep and rock rimmed
Georgia Aster	*Aster georgianus*	C	Post oak savannah/prairie communities. Most remaining populations survive adjacent to roads, utility rights of way, and other openings.
Georgia Rockcress [1]	Arabis georgiana	C	Shallow soil accumulations on rocky bluffs, ecotones of gently sloping rock outcrops, and in sandy loam along eroding riverbanks. It is occasionally found in adjacent mesic woods, but it will not persist in heavily shaded conditions.
Little Amphianthus (also known as Pool Sprite and Snorkelwort)	Amphianthus pusillus	T	Shallow pools on granite outcrops, where water collects after a rain. Pools are less than one foot deep and rock rimmed
Michaux's Sumac	Rhus michauxii	E	Sandy or rocky open woods, usually on ridges with a disturbance history (periodic fire, prior agricultural use, maintained right-of-ways); the known population of this species in Cobb County has been extirpated(last seen in county in 1900)
Smooth Purple Coneflower [1]	Echinacea laevigata	E	Meadows and open woodlands on basic or circumneutral soils; often with eastern redcedar (*Juniperus virginiana*) and button snakeroot (*Eryngium yuccifolium*)
White Fringeless Orchid (also known as Monkey-face Orchid)	Platanthera integrilabia	C	Red maple-blackgum swamps; also on sandy damp stream margins; or on seepy, rocky, thinly vegetated slopes

Source: U.S. Fish and Wildlife Service 2006; National Park Service 2005c; National Park Service 2006c

1 Species reported by the National Park Service Southeast Coast Inventory and Monitoring Program as being "Present in the Park" or "Historic" based on inclusion in the NPSpecies database as of August 26, 2004. These data are subject to revision following the completion of ongoing biological inventories, database quality assurance procedures, and any updates to Federal listing status.

2 The whooping crane was documented in the park by park staff on March 2, 2006.

FEDERAL STATUS

E Listed as endangered. The most critically imperiled species. A species that may become extinct or disappear from a significant part of its range if not immediately protected.

T Listed as threatened. Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

C Candidate species. Candidate species are plants and animals for which the U.S. Fish and Wildlife Service has sufficient information on their biological status and threats to propose them as endangered or threatened under the Endangered Species Act, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

Table 17: List of State Protected Species Known to Occur within the Park or within 3 Miles of the Park as Reported by the Georgia Natural Heritage Program and the National Park Service Southeast Coast Inventory and Monitoring Program

Common Name	Scientific Name	Global Rank, State Rank, Federal Status, and State Status [1]	Preferred Habitat
Birds			
Bald Eagle [2]	Haliaeetus leucocephalus	G4, S2, (PS:LT,PDL), E	Edges of lakes & large rivers; seacoasts
Red Cockaded Woodpecker [2]	*Picoides borealis*	G3, S2, LE, E	Open pine woods; pine savannas
Swallow-tailed Kite[2]	*Elanoides forficatus*	G5, S2, ---, R	River swamps; marshes
Wood Stork [2]	*Mycteria americana*	G4, S2, PS:LE, E	Cypress/gum ponds; marshes; river swamps; bays
Mammals			
Gray Bat [2]	*Myotis grisescens*	G3, S1, LE, E	Caves with flowing water
Fish			
Alabama Shad [2]	*Alosa alabamae*	G3, S1, C, U	Saltwater; coastal rivers in moderate current
Apalachicola redhorse	*Moxostoma sp. 1*	G3, S?, ---, ---	Habitat data is not available
Bluestripe Shiner	*Cyprinella callitaenia*	G2G3, S2, --, T	Flowing areas in large creeks and medium-sized rivers over rocky substrates
Frecklebelly Madtom[2]	*Noturus munitus*	G3, S1, ---, E	Shoals and riffles of moderate to large streams and rivers
Highscale Shiner	*Notropis hypsilepis*	G3, S3, ---, T	Flowing areas of large to small streams over sand or bedrock substrates
Shoal Bass	*Micropterus caracterae*	G3, S3, ---, ---	Shoals and riffles of large streams to rivers
Invertebrates			
Brother Spike (Mussel)	*Elliptio fraterna*	G1, S1, ---,---	Sandy substrates of river channels with swift current
Delicate Spike	*Elliptio arcata*	G3G4, S3, ---, ---	Large rivers and creeks with some current in sand and sand and limestone rock substrates

Table 17. List of State Protected Species Known to Occur within the Park or within 3 Miles of the Park as Reported by the Georgia Natural Heritage Program and the National Park Service Southeast Coast Inventory and Monitoring Program (continued)

Common Name	Scientific Name	Global Rank, State Rank, Federal Status, and State Status [1]	Preferred Habitat
Invertebrates (continued)			
Sculptured Pigtoe (Mussel)	*Quincuncina infucata*	G4, S3, ---, ---	Main channels of rivers and large streams with moderate current in sand and limestone rock substrates
Shiny-rayed Pocketbook (Mussel)	*Lampsillis subangulata*	G2, S2, LE, E	Sandy/rocky medium-sized rivers & creeks
Plants			
American Ginseng	Panax quinquefolius	G3G4, S3, ---, ---	Mesic hardwood forests, cove hardwood forests
Bay Starvine	Schizandra glabra	G3, S2, ---, T	Rich woods on stream terraces and lower slopes
Broadleaf Bunchflower	Melanthium latifolium	G5, S2?, --- , ---	Mesic deciduous hardwood forests
Dwarf Sumac	Rhus michauxii	G2, S1, LE, E	Open forests over ultramafic rock
Flatrock Onion [2]	Allium speculae	G2, S2, ---, T	Granite outcrops (limited to Lithonia Gneiss types)
Florida Anise Tree [2]	Illicium floridana	G5, S1, ---, E	Steepheads, floodplain forests
Georgia Aster	Aster georgianus	G2G3, S2, C, ---	Upland oak-hickory-pine forests and openings; sometimes with *Echinacea laevigata* (smooth purple coneflower) or over amphibolite
Georgia Rockcress [2]	Arabis georgiana	G1, S1, C, T	Rocky or sandy river bluffs and banks, in circumneutral soil
Goldenseal	Hydrastis canadensis	G4, S2, ---, E	Rich woods in circumneutral soil
Indian Olive	*Nestronia umbellula*	G4, S2, ---, T	Mixed with dwarf shrubby heaths in oak-hickory-pine woods; often in transition areas between flatwoods and uplands
Mountain Witch-alder	*Fothergilla major*	G3, S1, --- , ---	Rocky (sandstone, granite) woods; bouldery stream margins
Ozark Bunchflower	*Melanthium woodii*	G5, S2, ---, R	Mesic hardwood forests over basic soils
Piedmont Barren Strawberry	*Waldsteinia lobata*	G2, S2, ---, T	Stream terraces and adjacent gneiss outcrops; rocky, acidic woods along streams with mountain laurel (*Kalmia latifolia*); rarely in drier, upland oak-hickory-pine woods

Table 17. List of State Protected Species Known to Occur within the Park or within 3 Miles of the Park as Reported by the Georgia Natural Heritage Program and the National Park Service Southeast Coast Inventory and Monitoring Program (continued)

Common Name	Scientific Name	Global Rank, State Rank, Federal Status, and State Status [1]	Preferred Habitat
Smooth Purple Coneflower [2]	*Echinacea laevigata*	G2, S2, LE, E	Upland forests over amphibolite
Plants (continued)			
Sweet Pinesap	*Monotropsis odorata*	G3, S1, --- , ---	Upland forests

Source: Georgia Natural Heritage Program, Georgia Department of Natural Resources, Wildlife Resources Division (GADNR 2006c) and National Park Service 2005c

[1] Listed in order left to right by state global rank, state rank, federal status, and state status. Line (---) indicates no status has been assigned to that species. The following is an explanation of these rankings:

STATE [GLOBAL] RANK

S1[G1]: Critically imperiled in state [globally] because of extreme rarity (5 or fewer occurrences).
S2[G2]: Imperiled in state [globally] because of rarity (6 to 20 occurrences).
S3[G3]: Rare or uncommon in state [rare and local throughout range or in a special habitat or narrowly endemic] (on the order of 21 to 100 occurrences).
S4[G4]: Apparently secure in state [globally] (of no immediate conservation concern).
S5[G5]: Demonstrably secure in state [globally].
?: Denotes questionable rank; best guess given whenever possible (e.g. S3?).

FEDERAL STATUS (U.S. Fish and Wildlife Service)

LE: Listed as endangered. The most critically imperiled species. A species that may become extinct or disappear from a significant part of its range if not immediately protected.
LT: Listed as threatened. The next most critical level of threatened species. A species that may become endangered if not protected.
PS: Partial status. Status in only a portion of the species' range.
PDL: Proposed for delisting.
C: Candidate species presently under status review for federal listing for which adequate information exists on biological vulnerability and threats to list the taxa as endangered or threatened.

STATE STATUS

E: Listed as endangered. A species that is in danger of extinction throughout all or part of its range
T : Listed as threatened. A species that is likely to become an endangered species in the foreseeable future throughout all or parts of its range.
R: Listed as rare. A species that may not be endangered or threatened but that should be protected because of its scarcity.
U: Listed as unusual (and thus deserving of special consideration). Plants subject to commercial exploitation would have this status.

[2] Species reported as occurring within the park by the National Park Service Southeast Coast Inventory and Monitoring Program as being “Present in the Park” or “Historic” based on inclusion in the NPSpecies database as of August 26, 2004. These data are subject to revision following the completion of ongoing biological inventories, database quality assurance procedures, and any updates to State Listing status.

The presence of protected species was also used as an indicator for the Georgia River Care 2000 River Assessment. An "outstanding" botanical rating was assigned to the Level Creek area of the park and a "significant" rating was given to the portion of the park above Level Creek. An outstanding rating indicates an area has "at least one listed species or three special concern plants; at least one high quality natural community (intact and recoverable) with little disturbance, some logging, or some grazing); high diversity; and moderate richness" (Miller et al. 1998). A "significant" rating requires that a "segment contain at least one special-concern plant; at least one moderate-quality significant natural community (considerable disturbance, but intact and recoverable); only moderate diversity; and low to moderate richness" (Miller et al. 1998).

PRIME AND UNIQUE FARMLANDS

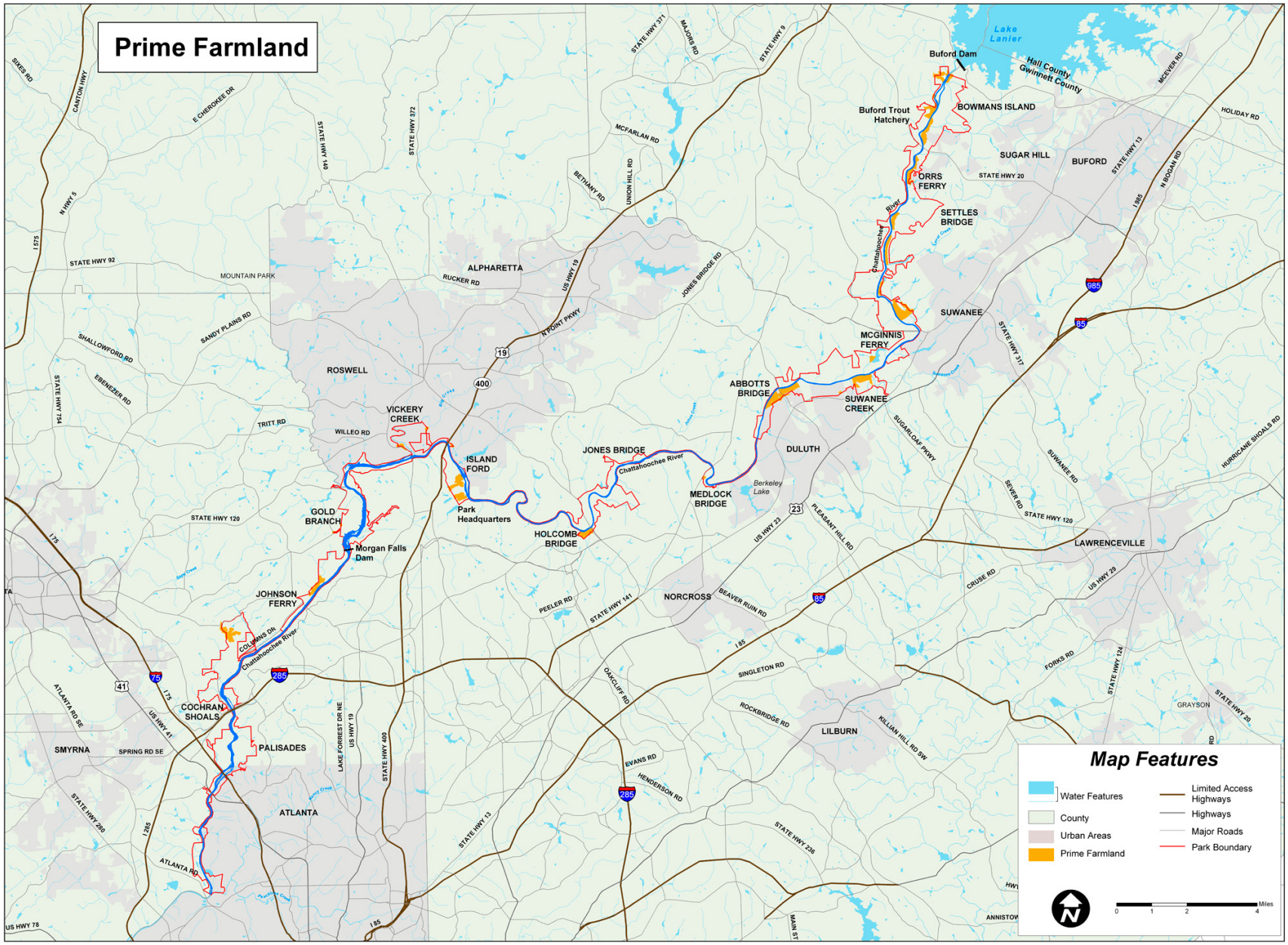
Prime and unique farmlands are included as an impact topic based on the criteria presented in "Impact Topics – Resources and Values at Stake in the Planning Process" in Chapter 2. The specific concerns related to this impact topic are discussed in Chapter 4.

An August 11, 1980, memorandum from the Council on Environmental Quality directed that federal agencies must assess the effects of their actions on farmland soils classified by the Natural Resource Conservation Service as prime or unique. Prime farmland soil has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oil seed crops and is available for these uses (i.e., it is not urban or developed land nor is it under water). Unique farmland soil is used for the production of high-value food crops, such as fruits, vegetables, and nuts. Prime and unique farmlands have the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops.

A number of the soil types in the park have been classified as prime farmlands, as mapped in Figure 11. No unique farmland has been identified within park boundaries. Site-specific assessments of the impacts of proposed park projects on prime farmlands, using Natural Resource Conservation Service methods, would be required in the future. This involves assigning an impact score to the project to estimate the degree of impact on prime farmlands. These assessments would be conducted as part of environmental assessments tiered to this general management plan and environmental impact statement.

The U.S. Department of Agriculture's Natural Resource Conservation Service has prepared soil surveys for the counties surrounding the park: Cobb County (1973, with a 1996 update); Forsyth County (1960); Fulton County (1958, with a 1982 supplement); and Gwinnett County (1967). Upland soils in the park belong principally to the Madison-Louisa-Pacolet association and the Wickham-Altavista-Red Bay association. These soils are located on steep slopes and are highly erodable, shallow, and rocky. Bottomland soils in the park belong primarily to the Congaree-Chewacla-Wehadkee association and the Cartecay-Toccoa association, and are located on nearly level areas along the Chattahoochee River and some of its tributaries. These soils are often highly erodable, and uncontrolled exposure of such soils has resulted in accelerated erosion and attendant sediment and siltation in the Chattahoochee River (NPS 1989; NPS 2000c).

Figure 11


Prime Farmland
Lake Lanier
Buford Dam
Hall County
Gwinnett County
Buford Trout Hatchery
BOWMANS ISLAND
SUGAR HILL
BUFORD
ORRS FERRY
SETTLES BRIDGE
SUWANEE
MCGINNIS FERRY
ABBOTTS BRIDGE
SUWANEE CREEK
DULUTH
LAWRENCEVILLE
ALPHARETTA
ROSWELL
MOUNTAIN PARK
VICKERY CREEK
ISLAND FORD
Park Headquarters
JONES BRIDGE
Chattahoochee River
MEDLOCK BRIDGE
Berkeley Lake
HOLCOMB BRIDGE
GOLD BRANCH
Morgan Falls Dam
JOHNSON FERRY
COCHRAN SHOALS
PALISADES
ATLANTA
SMYRNA
NORCROSS
LILBURN
GRAYSON
Map Features
Water Features
County
Urban Areas
Prime Farmland
Limited Access Highways
Highways
Major Roads
Park Boundary
Miles

CULTURAL RESOURCES

Cultural resources are included as an impact topic based on the criteria presented in "Impact Topics – Resources and Values at Stake in the Planning Process" in Chapter 2. The specific concerns related to this impact topic are discussed in Chapter 4. Baseline data for cultural resources issues were obtained from the Georgia State Historic Preservation Officer in Atlanta, the Georgia State Site Files at the University of Georgia, Athens, and the files of Mr. David Ek, former Chief of Science and Resource Management at the park. Data collection occurred between October 2000 and March 2001. A comprehensive archeological survey of the park has not been conducted to date. As described in the "Servicewide Mandates and Policies" section, an archeological inventory of the park is required by law. In addition, individual surveys are needed prior to the initiation of ground-disturbing activities. Areas identified as having a high potential for archeological resources must be treated with special sensitivity.

The park area appears to have been occupied for at least 10,000 years. The earliest known occupation of the park dates to the Early Archaic Period, between 8000 and 6000 BC. The cultural chronology of the region prior to the arrival of Europeans is divided into several periods: Paleoindian (9500 to 8000 BC), Archaic (8000 to 1000 BC), Woodland (1000 BC to 1000 AD), and Mississippian and Late Prehistoric (1000 AD to European contact). The Paleoindian, Archaic, Woodland and Mississippian Periods are each further divided into early, middle and late periods. Broadly speaking, the Paleoindian Period refers to the occupation of the first people to arrive in North America during the last Ice Age, and is characterized by distinctive projectile points used in part for hunting the large mammals, or megafauna, that roamed the continent prior to the end of the Pleistocene. The Archaic Period refers to an era of gathering and hunting following the end of the last Ice Age. The presence of ground-stone tools indicates increased food processing habits. The Woodland Period saw increased sedentism, especially in riverine environments, and the introduction of ceramic vessels. The Mississippian Period is characterized by complex societies and sites with elaborate earthworks.

O'Grady and Poe (1980) concluded that the park was most extensively occupied during the Woodland Period. This was based on an extensive archaeological survey they conducted identifying 70 sites. Numerous surveys have been conducted on or near the park since that time, identifying sites dating from the Archaic through Late Mississippian Periods. Woodland sites remain the most numerous of those prehistoric sites that can be assigned a temporal affiliation.

Prior to nineteenth century manipulation of the Chattahoochee River for industrial purposes, the river corridor was a fertile region dedicated to agricultural production (Brown 1980). Early European settlers in the region brought with them agricultural tools and a variety of crops that broadened the agricultural base of both European and Native American populations. With increased interaction with whites, native tribes adopted and used some aspects of non-native cultures. Family farming, along with raising mixed livestock, became the primary activity in the river corridor (Brown 1980).

The Chattahoochee River area became a battleground during the Battle of Atlanta in 1864 after Confederate defenses were turned at Kennesaw Mountain and Cheatam's Hill in June. Confederate lines reformed northwest of the river from Smyrna to Nickajack Creek. The Union Army attacked this line on July 4. The Confederate Army was forced back towards the Chattahoochee River, and retreated across it to stage the last defense of Atlanta by July 17. Atlanta fell to the Union Army on September 2, 1864. Known Civil War features in the park include picket depressions and trenches. Examples include log and earthwork forts associated with Sherman's River Crossings, which Sherman used to flank Johnston's Line (Brown and Smith 1997).

Agriculture remained a steady occupation of white settlers in the river corridor throughout the nineteenth century, reaching its peak between 1910 and 1920, when 87 percent of the Piedmont had been cultivated (Brown 1980). The shift from mixed farming to intensive cotton cultivation in the

1850s and the long-term failure to implement soil conservation practices began to take their toll. Contributing to the rapid decline of fertility in the region was the practice of hydraulic mining of gold in the headwaters of the Chattahoochee, which resulted in extensive deforestation of the upper river corridor (Brown 1980). By 1935, most of the rich topsoil in the Chattahoochee River floodplain was eroded and deposited in stream bottoms.

The decline in soil fertility forced small farmers to change occupations, and many Southern rural families migrated to the North after Reconstruction in search of jobs in the cities. Others adopted an entrepreneurial approach and turned their attention to developing the industrial potential of the Chattahoochee River. Mills and distilleries had been present along the river corridor since the 1830s but, for a number of reasons (including destruction of many mills during the Civil War), industry did not become the major enterprise in the region until agriculture became unviable. Mill villages replaced farmsteads, and rapid growth of commerce and industry along the Chattahoochee River began to alter the river landscape.

By the turn of the twentieth century, however, industrialists were discovering the increased efficiency and output of steam-generated and electrical power for manufacturing. Expansion of the railroads in the latter half of the nineteenth century also had given the region greater access to national markets, reducing the reliance on locally manufactured goods. The importance of the Chattahoochee River for industrial manufacturing was thus diminished, and other uses drinking water supply and hydroelectric power generation gained importance (Brown 1980).

Historically accustomed to relying on public or private wells for drinking water, the people of Atlanta found themselves without a reliable source of drinking water in the face of rapid expansion of urban area and population. Construction of the pumping station at the junction of Peachtree Creek and the Chattahoochee River in 1892, as part of what would later become the Atlanta Water Works, temporarily solved the problem of water by pumping water directly from the river.

Morgan Falls Dam, constructed in 1902, was the largest hydroelectric installation in the Southeast, measuring 900 feet in length by 60 feet in height. In the 1920s, improvements to Morgan Falls Dam resulted in the creation of large reservoirs along the Chattahoochee River corridor and provided a storage area for water pumped from the river during periods of high water.

In 1957, the U.S. Army Corps of Engineers erected Buford Dam with the goals of providing flood control and stream flow regulation, assisting in navigation, providing a constant source of water, and producing electrical power. Located on the Chattahoochee River about 35 miles northeast of Atlanta, Buford Dam collects runoff water from a wide area of north Georgia into a large reservoir, Lake Sidney Lanier. Lake Lanier extends 44 miles up the Chattahoochee River and covers more than 58,000 acres of former farmland and forests.

On August 15, 1978, the United States Congress passed an act authorizing the establishment of the Chattahoochee River National Recreation Area (16 United States Code 460ii). The boundaries of the park were subsequently modified in Amendments to the Chattahoochee River National Recreation Area Act in September 1984 and August 1998. Most recently, in June 1999, Congress enacted a bill to improve protection and management of the park.

ARCHEOLOGICAL RESOURCES

A number of studies provide significant data concerning the park's archeological resources as well as the status of archeological research and previous archeological work in the park. These studies include:

- *An Archaeological Reconnaissance of the Chattahoochee River Corridor between Buford Dam and Georgia 20 Highway Bridge (*Hamilton 1974*).*
- *Cultural Resource Inventory Chattahoochee River National Recreation Area Final Report (*O'Grady and Poe 1980*).*
- *Cultural Resources Survey of the Proposed Lake Sidney Lanier Reregulation Dam and Lake Area, Forsyth and Gwinnett Counties, Georgia (*Gresham 1987*).*
- *Phase I Cultural Resource Survey of 286 acres west of the Chattahoochee River in Forsyth County, Georgia (*Markham and Holland 1996*).*
- *Cultural Resources Survey, Proposed Trail System, Chattahoochee River National Recreation Area, Forsyth County, Georgia (*Webb and Burns 1997*).*
- *Cultural Resources Survey, Proposed New Trail System, Island Ford Unit, Chattahoochee River National Recreation Area, Fulton County, Georgia. (*Gantt and DeRosa 2000*).*

Other surveys conducted in or near the park include Moore (1986), Hamby and Reed (1995), Brown et al. (1999), and Webb and Quirk (2000). Surveys completed within the boundaries of the park include: Magennis and Williams (1978), Bowen (1981), Braley (1987), Rogers and Braley (1991), Ledbetter et al. (1991), Braley et al. (1992), Gardner and Reynolds (1993), Webb and Gantt (1995, 1996a, 1996b), Webb and Duncan (1997), Gantt (1997), and Webb et al. (1998).

Additional references to archeological surveys are included in the park's *Historic Resource Study* (NPS 2005a), the *Cultural Resources Overview and Predictive Model for the Chattahoochee River National Recreation Area* (Parsons 2001b), and the "Outline of Prehistory and History, Southeastern North America and the Caribbean" (NPS 2006e). Copies of these reports, as well as relevant maps and archival materials regarding specific resources within the park, are stored at park headquarters in Fulton County, Georgia.

Review of the site files maintained by the University of Georgia, Athens, conducted in the fall of 2000 indicated that approximately 200 archeological sites have been previously recorded within the boundaries of the park. Of these, 32 lie within Cobb County, 46 in Forsyth County, 26 in Fulton County, and 93 in Gwinnett County. Artifact scatters dominate the sites recorded within the park and include ceramic scatters, lithic scatters, historic artifact scatters, and scatters encountered in association with rock shelters, open habitations, or villages. Fourteen of the sites include rock shelters, two are quarries, five are fish weirs/rock dams located within the river, one contains a probable mound, and one includes earthworks. Native American habitation sites include open habitations, camps, and villages in addition to the rock shelters. Historic sites with structural components include a bridge, three mills (one with a race), a cotton gin, a dam, a fence, a still, and nine structural foundations.

Locational data provided in earlier survey reports do not always match the locational data archived within the GIS database maintained by the Georgia State Site Files at the University of Georgia, Athens. Rectification of the survey data sets with those maintained by the Georgia State Site Files would be included as a task to be completed as part of the park wide resource stewardship strategy planning document preparation in the future.

Three of the archeological sites are currently submerged and 13 have been destroyed; the majority of the remaining sites have been extensively (57 sites), moderately (53 sites), or minimally (38 sites) disturbed by erosion, agriculture, vandalism, or development. The condition of 36 of the sites is not recorded in the site files.

There is a high probability that unknown prehistoric and historic archeological resources occur in the park. However, the archeological sites in the park have not been systematically surveyed or inventoried, and precise information about the location, characteristics, and significance of the majority of known archeological resources in the park is incomplete.

National Park Service policy at the park is to work with the Georgia State Historic Preservation Officer to nominate all archeological resources within the park that appear to meet the National Register of Historic Places criteria. A review of the National Register and the site files maintained by the University of Georgia, Athens and information from the *Historic Resource Study, Chattahoochee River National Recreational Area* (NPS 2005a), indicates that two archeological sites recorded within the park have been determined eligible for listing on the National Register of Historic Places. Nineteen archeological sites have been recommended eligible for listing, and 72 have been recommended not eligible for listing. One site is a national landmark, and two have been subjected to Historic American Engineering Record documentation. The 104 remaining sites within the boundaries of the park have not been evaluated in terms of their eligibility for listing on the National Register of Historic Places.

HISTORIC BUILDINGS, STRUCTURES, LANDSCAPES, AND OBJECTS

Two studies have documented the park's historic development and resources: Historic Resource Study: Chattahoochee River National Recreation Area and the Chattahoochee River Corridor (Brown 1980), and Historic Resource Study: Chattahoochee River National Recreation Area (NPS 2005a).

Other studies that provide information regarding the historical development of Atlanta and north-central Georgia include:

> "Outline of Prehistory and History, Southeastern North America and the Caribbean" (NPS 2006e); and "Georgia Before Oglethorpe: A Resource Guide to Georgia's Early Colonial Period 1521-1733" (Worth 2003).

A review of several sources, including the historic structures and buildings files maintained by the Georgia State Historic Preservation Officer in Atlanta, the park's List of Classified Structures, the Chattahoochee River Historic Resource Study, and the Cultural Resources Overview and Predictive Model, indicates that 31 historic structures or buildings have been recorded within the riverway corridor. Eighteen of these historic structures are listed on the park's List of Classified Structures.

A number of the park's structures were evaluated under National Register of Historic Places criteria.[1] Historic structures associated with early settlement and agricultural development in and near the park that were found to be eligible for the National Register include the Hyde Farm, Scribner Cemetery, Jones Bridge, and Settles Bridge. In 1992 the National Park Service acquired 40 acres of riverfront property within the Hyde Farm Complex. The remaining 95 acres of this complex remain a priority acquisition for the National Park Service. The Hyde Farm Complex property of 135 acres, includes the circa 1840 residence, a corn crib (circa 1850), the barn (circa 1910), machine shed/garage (circa 1945), two sheds (circa 1900), and a chicken house (circa 1950). The complex is significant as a fine example of both antebellum and postbellum farmsteads in the upper Georgia Piedmont.

[1] The National Park Service has determined that these properties are eligible for the National Register, but the Georgia State Historic Preservation Officer may not yet have concurred with the National Park Service determinations.

The George A. Power House (also referred to as Power Cabin) (a circa 1845 property) is also in this same area. This property is representative of small farmsteads in the river corridor before and after the Civil War. The Trust for Public Land deeded this 2.5 acre property, including the Power House, in 1999 to the Cobb Landmarks and Historical Society. At the same time, the Trust for Public Land granted a conservation and Façade Easement to the National Park Service to ensure its permanent protection. The Trust for Public Land also granted life-long tenancy to the current resident. Power House was listed on the National Register of Historic Places in 2001. The Hyde Farm Complex could potentially be considered as a cultural landscape; however an assessment would have to be conducted after the National Park Service acquires ownership.

The following historic structures and sites have also been evaluated for the National Register and were found eligible. The Scribner Cemetery (circa 1880) is a small family cemetery associated with an area homestead. The two bridges (Settles Bridge, circa 1880 and Jones Bridge, circa 1904) were installed after roads had been built in the area, helping to replace the role of ferries in transporting agricultural products from farm to market. Settles Bridge occurs on both the State Historic Preservation Officer and National Park Service lists (both as a historic structure and an archeological site).

There are three historic steel-truss bridges that cross the Chattahoochee River in the park but no longer carry vehicular traffic: Settles Bridge, Jones Bridge, and Rogers Bridge. The ownership of these bridges is under evaluation, as portions of the bridges may be located on both sides of the river, and have ownership interests from different counties or individuals. A fourth steel-truss bridge, the Paces Ferry Road bridge, is owned by Cobb and Fulton Counties. There are also several 20th century concrete and/or steel bridges that cross the river and at least three of these are eligible for the National Register: Roswell Road (U.S. 19), U.S. 41, and the Cumming Highway (GA 20) bridge. The historic value of these bridges is under evaluation by the National Park Service (NPS 2006h).

All of the known resources associated with the industrial development of the Chattahoochee River corridor within the study area lie in three distinct concentrations. These register-eligible sites associated with milling various materials include the Roswell Manufacturing Company and the Laurel/Ivy Woolen Mills, both of which are part of a greater Roswell Complex, the Marietta Paper Mill/Sope Creek Mill, and the Akers/Banner Mill ruins. The Roswell complex includes ruins of 1838 and 1854 factories and associated structures and objects dating between 1838 and 1926; an 1883 factory and associated structures and objects (1882-1976); and two stone retaining walls (the railroad grade and the Big Creek retaining wall, both near Allenbrook). The ruins of Ivy Mill (Laurel/Ivy Woolen Mills, circa 1870-1917) and the Marietta Paper Mill Ruins (Sope Creek Mill ruins, circa 1854-1902) are recorded as archeological sites by the State Historic Preservation Officer. The Sope Creek/Marietta Paper Mill ruins were listed on the National Register of Historic Places in 1973. Mill #1, the main paper mill and associated objects and structures date to circa 1854-1902, and Mill #2, the pulp-grinding mill, dates to circa 1886-1902. The Akers/Banner Mill ruins (circa 1873-1896) represent the best preserved grist mill sites in the area. These mills are considered eligible for the National Register because of their capacity to illustrate the development of water-powered industry in Georgia.

Allenbrook (circa 1840) is the only residential building associated with the Roswell Manufacturing Company within the park's Vickery Creek area. Allenbrook, located south of the Roswell Historic District (also listed on the National Register of Historic Places in 1973), is not within the boundaries of the district, but is considered eligible for listing in the register. Under the terms of a Memorandum of Understanding, the National Park Service and the Roswell Historical Society share responsibility for preservation and maintenance of this resource.

The Gold Branch/Morgan Falls rifle pits/picket posts (1864) is a National Register-eligible historic structure(s) associated with the Civil War in this area. Other rifle pits (Island Ford areas) are potentially eligible properties, pending additional research.

The Island Ford Lodge property (including the lodge, picnic shelter, retaining wall, spring box, and shelter steps) was found to be eligible for the register because this collection of structures illustrates use of the Rustic style of architecture for a country retreat along the river used by the wealthy during the early 20th century.

The Collins-Yardum House, Smokehouse, and well, also an extant example of a country home in the study area, has been recommended as eligible for listing on the National Register of Historic Places. In 2001, the State Historic Preservation Officer determined that this "unusual stone Craftsman-style bungalow house" is possibly unique in its stone architecture because of its distinctive use of both vertically and horizontally stacked stones.

The original Fort Gilmer, now known as Fort Peachtree, was built in 1814 during the War of 1812 to control the Creek Indians who had become allied with the British against the United States. The present Fort Peachtree is a replica fort built on the site of a major Creek Indian Settlement by the City of Atlanta Bureau of Water. This area was the borderline between Creek Indian lands to the south and Cherokee territories to the north. While Fort Peachtree is not listed on or eligible for the National Register, it forms an important part of the region's cultural resources.

Although they have not had a formal cultural landscape inventory to identify their important character-defining elements, the Scribner Cemetery/Farmstead, the Island Ford complex, the Collins-Yardum complex, Sope Creek Ruins, Allenbrook-Ivy Mill complex, Hyde Farm/Power House, and the Rogers Homestead are landscapes within the park that have sufficient integrity to be considered potentially significant.

TRANSPORTATION

Regional Transportation Conditions

Infrastructure. The park is located in one of the nation's largest urban areas, providing a natural refuge from urban life near the homes of millions of urbanites. The park is made up of 15 different areas, with access provided by numerous streets and roadways. Collector and local roadway facilities provide direct access to most areas.

The Atlanta region is the major transportation hub of the southeastern United States. Along with one of the busiest airports in the United States, Atlanta is served by a number of interstate highways that connect the Atlanta area to other parts of the United States (Figure 1). Interstate 285 encircles Atlanta, providing a bypass route around the congested downtown area. In addition, Georgia 400, which bisects the Chattahoochee watershed and the park, is a strategically located highway between the City of Atlanta and the northern suburbs (see Figure 2).

The transportation network in the Atlanta Regional Commission's 10-county Atlanta region consists of more than 17,000 miles of interstate, highways, and local streets. The interstate highway system contains approximately 90 miles of express lanes (high occupancy vehicle lanes) to assist commuters in traveling to downtown Atlanta during the peak traffic periods. In 2005, more than 28,000 commuters used express lanes daily; an 8% increase over 2004 volumes (ARC 2005a). In 2002, there were more than 180 miles of bicycle and pedestrian facilities in the Atlanta Region, of which 143 miles were located within Cobb, Fulton, and Gwinnett Counties (ARC 2005a).

However, Atlanta, like other large metropolitan areas, contains many roads that operate at low service levels due to inadequate capacity. It is estimated that 39 percent of freeway lane miles in the Atlanta region experience more than two hours of delay per day, while 15% of non-freeway miles experience more than one hour of daily delay (ARC 2004). Without the implementation of proposed transportation planning and funding initiatives, it is projected that these percentages would rise to 69 percent and 40 percent, respectively, by the year 2030 (ARC 2004).

Mass Transit. According to U.S. Census data, in 2004 nearly 79 percent of residents in the 28-county Metropolitan Atlanta area drove to work alone in their vehicle, 11 percent of the workforce carpooled, while 2.4 walked, bicycled, or used some type of transportation alternative. Only 3.2 of the Atlanta workforce commuted via public transportation (ARC 2005b). However, average ridership increased between 2004 and 2005 for MARTA (4.7%), Gwinnett County Transit (46%), and Xpress (10%), while ridership decreased by nearly 39% for Cobb County Transit (ARC 2005a). In 2005, the average total daily boardings for the transit systems serving the area near the park (MARTA, Cobb County Transit, Gwinnett County Transit, and GRTA Xpress) was approximately 477,000.

The Metropolitan Atlanta Regional Transportation Authority (MARTA), the largest mass transit provider for the Atlanta area, serves Fulton and DeKalb Counties as well as a small portion of Gwinnett and Cobb Counties within the study area. MARTA has 48 miles of rail facilities and 238 rail cars in its system. In addition, 556 buses provide service on 120 routes (MARTA 2006). In 2005, there were 35,335 park and ride spaces in the Atlanta region, the majority of which are operated by MARTA, and 51% of these spaces were occupied on an average weekday (ARC 2005a).

Cobb Community Transit provides bus service within Cobb County, with connections to MARTA rail stations and direct express service to downtown Atlanta (Cobb County 2006a). Gwinnett County Transit operates six I-85 express bus routes from points in Gwinnett County to downtown Atlanta, including stops at MARTA rail stations. Five local routes service points within Gwinnett County and operate Monday through Saturday (Gwinnett County 2006). Forsyth County operates an "on-call" Dial-A-Ride program; three vans are made available to residents on an appointment basis for $1.50 to $4.50 per trip (Forsyth County 2006).

Xpress is metropolitan Atlanta's newest public transportation service, providing a connection between work and home for the region's commuters. Xpress is operated as a partnership between 11 metro counties (including the four counties encompassing the park), the City of Atlanta, and the Georgia Regional Transportation Authority, which was created by the Georgia General Assembly in 1999 and is charged with combating air pollution, traffic congestion and poorly planned development in the metropolitan Atlanta region. Xpress service began in 2004 and currently operates 15 routes. More routes will be added over the next several years, taking into account the availability of park-and-ride lots, transit connections, and customer interest. Current plans envision a network of 27 Xpress routes serving the region by the end of the decade (Xpress 2006).

Transportation Planning Initiatives. The Atlanta Regional Commission board adopted a Regional Transportation Plan for the Atlanta Region referred to as Mobility 2030 (Atlanta Regional Commission 2004). A Regional Transportation Plan is a long-range plan which includes a balanced mix of projects such as bridges, bicycle paths, sidewalks, transit services, new and upgraded roadways, safety improvements, transportation demand management initiatives and emission reduction strategies.

One component of Mobility 2030 is a short-range list of high priority projects referred to as the Transportation Improvement Program or the Fiscal Year 2005 – Fiscal Year 2010 TIP. The TIP identifies 839 transportation projects totaling $8.2 billion to be funded in the Atlanta region through 2010. Approximately 25% of the funding is designated for adding roadway capacity, 20% for transit, 18% for roadway upgrades, 17% for expansion of high occupancy vehicle lanes, 8.2 % for roadway system maintenance, and 5.8% for pedestrian and bicycle facilities (Atlanta Regional Commission 2005a). A second TIP has also been drawn from Mobility 2030 and is referred to as the Fiscal Year 2006- Fiscal Year 2011 TIP, which primarily reflects the logical progression of projects and programs defined in the previous TIP. Significant changes such as adding or removing high occupancy vehicle lanes, transit facilities or freeway widenings are only made as part of a comprehensive regional transportation plan update. The next regional transportation plan update, referred to as "Envision 6", is scheduled to be adopted in the summer of 2007.

The Atlanta Regional Commission is also the primary entity designated for identifying and prioritizing congested locations and facilities within the metropolitan area for use in the transportation planning process. The process is formally referred to as the Congestion Management Process. This process identifies appropriate strategies to reduce congestion that focus on improving efficiency and providing alternatives to single-occupant vehicles. The Congestion Management Process identification and ranking methodologies are continuously improved and information is updated periodically as necessary. The Atlanta Regional Commission also coordinates regional Intelligent Transportation Systems, which consist of the application and integration of advanced technologies, information processing, communications technologies, and advanced control strategies for the efficient and effective operation of the existing transportation system. Examples of Intelligent Transportation Systems include signal synchronization, incident management, emergency management, and transit signal priority.

In addition to regional planning, each of the counties bordering the park also participates in transportation planning. Fulton County adopted a Comprehensive Transportation Plan in 2001, Cobb County anticipates completion of a plan in 2007, and Forsyth County completed a plan in 2002 which is currently in the process of being updated. Gwinnett County will complete a Comprehensive Transportation Plan concurrently with their overall Comprehensive Plan, the 2030 Unified Plan, which is scheduled to be adopted in 2008.

Transportation Conditions in Relation to the Park

The park is comprised of segmented parcels of land located along a 48-mile corridor of the Chattahoochee River. No single roadway provides access to all of the segments. In addition, most areas of the park are located on minor collector or local roadways; therefore, arterial roadways do not provide primary access to the park. Table 18 lists the most common path to each area from the nearest freeway or arterial highway. Those that are congested during the morning and evening peak travel periods are indicated in italics.

Table 18: Main Street/Highway Access Points for the Park and Associated Areas

Area	Street / Highway Access*
Paces Mill	*I-285, I-75, Cobb Parkway*
Palisades	*I-285, Northside Drive*, *Mt. Vernon Highway, Powers Ferry Road,* Riverview Road
Cochran Shoals	*Johnson Ferry Road,* Paper Mill Road, Columns Drive
Powers Island	*I-285, Northside Drive*
Johnson Ferry	*Johnson Ferry Road*
Gold Branch	Lower Roswell Road, Timber Ridge Road
Vickery Creek	*Roswell Road*, Azalea Drive, Riverside Road
Island Ford	*Georgia 400,* Northridge Road, Dunwoody Place, Roberts Drive
Holcomb Bridge	*Holcomb Bridge Road*
Jones Bridge	*Holcomb Bridge Road, Jones Bridge Road, Barnwell Road*
Medlock Bridge	*Peachtree Parkway, Medlock Bridge Road*
Abbotts Bridge	*Abbotts Bridge Road*, Boles Road
Suwanee Creek	*Peachtree Industrial Boulevard*, Chattahoochee Drive (unpaved)

Table 18: Main Street/Highway Access Points for the Park and Associated Areas (continued)

Area	Street / Highway Access*
McGinnis Ferry	*McGinnis Ferry Road*
Settles Bridge	Suwanee Dam Road, Johnson Road (unpaved)
Orrs Ferry	No land-based facilities, river access only
Bowman's Island	*Cumming Highway/Georgia 20,* Suwanee Dam Road

**Italics* indicate congested roadways as defined by the Atlanta Regional Commission (Atlanta Regional Commission 2006a).

Transit service is provided in areas near the park, but service is currently not provided directly to the park. MARTA route 148 provides service between the Sandy Springs rail station and the Powers Ferry Landing area, near the Powers Island portion of the park. MARTA route 140 crosses the Chattahoochee River on Georgia 400 as it travels between the Mansell Road park-and-ride lot and the North Springs rail station. MARTA's North Line provides rail service in the general vicinity of the park, with rail stations at the Medical Center near Georgia 400/I-285, Dunwoody, Sandy Springs, and North Springs. Bicycles can be transported on the MARTA rail system and are allowed on MARTA buses (MARTA 2006).

Cobb Community Transit connects with the MARTA system near the park at Dunwoody rail station via route 65, which crosses the river on Johnson Ferry Road. Route 50, which leaves from the Cumberland Boulevard Transfer Station, provides service along Powers Ferry Road. Route 10B leaves from the MARTA Civic Center Station and also provides service along Powers Ferry Road. Route 10 provides service along Akers Mill Road, and leaves from the MARTA Arts Center Station. These routes service areas near the southern-most portion of the park, including Johnson Ferry, Cochran Shoals, and Palisades (Cobb County 2006a). Xpress bus service operates four routes that cross the Chattahoochee River within the park. Route 400 crosses the river on GA-400 near the Island Ford area, route 408 crosses the river on GA-141 near the Medlock Bridge area of the park, and routes 480 and 481 cross the river on Interstate 75 near the Palisades portion of the park (Xpress 2006). Currently, none of the Gwinnett County Transit routes intersect with the park.

A few bicycle/pedestrian paths currently exist near the park. Paths are located along Columns Drive from Sope Creek to Johnson Ferry Road, along Riverside Road near Island Ford, along Georgia 141 to the south of Medlock Bridge Road, along Peachtree Industrial Boulevard between Suwanee Creek and McGinnis Ferry Road, and along Buford Dam Road east of Bowmans Island. None of these bicycle/pedestrian paths provides direct access into the park (Atlanta Regional Commission 2001; Forsyth County 1996, 2001; City of Roswell n.d.).

Additional bicycle/pedestrian path projects have been proposed by local governments in the Atlanta region (see Appendix G and the "Regional, County, and Municipal Park Planning and Linkages" subsection). These have been compiled in the Atlanta Regional Commission's *Atlanta Region Bicycle Transportation and Pedestrian Walkways Plan* (2002). In this plan there are more than 1000 miles of additional bike and pedestrian facilities proposed within Atlanta region, totaling $400 million in project costs (ARC 2005a). An update to this plan is scheduled for completion in 2007. The National Park Service is also developing an integrated trail system plan with objectives to establish trail linkages.

Park Transportation Statistics. According to traffic counts collected by the National Park Service in 2000 (NPS 2000a), vehicles entering each area with formal parking facilities range from 12,500 annually at Gold Branch to 415,000 at Cochran Shoals North. In areas where traffic was counted, nearly 1.5 million vehicles entered the park during 2000, with many of the vehicles transporting more than one person. In addition, numerous uncounted visitors enter the park each day via pedestrian and bicycle modes.

The park frequently experiences parking shortages, particularly at the southern areas that receive the highest visitation. Parking problems have been reported at Palisades, Cochran Shoals, Johnson Ferry, Gold Branch, Vickery Creek, Island Ford, and occasionally at Jones Bridge (NPS 1998b). The most severe parking shortages occur at Cochran Shoals, which contains approximately 150 parking spaces but experienced over 520,000 vehicles in 2000 (NPS 2000a). In 1995, over 1,000,000 vehicles were counted at Cochran Shoals (NPS 1995b), so an apparently considerable latent demand to use this area is hampered, at least in part, by lack of parking facilities. Park officials report that visitors sometimes wait 30 minutes or more for a parking space, or may choose to park illegally on the park access roads or on nearby public roads (NPS 1998a).

Visitation is greatest during the late spring and summer months, according to the traffic counts collected by the National Park Service. Vehicles accessing the park during this period approximately double the visitation during the winter months. Parking shortages occur more frequently during peak visitation periods than during low visitation periods (NPS 1998a). Limited parking facilities and the abundance of nearby residential neighborhoods encourage many visitors to walk or bicycle to the park. In areas adjacent to or near residential developments, such as Island Ford, McGinnis Ferry, Johnson Ferry, Vickery Creek, and Palisades, unauthorized access trails between neighborhoods and the park have been formed by frequent pedestrian and bicycle "short-cut" traffic.

Pedestrian/bicycle/vehicle conflicts are another problem reported by park officials and local residents. In park areas such as Island Ford and Jones Bridge, joggers and walkers often choose to use the edge of the 21-foot-wide winding access road instead of the trails. As they round a curve, motorists may encounter a bicycle or pedestrians walking two or three abreast on the roadway. Motorists traveling at excessive speed are also a problem in these park areas. A traffic calming study is currently under way to identify measures to slow the motorists and separate pedestrians from the vehicular traffic.

VISITOR AND COMMUNITY VALUES

Traditional Park Character and Visitor Experience

Traditional park character and visitor experience are included as an impact topic based on the criteria presented in "Impact Topics – Resources and Values at Stake in the Planning Process" in Chapter 2.

The enabling legislation of the park provides for the protection and preservation of the natural, scenic, recreational, and historic values of the river. The park provides access to natural river corridor for millions of people in the Atlanta area. Visitors come to the park for the scenery and the other sensory experiences that accompany the river and associated forested areas. They enjoy such features as the changing seasonal colors, scents of the forest, sounds of water and wildlife, solitude, and quiet. Some areas of the park offer more active opportunities for recreation, such as fishing, hiking, horse back riding, biking, and boating.

Scoping for the general management plan obtained information about visitor issues, experiences, and concerns for the future through a series of public meetings and a public comment period. Public input identified numerous community issues, which were sorted by type into the 13 categories illustrated below.

More comments addressed the value of recreational trails (jogging, biking, hiking, and for access to fishing) than any other issue, followed by experiences and concerns related to land use and the need for more outreach/public education about park facilities. Table 19 summarizes the detailed nature of public comments on visitor-related issues associated with management of the park.

Table 19. Summary of Issues Raised During Public Meetings

Comment Category	Nature of Comment
Outreach	Increase environmental education and outreach of park to surrounding communities.
Private Property	Conflicts between private property owners and park on acquisitions.
Transit	Improved traffic and safety, improved parking and roads, better transportation system.
Fisheries/Fishing	Improved fisheries management, to include emphasis on resource protection/long term maintenance.
Enforcement	More stringent enforcement of water quality laws, safety, legal rules in park.
Restoration	Restoration of damaged or disturbed areas of the park to be restored and enforcement of relevant regulations.
Access (River or general)	Increased access and types of visitor experiences.
Facilities	More or less varied support, recreational and educational facilities.
Ecological	Increased protection of natural park features.
Impacts	Water quality, fisheries protection, water quantity, point and nonpoint pollution, noise.
Use	Increased multiple use, but with protection of natural resources.
Boundaries	Expand park as much as possible, connectivity.
Trails	More and different types of trails.

This outreach program helped create a dialogue with park visitors on visitor and community values. There was also consistency in the nature of public concerns and the desired visitor experiences.

To further assess these values, information obtained from park visitors during the 2000-2001 public scoping was compared to the park Visitor Survey Card Data Reports of 1998, 1999, and 2000. These reports showed a reduction in overall satisfaction with conditions at the park from 85 percent to 81 percent between 1998 and 2000. Citizens commented on the severe strain on park infrastructure due to growth and development trends in the Atlanta metropolitan region. They also called for more park facilities, raised the need for more National Park Service staff to address enforcement of park regulations, and expressed concern over conditions of the river caused by forces outside the boundaries of the national park itself, i.e., “the river was brown, it was hard to enjoy our raft trip” (NPS 1998a).

Comments reflect the fact that visitation is primarily local or regional, but also express the universal popularity of the park, the use of the river as a drinking water supply, and the role of the river-based park to serve as a buffer to provide clean water. The park, in fact, provides the largest single public greenspace in the metropolitan Atlanta region, and the river supplies 80 percent of the metropolitan Atlanta area’s drinking water (MNGWPD 2006).

Recreational Opportunities

The park offers visitors a wide variety of ways to experience a range of natural and cultural resources. Scenic views and natural settings range from rugged expanses of forest with little human disturbance to landscapes from the historic and archeological past. The visual respite from rapidly developing urban and suburban surroundings draws approximately 2.5 million visitors each year.

Table 20 summarizes the current recreational amenities offered in the park. The park offers visitors a variety of recreational opportunities, including:

- An extensive system of hiking, jogging, and bicycling trails;
- River access points for activities such as fishing, motorized boating, canoeing, rafting, tubing, wading, and kayaking;
- Numerous picnic areas;
- Open spaces and natural habitat areas for scenery enjoyment and wildlife viewing/bird watching; and
- Nineteenth-century historic sites and Native American archeological sites.

One of the primary recreational values expressed by visitors was the desire to achieve a sense of solitude within natural areas of the park. This requires a low-noise environment, and an absence of unwanted sound. Sound is easily measured with instruments, but variations in human responses to sound complicate understanding of its impact. People judge the relative magnitude of sound by subjective terms such as "loudness" or "noisiness." Low-noise environments can be achieved in many parts of the park, but because the park is located in an urban/suburban metropolitan area, the amount of noise varies greatly across different areas of the park and even locally within individual areas.

Visitors seeking a recreational experience in the park are exposed to a variety of noise generators, primarily vehicular traffic on bridges, along roads, and in parking lots adjacent to park property. Hikers, boaters, or fisherman, depending on their proximity to these sources, may hear noise from vehicles or residential areas. The densely forested areas in many parts of the park, however, serve to dampen vehicular noise, providing a sense of solitude largely absent of road noise. Areas such as the Palisades, for example, are especially effective at damping noise, even though they are located close to major arterials such as I-75 and I-285.

Regional, County, and Municipal Park Planning and Linkages. Surrounding communities in Forsyth, Fulton, Gwinnett, and Cobb Counties have initiated active recreational programs to complement the more natural types of activities of the park. An inventory and assessment of park planning in adjacent counties provides a comprehensive understanding of the potential for connectivity to existing and proposed local parks, for addressing gaps in service delivery, and for identifying potential duplication of recreation services:

- The **Atlanta Regional Commission** has coordinated with the Georgia Conservancy and the Trust for Public Land to develop a regional plan that will enhance the level of coordination and cooperation among local governments and private parties that to protect greenspace. The Commission is also working to develop a complete inventory of existing greenspace in the region, to identify priority areas in the region for preservation, and to promote greenspace connectivity (Atlanta Regional Commission 2006b). In 2003, it was estimated that the Atlanta region contained over 50,000 acres of greenspace (Atlanta Regional Commission 2005b).

Table 20. Principal Recreational Amenities Summarized According to Park Unit

Park Area	Boating	Boat Launch[2]	Step-Down Launch[3]	Fishing	Hiking	Parking	Picnic Area	Rest-rooms	Other
Bowmans Island	X	X[1]		X	X	X		X[1]	Equestrian
Orrs Ferry	X			X					
Settles Bridge	X			X	X	X			
McGinnis Ferry	X				X				
Suwanee Creek	X			X	X				
Abbotts Bridge	X	X		X	X	X	X	X	
Medlock Bridge	X	X		X	X	X	X		
Jones Bridge	X	X	X	X	X	X	X	X	
Holcomb Bridge	X			X					
Island Ford	X		X	X	X	X	X	X	Ranger Station
Vickery Creek	X			X	X	X	X		
Gold Branch	X			X	X	X	X		
Johnson Ferry	X	X		X	X	X	X	X	
Cochran Shoals	X		X	X	X	X	X	X	Off-road biking
Palisades	X	X	X	X	X	X	X	X	

[1]Corps of Engineers facility

[2]Other launch sites at Chattahoochee River Park and Morgan Falls Park.

[3]Other step down launch sites at Jones Bridge Park, Garrard Landing.

- The **Georgia Department of Natural Resources,** Parks, Recreation and Historic Sites Division has produced a 2003-2007 Statewide Comprehensive Outdoor Recreation Plan which identifies the adequacy of existing recreation opportunities in Georgia and determines the demand and need for additional opportunities. The plan calls for more active and passive recreational sites, rehabilitation and restoration or existing facilities, and linkages between facilities. The plan does not make specific recommendations regarding the park, however (Georgia Power 2006c).

- C**obb County** plans for the Silver Comet Trail to intersect the park. Initiated by the Path Foundation, contractors have built the Silver Comet Trail along 38 miles from Smyrna to Rockmart over the path of the abandoned Seaboard Railroad line. The multipurpose trail is designed to move bikers and joggers through the western metro region. State, federal, and local funds are being used to fund this $9.5 million project. Cobb County and local neighborhoods were approved for Transportation Efficiency Act funds to plan river area connectivity to the national park from Johnson Ferry area subdivisions. In addition, a *Chattahoochee River Trail Conceptual Plan Feasibility Study* was commissioned by the Cobb County Department of Transportation, the purpose of which was to explore the feasibility of developing a multi-use trail extending north from the intersection of the Chattahoochee River and Cobb Parkway to the boundary of Cobb and Fulton Counties (JJ&G 2004). Cobb County also anticipates park linkages with the proposed East Cobb Trails, the proposed Wildwood Trail, the programmed Interstate North Parkway Trail, and the proposed Mountain-to-River Trail (Cobb County 2006b). The park has also coordinated with Cobb County on a potential park linkage with the Akers Mill Trail as well as a linkage of Paces Mill and Cochran Shoals with the Rottenwood Creek Trail, which is currently under construction (Lutz 2006). A future trail linkage from the park to the Kennesaw Mountain National Battlefield Park is also under consideration, which would require extensive coordination with Cobb County.

- **Forsyth County** prepared a unified development code that supports park-like environments. The county is using Georgia Greenspace Program funds to purchase permanent open space. The county has also completed the Forsyth County Bicycle Transportation and Pedestrian Walkways 2025 Plan (Forsyth County n.d.) which includes plan for several multi-use paths and greenways, including an extension of the Big Creek Greenway from Alpharetta into Forsyth County.

- **Fulton County** initiated a master plan for county parks in 2001 and a Community Greenspace Program in 2000. The Greenspace Program calls for permanent protection of 20% of the county's geographic area, or approximately 68,000 acres. Local communities and stakeholders adjacent to the park have negotiated individual agreements for equestrian use of sites, trails, fishing, maintenance, and water quality monitoring.

- The **Gwinnett County** park and recreation plan calls for park and green space investments in riverfront land purchases and trails, using county funds and state Greenspace Program funds. The green space plan targets the purchase of 20 percent of the county land designated for permanent open space. A 2001 referendum approved implementation of the park plan. In May 2002, the County adopted the Open Space and Greenway Master Plan and in 2004 adopted a Comprehensive Parks and Recreation Master Plan, which addresses trail and coordinates with the Open Space and Greenway Master Plan. In addition, the Western Gwinnett bikeway, which will stretch from Reps Miller Road in Norcross to Rogers Bridge Road in Duluth via Peachtree Industrial Boulevard, is under construction with completion scheduled for 2010 (Gwinnett Daily Post 2005). The park has also coordinated with Gwinnett County on a possible trail linkage through the Settles Bridge area (Lutz 2006).

- The **City of Atlanta** updated the master plan for parks and recreation and is participating in the Georgia Greenspace purchase plan. The City's greenway acquisition program was established under a consent decree which mandates $25 million in funding for land acquisition. Under the program, the City has acquired more than 1100 acres of land (City of Atlanta 2006) with a goal of acquiring 1900 acres by 2009 (Atlanta Development Authority 2006). In addition, provisions for growing dedicated parks and greenspace is included in the City's New Century Economic Development Plan (City of Atlanta 2005).
- The **City of Duluth** prepared and funded the Chattahoochee River greenway plan to link National Park Service property and a state park adjacent to Abbotts Bridge Park to the south.
- The **City of Roswell** updated its parks and recreation plan in 2000 which calls for connections to Island Ford and Vickery Creek. A referendum held in 2000 included funding for parkland purchases of over $22 million. The park and recreation plan Roswell's plan includes active sculling uses, expansion of the Chattahoochee Nature Center, trails, and parking facilities. In addition, the City has developed a 7-mile trail system, the Roswell Riverwalk, along the western/northern bank of the Chattahoochee River.
- The **City of Sandy Springs** is planning to develop 60 acres of land along the Chattahoochee River into the Great Park at Morgan Falls, which is designed to connect publicly and privately owned riverfront land to existing public and recreational amenities in the Morgan Falls Park area. Possible amenities include walking trails, a pavilion area, picnic areas, a canoe dock, fishing areas, permeable surface parking, and a pedestrian bridge spanning the river (Georgia Power 2006c). Park staff have coordinated with this effort.
- The **City of Suwanee** green space program was initiated in 1999. In 2001, residents voted to approve a $17 million bond referendum to fund purchase of property to be used for open space, parks, and greenways. Since 2003, the City has acquired 240 acres of open space, created three new city parks, and expanded the existing Suwanee Creek Greenway with three miles of multi-purpose trails (Atlanta Regional Commission 2005b).
- The park anticipates coordination with the newly formed (2006) **City of Johns Creek**.

Visitor Profile. Most visitors are residents of the Atlanta metropolitan area. However, because it is a national park, people from all over the country who visit the Atlanta area also visit the park. The park's recreational visitors come from a wide variety of economic backgrounds representing many groups from the adjacent neighborhoods and society at large.

The 1998 visitors survey (NPS 1998a) reported that 91 percent of park visitors are from Georgia, and 88 percent of the visitors had previously visited the park. Approximately 56 percent of respondents had visited the park at least 10 times in the past year, and 22 percent had visited the park at least 51 times during that period.

Visitors come to the park for a wide variety of reasons, including viewing scenery, walking, hiking, jogging, bicycling, wildlife viewing/bird watching, communing with or studying nature, studying history, picnicking, fishing, and water sports (NPS 2000c). The length of a visitor's stay depends on the purpose of the visit; a jogger may only stay an hour while a picnicker may stay all day. Many visit the park on a regular or frequent basis.

Park staff collects annual visitation statistics for the park. Visitation estimates are developed using traffic counts. Monthly public use is recorded and reported. Table 21 presents the annual visitation at the park from 2000 through 2005 (NPS 2006a).

Table 21: Annual Visitation 2000 – 2005

Year	Annual Visitors
2000	2,659,709
2001	2,751,256
2002	2,806,578
2003	2,694,541
2004	2,672,138
2005	2,511,306

Source: NPS 2006a

Visitation Trends. Park visitation more than doubled from 1991 to 1996, from 1,660,563 to 3,540,375. This increase is attributed to the growth of population in the region and the popularity of the river corridor as a recreation area, particularly for rafting and fishing. The counties that border the river had individual population growth that ranked in the top 20 nationally between 1991 and 1996 (Forsyth and Gwinnett tied for first, Cobb was 16th); north Fulton cities Roswell and Alpharetta ranked first and third, respectively, among cities. The Atlanta region was rated the fourth fastest growing metropolitan area in the United States from 1990 to 2000.

In the last few years, however, documented visitation has incrementally decreased (Table 18) despite this record-breaking population growth. The following factors may have affected visitation trends in the park in recent years:

- **Water Quality**: One explanation of the decline in visitation may be public perceptions concerning water quality. During this era of booming growth, the Chattahoochee River corridor became a desirable place to live, leading to sprawl along the river corridor. Poor development practices and weak enforcement of existing local and state regulations that protected the river buffer and tributaries from run off and nonpoint pollution in the adjacent counties produced water quality concerns in the watershed. The Chattahoochee River was listed in the top 10 most endangered American rivers in 1999. The extensive media coverage of the pollution clearly affected perceptions of the desirability of the river as a recreational resource and may have contributed to the reduced rate of visitation of the park for boating, rafting, and fishing. Subsequent to 1999, several state, regional, and local planning initiatives and ordinance have been adopted that are aimed at improving water quality in the Chattahoochee River (refer to "Water Quality" subsection).
- **Change in Visitor Experience from Water-based Uses to Land-based Uses**: The metropolitan population rose from approximately 2.5 million in 1990 to over 4.1 million in 2000. However, the number of visitors who rafted the river dropped precipitously beginning in the mid-1990s, according to National Park Service rafting vendors (NPS 2000c). This decline in the number of water-oriented users has been attributed to the declining water quality (NPS 2000c). This period, however, has seen a significant increase in biking and jogging, as documented in the annual National Park Service visitor surveys (NPS 2000c).
- **Change in Access Patterns to the Park**: Regional traffic congestion, new patterns of access to the park, and changing visitor uses in different areas of the park suggest a new visitation trend. The typical visitor experience is currently more oriented toward walking, jogging, biking, car-pooling, and using unauthorized trails. This trend suggests the need for a new method for surveying and tracking visitor use, as those that access the park as pedestrians or

bicyclists are not always included in the visitor count, artificially lowering total visitors reported.

Community Characteristics

Community characteristics are included as an impact topic based on the criteria presented in "Impact Topics – Resources and Values at Stake in the Planning Process" in Chapter 3. Community characteristics include population, land use, and economics.

Population. The Atlanta metropolitan area is one of the most rapidly growing areas in the United States. According to the United States Census Bureau, the population of the 28-county Atlanta Metropolitan Statistical Area passed 4 million in 2000 and grew to over 4.7 million in 2004 (Metro Atlanta Chamber of Commerce 2006a). By 2030, the population is projected to surpass 6 million residents.

Gwinnett, Cobb, Fulton, and Forsyth counties were among the fastest growing counties in the Metropolitan Atlanta Statistical Area during the 1990s; however, growth in these counties has slowed between 2000 and 2004. According to Atlanta Chamber of Commerce statistics, the greatest percentage of population change between 2004 and 2005 was observed in counties on the periphery of the Atlanta metropolitan area, such as Dawson, Newton, and Paulding Counties. The population growth from 2000 to 2004 for the region in the vicinity of the park is summarized in Table 22 (U.S. Census Bureau 2006a).

Table 22. Population Growth in the Metropolitan Atlanta Area from 2000 to 2004

	Population		Change in Population	
County	**2000**	**2004**	**Numeric**	**Percent**
Gwinnett	588,448	700,794	112,346	19.1%
Fulton	816,006	814,438	1,568	-0.2%
Cobb	607,751	654,005	46,254	7.6%
Forsyth	98,407	131,865	33,458	34.0%
Atlanta MSA	4,054,500	4,704,300	649,800	16.0%

Source: U.S. Census Bureau (2006) and Metro Atlanta Chamber of Commerce (2006a)

Land Use

Regional Land Use. Local governments in Georgia, such as counties and incorporated municipalities, have responsibility for land use management and water quality protection. Their roles include master planning, zoning enforcement, storm water ordinance control, and water and wastewater planning. The U.S. Army Corps of Engineers, Mobile District manages the Buford Dam and Lake Lanier, located at the northern end of the park. The United States Army Corps of Engineers plays a key role in the management of the park through its control of river flow (NPS 2000c). The National Park Service increasingly participates on various commissions and boards dealing with land use issues, sprawl, smart growth, park planning, zonings by county and by cities, and regional and state studies of land use trends and their affects on local development and quality of life.

The four heavily populated counties of Cobb, Forsyth, Fulton, and Gwinnett are involved in land use planning activities that also affect the park. All four counties are required by State of Georgia Land Planning enabling legislation to prepare comprehensive plans for management of land use, infrastructure, and the financing of implementation of those same plans. Land use planning for each county along the Chattahoochee River is also specifically protected by Metropolitan River Protection Act requirements (also discussed in the "Aesthetics/Viewsheds" subsection).

Park units abut the cities of Atlanta, Duluth, and Roswell, and are relatively close to Alpharetta, Buford, Suwanee, and Cumming. Atlanta's Standing Peachtree Creek area has a municipal water facility and historic land uses that include mill and Fort Peachtree properties. Older Atlanta neighborhoods and industrial uses are the predominant land uses along the park boundaries. Resolution of the multi-year lawsuit on wastewater and storm water disposal from the City of Atlanta has prompted plans to purchase tributary buffers along the Chattahoochee River and the river itself as a means of improving water quality. The City of Roswell and the City of Alpharetta have combined to create citywide linking green belts along the Big Creek tributaries.

Municipalities that directly connect to the park have often taken leading roles in land use planning. The City of Roswell comprehensive plan provides an award winning park and recreation plan, an Adopt-A-Stream program, and land use buffer systems beyond state minimums. The Gwinnett Cities of Buford and Suwanee have approved new funding for open space purchases to support implementation of their comprehensive planning efforts. Duluth was an early leader in the formation of groups that supported the initial development of the park.

The Atlanta Regional Commission, the Metropolitan North Georgia Water Planning District, the Georgia Department of Natural Resources, and the Georgia Regional Transportation Authority play active roles in natural resource management, environmental assessment, watershed protection, and land use planning. New land use enforcement efforts are geared towards large land use developments called Projects of Regional Impact. Guidelines for these projects have recently been approved to provide wiser choices regarding compact growth, transportation alternatives, and green space protection. The state and regional agencies continue to expand enforcement and protection responsibilities in land use development activities. In addition, various community-based organizations and stakeholders have influenced in resource management (NPS 2000c).

Park Land Use. Land use in the northern end of the park and vicinity is primarily characterized by rapid population growth and urban sprawl. Urbanization has converted approximately half of the land in the vicinity of the park from agricultural or forested uses to residential, commercial, industrial, or other more intensive uses. Development has followed the major transportation corridors (I-75, I-285, Georgia 400) and includes high-rise buildings, industrial sites, subdivisions, and highway expansions (NPS 2000c). The National Park Service has increasingly focused on these transportation corridors because of runoff and viewshed issues related to intense new developments in these key economic corridors.

The southern end of the park, including the City of Atlanta and parts of Fulton County, is the most densely developed area, and the most heavily used by visitors. The northern portion of the park still contains some open fields and forests, and Forsyth County has large pockets of rural land uses and horse farms. However, development is increasing as urbanization sprawls northward (NPS 2000c).

The park serves as a green or open-space buffer for the entire region, bringing form to the land use patterns of the region. The density of land uses tends to increase as the distance from the park increases. In general, the park covers about a ¼-mile wide core area on each side of the river. Residential neighborhoods continue outward to ½ mile, and mixed uses to 1 mile.

This approximate ¼ mile width of the park is a community characteristic that planners refer to as the "walking distance." This core area is the least developed, with notable exceptions in the southern portion of the metro region, where industrial land uses and mill housing were developed earlier in the 20th century around Atlanta proper.

Up to ½ mile beyond the park boundaries, the neighboring area has various densities of residential development. Existing land uses are primarily single family residential except at key hubs near major traffic interchanges or intersections. These major activity centers involve a mix of non-residential and

residential land uses, as on the Georgia 400 Corridor at Northridge and at locations along the I-285 perimeter highway near Cumberland Mall.

The 1-mile distance represents the approximate limits of a nexus of land use planning and conditions that can buffer the park. Stream buffers throughout the watershed are protected under local and state authority. The core park area land, the residential ring, major activity centers, and industrial, apartment, and office land uses make up the overall layering of land use patterns.

Aesthetics/Viewsheds. The Georgia Metropolitan River Protection Act of 1973 includes language that allows the National Park Service to protect park aesthetics and viewsheds in the vicinity of the park. The Atlanta Regional Commission designed the act to protect river quality and visitor experiences in the national park, and to improve development controls in the Chattahoochee River watershed. The act established a 2000-foot-wide corridor on both banks of the Chattahoochee River for the entire length of the park. In 1998, the Metropolitan River Protection Act Corridor extended 36 additional miles to the downstream limits of Fulton and Douglas Counties. The act required the Atlanta Regional Commission to adopt a plan that would result in protection of the land and water resources of the Chattahoochee River Corridor, and to develop procedures to implement the plan and the act. Local governments in the corridor have the responsibility to implement the plan.

The Metropolitan River Protection Act makes it illegal to engage in any land-disturbing activity not in compliance with or not certified under the Chattahoochee Corridor Plan. This includes restricting any land clearing activity within a 50-foot buffer of the river and prohibiting impervious surfaces within 150 feet of the river. In addition, it requires a 35-foot vegetated buffer along tributaries to the Chattahoochee River, and precludes any land or water uses within the floodplain. When enforced, these provisions help protect the viewshed along the river corridor.

Proposed developments adjacent to the national park increasingly concern area residents, park visitors, and adjacent property owners. Visitors identify aesthetics and viewsheds of the park and the river corridor as important issues. The principle reasons for park visitation are to appreciate the beauty and serenity of the natural environment. As a result, one National Park Service objective is to allow views of the park and Chattahoochee River corridor from the outside but to ensure that high rises and nearby developments are not obvious from inside the park.

No county or city governmental jurisdiction other than the Metropolitan River Protection Act provides controls or guidelines for protection of the park viewsheds. However, the Cobb Galleria Community Improvement District, which incorporates 25,000 acres of landmass in the vicinity of the Palisades and Cochran Shoals, provides an effective means of improving visitor experience at site-specific developments and for leveraging private sector voluntary support for aesthetics and viewshed protection. In a unique public-private partnership, the district negotiates for joint funding of trails, amenities, and park area improvements in exchange for height and density waivers.

Economics

The park corridor abuts some of the wealthiest areas of metropolitan Atlanta. According to 2000 census data, the median household income in the City of Roswell, for example, is estimated at over $71,000 per family, while the median income per household for the State of Georgia is just over $42,000 (U.S. Census Bureau 2006). The combined real estate value of parcels in close proximity to the park has been estimated at approximately $15 billion (Trust for Public Land 2001), and the total amount obligated for land acquisition since the Chattahoochee River National Recreation Area was established in 1978 is $112, 840,439 (Libman 2006). Comparisons of waterfront and park-front properties to non-park parcels show significantly higher values for properties adjacent to rivers and parks. For example, properties and lease rates for New York City real estate facing Central Park, an 1800 acre green space, are as much as 40 percent higher than average rates. The economic value of the national park to the metropolitan Atlanta region has not yet been quantified.

The Atlanta region has a growing office and employment market due to geographic location and private sector planning. Atlanta is home to the headquarters of 15 Fortune 500 companies and 12 Fortune 1000 companies. In addition, Atlanta has remained competitive in business costs and was ranked the least costly large city for business in an annual KPMG study released in 2006 (Metro Atlanta Chamber of Commerce 2006b).

The four-county area containing the park had 1,231,000 employees in 1990, growing to 1,578,000 employees in 2000 and then declining slightly to 1,350,000 in 2004 (Atlanta Regional Commission 2005a). Metropolitan Atlanta as a whole employs over 2.4 million employees. In 2002, negative job growth was experienced in for the first time in decades; however, net gain of jobs was realized in 2004 and 2005. The Atlanta region will likely be impacted by mergers and acquisitions of large companies, such as Georgia-Pacific, Scientific Atlanta, and BellSouth as well as continuation of effects associated with Delta's bankruptcy. In addition Department of Defense facilities such as Fort Gilem, Fort McPherson, and the Marietta Naval Station are slated for closure as well as the General Motors and Ford manufacturing facilities. Despite these potential setbacks, it is predicted that job growth will continue with gains of more than 50,000 employees in 2007 and 2008 (Metro Atlanta Chamber of Commerce 2006b).

Although Metropolitan Atlanta's economy was not immune to the early 2000s recession, key economic indicators, such as personal income and gross metro product, indicate a near-term return to growth. Median household income in metropolitan Atlanta grew an estimated 18.4 percent from 2000 to 2004 and is 27 percent higher than the national average. The area's gross metro product growth is forecasted to increase 4 percent annually through 2008 (Metro Atlanta Chamber of Commerce 2004). Additionally, commercial construction grew in 2005 with an overall increase of almost 7% in total private construction valuation (Metro Atlanta Chamber of Commerce 2006b). Future trends in economic growth will result in continued development along the Chattahoochee River watershed and on the fragile environs of the narrow band of park habitats that wind through the north Fulton and I-75/I-285 areas of the region.

Park revenues reflect these economic trends. Fees from parking permits and related sources are estimated at $512,875 for fiscal year 2005, up from $495,465 in 2004 and $455,384 in 2003. The climbing revenues indicate a substantially increased demand on the parks, parking lots, trails, restroom facilities, interpretative activities, security, and related services. Additional economic output is generated in the park via fishing. The economic output of fishing in Chattahoochee River within the park was calculated based on a creel survey conducted in 2000-2001 by the Georgia Department of Natural Resources and on economic output data obtained from a U.S. Fish and Wildlife Service 2001 survey and published by the American Sportfishing Association. The average economic output per angler day for freshwater fishing in Georgia is $77.03. When combined with an average of 105,454 angler trips per year within the 48-mile stretch of the park yields an annual economic output of over $8,000,000 (Martin 2005).

PARK OPERATIONS

Staffing

Park staff provide the full scope of functions and activities to accomplish management objectives, performing duties that include resource protection and management, law enforcement, emergency services, public health and safety, visitor services, interpretation and education, community services,

utilities, housing, and fee collection. As of 2006, there were 32 full-time employees, performing their duties in the five functional roles including:

- The **Science and Resource Management** division is responsible for all activities related to the management, preservation, and protection of the park's cultural and natural resources. Activities include research, restoration activities, species-specific management programs, archives and collections management, and historic site protection.
- The **Resource Education** division is responsible for all park activities related to providing visitors with an educational park experience. Duties include interpretation, visitor center management, and interpretive media. Volunteer activities are also managed under this division.
- The **Ranger Activities** division is responsible for law enforcement, emergency services, and public health and safety within the park.
- The **Maintenance** division is responsible for all activities related solely to prolonging the life of park assets and infrastructure through substantial repair, replacement or rehabilitation of park assets, such as buildings, roads, trails, utilities, fleet vehicles, and equipment. This work includes cyclic and routine maintenance activities, inspection, general preventative maintenance and renovation projects.
- The **Administrative** division is responsible for all park-wide management and administrative support activities, park-level planning, human resource management, information technology, park leadership, and financial management. This staff also coordinates daily internal operations at the park and works with external constituencies.

Park staff spend time working with a variety of agencies and organizations to aid the park in achieving its mission. The park actively coordinates with the Georgia Department of Natural Resources, Wildlife Resources Division, regarding fish management practices within the park boundaries. In addition, there is an ever increasing demand for park staff to address connectivity with local city and county parks, and it is anticipated that a greater emphasis will be placed on coordinating with this entities in the future.

Park Infrastructure and Facilities

The park consists of 10,000 acres of land distributed along a 48-mile, linear corridor of the Chattahoochee River between Buford Dam and Peachtree Creek. The park is comprised of 15 separate areas which are listed in Table 17. Park facilities consist of picnic areas, hiking and biking trails, river access facilities, restrooms, and parking areas. The distribution of these facilities throughout the park is also provided in Table 17. Park headquarters are located at Island Ford, which serves as the operations center for all park staff and also contains a visitor contact station.

Commercial Services

The park will be conducting a study of concessionaire options which would review the potential cost for different uses, including replacement concessions, park offices, elimination of facilities, limited new facilities, or new information and interpretative facilities.

Chapter 4
ENVIRONMENTAL CONSEQUENCES

Indian Rock Shelter, Palisades

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CHAPTER 4
ENVIRONMENTAL CONSEQUENCES

IMPACT ASSESSMENT METHODOLOGY

This section describes the environmental consequences associated with the alternatives. The process for impact assessment is based on the directives of the Director's Order #12 handbook (Section 4.5(g)) (NPS 2001b), the review of existing literature, and information provided by experts within the park, other agencies, and the public. The impact analyses involved the following:

- **Identify applicable regulations that affect each impact topic.** The section entitled "Servicewide Mandates and Policies" in Chapter 1 and Appendix A summarize the applicable regulations for each impact topic.

- **Define issues of concern based on public input.** The issues of concern are summarized in Table 20. All impact topics were cross-linked to the original list of issues identified by the public during scoping of the general management plan/environmental impact statement. In addition, issues raised upon issuance of the draft general management plan/environmental impact statement in 2004 were also analyzed.

- **Identify the geographic area that could be affected.** The geographic area is either regional or local. Regional effects are defined as those types of changes that would result within the Atlanta metropolitan area. Local effects are defined as those types of effects that occur whether within the park, or within a short distance from the park's boundaries. Because the Chattahoochee River National Recreation Area is a narrow park over 48 miles in length, and is located in the center of an urban and suburban area, local effects vary from north to south and are largely dependent on the level of development. Also, because regional growth is occurring throughout the 48-mile corridor of the park in various forms, these geographic differences are expected to change in the next planning period, and are expected to be an important factor affecting the park through encroachment, increased trail and park facility use, and increased levels of stormwater runoff reaching the park through large numbers of perennial and intermittent streams that connect the park to adjoining areas. These potentially adverse effects are exacerbated by the fact that the watershed is long and narrow, with little chance for retardation of stream flow by settling. In the long-term, therefore, the location of the park will play a major role in future conditions within the park, especially for terrestrial ecological resources and water resources.

- **Define the resources and visitor experiences within the area that could be affected.** This information is included in Chapter 3 according to impact topics identified during public meetings and workshops.

- **Compare the resources and visitor experiences in the park to the area of potential effect.** This step was taken to establish a qualitative basis for comparing the effects of the action alternatives to those of Alternative A. The area of potential effect is related to the combinations of zones assigned to each alternative. Alternatives that involve more active forms of recreation and more potential for construction of park facilities were assumed to have a greater area of potential effect relative to Alternative A. The percentage of the total acreage of the park occupied by each zone under each alternative was used as an indicator of

the level of facility development and the types of visitor experience, types of facilities, and types of appropriate activities that would occur under each alternative (Table 23).

Table 23. Percentages of Park Acreage by Zone

Alternative	Alternatives A, B, C, and D						
	Developed Zone	**Natural Area Recreation Zone**	**Cultural Resource Zone**	**Sub Total[1]**	**Natural Zone**	**River Solitude Zone**	**Sub Total[2]**
Alternative A (No Action)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alternative B (Focus on Solitude)	2.73	20.27	8.75	**31.75**	49.00	19.25	**68.25**
Alternative C (Centralized Access)	2.69	29.16	7.77	**39.62**	41.13	19.25	60.38
Alternative D (Expanded Use)	4.68	74.13	6.81	**85.62**	14.38	0	14.38
	Alternatives E and F						
Alternative	**Developed Zone**	**Natural Area Recreation Zone**	**Historic Resource Zone**	**Sub Total[3]**	**Natural Zone**	**Rustic Zone**	**Sub Total[4]**
Alternative E	4.65	32.17	7.99	**44.81**	26.82	28.37	**55.19**
Alternative F (the Preferred Alternative)	4.99	49.09	8.01	**62.09**	29.33	8.58	**37.91**

N/A: Not Applicable

[1]Subtotal of developed zone, natural area recreation zone and cultural resource zone represents areas zoned for more active visitor use, and potentially higher levels of construction of new facilities.

[2]Subtotal of natural zone and river solitude zone reflects greater emphasis of these zones on less diverse forms of recreation, and limited construction.

[3]Subtotal of developed zone, natural area recreation zone and historic resource zone represents areas zoned for more active visitor use, and potentially higher levels of construction of new facilities in developed zones.

[4]Subtotal of natural zone and rustic zone reflects greater emphasis of these zones on limited new construction.

Note: Since the river was not zoned in Alternatives B, C, and D, the river zone was excluded from the total acreage in Alternatives E and F, and percentages are based on the land-based zones only.

Under Alternatives B, C, and D, higher levels of park-related construction and more active forms of visitor use would be appropriate in the developed zone, natural area recreation zone, and cultural resource zone. The percentages of the total acreage of the park occupied by each of these three zones were therefore added to provide a relative basis for comparison. In contrast, lower levels of potential park-related construction and less diverse range of visitor activities and types of experience would be appropriate in the natural zone and river solitude zone, so these percentages were also combined (Table 23).

Under Alternatives E and F, higher levels of park-related construction and more active forms of visitor use would be appropriate in the developed zone, natural area recreation zone, and historic resource zone. The percentages of the total acreage of the park occupied by each of these three zones were

therefore added to provide a relative basis for comparison. In contrast, lower levels of park-related construction and less diverse range of visitor activities and types of experience would be appropriate in the natural zone and rustic zone, so these percentages were also combined (Table 24). Since the river was not zoned in Alternatives B, C, and D, the river zone was excluded from the total acreage in Alternatives E and F, and percentages are based on the land-based zones only. This provides a more accurate comparison of all alternatives.

Under Alternative A, existing management policies would be continued, with some new construction, but it was assumed that existing levels of park planning would expected to continue into the future. Therefore, resource planning and implementation would continue with gaps and limitations due to existing levels of funding and staffing.

- **Identify the effects caused by each alternative in relation to Alternative A to determine the relative change in resource condition.** These effects were estimated qualitatively using the management assumptions summarized in the methodology for each impact topic.

- **Characterize the effects based on the following factors:**

    - Whether the effect would be beneficial or adverse;
    - The intensity of the effect: negligible, minor, moderate, or major. Impact topic-specific thresholds for each of these classifications are provided in Table 8. Threshold values were developed based on federal and state standards, consultation with regulators from applicable agencies, and discussions with subject matter experts;
    - Duration of the effect, either short-term or long-term. The definition of short-term and long-term are provided in tables included in the methodology section for each impact topic.
    - Whether the effect would be a direct result of the action or would occur indirectly because of a change to another resource or impact topic.

- **Determine cumulative effects by qualitatively evaluating the effects of the alternatives in conjunction with the past, current, or foreseeable future actions for the park and region.** Cumulative effects include the combined effects of actions inside the park, as well as the combined effects of actions by developments outside the park. The cumulative effect of activities outside the park are beyond the park's control, and the combined effect of any park actions under any of the action alternatives would be negligible in comparison with the effects of actions taken outside the park. Actions outside the park, in contrast, have the potential for having adverse cumulative effects on resources inside the park.

  Cumulative effects were assessed by qualitatively estimating how each alternative would potentially impact the resources within the park, and how the growth and conditions in the area surrounding the park would affect resources and visitor experience inside the park boundaries. This was done by qualitatively estimating the additive effect of expected environmental changes associated with each alternative to existing, ongoing, and reasonably foreseeable actions. Appendix H contains additional information on examples of the types of projects that are either ongoing or proposed to be constructed. Because of the large number of projects that are involved, the assessment of cumulative effects is by necessity a qualitative exercise based on a reasonable prediction of expected activities in the surrounding area, and the features of each alternative.

- **Determine whether impairment would occur to resources and values that are considered necessary and appropriate to fulfill the purposes of the park.** In addition to determining the environmental consequences of the preferred and other alternatives, the National Park Service Management Policies (NPS 2006f) and Director's Order #12 (NPS 2001b) require analysis of potential effects to determine if actions would impair resources in the park.

  "The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid or minimize to the greatest degree practicable adverse effects on park resources and values. This mandate is independent of the separate prohibition on impairment and applies all the time with respect to all park resources and values, even when there is no risk that any park resource or values may be impaired. National Park Service managers must always seek ways to avoid, or to help minimize to the greatest extent practicable, adverse effects on park resources and values. However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, so long as the impact does not constitute impairment of the affected resources and values.

  While Congress has given National Park Service the management discretion to allow impacts within parks, that discretion is limited by statutory requirement (generally enforceable by the federal courts) that the National Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

  The impairment of park resources and values may not be allowed by the National Park Service unless directly and specifically provided for by legislation or by the proclamation establishing the park. The relevant legislation or proclamation must provide explicitly (not by implicating reference) for the activity, in terms that keep the National Park Service from having the authority to manage the activity so as to avoid the impairment.

  The impairment that is prohibited by the Organic Act and the General Authorities Act is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. Whether an impact meets this definition depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts.

  An impact to any park resource or value may, but does not necessarily, constitute an impairment. An impact would more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

  - necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or
  - key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or

- identified as a goal in the park's general management plan or other relevant National Park Service planning documents as being of significance.

An impact would be less likely to constitute an impairment, if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values and it cannot be further mitigated (NPS 2006f)."

The potential for impairment was estimated by qualitatively applying the three criteria listed above as required by National Park Service guidelines and policies (NPS 2001b, NPS 2006f). Professional judgment and available information on the baseline conditions and features of the alternatives were relied upon to determine whether resource impairment would be likely. A determination of impairment is made for each impact topic within each "Conclusion" section of this chapter.

- **Identify mitigation measures that may be employed to offset potential adverse effects.** Measures are presented for the construction of new park facilities and for the operation of all park activities. Most mitigation measures are either: (1) best management practices that would be applied during construction; or to (2) avoid, reduce or minimize potentially adverse effects by developing and implementing studies and plans (including a fire management plan, a resource stewardship strategy, a collections management plan, an integrated trail system study, and a commercial services plan), and completing environmental assessments for park projects. These mitigation measures are built into the thresholds, as described previously, and were used as a means of estimating the net effect of each alternative. A summary of mitigation measures associated with each alternative is provided in Table 7.

IMPACT ASSESSMENT SECTION ORGANIZATION

Each impact assessment section provides a detailed assessment of the effects of each alternative for each impact topic, and the basis on which each threshold was selected. The impact sections are organized as follows:

Regulations and Policies: The relevant regulations and policies that apply to each impact topic are summarized in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology: Qualitative methods were used to assess effects of each alternative on each impact topic. A description is presented at the beginning of each impact topic analysis, and impact thresholds are presented.

Impact Analysis: An impact analysis section was completed for each alternative for each individual impact topic. This section summarizes the results of the impact analysis process for each alternative and identifies reasons for the anticipated effects.

Cumulative Impacts: This section discloses the anticipated cumulative effects of each alternative on each impact topic.

Conclusions: This section describes the final results of the analysis. Conclusions regarding direct and cumulative effects of each alternative on each impact topic are provided, including an estimate of the potential for an alternative to cause impairment. Conclusions address impact intensity and duration and whether the effects would be adverse or beneficial.

WATER RESOURCES

Regulations and Policies

The regulations and policies that guide National Park Service actions with respect to water resources are presented in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology

Water resource issues identified during public meetings and planning workshops included: (1) the potential effects of construction and operation of National Park Service projects on surface water hydrology and water quality of streams inside the park, including the Chattahoochee River; and (2) potential effects of development in the area surrounding the park on surface water hydrology and water quality inside the park, including the Chattahoochee River. In general, concerns were raised regarding the protection of water quality and the prevention of habitat degradation.

To address these issues, an assessment of the effects of projected park actions and development in the area surrounding the park on water resources was made using qualitative estimates of the expected levels of construction inside the park and expected levels of growth outside the park, and the effects were compared to Alternative A. The major assumptions used in the analysis of construction-related effects were that: (1) potential effects on water resources from construction sites are primarily related to increased runoff of storm water from disturbed land at construction sites; and (2) as the amount of land disturbing activity increases under a given alternative, the potential for increased runoff and associated pollutants from construction sites increases. The major assumption for assessing operation-related effects on water resources was that the volume of storm water runoff and associated pollutants from impervious surfaces from park facilities during operation would increase as the number of new park facilities being operated increases.

In addition to these major assumptions, it was also assumed that resource stewardship strategies or many of the other proposed plans and studies outlined in Chapter 5 would not be prepared or implemented under Alternative A, but would be more likely to be implemented under the action alternatives due to planned increases in staffing and other actions specific to each alternative. However, under all alternatives, best management practices for construction would be implemented on any construction project proposed by the park and potential adverse effects of construction on water resources would be minimized by implementation of site-specific environmental assessments tiered to this general management plan/environmental impact statement. Effects of individual projects on water resources would be effectively assessed, and mitigation measures employed.

Impairment of water resources would occur if there was a significant adverse effect to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in this general management plan or other National Park Service planning documents as being of significance.

The impact thresholds used for estimating the intensity of different types of effects on water resources are presented in Table 24.

Table 24. Impact Thresholds for Water Resources

Negligible: Effects (chemical, physical, or biological) would not be detectable. Levels of water quality parameters would be well below all water quality standards for designated uses. No vegetation or wildlife effects associated with altered water quality would be evident.
Minor: Effects (chemical, physical, or biological) would be measurable, but water quality parameters would be well within all water quality standards for designated uses. State water quality and anti-degradation policy would not be violated. Changes in vegetation or wildlife use and health associated with water quality would be slight but measurable.
Moderate: Effects (chemical, physical, or biological) would be measurable and readily apparent, but water quality parameters would be within all water quality standards for the designated use. State water quality and antidegradation policy would not be violated. Changes in vegetation and/or wildlife use and health associated with water quality would be measurable and readily apparent. Mitigation would be necessary to offset adverse effects, and would likely be successful.
Major: Effects (chemical, physical, or biological) would be readily measurable, and some water quality standards would be periodically approached, equaled, or exceeded. State water quality regulations and antidegradation policy may be violated. Changes in vegetation and/or wildlife use and health associated with water quality would be measurable and readily apparent, even to a casual observer. Extensive mitigation measures would be necessary and their success would not be assured.
Duration: Long-term: Following treatment, recovery would take longer than one year. Short-term: Following treatment, recovery would take less than one year.

Impacts of Alternative A

Under Alternative A, some construction-associated runoff would be produced since a small number of new facilities would potentially be constructed and operated. If left uncontrolled, this runoff could cause an increase in current velocities, flow, and sedimentation in receiving streams within the park. However, best management practices would be employed in all construction areas to control the amount and quality of runoff. These would include erosion control measures such as type C silt fencing on slopes greater than 3 percent, mulching, sedimentation ponds, and use of cocoa fiber and seeding of native grasses.

Due to existing staffing and funding constraints, Alternative A is considered to offer a minimal level of protection to water resources. The park would be managed according to current policies, and resource stewardship strategies, flow studies, or many other of the proposed plans and studies outlined in Chapter 5 would not all be implemented. Trails and other park facilities would not be effectively maintained under Alternative A, and there would be a higher potential for elevated levels of surface runoff that could reach streams within the park.

Visitors would be allowed access throughout the park at a wide variety of existing locations, potentially leading to an increase in trail overuse, soil erosion, and transport to surface water, including the Chattahoochee River. Trail overuse and creation of unauthorized trails are already a problem in some areas of the park and this would likely worsen under Alternative A. However, best management practices would also be included in the design of all park facilities, including trails, which would minimize the potential for adverse effects on water resources. Overall, Alternative A would result in a long- and short-term, minor to moderate, adverse, effect on water resources.

Cumulative Effects

Under all of the alternatives, including Alternative A, the cumulative adverse effects related to stormwater runoff from development outside the park on water resources inside the park would be of greater significance than cumulative effects related to park projects and management. As the area surrounding the park becomes more developed, this problem would be expected to increase. However, regional implementation of such initiatives as total maximum daily load requirements, sediment and erosion control permitting and certification programs, local watershed management plans and ordinances, and programs designed to prevent sanitary and combined sewer overflows would have beneficial effects on water quality within the park. As implementation of these initiatives and programs by local governments becomes more widespread, controls should ultimately be put in place and enforced that would improve water quality in the park over the long term. However, Alternative A would involve the least amount of coordination and planning between the National Park Service and local governments which could hinder the potential of such beneficial effects.

When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting water resources are combined with actions under Alternative A, the resulting cumulative effects would be long- and short-term, moderate to major, and adverse. Adverse effects would be moderate to major because water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park. These effects would be outside of the park's ability to control, however, and are not related to park actions.

Conclusions

Long- and short-term, minor to moderate, adverse effects would occur under Alternative A from minimal construction and maintenance of park facilities, the effects of increasing visitor use, staffing constraints, and the lack of implementation of resource stewardship strategies and other studies.

Water resources in the park, including the Chattahoochee River, would continue to be primarily influenced by urban development in the surrounding urban watershed. This would constitute a long- and short-term, moderate to major, adverse, cumulative effect on water resources. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of water resources or values as a result of park actions under Alternative A.

Impacts of Alternative B

Under Alternative B, the level of development would be less than what is anticipated under Alternative A, and most new facilities would be built outside the park whenever possible. In many cases, sites chosen for development would be likely to have some existing facilities or have been previously disturbed by utility lines, access roads, or existing structures. New development within the park would be limited in size and numbers, and could include such visitor facilities as small gravel parking lots, primitive trails, and interpretive signage. Best management practices described under Alternative A would also be incorporated into new development to control and minimize the amount and improve the quality of runoff during construction.

When compared with Alternative A, which lacks management zones, much of the park would be left in a natural state with approximately 68 percent of park acreage zoned as either a natural zone or river solitude zone. Facilities such as roads, parking lots, boat ramps, and restrooms would not be permitted

in the river solitude zone, and only existing facilities and primitive trails would be permitted in the natural zone. Visitor use would be focused on the river, primitive areas, unpaved trails, and other less developed facilities, and passive forms of recreation would be emphasized. Parcels added to the park would remain in, or be restored to, a largely natural state providing additional levels of protection for water resources in the watershed.

Visitors would be allowed access at relatively few locations under Alternative B, resulting in a lower potential for trail overuse and increased soil erosion in comparison with Alternative A. Potential adverse effects of trail use and soil erosion on water quality would be mitigated by developing and implementing a resource stewardship strategy and integrated trail system study. Flow studies would be performed to provide the information necessary to help sustain aquatic life and provide for future park recreational opportunities. An emphasis would also be placed on habitat restoration which would serve as a natural buffer for surface water. In addition, increased educational awareness would also be emphasized under this alternative, which would provide further benefits. Overall, Alternative B would therefore have a long- and short-term, minor, beneficial effect on water resources in the park.

Cumulative Impacts

Cumulative effects would be similar to those described under Alternative A. However, increased staffing proposed for all of the action alternatives could potentially lessen adverse cumulative effects through increased cooperation and coordination with local, county and state agencies on projects and activities outside of the park that directly and indirectly affect water quality within the park. In addition, increased educational programs aimed at increased resource awareness could generate interest in their protection outside the park as well. Although the effectiveness of cooperative efforts and education would be difficult to quantify, it is likely that cumulative effects would be slightly less adverse than those described under Alternative A, resulting in a long- and short-term, moderate, adverse, cumulative effect on water quality under Alternative B.

Conclusions

Alternative B would have long- and short-term, minor, beneficial effects on water resources resulting from negligible increases in surface runoff; implementation of a resource stewardship strategy, an integrated trail system study, and flow studies; and the increased educational opportunities afforded under this alternative.

Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including Alternative B. This would constitute a long- and short-term, moderate, adverse, cumulative effect on water resources. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of water resources or values as a result of park actions under Alternative B.

Impacts of Alternative C

Under Alternative C, three strategic areas or hubs, located inside or outside of the park, would be developed to provide information, interpretation and other services to visitors and would include administrative facilities for park staff. Construction and visitor-use impacts would be centralized within these developed hubs, minimizing the need to construct facilities in other parts of the park, and reducing the potential to affect water resources. The rest of the park would remain relatively undeveloped. The moderate amount of construction and land disturbing activity required for the new hubs, access roads, and trails would be greater than expected under future development in Alternative A. However, with mitigation as described in Table 7, ground-disturbing actions proposed in Alternative C would have only minor, adverse effects on water resources.

Alternative C would discourage new entrances to the park while focusing park supervision, education, and monitoring where use is greatest. With more limited access, sites would be better protected from resource damage than under Alternative A. Potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing a resource stewardship strategy and an integrated trail system study. Flow studies would be performed to provide the information necessary to help sustain aquatic life and provide for future park recreational opportunities. Site monitoring and numbers of rangers and educational programs would be increased, helping to provide greater protection and monitoring of water resources.

Management zones promoting passive recreation and less developed surfaces (the natural and river solitude zones) would occupy approximately 60 percent of the park. New areas added to the park could be effectively managed under this alternative, providing additional levels of protection for water resources in the watershed. New interpretation and education efforts and coordination of public/private partnerships would also help build stewardship and enhance opportunities for resource protection.

Overall, Alternative C would have a long- and short-term, negligible, adverse effect on water resources in the park.

Cumulative Impacts

Cumulative effects would be the same as described for Alternative B.

Conclusions

Alternative C would have the potential for a greater amount of construction than Alternative A; however, these impacts would be offset somewhat by centralization of services and construction in hubs; implementation of a resource stewardship strategy, an integrated trail system study, and flow studies; and the increased educational opportunities and partnerships afforded under this alternative. The overall effect on water resources is long- and short-term, negligible, and adverse.

Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including Alternative C. This would constitute a long- and short-term, moderate, adverse, cumulative effect on water resources. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of water resources or values as a result of park actions under Alternative C.

Impacts of Alternative D

Alternative D would involve a greater relative level of facility construction and operation activities in comparison with Alternative A, and more ground disturbance would be considered appropriate, primarily in the developed zones but also in the natural area recreation zone and cultural resources zone. Under Alternative D, the relative amount of associated surface runoff and addition of impervious space would therefore be higher than that associated with Alternative A. However, best management practices described under Alternative A would also be employed in all construction areas to control and minimize the amount and improve the quality of runoff.

Of the five action alternatives, Alternative D dedicates the least amount of acreage (14 percent of the authorized 10,000 acres) to zones emphasizing less diverse types of recreation and minimization of new construction. The increased number and types of recreational development associated with Alternative D compared to Alternative A would increase the potential for visitor-related adverse effects on water quality. In addition, visitor use and access would be expanded and distributed throughout the park. Connections to existing neighborhoods would be optimized and expanded, and trail links to areas outside the park would be provided. Creation of numerous trails and access points could potentially make it difficult for park staff to prevent resource damage and inappropriate uses of sites. However, potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing a resource stewardship strategy and an integrated trail system study.

Under Alternative D, flow studies would be performed to provide the information necessary to help sustain aquatic life and provide for future park recreational opportunities. Site monitoring, staffing, and educational programs would be increased, helping to provide greater protection and evaluation of water resources. New areas added to the park could be effectively managed under this alternative, providing additional levels of protection for water resources in the watershed. In addition, Alternative D (and Alternatives E and F) would have greater emphasis placed on coordination and planning between the National Park Service and local governments than Alternative A which could result in greater stewardship of water resources within the park.

These combined actions and factors would result in an overall long- and short-term, minor, adverse effect on water resources.

Cumulative Impacts

Cumulative effects would be the similar to those described for Alternative B. However, Alternative D (and Alternatives E and F) would have the greatest staffing increases and greatest emphasis placed on coordination and planning between the National Park Service and local governments and organizations than Alternative A. Park managers would be able to use these partnerships to better adapt to changing ecological and social conditions within and external to the park and coordinate regional planning and land management as it affects the park. The effects of urban development outside the park cannot be directly controlled by park officials and resolution of watershed issues would ultimately depend on the effectiveness of watershed management planning efforts by the surrounding communities and implementation of institutional controls such as wet ponds, artificial floodplains, and non-structured best management practices by local agencies. Bordering area governments could consider future changes to their comprehensive plans to address land use, zoning, permitting and regulatory issues within the watershed. Increased coordination with local agencies

could also have the beneficial effect of increased enforcement of the Metropolitan River Protection Act, resulting in improved stewardship of water resources. The combined effect of a unified strategy would be an effective tool for preserving park resources. Hence, Alternative D (and Alternatives E and F) would provide the greatest level of offset in adverse cumulative effects when compared to Alternative A resulting in a long- and short-term, minor to moderate, adverse, cumulative effect on water resources.

Conclusions

Alternative D would have the greatest relative amount of land disturbing activity and more access in comparison to Alternative A. These impacts would be offset somewhat by implementation of a resource stewardship strategy, an integrated trail system study, and flow studies; and the increased staffing, educational opportunities, and partnerships afforded under this alternative. The overall effect on water resources is long- and short-term, minor, and adverse.

Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by the greater emphasis that Alternative D places on partnering with local governments resulting in an overall long- and short-term, minor to moderate, adverse, cumulative effect on water resources.

There would be no impairment of water resources or values as a result of park actions under Alternative D.

Impacts of Alternative E

Alternative E is similar to Alternative B in that it would provide for solitude, and access would be located strategically throughout the park. The level of development in Alternative E is similar to and slightly increased from development in the Alternative C, and substantially more than Alternative A. Mitigation measures described in Table 7 would help ensure that adverse effects on water resources from development would be negligible to minor.

Alternative E dedicates approximately 55 percent of park acreage to zones emphasizing less diverse types of recreation, access, and minimization of new construction. However, the number and types of recreational opportunities associated with Alternative E and the expansion and distribution of visitor services would be greater than Alternative A and would increase the potential for visitor-related adverse effects on water quality. Connections to existing neighborhoods would be optimized and expanded, and trail links to areas outside the park would be provided. Creation of numerous trails and access points could potentially make it difficult for park staff to prevent resource damage and inappropriate uses. However, potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing a resource stewardship strategy and an integrated trail system study.

Under Alternative E, flow studies would be performed to provide the information necessary to help sustain aquatic life and provide for future park recreational opportunities. Site monitoring, staffing, and educational programs would be increased, helping to provide greater protection and evaluation of water resources. New areas added to the park could be effectively managed under this alternative, providing additional levels of protection for water resources in the watershed. In addition, Alternative E (and Alternatives D and F) would have the greatest emphasis placed on coordination and planning between the National Park Service and local governments compared to Alternative A which could

result in greater stewardship of water resources within the park. These combined actions and factors would result in an overall long- and short-term, negligible to minor, adverse effect on water resources.

Cumulative Impacts

Cumulative effects would be similar to those described for Alternative D, resulting in a similar long- and short-term minor to moderate, adverse effect.

Conclusions

Alternative E would have a moderate amount of land disturbing activity and a greater level of access in comparison to Alternative A. These impacts would be offset somewhat by implementation of a resource stewardship strategy, an integrated trail system study, and flow studies; and the increased staffing, educational opportunities, and partnerships afforded under this alternative. The overall effect on water resources is long- and short-term, negligible to minor, and adverse.

Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by the greater emphasis that Alternative E places on partnering with local governments resulting in an overall long- and short-term, minor to moderate, adverse, cumulative effect on water resources.

There would be no impairment of water resources or values as a result of park actions under Alternative E.

Impacts of Alternative F, the Preferred Alternative

The same effects as those described under Alternative D are applicable to Alternative F.

AQUATIC RESOURCES

Regulations and Policies

The regulations and policies that guide National Park Service actions with respect to aquatic resources are presented in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology

Aquatic resource issues identified during public meetings and planning workshops included: (1) the potential effects of construction and operation of park projects on aquatic ecology inside the park, including the Chattahoochee River; and (2) potential effects of development in the area surrounding the park on aquatic ecology inside the park, including the Chattahoochee River. In general, concerns were raised regarding the protection of water quality and prevention of habitat degradation.

To address these issues, an assessment of the effects of projected park actions and development in the area surrounding the park on aquatic resources was made using qualitative estimates of the expected levels of construction inside the park, and expected levels of growth outside the park. Qualitative estimates of these effects were made, and the effects were compared to Alternative A. The major assumptions used in the analysis of construction-related effects were that: (1) potential effects on aquatic resources from construction sites are primarily related to increased runoff of storm water from

disturbed land at construction sites; and (2) as the amount of land disturbing activity increases under a given alternative, the potential for increased runoff and associated pollutants from construction sites increases. The major assumption for assessing operation-related effects on aquatic resources was that the volume of storm water runoff and associated pollutants from impervious surfaces from park facilities during operation would increase as the number of new park facilities being operated increases.

In addition to these major assumptions, current management policies would continue to be carried out into the future, and resource stewardship strategies and many of the other proposed plans and studies outlined in Chapter 5 would not be prepared or implemented under Alternative A, but could be implemented under the action alternatives due to planned increases in staffing and other planned actions specific to each alternative. This implies that, under Alternative A, plant and animal resources associated with aquatic habitats would not be inventoried beyond what is currently known, and that habitat restoration activities would be minimal. The trail system would not be managed as effectively as proposed under the action alternatives.

However, under all alternatives, best management practices for construction would be implemented on any construction project proposed by the park and potentially adverse effects of construction on aquatic resources would be minimized by implementation of site-specific environmental assessments tiered to the general management plan/environmental impact statement. Effects of individual projects on aquatic resources would be effectively assessed, and mitigation measures employed.

Impairment of aquatic resources would occur if there was a significant adverse effect to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in this general management plan or other National Park Service planning documents as being of significance.

The impact thresholds used for estimating the intensity of different types of effects on aquatic resources are presented in Table 25.

Table 25. Impact Thresholds for Aquatic Resources

Negligible: Aquatic resources and their habitats would not be affected or the effects would be at or below the level of detection and would not be measurable or of perceptible consequence to aquatic populations.
Minor: Effects on aquatic resources or habitats would be measurable or perceptible, but localized within a small area. While the mortality of individual plants and animals might occur, the viability of aquatic populations would not be affected and the community, if left alone, would recover.
Moderate: A change in aquatic populations or habitats would occur over a relatively large area. The change would be readily measurable in terms of abundance, distribution, quantity, or quality of populations. Mitigation measures would be necessary to offset adverse effects, and would likely be successful.
Major: Effects on aquatic populations or habitats would be readily apparent, and would substantially change aquatic populations over a large area. Extensive mitigation would be needed to offset adverse effects, and the success of mitigation measures could not be assured.
Duration: Long-term: Takes more than a year to recover. Short-term: Recovers in less than a year.

Impacts of Alternative A

Under Alternative A, some construction-associated runoff would be produced since a small number of new facilities would be constructed and operated. If left uncontrolled, this runoff could cause an increase in current velocities, flow, and sedimentation in receiving streams within the park. These effects in turn would cause elimination of suitable habitat for benthic invertebrate and fish. However, best management practices would be employed in all construction areas to control the amount and quality of runoff and the associated effects on aquatic resources. These would include erosion control measures such as type C silt fencing on slopes greater than 3 percent, mulching, sedimentation ponds, and use of cocoa fiber and seeding of native grasses.

Due to existing staffing and funding constraints, Alternative A is considered to offer a minimal level protection to aquatic resources. The park would be managed according to current policies, and resource stewardship strategies, flow studies, or many other of the proposed plans and studies outlined in Chapter 5 would not all be implemented. Trails and other park facilities would not be effectively maintained under Alternative A, and there would be a higher potential for elevated levels of surface runoff that could reach streams within the park.

Visitors would be allowed access throughout the park at a wide variety of existing locations, potentially leading to an increase in trail overuse, soil erosion, and transport to surface water, including the Chattahoochee River. Trail overuse and creation of unauthorized trails are already a problem in some areas of the park and this would likely worsen under Alternative A. All of these changes would contribute to further degradation of habitats for fish and benthic invertebrates as well as other aquatic resources. However, best management practices would also be included in the design of all park facilities, including trails, which would minimize the potential for adverse effects on aquatic resources. Overall, Alternative A would result in a long- and short-term, minor to moderate, adverse, effect on aquatic resources.

Cumulative Effects

The growth in the area surrounding the park has already had adverse effects on water quality and aquatic resources in the Chattahoochee River. This was identified as a major issue in terms of water quality, fishing, recreational use and visitor experience. However, this issue cannot be effectively solved by park staff because it is largely outside of the park's control.

Under all of the alternatives, including Alternative A, the cumulative adverse effects related to stormwater runoff from development outside the park on aquatic resources inside the park would be of greater significance than cumulative effects related to park projects and management. As the area surrounding the park becomes more developed, this problem would be expected to increase. However, regional implementation of such initiatives as total maximum daily load requirements, sediment and erosion control permitting and certification programs, local watershed management plans and ordinances, and programs designed to prevent sanitary and combined sewer overflows would have beneficial effects on aquatic resources within the park. As implementation of these initiatives and programs by local governments becomes more widespread, controls should ultimately be put in place and enforced that would improve water quality in the park over the long term, which would in turn benefit aquatic resources. However, Alternative A would involve the least amount of coordination and planning between the National Park Service and local governments which could hinder the potential of such beneficial effects.

When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting aquatic resources are combined with actions under Alternative A, the resulting cumulative effects would be long- and short-term, moderate to major, and adverse. Adverse effects would be moderate to major because aquatic resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park. These effects would be outside of the park's ability to control, however, and are not related to park actions.

Conclusions

Long- and short-term, minor to moderate, adverse effects would occur under Alternative A from minimal construction and maintenance of park facilities, the effects of increasing visitor use, staffing constraints, and the lack of implementation of resource stewardship strategies and other studies.

Aquatic resources in the park would continue to be primarily influenced by urban development in the surrounding urban watershed. This would constitute a long- and short-term, moderate to major, adverse, cumulative effect on aquatic resources in the park. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of aquatic resources or values as a result of park actions under Alternative A.

Impacts of Alternative B

Under Alternative B, the level of development would be less than what is anticipated under Alternative A, and most new facilities would be built outside the park whenever possible. In many cases, sites chosen for development would likely have some existing facilities or have been previously disturbed by utility lines, access roads, or existing structures. New development within the park would be limited in size and numbers, and could include such visitor facilities as small gravel parking lots, primitive trails, and interpretive signage. Best management practices described under Alternative A would also be incorporated into new development to control and minimize the amount and improve the quality of runoff during construction and the associated effects on aquatic resources.

When compared with Alternative A, which lacks management zones, much of the park would be left in a natural state with approximately 68 percent of park acreage zoned as either a natural zone or river solitude zone. Facilities such as roads, parking lots, boat ramps, and restrooms would not be permitted in the river solitude zone, and only existing facilities and primitive trails would be permitted in the natural zone. Visitor use would be focused on the river, primitive areas, unpaved trails, and other less developed facilities, and passive forms of recreation would be emphasized. Visitors would be allowed access at relatively few locations under Alternative B, resulting in a lower potential for trail overuse and increased soil erosion in comparison with Alternative A. Potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing a resource stewardship strategy and integrated trail system study. Visitor use patterns in heavily used areas could be changed to improve resource conditions and there would be a heavier emphasis placed on restoration. Parcels added to the park would remain in, or be restored to, a largely natural state providing additional levels of protection for aquatic resources in the watershed.

Additional studies and planning efforts could be implemented under Alternative B, including a fisheries management plan which would outline specific measures to restore aquatic habitat and water quality to support the reintroduction of native aquatic species where feasible. This would be developed in coordination with the Georgia Department of Natural Resources, Wildlife Resources

Division. Studies could also be conducted to develop a predictive model for the effects of variable instream flows on fish and their habitats. In addition, habitat restoration and increased educational awareness would also be emphasized under this alternative, which would provide further benefits. Overall, Alternative B would have a long- and short-term, minor, beneficial effect on aquatic resources in the park.

Cumulative Impacts

Cumulative effects would be similar to those described under Alternative A. However, increased staffing proposed for all of the action alternatives could potentially lessen adverse cumulative effects through increased cooperation and coordination with local, county, and state agencies on projects and activities outside of the park that directly and indirectly affect aquatic resources within the park. In addition, increased educational programs aimed at increased resource awareness could generate interest in their protection outside the park as well. Although the effectiveness of cooperative efforts and education would be difficult to quantify, it is likely that cumulative effects would be slightly less adverse than those described under Alternative A, resulting in a long- and short-term, moderate, adverse, cumulative effect on aquatic resources under Alternative B.

Conclusions

Alternative B would have long- and short-term, minor, beneficial effects on aquatic resources resulting from negligible increases in surface runoff; implementation of a fisheries management plan, resource stewardship strategy, an integrated trail system study, and flow studies; and emphasis on habitat restoration and increased educational opportunities afforded under this alternative.

Aquatic resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including Alternative B. This would constitute a long- and short-term, moderate, adverse, cumulative effect on aquatic resources. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of aquatic resources or values as a result of park actions under Alternative B.

Impacts of Alternative C

Under Alternative C, construction and visitor-use impacts would be centralized within three strategic areas or hubs, minimizing the need to construct facilities in other parts of the park, and reducing the potential to affect aquatic resources. The rest of the park would remain relatively undeveloped. The moderate amount of construction and land disturbing activity required for the hubs, access roads, and trails would be greater than expected future development under Alternative A. However, with mitigation as described in Table 7, ground-disturbing actions proposed in Alternative C would have only minor effects on aquatic resources.

Alternative C would discourage new entrances to the park while focusing park supervision, education, and monitoring activities where use is greatest. With more limited access, sites would be better protected from resource damage than under Alternative A. In addition, management zones with less developed surfaces and less diverse recreational opportunities (the natural zone and river solitude zone) would occupy approximately 60 percent of the park. Additional areas added to the park could be effectively managed under this alternative, providing additional levels of protection for aquatic

resources in the watershed. Increased interpretation and education efforts and coordination of public/private partnerships at hubs would also enhance stewardship and resource protection.

A fisheries management plan would also be implemented which would outline specific measures to restore aquatic habitat and water quality and measures that support the reintroduction of native aquatic species where feasible. This would be developed in coordination with the Georgia Department of Natural Resources, Wildlife Resources Division. Studies could also be conducted to develop a predictive model for the effects of variable instream flows on fish and their habitats. Potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing a resource stewardship strategy and an integrated trail system study. In addition, staffing and monitoring programs would be increased under Alternative C, helping to provide greater protection and evaluation of aquatic resources.

Overall, Alternative C would have a long- and short-term, negligible, adverse effect on aquatic resources in the park.

Cumulative Impacts

Cumulative effects would be similar to those described for Alternative B, resulting in a similar long- and short-term, moderate, adverse cumulative effects.

Conclusions

Alternative C would have a greater amount of construction than Alternative A; however, these impacts would be offset somewhat by centralization of construction in hubs; implementation of a fisheries management plan, resource stewardship strategy, an integrated trail system study, and flow studies; and the increased educational opportunities and partnerships afforded under this alternative. The overall effect on aquatic resources is long- and short-term, negligible, and adverse.

Aquatic resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including Alternative C. This would constitute a long- and short-term, moderate, adverse, cumulative effect on aquatic resources. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of aquatic resources or values as a result of park actions under Alternative C.

Impacts of Alternative D

Alternative D would involve the greatest relative level of facility construction and operation activities in comparison with Alternative A, and more ground disturbance would occur, primarily in the developed zones but also in the natural area recreation zone and cultural resources zone. Under Alternative D, the relative amount of associated surface runoff and addition of impervious space would therefore be higher than that associated with Alternative A. However, best management practices described under Alternative A would be employed in all construction areas to control and minimize the amount and improve the quality of runoff and the associated effects on aquatic resources.

Of the five action alternatives, Alternative D dedicates the least amount of acreage (14 percent of the total 10,000 acre designation) to zones emphasizing less diverse recreational opportunities and minimization of new construction. The increased number and types of recreational development associated with Alternative D compared to Alternative A would increase the potential for visitor-related adverse effects on aquatic resources. In addition, visitor use and access would be expanded and distributed throughout the park. Connections to existing neighborhoods would be optimized and expanded, and trail links to areas outside the park would be provided. Creation of numerous trails and access points would make it difficult for park staff to prevent resource damage and inappropriate uses. However, development and implementation of an integrated trail system study and a resource stewardship strategy would help mitigate these effects.

Alternative D would provide beneficial effects through the development and implementation of a fisheries management plan which would outline specific measures to restore aquatic habitat and water quality and measures that support the reintroduction of native aquatic species where feasible. This would be developed in coordination with the Georgia Department of Natural Resources, Wildlife Resources Division. Flow studies would also be performed to provide the information necessary to sustain aquatic life and provide for future park recreational opportunities. Site monitoring, the number of park staff, and educational programs would be increased, helping to provide greater protection and evaluation of aquatic resources. New areas added to the park could be effectively managed under this alternative, providing additional levels of protection for aquatic resources in the watershed. In addition, Alternative D (and Alternatives E and F) would have the greatest emphasis placed on coordination and planning between the National Park Service and local governments than Alternative A which could result in greater stewardship of aquatic resources within the park.

Overall, Alternative D would have a long- and short-term, minor, adverse effect on aquatic resources in the park.

Cumulative Impacts

Cumulative effects would be the similar to those described for Alternative B. However, Alternative D (and Alternatives E and F) would have the greatest staffing increases and greatest emphasis placed on coordination and planning between the National Park Service and local governments than Alternative A. Park managers would be able to use these partnerships to better adapt to changing ecological and social conditions within and external to the park and coordinate regional planning and land management as it affects the park. The effects of urban development outside the park cannot be directly controlled by park officials and resolution of watershed issues would ultimately depend on the effectiveness of watershed management planning efforts by the surrounding communities and implementation of institutional controls such as wet ponds, artificial floodplains, and non-structural best management practices by local agencies. Bordering area governments could consider changes to their comprehensive plans to address land use, zoning, permitting and regulatory issues within the watershed. Increased coordination with local agencies could also have the beneficial effect of increased enforcement of the Metropolitan River Protection Act, resulting in improved stewardship of aquatic resources. The combined effect of a unified strategy would be an effective tool for preserving the park resources. Hence, Alternative D (and Alternatives E and F) would provide greater level of offset in adverse cumulative effects when compared to Alternative A resulting in a long- and short-term, minor to moderate, adverse, cumulative effect on aquatic resources.

Conclusions

Alternative D would have the greatest relative amount of land disturbing activity and the most widespread level of access in comparison to Alternative A. These impacts would be offset somewhat by implementation of a fisheries management plan, resource stewardship strategy, an integrated trail system study, and flow studies; and the increased educational opportunities and partnerships afforded under this alternative. The overall effect on aquatic resources is long- and short-term, minor, and adverse.

Aquatic resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by the greater emphasis that Alternative D places on partnering with local governments resulting in an overall long- and short-term, minor to moderate, adverse, cumulative effect on aquatic resources.

There would be no impairment of aquatic resources or values as a result of park actions under Alternative D.

Impacts of Alternative E

Alternative E is similar to Alternative B in that it would provide for solitude, and access would be located strategically throughout the park. The level of development in Alternative E is similar to and slightly increased from the level of development proposed under Alternative C, and substantially more than Alternative A. Mitigation measures described in Table 7 would help ensure that adverse effects on aquatic resources from development would be negligible to minor.

Alternative E dedicates approximately 55 percent of park acreage to zones emphasizing less diverse types of recreation and access, and minimization of new construction. However, the number and types of recreational development associated with Alternative E and the expansion and distribution of visitor services would be greater than Alternative A and would increase the potential for visitor-related adverse effects on aquatic resources. Connections to existing neighborhoods would be optimized and expanded, and trail links to areas outside the park would be provided. Creation of numerous trails and access points could potentially make it difficult for park staff to prevent resource damage and inappropriate uses. However, potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing a resource stewardship strategy and an integrated trail system study.

Alternative E would provide beneficial effects through the development and implementation of a fisheries management plan which would outline specific measures to restore aquatic habitat and water quality to support the reintroduction of native aquatic species where feasible. Flow studies would also be performed to provide the information necessary to help sustain aquatic life and provide for future park recreational opportunities. Site monitoring, the number of park staff, and educational programs would be increased, helping to provide greater protection and evaluation of aquatic resources. New areas added to the park could be effectively managed under this alternative, providing additional levels of protection for aquatic resources in the watershed. In addition, Alternative E (and Alternative D and F) would have the greatest emphasis placed on coordination and planning between the National Park Service and local governments than Alternative A which could result in greater stewardship of aquatic resources within the park.

These combined actions and factors would result in an overall long- and short-term, negligible to minor, adverse effect on aquatic resources.

Cumulative Impacts

Cumulative effects would be similar to those described for Alternative D, resulting in similar long- and short-term, minor to moderate, adverse effects.

Conclusions

Alternative E would have a moderate amount of land disturbing activity and a greater level of access in comparison to Alternative A. These impacts would be offset somewhat by implementation of a fisheries management plan, resource stewardship strategy, an integrated trail system study, and flow studies; and the increased staffing, educational opportunities, and partnerships afforded under this alternative. The overall effect on aquatic resources is long- and short-term, negligible to minor, and adverse.

Aquatic resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by the greater emphasis that Alternative E places on partnering with local governments resulting in an overall long- and short-term, minor to moderate, adverse, cumulative effect on aquatic resources.

There would be no impairment of aquatic resources or values as a result of park actions under Alternative E.

Impacts of Alternative F, the Preferred Alternative

The same effects as those described under Alternative D are applicable to Alternative F.

WETLANDS

Regulations and Policies

The regulations and policies that guide National Park Service actions with respect to wetlands are presented in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology

The issues identified during public meetings and planning workshops was the potential effects of park construction activities, including trail construction and maintenance, and overall plan implementation on wetlands. Potential adverse effects of the alternatives on wetlands were assessed based on a qualitative analysis of the potential for locating facilities in or near wetlands, the relative extent of the effects, the effects of other development activities in the surrounding region, the effectiveness of mitigation measures employed, and the potential for addition of new wetland areas. The impact thresholds developed for the assessment of effects on wetlands are presented in Table 26.

Table 26. Impact Thresholds for Wetlands

Negligible: Wetlands would not be affected or the effects would be at or below levels of detection and would not be measurable or of perceptible consequence to wetland plant and animal populations.
Minor: The effects to wetlands would be measurable or perceptible, but localized within a small area. While the mortality of individual plants and animals might occur, the viability of wetland populations and habitats would not be affected and the community, if left alone, would recover.
Moderate: The effects to wetlands would be readily apparent over a relatively small area, but the effect could be mitigated by restoring previously degraded wetlands. The action would have a measurable effect on plant or wildlife species within the wetland, but all species would remain indefinitely viable. Mitigation measures would be necessary to offset adverse effects, and would likely be successful.
Major: Effects on wetland populations or habitats would be readily apparent, and would substantially change over a large area. The effects would have measurable consequences for the wetland area that could not be mitigated.
***Duration**:* Long-term: Takes more than 3 years to recover. Short-term: Recovers in less than 3 years.

The major assumptions used in this analysis were: (1) limited but variable construction would be allowable in the park under any of the alternatives and best management practices would be implemented during construction; (2) visitor use and potential effects on wetlands would vary between alternatives based on the amount of facilities made available; and (3) that the highly urbanized areas surrounding the park would have a far greater potential effect on wetlands in the park than any activities proposed under any of the action alternatives.

In addition to these major assumptions, current management policies would continue to be carried out into the future, and it was also assumed that resource stewardship strategies and many of the other proposed plans and studies outlined in Chapter 5 would not be prepared or implemented under Alternative A but could be implemented under the action alternatives due to planned increases in staffing and other planned actions specific to each alternative. This implies that under Alternative A, wetland resources would not be inventoried or managed beyond what is currently known, and that wetland restoration activities would be minimal. Trails would also not be maintained to the extent possible, and the trail system would not be managed as effectively as it would be under an integrated trail system study proposed under the action alternatives.

Impairment of wetland resources would occur if there was a significant adverse effect to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in this general management plan or other National Park Service planning documents as being of significance.

Impacts of Alternative A

Limited construction (such as boat ramps, parking spaces, limited roads, or small buildings) and maintenance activities would occur under Alternative A. New trail and facility construction would be addressed and assessed in the form of individual environmental assessments, and avoidance, minimization, and compensation would be demonstrated prior to construction activity. Construction near a wetland area would be avoided whenever practicable; hence, the majority of the wetlands in the park would not be affected. Under Alternative A, existing trails and facilities currently located in wetlands would not be altered.

Due to existing staffing and funding constraints, Alternative A is considered to offer a minimal level of protection to wetland resources. Existing levels of protection of wetlands would continue, but wetlands would not be inventoried beyond what is currently known, and a resource management plan and integrated trail system study would not be implemented. Trails would not be as effectively maintained as possible under Alternative A, and there would be a higher potential for elevated levels of surface runoff that could affect wetlands within the park. Visitors would be allowed access throughout the park at a wide variety of existing locations, potentially leading to an increase in trail overuse and soil erosion. Where erosion occurs along unauthorized trails or overused areas, these conditions would likely continue to occur, and could affect wetlands in the park. Also, new areas could be added to the park which could potentially contain wetlands; however, due to staffing and funding constraints, these areas would not be managed to the extent possible. Overall, this alternative would have long- and short-term, moderate, adverse effects on wetlands.

Cumulative Impacts

Wetlands throughout the park would continue to be protected from direct disturbance from park construction projects through required environmental assessments required by the National Environmental Policy Act and National Park Service regulations. Application of best management practices would help reduce risk to wetland resources from stormwater runoff, erosion, filling activities, or sedimentation from sources within the park. However, it is likely that continued development outside of the park will continue to reduce the number of wetland areas and their quality in the Chattahoochee River basin making wetlands contained within the park even more valuable from a regional context. Cumulative adverse effects on wetlands inside the park may become more significant as total wetland area in the watershed is reduced.

The cumulative adverse effects related to stormwater runoff from development outside the park on wetlands inside the park would continue to increase under Alternative A. Wetlands located within the park would continue to be affected by sediments and water transported via runoff during high storm water discharges originating from developed areas outside the park. As the area surrounding the park becomes more developed, this problem would be expected to increase. The effects of stormwater runoff cannot be directly controlled by park officials and resolution of these concerns would ultimately depend on the effectiveness of watershed management planning efforts by the surrounding communities and implementation of institutional controls such as wet ponds, artificial wetlands, and non-structural best management practices. Under Alternative A, there would be less chance for improving this situation because there would be no increase in the level of coordination and planning between the National Park Service and local governments and organizations to address stormwater runoff concerns. Alternative A would therefore have little effect in controlling cumulative effects on wetlands.

When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting wetlands are combined with actions under Alternative A, the resulting cumulative effects would be long- and short-term, moderate to major, and adverse. Adverse effects would be moderate to major because wetlands would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park. These effects would be outside of the park's ability to control, however, and are not related to park actions.

Conclusions

Long- and short-term, moderate, adverse effects on wetlands would occur under Alternative A from minimal new construction activities and maintenance of park facilities, the effects of increasing visitor

use, staffing constraints, and the lack of implementation of resource stewardship strategies and other new studies.

Wetlands in the park would continue to be primarily influenced by urban development in the surrounding urban watershed. This would constitute a long- and short-term, moderate to major, adverse, cumulative effect on wetlands in the park. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of wetlands or values as a result of park actions under Alternative A.

Impacts of Alternative B

Under Alternative B, the level of development would be less than what is anticipated under Alternative A, and most new facilities would be built outside the park whenever possible. In many cases, sites chosen for development would likely have some existing facilities or have been previously disturbed by utility lines, access roads, or existing structures. New development within the park would be limited in size and numbers, and could include such visitor facilities as small gravel parking lots, primitive trails, and interpretive signage. Existing trails and facilities currently located in wetlands would not be altered, other to improve them, or in some cases, eliminated to improve wetland conditions. The focus of Alternative B would be to restore wetlands and protect the resource. New trail construction would be addressed and assessed in the form of individual tiered environmental assessments, and avoidance, minimization and compensation would be demonstrated prior to construction activity. New trail construction would be minimal, however, and would be less than that associated with Alternative A. Construction near a wetland area would be avoided whenever practicable; hence, the majority of the wetlands in the park would not be affected.

When compared with Alternative A, which lacks management zones, much of the park would be left in a natural state with approximately 68 percent of park acreage zoned as either a natural zone or river solitude zone. Facilities such as roads, parking lots, boat ramps, and restrooms would not be appropriate in the river solitude zone, and only existing facilities and primitive trails would be appropriate in the natural zone. Visitor use would be focused on the river, primitive areas, unpaved trails, and other less developed facilities, and passive forms of recreation would be emphasized. Visitors would be allowed access at relatively few locations under Alternative B, resulting in a lower potential for trail overuse and increased soil erosion in comparison with Alternative A. Potential adverse effects of trail over-use and soil erosion would be mitigated by developing and implementing an integrated trail system study which would integrate local environmental requirements such as the Metropolitan River Protection Act, appropriate buffers, and floodplain, wetland, and sensitive resource avoidance. In addition, parcels added to the park would remain in, or be restored to, a largely natural state providing additional levels of protection for wetlands in the watershed.

Additional wetlands inventories, studies, and planning efforts, including resource stewardship strategies, could be implemented under Alternative B, since increased staffing would be proposed. Habitat restoration and increased educational awareness would also be emphasized, which would provide further benefits. Overall, Alternative B would have a long- and short-term, minor, beneficial effect on wetlands in the park.

Cumulative Impacts

Cumulative effects would be similar to those described under Alternative A. However, increased staffing proposed for all of the action alternatives could potentially lessen adverse cumulative effects

through increased cooperation and coordination with local, county, and state agencies on projects and activities outside of the park that directly and indirectly affect wetlands within the park. In addition, increased educational programs aimed at increased resource awareness could generate interest in their protection outside the park as well. Although the effectiveness of cooperative efforts and education would be difficult to quantify, it is likely that cumulative effects would be slightly less adverse than those described under Alternative A, resulting in a long- and short-term, moderate, adverse, cumulative effect on wetlands under Alternative B.

Conclusions

Alternative B would have long- and short-term, minor, beneficial effects on wetlands from restoration of wetland areas, implementation of a resource stewardship strategy and an integrated trail system study, emphasis on habitat restoration, and the increased educational opportunities afforded under this alternative.

Wetlands would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including Alternative B. This would constitute a long- and short-term, moderate, adverse, cumulative effect on wetlands. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of wetlands or values as a result of park actions under Alternative B.

Impacts of Alternative C

Under Alternative C, construction and visitor-use impacts would be centralized within three strategic areas or hubs, minimizing the need to construct facilities in other parts of the park, and reducing the potential to affect wetlands. The rest of the park would remain relatively undeveloped. An intermediate amount of construction and land disturbing activity would be required for Alternative C when compared to the expected future development in Alternative A. The amount of new trail construction would be greater than Alternative A; however, new trail construction would be addressed and assessed in the form of individual tiered environmental assessments, and avoidance, minimization and compensation would have to be demonstrated prior to construction. Construction near a wetland area would be avoided whenever practicable; hence, the majority of the wetlands in the park would not be affected. In addition, potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing an integrated trail system study which would integrate local environmental requirements such as the Metropolitan River Protection Act, appropriate buffers, and floodplain, wetland, and sensitive resource avoidance. A resource stewardship strategy would also be developed and implemented providing an effective management tool for wetland resources.

Alternative C would discourage new entrances to the park while focusing National Park Service supervision, education, and monitoring where visitor use is greatest. With more limited access, resources would be better protected from resource damage than Alternative A. In addition, management zones with less diverse types of recreational opportunities and less developed surfaces (the natural and river solitude zones) would occupy approximately 60 percent of the park. New areas added to the park could be effectively managed under this alternative, providing additional levels of protection for wetlands in the watershed. In addition, staffing, resource monitoring programs, interpretation and educational efforts, and coordination of public/private partnerships would be increased under Alternative C in comparison to Alternative A, helping to provide greater protection and evaluation of wetlands. The overall effect on wetlands under Alternative C would be long- and short-term, negligible, and adverse.

Cumulative Impacts

Cumulative effects would be the same as described for Alternative B.

Conclusions

Alternative C would have a greater amount of construction than Alternative A; however, these impacts would be offset somewhat by centralization of construction in hubs, implementation of a resource stewardship strategy and an integrated trail system study, and the increased educational opportunities and partnerships afforded under this alternative. The overall effect on wetlands is long- and short-term, negligible, and adverse.

Wetlands would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including Alternative C. This would constitute a long- and short-term, moderate, adverse, cumulative effect on wetlands. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of wetlands or values as a result of park actions under Alternative C.

Impacts of Alternative D

A greater amount of construction and land disturbing activity would be appropriate under Alternative D when compared to the expected future development proposed under Alternative A. As a result, the relative amount of associated surface runoff and addition of impervious space would be increased under Alternative D. The amount of new trail construction would also be greater when compared to Alternative A; however, new trail construction would be addressed and assessed in the form of individual tiered environmental assessments, and avoidance, minimization and compensation would have to be demonstrated prior to construction. Construction near a wetland area would be avoided whenever practicable; hence, the majority of the wetlands in the park would not be affected. In addition, potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing an integrated trail system study which would integrate local environmental requirements such as the Metropolitan River Protection Act, appropriate buffers, and floodplain, wetland, and sensitive resource avoidance.

Of the five action alternatives, Alternative D dedicates the least amount of acreage (14 percent of the total 10,000 acre designation) to zones emphasizing less diverse types of recreational opportunities and minimization of new construction. Alternative D also promotes expanded access, visitor use and connectivity to existing neighborhoods, which would make it difficult for park staff to prevent resource damage and visitor over-use of trails and unauthorized trail use. However, increased staffing proposed under this alternative could help mitigate these effects.

Alternative D would provide beneficial effects through increased site monitoring, park staff, and educational programs, thereby providing greater protection and evaluation of wetlands. New areas added to the park could be effectively managed under this alternative, providing additional levels of protection for wetlands in the watershed. In addition, Alternative D (and Alternatives E and F) would have the greatest emphasis placed on coordination and planning between the National Park Service and local governments than Alternative A which could result in greater stewardship of wetlands within the park.

Overall, Alternative D would have a long- and short-term, minor, adverse effect on wetland resources in the park.

Cumulative Impacts

Cumulative effects would be the similar to those described for Alternative B. However, Alternative D (and Alternatives E and F) would have a greater increase in staffing and greater emphasis placed on coordination and planning between the National Park Service and local governments and organizations than Alternative A. Park managers would be able to use these partnerships to better adapt to changing ecological and social conditions within and external to the park and coordinate regional planning and land management as it affects the park. Partnerships could be facilitated with the Metropolitan North Georgia Water Planning District, local governments and organizations to implement recommendations from local watershed management plans, enforce protection of riparian buffers in the Chattahoochee River Watershed and help reduce the effects of scouring and sedimentation. The combined effect of a unified strategy would be an effective tool for preserving the park's wetland resources. Hence, Alternative D (and Alternatives E and F) would provide a greater level of offset in adverse cumulative effects when compared to Alternative A resulting in a long- and short-term, minor to moderate, adverse, cumulative effect on wetlands.

Conclusions

Alternative D would have a greater relative amount of land disturbing activity and more dispersed levels of access in comparison to Alternative A. These impacts would be offset somewhat by implementation of a resource stewardship strategy an integrated trail system study, and the increased educational opportunities and partnerships afforded under this alternative. The overall effect on wetlands is long- and short-term, minor, and adverse.

Wetlands would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by the greater emphasis that Alternative D places on partnering with local governments resulting in an overall long- and short-term, minor to moderate, adverse, cumulative effect on wetlands.

There would be no impairment of wetlands or values as a result of park actions under Alternative D.

Impacts of Alternative E

Similar effects as those described under Alternative C are applicable to Alternative E (long- and short-term, negligible, and adverse). Although visitor use and development would be expanded and distributed throughout the park under Alternative E, the overall intensity of effects would be the same due to mitigative measures. Cumulative effects would be the same as those described under Alternative D (long- and short-term, minor to moderate, and adverse).

There would be no impairment of wetlands or values as a result of park actions under Alternative E.

Impacts of Alternative F, the Preferred Alternative

The same effects as those described under Alternative D are applicable to Alternative F.

FLOODPLAINS

Regulations and Policies

The regulations and policies that guide National Park Service actions with respect to floodplains are presented in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology

Floodplain issued raised during public meetings and planning workshops were more general in terms of protection of park resources and habitat preservation. Potential adverse effects of the alternatives on floodplains were assessed based on a qualitative analysis of the potential for locating facilities in or near floodplains, the relative extent of the effects, the effectiveness of mitigation measures employed, and the potential for addition of new floodplain areas. The impact thresholds developed for the assessment of effects on floodplains are presented in Table 27.

Table 27. Impact Thresholds for Floodplains

Negligible: There would be no change in the ability of a floodplain to convey floodwaters, or its values and functions. Project or activity would not contribute to the flood.
Minor: Changes in the ability of a floodplain to convey floodwaters, or its values and functions, would be measurable and local, although the changes would be only slightly measurable. Project or activity would not contribute to the flood. No mitigation would be needed.
Moderate: Changes in the ability of a floodplain to convey floodwaters, or its values and functions, would be measurable and local. Project or activity could contribute to the flood. The effect could be mitigated by modification of proposed facilities in floodplains.
Major: Changes in the ability of a floodplain to convey floodwaters, or its values and functions, would be measurable and, widespread. The project or activity would contribute to the flood. The effect could not be mitigated.
Duration: Long-term: Usually more than one year. Effects would be measurable during and after project construction. Short-term: Usually less than one year. Effects would not be measurable or measurable only during construction period.

The major assumptions used in this analysis were: (1) limited but variable construction would be allowable in the park under any of the alternatives; (2) visitor use and potential effects on floodplains would vary between alternatives based on the amount of facilities made available; and (3) that the highly urbanized areas surrounding the park and changes in flow patterns associated with the operations of Buford Dam and Morgan Falls Dam would have a far greater potential effect on floodplains in the park than any activities proposed under any of the action alternatives.

In addition to these major assumptions, it was also assumed that resource stewardship strategies, flow studies, or many of the other proposed plans and studies outlined in Chapter 5 would not be prepared or implemented under Alternative A, but would be more likely to be implemented under the action alternatives due to planned increases in staffing and other actions specific to each alternative. This implies that floodplains would not be managed beyond what is currently being done, and that river flow dynamics would not be further surveyed or studied. Trails would also not be maintained to the extent possible, and the trail system would not be managed as effectively as it would be under an integrated trail system study.

Impairment of floodplain resources would occur if there was a significant adverse effect to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in this general management plan or other National Park Service planning documents as being of significance.

Impacts of Alternative A

Limited construction (such boat ramps, parking facilities, limited roads, or small buildings) and maintenance activities would occur under Alternative A. National Park Service policy gives preference to locating, or relocating, proposed construction outside and not affecting the regulatory floodplain. Mitigation measures may be applied if other management considerations exist which clearly favor locating an action in a regulatory floodplain, such as a boat ramp or river access facility which must be located in the floodplain. Mitigation may consist of any combination of seasonal closure, structural flood protection measures, specific actions to minimize impacts to floodplain natural resource values, effective flood warning, and flood evacuation. Mitigation and compliance with regulations and policies to prevent impacts to water quality, floodplain values, and loss of property or human life would be strictly adhered to during and after facility construction and upgrades. These requirements would be applicable to all alternatives.

Under Alternative A, existing trails and facilities currently located in floodplain would not be altered. New trail and facility construction would be addressed and assessed in the form of individual environmental assessments, and avoidance, minimization, and compensation would be demonstrated prior to construction activity. Construction within a floodplain would be avoided whenever practicable.

Due to existing staffing and funding constraints, Alternative A is considered to offer a minimal level protection to floodplains. Existing levels of protection of floodplains would continue, but flow studies, a resource stewardship strategy, and an integrated trail system plan would not be implemented. Trails would not be effectively maintained as possible under Alternative A, and there would be a higher potential for elevated levels of surface runoff and sedimentation that could affect the ability of a floodplain to convey and store floodwaters within the park.

Visitors would be allowed access throughout the park at a wide variety of existing locations, potentially leading to an increase in trail overuse and soil erosion. Where erosion occurs along unauthorized trails or overused areas, these conditions would likely continue to occur, and could affect floodplains in the park. Also, limited new park areas would be added that could be used to protect additional floodplains. Overall, this alternative would have long- and short-term, moderate, adverse effects on floodplains.

Cumulative Impacts

Floodplains throughout the park would continue to be evaluated and protected from direct disturbance from park construction projects through required environmental assessments required by the National Environmental Policy Act and National Park Service regulations. Application of best management practices would help reduce effects to floodplains from stormwater runoff, erosion, filling activities, or sedimentation from sources within the park.

The cumulative adverse effects related to stormwater runoff from development outside the park on floodplains inside the park would continue to increase under Alternative A. In addition, floodplains

would continue to be affected by fluctuating flow due to scheduled releases from Buford Dam and Morgan Falls Dam. Floodplains located within the park would continue to be affected by sedimentation via runoff during elevated levels of stormwater discharges originating from developed areas outside the park. As the area surrounding the park becomes more developed, this problem would be expected to increase. The effects of sedimentation cannot be directly controlled by park officials and resolution of these concerns would ultimately depend on the effectiveness of watershed management planning efforts by the surrounding communities and implementation of institutional controls such as wet ponds, artificial floodplains, and non-structural best management practices by local agencies. Under Alternative A, there would be less chance for improving this situation because there would be less coordination and planning between the National Park Service and local governments and organizations to address stormwater runoff and watershed concerns. Alternative A would, therefore, have little effect in controlling cumulative effects on floodplains.

When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting floodplains are combined with actions under Alternative A, the resulting cumulative effects would be long- and short-term, moderate to major, and adverse. Adverse effects would be moderate to major because floodplains would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park. These effects would be outside of the park's ability to control, however, and are not related to park actions.

Conclusions

Long- and short-term, moderate, adverse effects on floodplains would occur under Alternative A from minimal construction and maintenance of park facilities, the effects of increasing visitor use, staffing constraints, and the lack of implementation of flow studies, resource stewardship strategies, and other studies.

Floodplains in the park would continue to be primarily influenced by urban development in the surrounding urban watershed and effects of Buford Dam and Morgan Falls Dam. This would constitute a long- and short-term, moderate to major, adverse, cumulative effect on aquatic resources in the park. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of floodplains or values as a result of park actions under Alternative A.

Impacts of Alternative B

Under Alternative B, the level of development would be less than what is anticipated under Alternative A, and most new facilities would be built outside the park whenever possible. In many cases, sites chosen for development would likely have some existing facilities or have been previously disturbed by utility lines, access roads, or existing structures. New development within the park would be limited in size and numbers, and could include such visitor facilities as small gravel parking lots, primitive trails, and interpretive signage. Existing trails and facilities currently located in floodplains would not be altered, other to improve them, or in some cases, eliminate them to improve floodplain conditions. In addition, the same requirements for avoidance and mitigation of floodplain effects described under Alternative A would be applicable to Alternative B.

When compared with Alternative A, which lacks management zones, much of the park would be left in a natural state with approximately 68 percent of park acreage zoned as either a natural zone or river solitude zone. Facilities such as roads, parking lots, boat ramps, and restrooms would not be permitted

in the river solitude zone, and only existing facilities and primitive trails would be permitted in the natural zone. Hence, there would be the least potential for construction to occur in a floodplain under Alternative B.

Visitors would be allowed access at relatively few locations under Alternative B, resulting in a lower potential for trail overuse and increased soil erosion in comparison with Alternative A. Potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing an integrated trail system study which would integrate local environmental requirements such as the Metropolitan River Protection Act, appropriate buffers, and floodplain, wetland, and sensitive resource avoidance. In addition, parcels added to the park would remain in, or be restored to, a largely natural state providing additional levels of protection for floodplains in the watershed.

Additional floodplains studies and planning efforts, including a flow studies and resource stewardship strategies, could be implemented under Alternative B, since increased staffing would be proposed. In addition, increased educational awareness would also be emphasized under this alternative, which would provide further benefits. Overall, Alternative B would have a long- and short-term, minor, beneficial effect on floodplains in the park.

Cumulative Impacts

Cumulative effects would be similar to those described under Alternative A. However, increased staffing proposed for all of the action alternatives could potentially lessen adverse cumulative effects through increased cooperation and coordination with local, county, and state agencies and organizations on projects and activities outside of the park that directly and indirectly affect floodplains within the park. In addition, increased educational programs aimed at increased resource awareness could generate interest in their protection outside the park as well. Although the effectiveness of cooperative efforts and education would be difficult to quantify, it is likely that cumulative effects would be slightly less adverse than those described under Alternative A, resulting in a long- and short-term, moderate, adverse, cumulative effect on floodplains under Alternative B.

Conclusions

Alternative B would have long- and short-term, minor, beneficial effects on floodplains from restoration of floodplains; implementation of flow studies, a resource stewardship strategy and an integrated trail system study; and the increased educational opportunities afforded under this alternative.

Floodplains would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including Alternative B. This would constitute a long- and short-term, moderate, adverse, cumulative effect on floodplains. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of floodplains or values as a result of park actions under Alternative B.

Impacts of Alternative C

Under Alternative C, construction and visitor-use impacts would be centralized within three strategic areas or hubs, minimizing the need to construct facilities in other parts of the park, and reducing the potential to affect floodplains. The rest of the park would remain relatively undeveloped. An intermediate amount of construction and land disturbing activity would be required for Alternative C

when compared to the expected future development in Alternative A. The same policy requirements for avoidance and mitigation of floodplain effects described under Alternative A would be applicable to Alternative B.

The amount of new trail construction would be greater than Alternative A; however, new trail construction would be addressed and assessed in the form of individual tiered environmental assessments, and avoidance, minimization and compensation would have to be demonstrated prior to construction. In addition, potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing an integrated trail system study which would integrate local environmental requirements such as the Metropolitan River Protection Act, appropriate buffers, and floodplain, wetland, and sensitive resource avoidance.

Alternative C would discourage new entrances to the park while focusing National Park Service supervision, education, and monitoring where use is greatest. With more limited access, sites would be better protected from resource damage than in Alternative A. In addition, the natural and river solitude zones would occupy approximately 60 percent of the park. Facilities such as roads, parking lots, boat ramps, and restrooms would not be permitted in the river solitude zone, and only existing facilities and primitive trails would be permitted in the natural zone. Hence, there would be an intermediate potential for construction to occur in a floodplain under Alternative C when compared to Alternative A.

New areas added to the park could be effectively managed under this alternative, providing additional levels of protection for floodplains in the watershed. In addition, staffing, resource monitoring programs, interpretation and educational efforts, and coordination of public/private partnerships would be increased under Alternative C in comparison to Alternative A, helping to provide greater protection and evaluation of floodplains.

Alternative C would have a greater amount of construction than Alternative A; however, these impacts would be offset somewhat by centralization of construction in hubs; implementation of flow studies, a resource stewardship strategy, and an integrated trail system study; and the increased educational opportunities and partnerships afforded under this alternative. The overall effect on floodplains is long- and short-term, negligible, and adverse.

Cumulative Impacts

Cumulative effects would be the same as described for Alternative B.

Conclusions

Alternative C would have a greater amount of construction than Alternative A; however, these impacts would be offset somewhat by centralization of construction in hubs; implementation flow studies, a resource stewardship strategy, and an integrated trail system study; and the increased educational opportunities and partnerships afforded under this alternative. The overall effect on floodplains is long- and short-term, negligible, and adverse.

Floodplains would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including Alternative C. This would constitute a long- and short-term, moderate, adverse, cumulative effect on floodplains. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of floodplains or values as a result of park actions under Alternative C.

Impacts of Alternative D

More construction and land disturbing activity would be appropriate under Alternative D when compared to the expected future development under Alternative A. As a result, the relative amount of associated surface runoff and addition of impervious space would be the greater under Alternative D, which could result in greater runoff and sedimentation into receiving streams and subsequent alteration of the ability of a floodplain to convey and store floodwaters within the park. However, the same policy requirements for avoidance and mitigation of floodplain effects described under Alternative A would be applicable to Alternative D, which would help minimize these effects.

The amount of new trail construction would also be the greater when compared to Alternative A; however, new trail construction would be addressed and assessed in the form of individual tiered environmental assessments, and avoidance, minimization and compensation would have to be demonstrated prior to construction. In addition, potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing an integrated trail system study which would integrate local environmental requirements such as the Metropolitan River Protection Act, appropriate buffers, and floodplain, wetland, and sensitive resource avoidance.

Of the five action alternatives, Alternative D dedicates the least amount of acreage (14 percent of the total 10,000 acre designation) to zones emphasizing less diverse types of recreation and minimization of new construction. Alternative D also promotes expanded visitor use and connectivity to existing neighborhoods, which would make it difficult for park staff to prevent resource damage and inappropriate uses. However, increased staffing proposed under this alternative could help mitigate these effects.

Alternative D would provide beneficial effects through increases in site monitoring, park staff, and educational programs would be, thereby providing greater protection and evaluation of floodplains. New areas added to the park could be effectively managed under this alternative, providing additional levels of protection for floodplains in the watershed. In addition, Alternative D (and Alternatives E and F) would have the greatest emphasis placed on coordination and planning between the National Park Service and local governments than Alternative A which could result in greater stewardship of floodplains within the park.

Overall, Alternative D would have a long- and short-term, minor, adverse effect on floodplains in the park.

Cumulative Impacts

Cumulative effects would be similar to those described for Alternative B. However, Alternative D (and Alternatives E and F) would have greater staffing increases and greater emphasis placed on coordination and planning between the National Park Service and local governments and organizations than Alternative A. Park managers would be able to use these partnerships to better adapt to changing ecological and social conditions within and external to the park and coordinate regional planning and land management as it affects the park. Partnerships could be facilitated with local governments and organizations regarding watershed protection. Bordering area governments could consider changes to their comprehensive plans to address land use, zoning, permitting and regulatory issues within the watershed. The combined effect of a unified strategy would be an effective tool for preserving the park resources. Hence, Alternative D (and Alternatives E and F) would provide a greater level of offset in adverse cumulative effects when compared to Alternative A resulting in a long- and short-term, minor to moderate, adverse, cumulative effect on floodplains.

Conclusions

Alternative D would have a greater relative amount of land disturbing activity and a more widespread level of access in comparison to Alternative A. These impacts would be offset somewhat by conducting flow studies, implementing a resource stewardship strategy, an integrated trail system study, and the increased educational opportunities and partnerships afforded under this alternative. The overall effect on floodplains is long- and short-term, minor, and adverse.

Floodplains would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by the greater emphasis that Alternative D places on partnering with local governments resulting in an overall long- and short-term, minor to moderate, adverse, cumulative effect on floodplains.

There would be no impairment of floodplains or values as a result of park actions under Alternative D.

Impacts of Alternative E

Similar effects as those described under Alternative C are applicable to Alternative E (long- and short-term, negligible, and adverse). Although visitor use and development would be expanded and distributed throughout the park under Alternative E, the overall intensity of effects would be the same due to mitigative measures. Cumulative effects would be the same as those described under Alternative D (long- and short-term, minor to moderate, and adverse).

There would be no impairment of floodplains or values as a result of park actions under Alternative E.

Impacts of Alternative F, the Preferred Alternative

The same effects as those described under Alternative D are applicable to Alternative F.

TERRESTRIAL ECOLOGICAL RESOURCES

Regulations and Policies

The regulations and policies that guide National Park Service actions with respect to terrestrial ecological resources are presented in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology

The issues regarding terrestrial ecological resources identified during public meetings and planning workshops included general concerns about habitat preservation, habitat fragmentation, and direct effects of land disturbance on forests and wildlife as a result of construction and operation of park facilities, management practices, and urban growth in the watershed. Habitat fragmentation is the breaking up of a continuous habitat, an ecosystem, or a land use type into smaller, isolated fragments. This can occur when a road, utility easement, or some sort of land use change disrupts the continuity of the ecosystem. Habitat fragmentation has been determined to be one of the leading causes in the loss of biodiversity in an ecosystem, second only to the outright loss of the habitat. The smaller the remaining patches of habitat, or the smaller the populations of wildlife, the greater the chance of local extinction and loss of biodiversity (Primack 1993). Fragmentation of terrestrial habitats is an issue because of the geographic setting of the park in urban/suburban setting.

Three types of fragmentation effects have been distinguished: patch size effects, edge effects, and isolation effects (Johnson 2001). Patch size effects are those that result from the reduction of habitat size to a point that species can no longer maintain a viable population. This often occurs with wide ranging species such as the Florida panther, but it can occur on a smaller scale with species with specific habitat requirements for breeding and reproduction. The edges of these patches are especially susceptible to proliferation of invasive species. The destruction of the adjacent habitat enables opportunistic species to become established. These opportunistic species may include weedy, invasive plants or predators such as raccoons, feral dogs and cats, or brown-headed cowbirds. Isolation from similar habitats inhibits the dispersal opportunities of species and their eventual decline as a population. The loss of inter-population connectivity among isolated remnants reduces population viability. The terrestrial habitats around the park are already highly fragmented, with limited greenspace and associated terrestrial ecological resources. The park could, therefore, become increasingly important as a refuge for some resident plants and animals as well as migratory species of animals.

The assessment of the direct effects of the alternatives on terrestrial ecological resources as a result of land disturbance during construction of park facilities was completed by relating the expected degree of construction activity and activities to the types of expected changes in habitat extent and quality in the park and whether mitigation would be required and/or effective. Potential beneficial effects were estimated by assessing the potential for addition of new areas to the park that would provide a means of conserving additional areas of forest and wildlife habitat. Potential effects of operation of park facilities were addressed by qualitatively assessing potential effects of visitor use and other forms of use on terrestrial plant and animal communities.

The cumulative effects of the alternatives with respect to fragmentation were assessed by qualitatively assessing the potential of each alternative to create increased fragmentation of terrestrial habitats in the park, in addition to the expected levels of fragmentation in the areas surrounding the park.

The threshold criteria for terrestrial ecological vegetation and wildlife are presented in Tables 28 & 29.

The primary assumption for this assessment was that potential effects on terrestrial resources within the park are related to the amount of land disturbance caused by proposed projects during construction and operation. It was also assumed that the amount of allowable construction inside the park would be relatively small for all of the alternatives, including Alternative A.

Table 28. Impact Thresholds for Terrestrial Ecological Resources-Vegetation

Negligible: Individual native plants may occasionally be affected, but measurable or perceptible changes in plant community size, integrity, or continuity would not occur.
Minor: Effects on native plants would be measurable or perceptible. The natural function and character of the plant community would not be affected and, if left alone, would recover.
Moderate: A change would occur in the natural function and character of the plant community in terms of basic properties (such as growth, abundance, reproduction, distribution, structure, or diversity) but not to the extent that the basic properties of the plant community change.
Major: Effects on native plant communities would be readily apparent and would substantially and permanently change the natural function and character of the plant types.
Duration: Long-term: Takes more than one year to recover. Short-term: Recovers within one year.

Table 29. Impact Thresholds for Terrestrial Ecological Resources-Wildlife

Negligible: Native wildlife species, their habitats, and the natural processes sustaining them would not be affected or the effects would be at or below the level of detection. Effects would not be of any measurable or perceptible consequence to wildlife populations. Habitats would retain adequate ecological integrity to support a full complement of native species.
Minor: An action would result in detectable effects to species and/or their habitats, but it would not be expected to result in substantial population fluctuations, their habitats, or the natural processes (such as competition, dispersal) sustaining them. Occasional responses to disturbance by some individuals could be expected but without interference to feeding, reproduction, or other factors affecting population levels.
Moderate: An action would result in detectable effects on native wildlife, their habitats, or the natural processes sustaining them. Key processes such as dispersal, competition, and/or predation may experience disruptions that would alter the population size and/or distribution, but would return to natural conditions after initial disturbance. Sufficient habitat would remain functional to maintain viable native populations.
Major: An action would result in detectable effects on native wildlife, their habitats, or the natural processes sustaining them. Key processes such as dispersal, competition, and/or predation would be altered permanently. Adverse responses to disturbance by some individuals would be expected, with negative effects on feeding, reproduction, or other factors, resulting in a long-term decrease in population numbers and genetic variability. Habitats may not remain functional for maintaining viable populations.
Duration: Long-term: Takes more than a year to recover. Short-term: Recovers in less than a year.

In addition to these major assumptions, it was also assumed that resource stewardship strategies and many of the other proposed plans and studies outlined in Chapter 5 would not be prepared or implemented under Alternative A but would be more likely to be implemented under the action alternatives due to planned increases in staffing and other actions specific to each alternative. This implies that, under Alternative A, terrestrial ecological resources would not be inventoried or managed beyond what is currently being done, except as part of environmental assessments on specific projects, and that habitat restoration activities would be minimal.

Impairment of terrestrial ecological resources would occur if there was a significant adverse effect to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in this general management plan or other National Park Service planning documents as being of significance.

Impacts of Alternative A

Limited construction activities under Alternative A could result in some disturbance of terrestrial ecological habitats and associated wildlife. However, prior to implementation of proposed actions, such as trail construction, the park would conduct a detailed site-specific survey of the terrestrial vegetation at the project site as part of a tiered environmental assessment. The type, extent, and ecological values of terrestrial habitats at each proposed site would be evaluated and the effects of the proposed project would be assessed. This information would be used to make a decision regarding the feasibility of the proposed site for construction. Implementation of best management practices along with institution of standardized trail construction methods would mitigate potentially adverse effects. In addition, sensitive upland forested areas would be avoided to the extent practicable. These procedures would be implemented under all alternatives.

Due to existing staffing and funding constraints, Alternative A is considered to offer a minimal level of habitat restoration, species inventory, and invasive species control and management. The continuation of current management practices such as the minimization of tree clearing and controlling the presence and distribution of invasive species would maintain the forest in a condition much like that which currently exists, and wildlife in the park that require deciduous forest habitats and riparian corridors in relatively contiguous tracts would continue to benefit from the protection of most of the park's land area.

Trails would continue to be maintained, and erosion would continue to be controlled in problem areas in the same way that they are managed presently. However, under Alternative A these problems could worsen somewhat over time since a resource stewardship strategy or integrated trail system study would not be developed or implemented. Increased soil disturbance and erosion are contributing factors to the spread of invasive plant populations. Such disturbances allow seeds or parts of plants to establish new or expanded populations. Hence, construction of new facilities or trails could lead to the establishment or spread of invasive plants.

New areas could be added to the park providing additional terrestrial habitat; however, due to staffing and funding constraints, these areas would not be managed to the extent possible. The overall effect of this alternative on terrestrial ecological resources would be long-and short-term, minor to moderate, and adverse.

Cumulative Impacts

Adverse cumulative effects from actions inside the park could occur due to fragmentation of terrestrial habitat or spread of invasive species as a result of trail overuse. However, cumulative adverse effects related to ongoing urbanization in the surrounding region and subsequent elimination of forest and wildlife species would be of greater impact to the overall cumulative effect and would be common to all alternatives, including Alternative A.

As communities adjacent to the park become more developed and lose forests and other greenspace, natural habitats within the park will become increasingly isolated. Amplified fragmentation effects on habitats within the park would further degrade the quality of habitats for terrestrial species. However, regional implementation of stream buffer ordinances, greenspace initiatives, and local watershed management plans would have beneficial effects on terrestrial ecological resources within the park. As implementation of these initiatives and programs by local governments becomes more widespread, controls should ultimately be put in place and enforced that would protect and preserve habitat adjacent to the park over the long term, thereby reducing the level of fragmentation. Alternative A would involve the least amount of coordination and planning between the National Park Service and local governments, however, which could hinder the potential of such beneficial effects.

When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting terrestrial ecological resources are combined with actions under Alternative A, the resulting cumulative effects would be long- and short-term, moderate to major, and adverse. Adverse effects would be moderate to major because terrestrial ecological resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park. These effects would be outside of the park's ability to control, however, and are not related to park actions.

Conclusions

Long- and short-term, minor to moderate, adverse effects on terrestrial ecological resources would occur under Alternative A from minimal construction and maintenance of park facilities and the minimal level of habitat restoration, species inventory, and invasive species control and management.

Terrestrial ecological resources in the park would continue to be primarily influenced by urban development in the surrounding area. This would constitute a long- and short-term, moderate to major, adverse, cumulative effect. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of terrestrial ecological resources or values as a result of park actions under Alternative A.

Impacts of Alternative B

Alternative B would have a lower relative potential to adversely affect terrestrial ecological resources within the park in comparison with Alternative A since Alternative B would involve fewer construction related activities. Some fragmentation of terrestrial habitat could occur, but because the number of new facilities would be few and in limited areas, this effect would be negligible. Mitigative procedures described for construction projects under Alternative A would be applicable to Alternative B.

When compared with Alternative A, which lacks management zones, much of the park would be left in a natural state with approximately 68 percent of park acreage zoned as either a natural zone or river solitude zone which would involve fewer new facilities and would emphasize less diverse forms of recreation and visitor use. This alternative would place the greatest emphasis on habitat restoration, thereby improving existing conditions. An increase in research and education efforts compared to Alternative A would also provide additional protection of resources by communicating protective measures that could be used by visitors to avoid or minimize effects to terrestrial ecological resources. Implementation of a resource stewardship strategy, which would outline procedures for invasive species control, and an intergrated trail system study would have beneficial effects on terrestrial ecological resources in the park. In addition, there is greater likelihood that new parcels would be added to the park under the action alternatives since there would potentially be more staffing and resources to effectively manage these new areas. Addition of new parcels could aid in lessening the effects of fragmentation. Overall, Alternative B would have a long- and short-term, minor to moderate, beneficial effect on terrestrial ecological resources.

Cumulative Impacts

Cumulative effects would be similar to those described under Alternative A. However, increased staffing proposed for all of the action alternatives could potentially lessen adverse cumulative effects through increased cooperation and coordination with local, county, and state agencies on projects and activities outside of the park that directly and indirectly affect terrestrial ecological resources within the park. In addition, increased educational programs aimed at increased resource awareness could generate interest in their protection outside the park as well. Although the effectiveness of cooperative efforts and education would be difficult to quantify, it is likely that cumulative effects would be slightly less adverse than those described under Alternative A, resulting in a long- and short-term, moderate, adverse, cumulative effect on terrestrial ecological resources under Alternative B.

Conclusions

Alternative B would have long- and short-term, minor to moderate, beneficial effects on terrestrial ecological resources due to a lesser amount of construction than under Alternative A; the emphasis placed on habitat restoration and educational programs; implementation of a resource stewardship strategy, which would address invasive species control and management; and implementation of an integrated trail system study.

Terrestrial ecological species would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including Alternative B. This would constitute a long- and short-term, moderate, adverse, cumulative effect. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of terrestrial ecological resources or values as a result of park actions under Alternative B.

Impacts of Alternative C

Alternative C would involve an intermediate level of facility construction and operation activities as compared to Alternative A. Some fragmentation of terrestrial habitat would occur, but because the number of projects would be few and localized in hubs, this effect would be minor. Prior to implementation of construction activities, mitigative procedures described under Alternative A would be implemented.

Alternative C would discourage new entrances to the park while focusing National Park Service supervision, education, and monitoring activities where use is greatest. With more limited access, sites would be better protected from resource damage than under Alternative A, and management zones promoting less diverse recreational opportunities and less developed surfaces (the natural and river solitude zones) would occupy approximately 60 percent of the park. In addition, by centrally locating facilities and educational resources/park information in hubs, it would be possible to inform and educate a greater number of visitors than Alternative A. Increased park staff proposed under this alternative would facilitate this increased level of communication about the park's resources and the need to protect them.

An increase in research efforts and studies compared to Alternative A would also provide additional protection of resources. Preparation and implementation of a resource stewardship strategy and intergrated trail system study under Alternative C would have beneficial effects on terrestrial habitats in the park. Theses plans would include measures and priorities for restoration of degraded habitats, means to control invasive species such as privet and English Ivy, and guidance and standards for trail construction and maintenance. There is also a greater likelihood that new parcels added to the park under Alternative C would be located outside the hubs and connected via trails. Since potentially there would be more staffing and resources to effectively manage these new areas, these new parcels could aid in lessening the effects of fragmentation. Overall, Alternative C would have a long- and short-term, negligible, adverse effect on terrestrial ecological resources.

Cumulative Impacts

Cumulative effects would be the same as described for Alternative B.

Conclusions

Alternative C would have long- and short-term, negligible, adverse effects on terrestrial ecological resources due to the combined effects of an intermediate amount of land disturbance centralized in hubs as compared with Alternative A, the emphasis placed on educational programs, implementation of a resource stewardship strategy, which would address invasive species control and management, and an integrated trail system study.

Terrestrial ecological species would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including Alternative C. This would constitute a long- and short-term, moderate, adverse, cumulative effect on the terrestrial ecological resources. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of terrestrial ecological resources or values as a result of park actions under Alternative C.

Impacts of Alternative D

Alternative D would involve the greatest relative level of facility construction and operation activities due to the greater amount of land disturbing activity, and some fragmentation of terrestrial habitat could potentially occur. Prior to implementation of construction activities, mitigative procedures described under Alternative A would be implemented.

Of the five action alternatives, Alternative D dedicates the least amount of acreage (14 percent of the total 10,000 acre designation) to zones emphasizing less diverse recreational opportunities and minimization of new construction. The increased number and types of recreational development associated with Alternative D compared to Alternative A would increase the potential for visitor-related adverse effects on terrestrial ecological species. In addition, visitor use would be expanded and distributed throughout the park, including any lands newly acquired. Connections to existing neighborhoods would be optimized and expanded, and trail links to areas outside the park would be provided. Creation of numerous trails and access points could potentially make it difficult for park staff to prevent habitat damage and could also promote the spread of invasive vegetation. However, potential adverse effects of trail use, soil erosion, and invasive species would be mitigated by developing and implementing a resource stewardship strategy and an integrated trail system study.

Alternative D (and Alternatives E and F) would have a greater emphasis placed on coordination and planning between the National Park Service and local governments than Alternative A which could result in greater stewardship of park resources. Overall, Alternative D would have a long- and short-term, minor to moderate, adverse effect on terrestrial ecological resources.

Cumulative Impacts

Cumulative effects would be the similar to those described for Alternative B. However, Alternative D (and Alternatives E and F) would have a greater increase in staffing levels and greater emphasis placed on coordination and planning between the National Park Service and local governments and organizations than Alternative A. Park managers would be able to use these partnerships to better adapt to changing ecological and social conditions within and external to the park and coordinate regional planning and land management as it affects fragmentation within the park. Coordination with bordering area governments could result in changes to their comprehensive plans to address land use, zoning, permitting and regulatory issues bordering the park. The combined effect of a unified strategy would be an effective public private partnership for increasing values and for preserving the park resources. Hence, Alternative D (and Alternatives E and F) would provide the greatest level of offset in adverse cumulative effects when compared to Alternative A resulting in a long- and short-term, minor to moderate, adverse, cumulative effect on terrestrial ecological resources.

Conclusions

Alternative D would have the greatest relative amount of land disturbing activity and the most widespread level of access in comparison to Alternative A, resulting in the greatest potential for adverse effects on habitat. These effects would be offset somewhat by implementation of a resource stewardship strategy, an integrated trail system study, and the increased educational opportunities and partnerships afforded under this alternative. The overall effect on terrestrial ecological species is long- and short-term, minor to moderate, and adverse.

Terrestrial ecological resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by the greater emphasis that Alternative D places on partnering with local governments resulting in an overall long- and short-term, minor to moderate, adverse, cumulative effect on terrestrial ecological species.

There would be no impairment of terrestrial ecological resources or values as a result of park actions under Alternative D.

Impacts of Alternative E

Similar effects as those described under Alternative C are applicable to Alternative E (long- and short-term, negligible, and adverse). Although visitor use and development would be expanded and distributed throughout the park under Alternative E, the overall intensity of effects would be the same due to mitigative measures. Cumulative effects would be the same as those described under Alternative D (long- and short-term, minor to moderate, and adverse).

There would be no impairment of terrestrial ecological resources or values as a result of park actions under Alternative E.

Impacts of Alternative F, the Preferred Alternative

The same effects as those described under Alternative D are applicable to Alternative F.

RARE, THREATENED AND ENDANGERED SPECIES

Regulations and Policies

The regulations and policies that guide National Park Service actions with respect to rare, threatened and endangered species are presented in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology

The issue identified during public meetings and planning workshops was the potential effect of construction and operation of new facilities on state- and federally-listed species in the park. The direct effects of these resources were assessed in a qualitative manner by comparing the anticipated level of land disturbing activities due to park projects and activities during construction and operation of the action alternatives to Alternative A, and to the expected types and intensities of visitor use. Potential beneficial effects were estimated by assessing the relative potential for addition of new areas to the park that may provide increased habitat for these species, and by whether resource stewardship strategies would be implemented or not. Cumulative effects were addressed by qualitatively assessing the combined relative effect of construction of facilities inside the park on protected species, and by relating the potential effects of development in the surrounding area on these resources. Coordination was also conducted with the Georgia Department of Natural Resources and the U.S. Fish and Wildlife Service to determine the occurrence of protected species in the park (see Chapter 3 and Appendix F for lists of these species).

The impact thresholds for rare, threatened and endangered species used are presented in Table 30.

Table 30. Impact Thresholds for Rare, Threatened and Endangered Species

Negligible: State- and federally-listed species and their habitats would not be affected or the effects to an individual of a listed species or its critical habitat would be at or below the level of detection and would not be measurable or of perceptible consequence to the protected individual or its population. Negligible effect would equate with a "no effect" determination in U.S. Fish and Wildlife Service terms.
Minor: The action would result in detectable effects to an individual (or individuals) of a federally or state listed species or its critical habitat, but they would not be expected to result in substantial population fluctuations and would not be expected to have any measurable long-term effects on species, habitats, or natural processes sustaining them. Minor effects would equate with a "may affect/not likely to adversely affect" determination in U.S. Fish and Wildlife Service terms.
Moderate: An action would result in detectable effects on **i**ndividuals or population of a federally or state listed species, its critical habitat, or the natural processes sustaining them. Key ecosystem processes may experience disruptions that may result in population or habitat condition fluctuations that would be outside the range of natural variation (but would return to natural conditions). Moderate level adverse effects would equate with a "may affect/likely to adversely affect/adversely modify critical habitat" determinations in U.S. Fish and Wildlife Service terms.
Major: Individuals or population of a federally or state listed species, its critical habitat, or the natural processes sustaining them would be measurably affected. Key ecosystem processes might be permanently altered resulting in long-term changes in population numbers and permanently modifying critical habitat. Major adverse effects would equate with a "may affect/likely to adversely affect/adversely modify critical habitat" determinations in U.S. Fish and Wildlife Service terms.
Duration: Not applicable due to definitions in accordance with U.S. Fish and Wildlife Service terminology.

The assumptions for this analysis were that the potential for adverse effects is related to the amount of land that could be potentially disturbed under each alternative during construction and operation and to the level and types of visitor use. It was assumed that the amount of allowable construction inside the park would be relatively small for all of the alternatives, but would vary between alternatives.

In addition to these major assumptions, it was also assumed that resource stewardship strategies or many of the other proposed plans and studies outlined in Chapter 5 would not be prepared or implemented under Alternative A. This implies that rare, threatened and endangered species would not be inventoried beyond what is currently known or identified beyond action specific environmental assessments. Trails would also not be maintained to the extent possible, and the trail system would not be managed in the same way as it would be under an implemented plan. Finally, it was assumed that National Environmental Policy Act environmental assessments would be prepared for site-specific projects under all alternatives, and that this would result in effective avoidance and minimization of potential adverse effects on protected species.

Impairment of rare, threatened and endangered species would occur if there was a significant adverse effect to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in this general management plan or other National Park Service planning documents as being of significance.

Impacts of Alternative A

A limited amount of construction would occur under Alternative A, and as a result, there would be a potential to disturb protected species habitat in the park. Construction could also result in fragmentation of protected species habitat, but because the number of projects would be few, this effect is estimated to be minor. In addition, under all of the alternatives, any construction project would require a National Environmental Policy Act environmental assessment that would include rare, threatened, and endangered species surveys, consideration of alternative sites and designs, and assessments of direct and cumulative effects. Therefore, through this process, effects would be avoided or minimized to the greatest extent possible.

Surveys of numerous protected species of plants and animals in the park have been documented and recorded for areas of possible affect from a given project. Comprehensive park-wide surveys have not yet been conducted. Until these surveys are completed, the park would rely on site-specific surveys for individual construction project sites to assess the potential for effects on protected species. These surveys would not be conducted under Alternative A on a parkwide basis, but would be required for site-specific environmental assessments.

During operation of the park, rare, threatened and endangered species would continue to be protected. However, due to existing staffing and funding constraints, Alternative A is considered to offer the minimum level protection to these species. There is also a greater potential for habitat degradation over time due to potential visitor overuse and trail damage since a resource stewardship strategy or integrated trail system study would not likely be prepared or implemented under this alternative. Trails would continue to be maintained, and erosion would continue to be controlled in problem areas in the same way that they are managed presently; however, under Alternative A these problems could worsen somewhat over time. Increased soil disturbance and erosion are contributing factors to the spread of invasive plant populations. Such disturbances allow seeds or parts of plants to establish new or expanded populations. Hence, construction of new facilities or trails and trail overuse could lead to the establishment or spread of invasive plants.

The overall effects of Alternative A on rare, threatened and endangered species would be long-term, minor, and adverse.

Cumulative Impacts

Adverse cumulative effects from actions inside the park could occur due to fragmentation of habitat or spread of invasive species as a result of trail overuse. However, cumulative adverse effects related to ongoing urbanization in the surrounding region and subsequent elimination of rare, threatened and endangered species would be of greater impact to the overall cumulative effect and would be common to all alternatives, including Alternative A.

As communities adjacent to the park become more developed and lose terrestrial habitat and degrade aquatic habitats through increased runoff and sedimentation, natural habitats within the park will become increasingly degraded and fragmented. However, regional implementation of stream buffer ordinances, greenspace initiatives, local watershed management plans, and total maximum daily load requirements would have beneficial effects on rare, threatened, and endangered species within the park. As implementation of these initiatives and programs by local governments becomes more widespread, controls should ultimately be put in place and enforced that would protect and preserve habitat adjacent to the park over the long term, thereby reducing effects to sensitive species.

Alternative A would involve the least amount of coordination and planning between the National Park Service and local governments, however, which could hinder the potential of such beneficial effects.

When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting rare, threatened and endangered species are combined with actions under Alternative A, the resulting cumulative effects would be long-term, moderate to major, and adverse. Adverse effects would be moderate to major because rare, threatened and endangered species would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park; these effects would be more pronounced for aquatic species than terrestrial species. These effects would be outside of the park's ability to control, however, and are not related to park actions.

Conclusions

Long-term, minor, adverse effects on rare, threatened and endangered species would occur under Alternative A from minimal construction and maintenance of park facilities and the minimal level of habitat restoration, species inventory, and invasive species control and management.

Rare, threatened and endangered species in the park would continue to be primarily influenced by urban development in the surrounding area. This would constitute a long-term, moderate to major, adverse, cumulative effect. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of rare, threatened or endangered species or values as a result of park actions under Alternative A.

Impacts of Alternative B

Alternative B would have a lower relative potential to adversely affect rare, threatened, and endangered species within the park in comparison with Alternative A, since Alternative B would involve fewer construction related activities. Some fragmentation of terrestrial habitat could occur, but because the number of new facilities would be few and in limited areas, this effect would be negligible. Mitigative procedures described for construction projects under Alternative A would be applicable to Alternative B.

When compared with Alternative A, which lacks management zones, much of the park would be left in a natural state with approximately 68 percent of park acreage zoned as either a natural zone or river solitude zone which would involve a lower number of new facilities and would emphasize less opportunities for diverse recreation and visitor use. This alternative would also place the greatest emphasis on habitat restoration, thereby improving existing conditions.

Surveys of numerous protected species of plants and animals in the park have been primarily documented and recorded for areas of possible affect from a given project. Definitive and detailed park-wide surveys have yet to be conducted by the park. However, under Alternative B, such surveys would be completed as part of implementation of a park-wide resource stewardship strategy. Procedures for management and control of invasive species would also be included under this strategy.

An increase in research and education efforts compared to Alternative A would provide additional protection of resources by communicating protective measures and by increasing the information

shared concerning the sensitivity of resources. This could help to avoid or minimize effects to rare, threatened and endangered species. Addition of new parcels could potentially contain protected species or critical habitat and any new parcels added to the park under Alternative B would not be developed with new facilities. Overall, Alternative B would have a long-term, minor to moderate, beneficial effect on rare, threatened and endangered species.

Cumulative Impacts

Cumulative effects would be similar to those described under Alternative A. However, increased staffing proposed for all of the action alternatives could potentially lessen adverse cumulative effects through increased cooperation and coordination with local, county, and state agencies on projects and activities outside of the park that directly and indirectly affect rare, threatened and endangered species within the park. In addition, increased educational programs aimed at increased resource awareness could generate interest in their protection outside the park as well. Although the effectiveness of cooperative efforts and education would be difficult to quantify, it is likely that cumulative effects would be slightly less adverse than those described under Alternative A, resulting in a long-term, minor to moderate, adverse, cumulative effect on rare, threatened and endangered species under Alternative B.

Conclusions

Alternative B would have long-term, minor to moderate, beneficial effects on rare, threatened and endangered species due to a lesser amount of construction than under Alternative A, the emphasis placed on habitat restoration, species inventory, and educational programs; and implementation of a resource stewardship strategy, which would address invasive species control and management.

Rare, threatened and endangered species would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including Alternative B. This would constitute a long-term, minor to moderate, adverse, cumulative effect. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of rare, threatened or endangered species or values as a result of park actions under Alternative B.

Impacts of Alternative C

Alternative C would involve an intermediate level of facility construction and operation activities as compared to Alternative A. Some fragmentation of terrestrial habitat could occur, but because the number of projects would be few and localized in hubs, this effect would be minor. Prior to implementation of construction activities, mitigative procedures described under Alternative A would be implemented.

Alternative C would discourage new entrances to the park while focusing National Park Service supervision, education, and monitoring where use is greatest. With more limited access, sites would be better protected from resource damage than in Alternative A, and management zones with opportunities for less diverse recreation and less developed surfaces (the natural and river solitude zones) would occupy approximately 60 percent of the park. In addition, by centrally locating facilities and educational resources/park information in hubs, it would be possible to inform and educate a greater number of visitors than Alternative A. Increased park staff proposed under this alternative

would facilitate this increased level of communication about the park's resources and the need to protect them.

Surveys of numerous protected species of plants and animals in the park have been primarily documented and recorded for areas of possible affect from a given project. Definitive and detailed park-wide surveys have yet to be conducted by the park. However, under Alternative C, such surveys would be completed as part of implementation of a park-wide resource stewardship strategy. Procedures for management and control of invasive species would also be included under this strategy.

An increase in research and education efforts compared to Alternative A would provide additional protection of resources by communicating the sensitivity of resources and measures that could be used by visitors to avoid or minimize effects to rare, threatened and endangered species. Addition of new parcels could potentially contain protected species or critical habitat and any new parcels added to the park under Alternative C would not be part of a hub, and therefore not be included in a zone where facility construction effects are likely. Overall, Alternative C would have a long-term, negligible adverse effect on rare, threatened and endangered species.

Cumulative Impacts

Cumulative effects would be the same as described for Alternative B.

Conclusions

Alternative C would have long-term, negligible, adverse effects on rare, threatened and endangered species due to the combined effects of an intermediate amount of land disturbance centralized in hubs as compared with Alternative A, the emphasis placed on educational programs, expanded species inventories, and implementation of a resource stewardship strategy, which would address invasive species control and management.

Rare, threatened and endangered species would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including Alternative C. This would constitute a long-term, minor to moderate, adverse, cumulative effect. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of rare, threatened or endangered species or values as a result of park actions under Alternative C.

Impacts of Alternative D

Alternative D would involve a greater relative level of facility construction and operation activities in comparison with Alternative A due to the greater amount of land disturbing activity, and some fragmentation of terrestrial habitat would potentially occur. Prior to implementation of construction activities, mitigative procedures described under Alternative A would be implemented.

Of the five action alternatives, Alternative D dedicates the least amount of acreage (14 percent of the total 10,000 acre designation) to zones emphasizing less diverse opportunities for recreation and minimization of new construction. The increased number and types of recreational development associated with Alternative D compared to Alternative A would increase the potential for visitor-

related adverse effects on rare, threatened and endangered species. In addition, visitor use would be expanded and distributed throughout the park. Connections to existing neighborhoods would be optimized and expanded, and trail links to areas outside the park would be provided. Creation of numerous trails and access points could potentially make it difficult for park staff to prevent habitat damage and could also promote the spread of invasive vegetation. However, potential adverse effects of trail use, soil erosion, and invasive species would be mitigated by developing and implementing a resource stewardship strategy and an integrated trail system study.

Surveys of numerous protected species of plants and animals in the park have been primarily documented and recorded for areas of possible affect from a given project. However, under Alternative D, such surveys would be completed as part of implementation of a park-wide resource stewardship strategy. Procedures for management and control of invasive species would also be included in this strategy.

Alternative D (and Alternatives E and F) would have a greater emphasis placed on coordination and planning between the National Park Service and local governments and organizations than Alternative A which could result in greater stewardship of park resources. Addition of new parcels could aid in lessening the effects of fragmentation and provide critical habitat protection for sensitive species not yet identified. Overall, Alternative D would have a long-term, negligible to minor, adverse effect on rare, threatened and endangered species.

Cumulative Impacts

Cumulative effects would be the similar to those described for Alternative B. However, Alternative D (and Alternatives E and F) would have a greater increase in staffing and greater emphasis placed on coordination and planning between the National Park Service and local governments and organizations than Alternative A. Park managers would be able to use these partnerships to better adapt to changing ecological and social conditions within and external to the park and coordinate regional planning and land management as it affects the park. Partnerships could be facilitated with local governments in the form of buffering property adjacent to the park. Bordering area governments could consider changes to their comprehensive plans to address land use, zoning, permitting and regulatory issues within the watershed. The combined effect of a unified strategy would be an effective public private partnership for increasing values and for preserving the park resources. Hence, Alternative D (and Alternatives E and F) would provide the greatest level of offset in adverse cumulative effects when compared to Alternative A resulting in a long-term, minor to moderate, adverse, cumulative effect on rare, threatened and endangered species.

Conclusions

Alternative D would have the greatest relative amount of land disturbing activity and the most widespread level of access in comparison to Alternative A resulting in the greatest potential for adverse effects on habitat. These effects would be offset somewhat by implementation of a resource stewardship strategy, expanded species inventories, an integrated trail system study, and the increased educational opportunities and partnerships afforded under this alternative. The overall effect on rare, threatened and endangered species is long-term, negligible to minor, and adverse.

Rare, threatened and endangered species would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by the greater emphasis that Alternative D places

on partnering with local governments resulting in an overall long-term, minor to moderate, adverse, cumulative effect.

There would be no impairment of rare, threatened and endangered species or values as a result of park actions under Alternative D.

Impacts of Alternative E

Similar effects as those described under Alternative C are applicable to Alternative E (long-term, negligible, adverse). Although visitor use and development would be expanded and distributed throughout the park under Alternative E, the overall intensity of effects would be the same due to mitigative measures. Cumulative effects would be the same as those described under Alternative D (long-term, minor to moderate, and adverse).

There would be no impairment of rare, threatened and endangered species or values as a result of park actions under Alternative E.

Impacts of Alternative F, the Preferred Alternative

The same effects as those described under Alternative D are applicable to Alternative F.

PRIME AND UNIQUE FARMLAND

Regulations and Policies

The regulations and policies that guide National Park Service actions with respect to prime and unique farmlands are summarized in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology

This impact topic was not specifically mentioned by the public as a topic of concern. It is included to address planning team concerns regarding possible effects associated with prime farmland in areas where construction activity is zoned as appropriate. A number of the soil types in the park have been classified as prime farmlands (Figure 11), but no unique farmland has been identified within park boundaries. Effects on prime farmlands were addressed by identifying where these resources are located within the park, and then relating anticipated effects of construction and operation of park facilities. Thresholds for this impact topic are presented in Table 31.

Table 31. Impact Thresholds for Prime Farmlands

Negligible: Productivity or fertility of soils would not be affected or these effects would be below or at levels of detection. Any effects on soil productivity or fertility would be slight and would return to normal shortly after completion of project activities.
Minor: The effects on soil productivity or fertility would be detectable, but these effects would be small. If mitigation was needed to offset adverse effects, it would be relatively simple to implement and would likely be successful.
Moderate: The effect on soil productivity or fertility would be readily apparent and would result in a change in the soil character over a relatively wide area.

Table 31. Impact Thresholds for Prime Farmlands

Major: The effect on soil productivity or fertility would be readily apparent and would substantially change the character of the soils over a large area in and outside of the park. Mitigation measures to offset adverse effects would be needed, and their success would not be assured.
Duration: Long-term: Recovery of soils would take more than 1 year. Short-term: Recovery of soils would take less than 1 year.

The major assumption for this assessment was that potential effects on prime farmland within the park are related to the amount of land disturbance caused by construction and operation of park facilities. It was assumed that the amount of allowable construction inside the park would be relatively small for all of the alternatives. It was also assumed that during operation, the amount of disturbance of prime farmlands would be negligible. Effects of the action alternatives were further assessed based on the relative percentage of prime farmland acreage occurring within zones where new construction is permissible.

Impairment of prime farmland would occur if there was a significant adverse effect to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park , (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in this general management plan or other National Park Service planning documents as being of significance.

Impact of Alternative A

Prime farmland is distributed throughout the park (Figure 11). Erosion and runoff generated from impervious surfaces could potentially affect the productivity and fertility of prime farmland. Under Alternative A, the amount of construction proposed within the park would be limited, and efforts would be made to avoid construction in areas containing prime farmland. Should a project be proposed that would affect prime farmland in the future, a site specific environmental assessment would be completed, and the effects would be further addressed. Best management practices would also be implemented during construction to minimize soil erosion. In addition, no projects have been identified to date that would affect prime farmlands.

Under Alternative A, the management of prime farmland would be minimal, and resource stewardship strategies would not be implemented. Erosional effects associated with trail overuse and creation of unauthorized trails would not be mitigated as effectively without an integrated trail system study, which would not be implemented under Alternative A. The overall effect of Alternative A on prime farmland would be long- and short-term, negligible, and adverse.

Cumulative Impacts

The cumulative adverse effects of construction, maintenance and operation activities within the park on prime farmlands under Alternative A would be negligible, since this alternative would involve small amounts of construction and operation of new facilities in the park. However, since a resource stewardship strategy or integrated trail system study would not be implemented, these soil types would not be as protected as they would be if plans were in place.

The cumulative effects of development in the area surrounding the park on prime farmland would be caused by effects of erosion from new construction and runoff from impervious surfaces in the area surrounding the park, and would be difficult to control under any alternative. However, regional

implementation of such initiatives as erosion control permitting and certification programs, and local watershed management plans and ordinances would have beneficial effects on prime farmland within the park. Alternative A would involve the least amount of coordination and planning between the National Park Service and local governments, however, which could hinder the potential of such beneficial effects.

When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting prime farmlands are combined with actions under Alternative A, the resulting cumulative effects would be long- and short-term, minor, and adverse. Adverse effects would be minor because prime farmlands would continue to be influenced by urban development in the surrounding area. These effects would be outside of the park's ability to control, however, and are not related to park actions.

Conclusions

Long- and short-term, negligible, adverse effects on prime farmlands would occur under Alternative A from minimal construction and maintenance of park facilities, avoidance of prime farmlands during construction, and lack of implementation of a resource stewardship strategy.

Prime farmland in the park would continue to be influenced by urban development in the surrounding area. This would constitute a long- and short-term, minor, adverse, cumulative effect. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of prime farmlands or values as a result of park actions under Alternative A.

Impacts of Alternative B

Alternative B would have a lower potential to affect prime farmlands in comparison with Alternative A since this alternative would have a smaller amount of construction and a greater emphasis on restoration. Site-specific environmental assessments tiered to this general management plan would be conducted for any ground disturbing projects, identifying prime farmlands and avoiding them whenever practicable. Best management practices would also be implemented to minimize soil erosion to avoid adverse effects.

When the location of prime farmland (Figure 11) is compared to the locations of zones in which new construction would be considered appropriate under Alternative B, little overlap is observed compared to Alternative A. Implementation of a resource stewardship strategy and integrated trail system study would also serve as additional management tools for erosion control and management of prime farmland, and increased education and outreach proposed under this alternative could increase resource awareness. The overall effect of Alternative B on prime farmland would be long- and short-term, negligible, and beneficial.

Cumulative Impacts

Cumulative effects would be similar to those described under Alternative A. Increased staffing proposed for all of the action alternatives, however, could potentially lessen adverse cumulative effects through increased cooperation and coordination with local, county, and state agencies on projects and activities outside of the park that directly and indirectly affect prime farmland within the park. In addition, increased educational programs aimed at increased resource awareness could generate

interest in their protection outside the park as well. Although the effectiveness of cooperative efforts and education would be difficult to quantify, it is likely that cumulative effects would be slightly less adverse but similar to Alternative A, resulting in long- and short-term, minor, adverse, cumulative effect on prime farmland under Alternative B.

Conclusions

Alternative B would have long- and short-term, negligible beneficial effects on prime farmlands, since the amount of construction proposed within the park would be limited, the overlap of prime farmland with zones allowing new development would be the least of all the other alternatives, including Alternative A, new management tools would be developed and implemented, and increased educational programs could increase resource awareness.

Prime farmland in the park would continue to be primarily influenced by urban development in the surrounding area. This would constitute a long- and short-term, minor, adverse, cumulative effect. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of prime farmlands or values as a result of park actions under Alternative B.

Impacts of Alternative C

Whereas the majority of potential effects would be centralized at hubs and prime farmland could be avoided where practical, the result would be long- and short-term negligible, beneficial compared to Alternative A. Cumulative effects associated with Alternative C would be similar to Alternative B.

There would be no impairment of prime farmlands or values as a result of park actions under Alternative C.

Impacts of Alternative D

Alternative D would have the highest potential to affect prime farmlands, since this alternative would involve more construction, maintenance and operation activities in comparison with Alternative A. Visitor activities would include more active forms of recreation over a wider area of the park, and park access would be less restricted than under Alternative A which could result in adverse effects associated with soil erosion.

When the location of prime farmland is compared to the locations of zones in which new construction would be considered appropriate, the greatest relative amount of overlap is observed when compared to Alternative A. However, as is the case with all of the alternatives, site-specific environmental assessments tiered to this general management plan would be conducted for any ground disturbing projects, identifying prime farmlands and avoiding them whenever practicable. Best management practices would also be implemented to minimize soil erosion, and development and implementation of a resource stewardship strategy and integrated trail system study would lessen adverse effects. The overall effect of Alternative D on prime farmland would be long- and short-term, minor, and adverse.

Cumulative Impacts

Cumulative effects would be the similar to those described for Alternative B. However, Alternative D (and Alternatives E and F) would have greater staffing increases and greater emphasis placed on coordination and planning between the National Park Service and local governments than Alternative A. Park managers would be able to use these partnerships to better adapt to changing ecological and social conditions within and external to the park and coordinate regional planning and land management as it affects the park. Coordination with bordering area governments could result in changes to their comprehensive plans to address land use, zoning, permitting and regulatory issues for areas bordering the park. The combined effect of a unified strategy would be an effective public private partnership for increasing values and for preserving the park resources. Hence, Alternative D (and Alternatives E and F) would provide a greater offset in adverse cumulative effects when compared to Alternative A resulting in a long and short-term, minor, adverse, cumulative effect on prime farmlands.

Conclusions

Alternative D would have the highest overall relative potential to affect prime farmlands, since this alternative would involve greatest amount of construction, maintenance and operation activities in comparison with Alternative A. These effects would be offset somewhat by implementation of a resource stewardship strategy and an integrated trail system strategy resulting in a long- and short-term, minor, adverse effect. The same level of cumulative effect would also be observed due to the emphasis Alternative D places on partnering with local governments.

There would be no impairment of prime farmlands or values as a result of park actions under Alternative D.

Impacts of Alternative E

Effects of Alternative E are similar to those described for Alternative B, resulting in long- and short-term, negligible, and beneficial effects. Cumulative effects would be the same as those described under Alternative D (long- and short-term, minor, and adverse).

There would be no impairment of prime farmlands or values as a result of park actions under Alternative E.

Impacts of Alternative F, the Preferred Alternative

The same effects as those described under Alternative D are applicable to Alternative F.

ARCHEOLOGICAL RESOURCES

Regulations and Policies

The regulations and policies that guide National Park Service actions with respect to archeological resources are presented in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology

This section provides an evaluation of potential effects on archaeological resources within the area described in the "Geographic Area Covered by the General Management Plan" section of Chapter 1. The archaeological resource evaluation consists of comparing conditions that would occur under each of the alternatives with Alternative A.

Regulations for implementing the National Environmental Policy Act and the National Historic Preservation Act require the analysis of the effects of proposed actions on important cultural resources. Unfortunately, each of the acts has a different set of definitions for assessing effects on cultural resources. To comply with the requirements of both acts, this general management plan and environmental impact statement uses both definition sets to evaluate effects on the cultural resources of the park.

The following discussion is an attempt to correlate the differing requirements of the National Historic Preservation Act and the National Environmental Policy Act in a way that effects on cultural resources are presented in a thorough, thoughtful, and meaningful manner in this document and compliance with both laws is achieved. For these reasons, the impact criteria for cultural resources are presented in a different format from the other impact topics in this environmental impact statement.

To implement Section 106 of the National Historic Preservation Act, the Advisory Council on Historic Preservation (Advisory Council) has published regulations at 36 CFR 800. These regulations, entitled "Protection of Historic Properties," provide guidance for determining whether a *historic property* (a term that includes archeological sites, historic buildings, structures, landscapes, and objects and properties of traditional, religious, and cultural significance) is eligible for inclusion on the National Register of Historic Places (National Register) and provides a procedure for nominating such properties to the register.

The regulations also explain what constitutes an impact or effect on a historic property listed on or eligible for listing on the National Register. Under Section 106, the effects on archeological resources, historical buildings and structures, and cultural landscapes were identified and evaluated by:

- determining the area of potential effects;
- identifying cultural resources present in the area of potential effects that are either listed in or potentially eligible to be listed in the National Register;
- applying the criteria of adverse effect to all of the listed or potentially eligible cultural resources that could be affected; and
- considering ways to avoid, minimize, or mitigate adverse effects.

The following Section 106 definitions were used in this general management plan/environmental impact statement to characterize the severity or intensity of effects on National Register-listed or -eligible cultural resources:

- A determination of *no historic properties affected* means that either there are no historic properties present or there are historic properties present but the undertaking will have no effect on them (36 CFR 800.4(d)(1)).

- A determination of *no adverse effect* means there is an effect, but the effect would not meet the criteria of an adverse effect; that is, it will not diminish the characteristics of the cultural resource that qualify it for inclusion in the National Register (36 CFR 800.5(b)).

- An *adverse effect* occurs whenever an effect alters, directly or indirectly, any characteristic of a cultural resource that qualifies it for inclusion in the National Register. For example, this could include diminishing the integrity (or the extent to which a resource retains its historic appearance) of its location, design, setting, materials, workmanship, feeling, or association. Adverse effects also include reasonably foreseeable effects caused by the alternatives that would occur later in time, be farther removed in distance, or be cumulative (36 CFR 800.5(a)(1)).

Because cultural resources are nonrenewable, all adverse effects on National Register-eligible cultural resources in the park would be long-term and would have a high level of concern. The only exception to this is the potential for short-term effects associated with elements of a cultural landscape, such as vegetation.

The Council on Environmental Quality (1978) regulations for implementing the National Environmental Policy Act and Director's Order 12 (NPS 2001b) call for a discussion of the appropriateness of mitigation with an analysis of how effective the mitigation would be in reducing the intensity of a potential effect (for example, reducing the intensity of an effect from major to moderate or minor). However, any reduction in intensity of effect from mitigation is an estimate of the effectiveness of mitigation under *only* under the National Environmental Policy Act. The level of effect as defined by Section 106 is *not* similarly reduced, because cultural resources are nonrenewable, and adverse effects that consume, diminish, or destroy the original historic materials or form will result in a loss in the integrity of the resource that can never be recovered. Therefore, even if actions determined to have an adverse effect under Section 106 may be mitigated, the effect remains adverse.

A Section 106 summary follows the cultural resources impact analysis for the alternatives. The Section 106 summary is intended to address the requirements of National Historic Preservation Act and is an assessment of the effect of the undertaking (implementation of the alternative) on cultural resources, based on the criteria of effect and adverse effect in the Advisory Council's regulations.

The following thresholds used for assessing the intensity of potential effects on archeological resources are presented in Table 32 and include both National Environmental Policy Act and National Historic Preservation Act terminology.

Table 32. Impact Thresholds for Archeological Resources

Negligible: Effect is at the lowest levels of detection - barely measurable with no perceptible consequences, either adverse or beneficial, to archeological resources. For purposes of Section 106, the determination of effect would be *no historic properties affected*.
Minor: The action would affect one or more archeological sites with low data potential and no significant ties to a living community's cultural identity. The site disturbance would be confined to a small area with little, if any, loss of important information potential. For purposes of Section 106, the determination of effect would be *no adverse effect.*
Moderate: The action would affect one or more archeological sites with modest data potential and possible ties to a living community's cultural identity. Site disturbance would be noticeable. For purposes of Section 106, the determination of effect would be *adverse effect*.
Major: The action would affect one or more archeological sites with medium or higher data potential, or sites or districts listed in, or considered eligible for the National Register and/or having possible ties to a living community's cultural identity, resulting in loss of site or district integrity. Site disturbance or resource degradation would be highly visible. For purposes of Section 106, the determination of effect would be *adverse effect*.
Duration: Long-term: Not applicable. Short-term: Not applicable.

The major assumptions used in this analysis were that the potential for adverse effects on archeological resources is related primarily to the degree of physical disturbance of sites in the park from such things as construction, facility operations, visitor use, and natural causes. Alternatives involving higher levels of physical disturbance in relation to Alternative A have a higher potential to adversely affect archeological resources.

Specifically, the potential for an alternative to diminish the significance or integrity of the site(s) to the extent that its National Register eligibility is affected was used as the primary criteria for estimating effects. Beneficial effects were assessed based on the potential to maintain, preserve or stabilize sites. In addition, it was also assumed that development and implementation of a resource stewardship strategy and a collections management plan would help avoid, minimize or reduce the potential adverse effects of National Park Service actions.

Impairment of archeological resources would occur if there was a significant adverse effect to archeological resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in this general management plan or other National Park Service planning documents as being of significance.

Impacts of Alternative A

As discussed in Chapter 3, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Under Alternative A, current management practices would continue, and the archeological knowledge base would not be expanded through additional studies, surveys, or research due to staffing and funding constraints. Any ground-disturbing activities associated with Alternative A would have the potential to adversely affect such sites.

Until a National Register evaluation for any site is completed, it is assumed that the site is eligible for listing on the register. As described in the section entitled "Servicewide Mandates and Policies," the National Park Service is required to protect archeological resources within the park. Therefore, prior

to undertaking any construction activity under Alternative A, the National Park Service would develop an environmental assessment or another appropriate compliance document, and:

- Conduct cultural resources surveys of the area of potential effect, including trail alignments;
- Document all cultural resources that are discovered during the survey;
- Systematically evaluate each site to determine its significance and integrity to support eligibility for inclusion in the National Register;
- Determine eligibility in consultation with the Georgia State Historic Preservation Officer and, if appropriate, the Advisory Council on Historic Preservation; and
- Wherever feasible, revise project designs so that any proposed new facilities would not disturb National Register-eligible sites.

Changes in project location or design could substantially reduce the potential for construction-related adverse effects to archeological resources. If project relocation would be impossible, the National Park Service would work with the Georgia State Historic Preservation Officer to facilitate the determination of eligibility process and to develop appropriate mitigation measures.

The integrity of some sites would continue to be degraded by natural processes such as wind and water erosion, encroachment by vegetation, or by vandalism or inadvertent damage by visitors. These processes could result in non-construction related effects on archeological resources. Because Alternative A would not involve establishment of specific cultural resource zones within the park, and would not result in implementation of a resource stewardship strategy or a collections management plan, the level of protection for archeological resources in the park under Alternative A would be considered to be less than that proposed in any of the action alternatives.

Archeological resources in most of the metropolitan Atlanta area have been disturbed as a result of development and urban sprawl. Therefore, protection and preservation of archeological sites within the park is important on a regional level, as these resources represent former conditions throughout a broader area.

Long-term, direct and indirect, minor to major, adverse effects would occur under Alternative A from natural causes, from looting and other inappropriate visitor use, development on privately owned parcels, and from a general lack of information about the locations and significance of archeological sites (unknown resources cannot be adequately managed or protected). Conversely, the protection afforded sites within the park by their location (e.g. they would be less vulnerable to development pressures), by public education, and by ranger patrols would have long-term, minor, beneficial effects by helping to preserve sites for the future.

Cumulative Impacts

Over time, fire, wind, flooding, natural processes, and human activities have added to, modified, or destroyed cultural sites, both within and outside of the park. Because of their age and non-renewable nature, archeological sites are especially vulnerable to deterioration and loss.

The park's sites are part of a larger cultural continuum that includes surrounding areas as well. Thus, ongoing resource losses across a broad geographic area reduce the numbers and types of sites that are

available for research and interpretation, leaving a skewed vision of past cultures for the future. Lack of resource stewardship strategies and collections management plans would contribute to these adverse effects.

Similar human activities and natural processes are expected to continue into the future. Development in the Atlanta area has affected numerous sites, and development continues to move outward along the river. As the area becomes more urban and more heavily used, there would be continuing and possibly increased potential for moderate to major damage to area sites. However, on-going park programs and site avoidance during future ground disturbing activities in the park would help slow the negative trend of site deterioration and loss of information described above. Future site-specific environmental assessments would be required for new projects, and the compliance document would include mitigation measures to reduce adverse effects. Also, because archeological sites are located within the park, they are less vulnerable to large-scale development, looting, or inappropriate use. Thus, some future minor benefits to archeological sites would accrue from park management actions.

When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting archeological resources are combined with actions under Alternative A, the resulting cumulative effects would be long-term, moderate to major, and adverse. Adverse effects would be moderate to major because the numbers and extent of sites affected in the region would far outweigh the benefits of park programs on resources within park boundaries.

Conclusions

Long-term, direct and indirect, minor to major, adverse effects to archeological resources would result from natural causes, inappropriate visitor use, development on privately owned parcels, and a lack of information about the locations and significance of archeological sites.

Avoidance and other mitigation measures would help reduce adverse effects of new park construction, and long-term, minor benefits to sites would result from visitor education, ranger patrols, and protection from large development projects.

Cumulative effects on archeological resources would be long-term, moderate to major, adverse and long-term, minor, beneficial. There would be no impairment of archeological resources or values as a result of park actions under Alternative A.

Impacts of Alternative B

Under Alternative B, development in the park would be reduced or minimized when compared to Alternative A, and most new facilities would be built outside the park. In many cases, sites chosen for development would be likely to have some existing facilities or have been previously disturbed by utility lines, access roads, or existing structures. New development areas within the park would be limited in size and numbers, and could include such visitor facilities as small gravel parking lots, primitive trails, and interpretive signage.

As previously discussed, almost certainly there are unknown prehistoric and historic archeological resources within the boundaries of the park. Any ground-disturbing activities associated with Alternative B would have the potential to adversely affect such sites. To ensure that any adverse effects from future park operations and development under this alternative would be avoided or minimized, all unevaluated sites would be considered eligible for the National Register until an evaluation is completed.

Prior to any ground disturbing activities, appropriate environmental and cultural compliance would be completed and, as described under Alternative A, surveys, documentation, and analysis of findings would be undertaken to identify potential National Register properties. Wherever possible, the project would be relocated to avoid impacts on any National Register-eligible sites, and mitigating measures would be developed as appropriate. Thus construction-related activities would have long-term, negligible to minor, adverse effects on archeological resources.

Much of the park would be left in a natural state under natural and river solitude zones so that structured experiences would allow visitors to experience the park's resources in a more natural venue. That is, visitor use would be focused on the river, primitive areas, unpaved trails, and other less developed facilities. By structuring the visitor experience, less damage to archeological resources from vandalism and looting would be expected.

Visitor use patterns in heavily used areas could be changed to improve resource conditions, contributing to regrowth of vegetation on sites, helping to shield them from erosion and unauthorized collecting. Parcels added to the park would remain in, or be restored to, a largely natural state.

Modest new facilities such as gravel parking lots, primitive trails and interpretive signs would encourage visitors to stop to learn about sites. The size and types of these proposed new facilities could tend to limit the numbers of visitors that come to an archeological site at one time. This would help reduce damage to the site. By keeping access to the park at present levels, other than modest new facilities at areas to be interpreted, cultural sites would suffer fewer direct effects from visitor use than under Alternative A.

When compared with Alternative A, which lacks management zones, approximately 8.7 percent of the 10,000-acre park would be within cultural resource zones. The cultural resource zones would include cultural resources of all types, such as archeological sites, historic structures and buildings, objects, and cultural landscapes. These zones would help ensure resource protection, especially for those sites listed on or eligible for the National Register, while giving visitors an opportunity to learn about and enjoy cultural resources. Benefits to cultural sites would accrue as visitors become educated about the protection of cultural sites, and develop a sense of stewardship.

Creation of the cultural resource zones and minimizing facilitated recreational opportunities also would be beneficial by focusing visitor use on sites that could accommodate use without causing resource damage. Many of the archeological resources located in primitive areas and away from of the trails frequently used by visitors would be less vulnerable to trampling and "wear and tear", looting, vandalism, and inappropriate uses, which would be considered a moderate benefit. Conversely, the frequent presence of visitors is often a deterrent to looting and inappropriate collecting, so the solitary nature of the visitor experience could also have minor, adverse effects on some more isolated resources.

Alternative B would highlight inventory, preservation and maintenance of archeological sites within the cultural resource zones. Monitoring, ranger staffing, and educational programs would be increased, helping to provide greater protection of archeological resources. Areas in newly added parcels with significant cultural resources would be managed to protect values in accordance with *NPS Management Policies* (NPS 2006f) and the *NPS Cultural Resource Management Guideline* (1998).

Development and implementation of resource stewardship strategies and collections management plans would aid the park in identifying and managing their resources more effectively. These plans

would help establish priorities and schedules for resource treatment, and define measures for site maintenance, protection and preservation, both within and outside of the cultural resource zones.

The identification and systematic inventory of archeological resources in the cultural resource zones during the implementation of Alternative B would offer an opportunity to add to the knowledge of the prehistory and history of both the park and the entire vicinity.

In comparison with Alternative A, Alternative B would have long-term, moderate beneficial effects to archeological resources and long-term, negligible to minor, adverse effects.

Cumulative Impacts

As described for Alternative A, past natural processes and human activities have created, modified and destroyed cultural sites along the Chattahoochee River. Archeological resources in most of the metropolitan Atlanta area have been previously disturbed or eliminated by as a result of historical land clearing practices, development and urban sprawl. Unfortunately, some of these processes and activities are expected to continue into the future, and adverse effects are likely to increase as the surrounding area becomes increasingly urbanized. Therefore, improvements to, and preservation of, archeological sites within the park are important on a regional level, as these resources represent former conditions throughout the area.

Several of the actions proposed in Alternative B would tend to slow the deterioration of sites or minimize loss. Reducing or minimizing development and establishment of cultural resource zones in the park would help focus visitor use in areas where such use would not harm resources and would heighten resource appreciation. Increased monitoring, ranger patrols, and visitor education would also tend to slow loss of sites and build stewardship.

It is expected that as urban development spreads outward from Atlanta, ongoing and future human activities and natural processes in the broader area would have moderate to major adverse effects on archeological sites. When the moderately beneficial and negligible to minor adverse effects of actions under Alternative B are combined with these other ongoing and future moderate to major adverse effects in the broader region, the resulting cumulative effects would be long-term, moderate to major, and adverse. Effects would be of this intensity because the number of potentially adversely affected sites outside the park would be so much higher than the number protected within the park.

Conclusions

Under Alternative B, establishment of cultural resource zones, minimizing facilitated recreational activities, and changing visitor use patterns would benefit cultural sites by focusing visitor use on areas that could best accommodate use without resource damage. Development of resource stewardship strategies and collections management plans, inventory and preservation of sites, increased visitor education and interpretation, and enhanced site monitoring and ranger patrols all would contribute to long-term, moderate benefits to archeological resources. Some long-term, direct and indirect, negligible to minor, adverse effects on archeological resources would result from development, visitor use, and natural processes.

Cumulative effects from ongoing and future human activities and natural processes in the region would be long-term, moderate to major, and adverse. Effects would be of this intensity because the number of potentially adversely affected sites outside the park would be so much higher than the number protected within the park.

There would be no impairment of archeological resources or values as a result of park actions under Alternative B.

Impacts of Alternative C

Under Alternative C, three strategic areas or hubs would be developed to provide information, interpretation and services to visitors and would include administrative facilities for park staff. Construction and visitor-use effects would be centralized within these developed hubs, minimizing the need to construct facilities in other parts of the park, and reducing the potential for impact to archeological sites. The rest of the park would remain relatively undeveloped.

As discussed in Chapter 3, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Any ground-disturbing activities associated with the Alternative C would therefore have the potential to affect such sites. Until evaluation is completed, all unevaluated sites would be considered eligible for the National Register.

Concentration of new facilities in three areas, rather than scattered across the park, would make it easier to avoid cultural sites during development. However, prior to any ground disturbing activities, appropriate environmental and cultural compliance would be completed and, as described under Alternative A, surveys, documentation, and analysis of findings would be undertaken to identify potential National Register properties. Wherever possible, the project would be relocated to avoid any discovered National Register-eligible sites, and mitigating measures would be developed as appropriate.

The initial amount of construction area and land disturbing activity for the hubs, access roads, and trails would be greater than expected future development under Alternative A. However, with mitigation as described above and in Table 7, ground-disturbing actions proposed in Alternative C would have only long-term, direct, negligible to minor, adverse effects on archeological resources.

Cultural resource management zones would occupy approximately 7.8 percent of the total 10,000-acre park, and would include archeological sites, historic structures and buildings, objects, and cultural landscapes, as compared with Alternative A, which would not have any cultural resource zones. Identification efforts, supervision, maintenance and monitoring efforts would be focused on the cultural resource zones in areas where the need is greatest, and site monitoring and numbers of rangers and educational programs would be increased, helping to provide greater protection of archeological resources. However, under this alternative, the Fort Peachtree area would not be included in a cultural resource zone, and would not receive the same benefits as other areas with cultural resource zones. Fort Peachtree is a replica of an early day fort built on what originally was a large Indian village. Although the fort itself is a modern replica, there may be some potential for archeological resources in the vicinity of the fort.

Establishment of cultural resource zones would help ensure resource protection, especially for those sites listed on or eligible for the National Register, while giving visitors an opportunity to learn about and enjoy cultural resources. By systematically identifying and documenting archeological resources in the cultural resource zones during implementation of Alternative C, researchers would learn about the history and prehistory of the park and the area. This added knowledge would be interpreted to visitors who could gain a better understanding and appreciation of park resources. This inventory and documentation also would offer an opportunity to add to the knowledge of the prehistory and history of both the park and the entire vicinity.

Selected sites within the cultural resource zones that could withstand public use and that are amenable to interpretation could be "hardened" (trails and walls to direct visitor use, collection of diagnostic surface artifacts, signing, etc.) so that resources could be protected while visitors gain valuable insights about the park's archeological resources. By focusing visitor use patterns into these developed hubs, archeological sites in other parts of the park would see less foot traffic and "wear and tear." The integrity of some sites would continue to be degraded by natural processes such as wind and water erosion, but better monitoring would allow preventative measures to be instituted before sites are damaged.

Most archeological sites in newly added areas of the park would be somewhat less vulnerable to potential looting or inappropriate uses than under Alternative A because they would be left undisturbed in natural areas. A few of the sites in newly acquired areas could suffer damage because of their particular location or visibility.

Alternative C would discourage new entrances to the park while focusing National Park Service supervision, education, and monitoring where use is greatest. With more limited access, sites would be better protected from looting and vandalism than under Alternative A. That is, the more ad hoc trails, roads, bicycle routes, etc. that run through an area, the more potential for damage to vulnerable sites from disturbance, overuse or looting, and these multiple access routes would be difficult for park rangers to patrol.

Implementation of a resource stewardship strategy and a collections management plan would help establish priorities and schedules for resource treatment, and define measures for site maintenance, protection and preservation, both within and outside of the cultural resource zones. Areas in newly added parcels with significant cultural resources would be managed to protect values in accordance with *NPS Management Policies* (NPS 2006f) and the *NPS Cultural Resource Management Guideline* (1998). Knowledge of the numbers and types of resources present within the park would be increased by the archeological work under this alternative. New interpretation and education efforts and coordination of public/private partnerships would also help build stewardship and resource protection.

In summary, long-term, negligible to minor, adverse effects on sites would result from natural causes, development, and visitor use, while establishment of cultural resource zones, focusing visitor use in hubs, centralized access, and implementation of cultural resource stewardship strategies and collections plans would have long-term, moderate benefits.

Cumulative Effects

Cumulative effects would be the same as described for Alternative B.

Conclusions

Effects on archeological resources from natural processes and visitor use and from developing the hubs, access roads, and trails would be long-term, direct and indirect, negligible to minor, and adverse. Alternative C would also result in long-term, direct and indirect, moderate benefits from: establishment of cultural resource zones, implementation of collections management plans and resource stewardship strategies, concentration of development in the hubs following survey and analysis of the area of potential effect, increased monitoring and ranger presence, focused visitor use in hubs, increased interpretation and education resulting in improved stewardship, and centralized access to the park.

Cumulative effects from ongoing and future human activities and natural processes in the region would be long-term, moderate to major, and adverse. Effects would be of this intensity because the number of potentially adversely affected sites outside the park would be so much higher than the number protected within the park.

There would be no impairment of archeological resources or values as a result of park actions under Alternative C.

Impacts of Alternative D

Alternative D would involve a greater relative level of facility construction and operation activities in comparison with Alternative A, and more ground disturbance would occur, primarily in the developed zones. Visitor use would be expanded and distributed throughout the park, including newly acquired parcels. New facilities would be developed or existing facilities would be refurbished, and connections to existing neighborhoods would be optimized and expanded. Trail links to areas outside the park would be provided.

As previously described, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Any ground-disturbing activities associated with the Alternative D would therefore have the potential to affect such sites. Until a National Register evaluation for any site was completed, it would be assumed that the site is eligible for listing on the register.

With mitigation (as described in Table 7), sites in the area of potential project effect would be identified, documented, and their National Register eligibility evaluated prior to initiation of development actions that would have the potential to threaten site integrity. However, because of the extent of development, and its scattered nature, Alternative D would still have a somewhat higher relative potential for construction-related adverse effects to archeological resources.

Of the five action alternatives, Alternative D dedicates less acreage (6.8 percent of the total 10,000 acre designation) to the cultural resource/historic resource zones than any of the others. In addition, the Island Ford area would contain two developed zones and a natural area recreation zone, but neither the National Register-eligible Island Ford Complex nor Fort Peachtree would be included within a cultural resource/historic resource zone. Thus, it is possible that archeological resources associated with these complexes could be threatened by development, inappropriate recreational uses, looting, and vandalism, a moderate adverse effect.

Under any alternative, the integrity of some sites would be degraded by natural processes such as wind and water erosion, or by vandalism or inadvertent damage by visitors. By establishing cultural resource zones; by increasing monitoring, numbers of rangers, and education programs; and by implementing a resource stewardship strategy and a collections management plan, Alternative D would provide more protection, monitoring, and interpretation of archeological sites than Alternative A, thereby providing a long-term, moderate benefit.

Public/private partnerships created under Alternative D and a National Park Service proactive outreach program could provide greater stewardship of resources within the park; however, the level of protection from natural degradation and human activities provided by such stewardship is difficult to assess.

Under Alternative D, numerous types of facilities would be appropriate and widely distributed. Creation of numerous trails and other easy means of access from adjacent neighborhoods to these facilities would make it difficult for ranger patrols to prevent vandalism and inappropriate uses.

Despite "hardening" of sites to help manage cultural resources, the increased number and types of recreational development associated with Alternative D, by comparison to Alternative A would increase the potential for visitor-related effects and vandalism. Some sites could be heavily impacted by "wear and tear" from heavy visitor use that diminishes their integrity. Because fewer acres would be placed within cultural resource zones, because of the increased types and distribution of facilities, and because of multiple routes of access from neighborhoods there would be long-term, direct and indirect, moderate, adverse effects on archeological resources under Alternative D.

Cumulative Impacts

Cumulative effects would be the same as described for Alternative B.

Conclusions

Alternative D would provide more protection, monitoring, and interpretation of archeological sites than Alternative A and would have long-term, moderate benefits on archeological sites by establishing cultural resource zones; by increasing monitoring, numbers of rangers, and education programs; and by implementing resource stewardship strategies and collections management plans. However, this alternative would result in more visitors in sensitive areas and higher potential for site deterioration and loss from inappropriate recreational uses and vandalism. Adverse effects would also occur because easy access from neighborhoods would make monitoring and site protection difficult. Implementation of this alternative would have long-term, direct and indirect, moderate adverse effects on archeological resources.

Cumulative effects from ongoing and future human activities and natural processes in the region would be long-term, moderate to major, and adverse. Effects would be of this intensity because the number of potentially adversely affected sites outside the park would be so much higher than the number protected within the park.

There would be no impairment of archeological resources or values as a result of park actions under Alternative D.

Impacts of Alternative E

Alternative E is similar to Alternative B in that it would provide for solitude, and access would be located strategically throughout the park. Approximately 8 percent of the park would be included in historic resource zones, which would have similar management as cultural resource zones. Development within the historic resource zones would be appropriate within the particular cultural context.

Under this alternative, the Island Ford area would be included in one of the historic resource zones, so archeological resources associated with this complex would be less threatened by inappropriate recreational uses, looting, and vandalism than under Alternative A. The Peachtree Fort area, which has the potential to contain archeological remains from the Indian village that was situated here prior to construction of the fort, would be included in a developed zone resulting in some potential for adverse effects to archeological resources in this area.

Development in Alternative E is similar to and slightly increased from development in the Alternative C, and substantially more than Alternative A. Mitigation as described in Table 7 would help ensure archeological resources would have only negligible to minor, adverse effects from development. As previously described, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Any ground-disturbing activities associated with Alternative E would therefore have the potential to affect such sites. Until a National Register evaluation for any site was completed, it would be assumed that the site is eligible for listing on the register.

Expanded recreational opportunities would include creation of rustic and river zones where fishing and boating would be allowed under state law and private property rights, and most locations would retain their natural conditions. Visitor access areas would have low-impact development such as trails and boat ramps within the historic resource zone.

Natural processes and human actions would continue to degrade archeological sites, but by establishing historic resource zones; increasing monitoring, numbers of rangers, and education and interpretive programs, Alternative E would provide more protection, monitoring, and interpretation of archeological sites than Alternative A. Implementation of a resource stewardship strategy and collections management plans would help establish priorities and schedules for resource treatment, and define measures for site maintenance, protection and preservation. Long-term, direct and indirect, moderate benefits would also come from increased knowledge about the park's sites, resource stewardship; and improved management of sites. The park would continue to work with other entities to provide greater resource stewardship but the level of protection from natural degradation and human activities provided by such stewardship is difficult to assess.

In summary, natural processes and construction activities associated with implementation of Alternative E would have long-term, indirect and direct, negligible to minor, adverse effects on archeological resources. Establishment of historic resource zones, increases in ranger presence, monitoring, education and interpretation programs, implementation of collections management plans and a resource stewardship strategy, and inclusion of the Island Ford complex in a historic resource zone all would have long-term, direct and indirect, moderate to major, benefits on archeological sites.

Cumulative Impacts

Cumulative effects would be the same as described for Alternative B.

Conclusions

Adverse effects on archeological resources from natural processes, visitor use, and development of new facilities, would have long-term, direct and indirect, negligible to minor, adverse effects on archeological resources because mitigation measures would help reduce potential for site damage.

Establishment of historic resource zones with additional ranger presence and monitoring, new educational programs, and implementation of resource stewardship strategies and collections management plans would have long-term, direct and indirect, moderate to major benefits to archeological resources.

Cumulative effects from ongoing and future human activities and natural processes in the region would be long-term, moderate to major, and adverse. Effects would be of this intensity because the

number of potentially adversely affected sites outside the park would be so much higher than the number protected within the park.

There would be no impairment of archeological resources or values as a result of park actions under Alternative E.

Impacts of Alternative F, the Preferred Alternative

As previously described, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Any ground-disturbing activities associated with Alternative F would therefore have the potential to affect such sites. Until a National Register evaluation for any site was completed, it would be assumed that the site is eligible for listing on the register.

Implementation of Alternative F would have almost the same effects as described for Alternative E. Approximately the same number of acres would be protected and managed in historic resource zones. A collections management plan and resource stewardship strategy would be implemented and would set priorities and define which properties would require what type of maintenance, and how often. Increased monitoring, numbers of rangers, and educational programs would help protect sites.

Under this alternative, the Island Ford area would be included in one of the historic resource zones, so archeological resources associated with this complex would be less threatened by inappropriate recreational uses, looting, and vandalism than under Alternative A, which has a moderate beneficial effect. Fort Peachtree would be within a developed zone. Formerly this area was an Indian village, so there is some potential for minor adverse effects on buried resources in this area.

Initially, there would be some slight potential for damage to archeological sites under Alternative F because of the development of hardened recreational areas. In the long run, however, hardened recreational areas would help structure visitor use, and reduce potential effects on cultural sites in the vicinity.

Alternative F would provide more protection, monitoring, and interpretation of archeological sites than Alternative A, a long-term, moderate benefit.

In summary, natural processes and construction activities associated with implementation of Alternative F would have long-term, direct, minor, adverse effects on archeological resources. Establishment of historic resource zones, increases in ranger presence, monitoring, education and interpretation programs, implementation of a collections management plan and resource stewardship strategy, and inclusion of the Island Ford area in a historic resource zone all would have long-term, direct and indirect, moderate to major benefits on archeological sites.

Cumulative Impacts

Cumulative effects would be the same as described for Alternative B.

Conclusions

Protection of sites within historic resource zones, implementation of a collections management plan and resource stewardship strategy, use of mitigation measures to reduce potential effects of development, increased ranger presence and site monitoring would have long-term, moderate to

major, beneficial effects in preserving these resources for the future. Natural processes and construction activities associated with implementation of Alternative F would have long-term, indirect and direct, minor, adverse effects on archeological resources.

Cumulative effects on archeological resources would be the same as described for Alternative B, which are long-term, moderate to major, and adverse.

There would be no impairment of archeological resources or values as a result of park actions under Alternative F.

CULTURAL LANDSCAPES, HISTORIC BUILDINGS, STRUCTURES AND OBJECTS

Regulations and Policies

The regulations and policies that guide National Park Service actions with respect to cultural landscapes, historic buildings, structures and objects are presented in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology

The analysis of impacts to historical buildings, structures, landscapes and objects is based on the same effects criteria and definitions as the archeological resources analysis. Historic structures, buildings, and objects are a vital component of the park's landscapes. For this reason, the following discussion will include cultural landscapes with historic structures, buildings, and objects. Please refer to the previous section for a description of the methods that were applied. The thresholds for this impact topic are presented in Table 33.

Table 33. Impact Thresholds for Cultural Landscapes, Historic Buildings, Structures and Objects

Negligible: The activity would not have the potential to cause effects on historic structures, buildings, districts or landscapes that would alter any of the characteristics that would qualify the resource for inclusion in or eligibility for the National Register. For purposes of Section 106, the determination would be *no historic properties affected*.
Minor: The action would affect one or more a features of a structure, building, district, landscape, or an object that is eligible for or listed in the National Register, but it would neither alter its character-defining features nor diminish the integrity of the property. For purposes of Section 106, the determination of effect would be *no adverse effect*.
Moderate: The action would alter one or more character-defining features of the structure, building, district, object or landscape. While the overall integrity of the resource would be diminished, the property would retain its National Register eligibility. For purposes of Section 106, the determination of effect would be *adverse effect*.
Major: The action would alter character-defining features of the structure, building, district, object or landscape, seriously diminishing the overall integrity of the resource to the point where its National Register eligibility may be in question. For purposes of Section 106, the determination of effect would be *adverse effect*.
Duration: Long-term: Effects endure after construction and are permanent and irreversible. Short-term: Elements of a cultural landscape such as vegetation recovers in less than one year. For structures, effect is temporary, construction-related and fully reversible.

Impacts of Alternative A

Alternative A does not include establishment of any cultural resource zones, nor does it address additional parcels or treatment of historic structures and landscapes under the expanded boundaries. Due to existing staffing and funding constraints, Alternative A is considered to offer a minimal level

protection to historic buildings, structures, landscapes and objects. No new major initiatives would be expected to occur, and cultural landscape reports would not be developed to aid in the identification and management of landscapes.

The park contains a variety of historic buildings, structures, landscapes and objects that are significant to the historical development of the Chattahoochee River corridor and the greater Atlanta area. In the area surrounding the park, the rural agrarian landscapes and their structural components are rapidly disappearing under the pressure of development. Some of these resources are among the last remaining examples of their construction or landscape types left in the region.

Appropriate treatment is required for National Register-listed properties, particularly where stewardship of the resource can be shared with a public or private entity, but no wholesale program would exist for the inventory, protection, and preservation of unevaluated or potentially eligible resources under Alternative A.

Under this alternative, those resources that have been identified would continue to be protected at current levels. However, few of the historic buildings, structures, landscapes and objects in the park would be afforded enhanced protection and preservation treatment. In addition, because structures are an integral part of, and contribute to, the park's cultural landscapes, effects to structures would have a corresponding negative effect to the cultural landscape.

Historic buildings, structures, landscapes and objects in the park are subject to degradation by natural processes such as wind and water erosion, vegetation growth, insects and age. Alternative A offers no increased level of protection from degradation and damage for park-owned historic buildings, structures, landscapes and objects. The resources would continue to be maintained at present levels.

Historic structures within the park boundary but not owned by the National Park Service might not receive routine maintenance or might be altered in a manner that diminishes or destroys their historic integrity. If historic resources are not monitored, maintained or receive increased levels of protection and preservation, Alternative A would have long-term, direct, minor to major, adverse effects on these resources.

Cumulative Impacts

As with archeological resources, past natural events and human actions have had both adverse and beneficial effects on historic structures and landscapes. Many of the buildings and landscapes in the park have been maintained and preserved, both by the National Park Service and by private owners. Other structures and landscapes have suffered adverse effects from past detrimental effects of time, weather, vandalism, neglect, and fire.

Under Alternative A, a resource stewardship strategy, historic structures plans, or cultural landscape reports would not likely be implemented, and research into historic properties would not be initiated. The limited construction, maintenance and operation activities in the park related to historic buildings, structures, landscapes and objects would continue as at present. It is likely that these limited efforts would not be able to keep pace with ongoing and future maintenance and research needs of the various historic structures and landscapes.

When the adverse and beneficial effects of these past actions and events are added to the ongoing and expected future effects from park operations and development, this alternative would have a long-

term, moderate to major, adverse, cumulative effect on historic buildings, structures, landscapes and objects.

Conclusions

Some of the park's historic buildings, structures, landscapes and objects are among the last remaining examples of their construction types, architectural styles, or landscape examples in the region. Alternative A would not afford optimum research opportunities or enhanced protection and preservation for these properties, resulting in long-term, direct and indirect, minor to major, adverse effects and long-term, moderate to major, adverse, cumulative effects.

There would be no impairment of historic buildings, structures, landscapes, objects or values as a result of park actions under Alternative A.

Impacts of Alternative B

Some of the historic structures and landscapes in the park are among the last remaining examples of their construction types and designs in the region. Protection and enhancement of the park's historic built environment would help preserve these cultural sites and landscapes that were significant in the historical development of the Chattahoochee River corridor in the greater Atlanta area, and that relate to several broad historic contexts described in Chapter 3.

Cultural resource zones established under Alternative B would encompass the majority of the National Register-listed or eligible historic buildings, structures, landscapes and objects identified to date in the park. These historic properties would be afforded enhanced protection and preservation treatment through the development and implementation of systematic integrated inventory, research, and preservation programs in the cultural resource zones. Conversely, establishment of cultural resource zones could tend to focus maintenance efforts on certain areas, while those historic properties outside of the cultural resource zones could suffer from lack of attention. Isolated sites could be more vulnerable to vandalism and damage to historic structures, landscapes and objects would result in diminished integrity of the component historic landscapes as well. To help avoid such adverse effects, historic resources would be managed according to a resource stewardship strategy. This strategy would set priorities, help define which properties would require what type of maintenance, and how often. The plan would also help determine the best possible ways to "harden" the site so that significant character-defining elements of the property or the landscape would not be damaged by overuse or improper visitor use.

Rehabilitation of historic structures would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused. All work would adhere to the Secretary of the Interior's Standards for the Treatment of Historic Properties (1995) and would be compatible with component landscapes. Reuse or adaptive use of historic structures would be extremely important in maintaining the structures, because the frequent presence of staff and visitors would help with resource monitoring and identifying structural problems early on. Areas in newly added parcels with significant cultural resources would be managed to protect values in accordance with *NPS Management Policies* (NPS 2006f) and the *NPS Cultural Resource Management Guideline* (1998).

Creation of cultural resource zones with interpretive signage and modest access, parking, and hiking facilities also would focus interpretive efforts on the resources within the zones and would accompany enhanced educational and research opportunities. These interpretive efforts would enable visitors to

better understand and appreciate these resources, and help to build a sense of stewardship. Increased ranger presence in the cultural resource zones would also help reduce potential vandalism and inappropriate uses.

Because development would be minimized under this alternative, existing cultural landscapes would not suffer additional effects from development. Addition of small parking areas and primitive trails would be done in a manner that would not intrude on the historic ambiance of a cultural resources site or landscape. Reduction of recreational sites and facilities in newly acquired areas would help protect historic structures and landscapes from overuse and from intrusive developments.

Provisions of Alternative B would have a long-term, major, beneficial effect on most of the park's historic structures, especially those situated in the cultural resource zones. Historic structures located outside the zones could suffer long-term, negligible to minor, adverse effects because of their isolation, and potential lack of monitoring or patrols.

Cumulative Impacts

Past impacts of natural processes and human actions on the built environment along the Chattahoochee River would be the same as described for Alternative A. Outside of the park, these effects are ongoing and would be expected to continue in the future as urban Atlanta and other developed areas increase in size and complexity.

In comparison with Alternative A, Alternative B would have a lower potential to result in adverse cumulative effects on historic buildings, structures, landscapes and objects within the park. A few historic properties outside the cultural resource zones might not receive optimal treatment, but those in the cultural resource zones would benefit. Reducing recreational sites and facilities, creation of cultural resource zones, implementation of a resource stewardship strategy, increased ranger presence, resource monitoring, and enhanced interpretative opportunities and access all would help maintain and improve the integrity of existing historic properties in the park.

When the long-term, major benefits of the programs and actions proposed in Alternative B are added to the major, adverse effects of continued urban growth and development in the area, a long-term, moderate to major, adverse, cumulative effect to historic properties would accrue. Effects would be moderate to major and adverse because the size of the area and the number of resources affected by this plan are small when compared with the acreage and affected resources in development outside the park.

Conclusions

Provisions of Alternative B could have long-term, negligible to minor, adverse effects on some historic resources located outside of the cultural resource zones. The majority of the park's historic structures, buildings, objects, and landscapes would gain long-term, major, benefits from placement in cultural resource zones, minimal development within the park, increased monitoring and ranger presence, rehabilitation and adaptive use/reuse, and enhanced interpretation leading to increased stewardship.

Long-term, moderate to major, adverse, cumulative effects on historic properties would result from the large-scale on-going urbanization and development of the region surrounding the park. Effects would be moderate to major and adverse because of the large number of resources outside the park that would be disturbed or lost to development in the future, compared with the number of resources protected inside the park.

There would be no impairment of historic buildings, structures, landscapes, objects or values as a result of park actions under Alternative B.

Impacts of Alternative C

Cultural resources zones established under Alternative C would encompass the majority of the National Register -listed or eligible historic buildings, structures, landscapes and objects in the park; the exception of those resources located within the Fort Peachtree area, including a replica of the early day fort built on the site of a major Creek Indian settlement by the City of Atlanta Bureau of Water. This reconstruction was done in a manner well suited to visitor use, so effects of this alternative on the structural elements of this site would be negligible.

As a result of creating the cultural resource zones, implementation of Alternative C would result in greater protection of historic structures and landscapes in the park than that offered under Alternative A. These historic properties would be afforded enhanced protection and preservation treatment through the development and implementation of systematic integrated inventory, research, and preservation programs. Conversely, establishment of cultural resource zones could tend to focus maintenance efforts on certain areas, while those historic properties outside of the cultural resource zones could suffer from lack of attention. Isolated sites could be more vulnerable to vandalism and damage to historic structures, landscapes and objects could result in diminished integrity of the component historic landscapes as well.

To help avoid damage to historic properties, the resources would be managed according to a resource stewardship strategy and a collections management plan that would set priorities and define which properties and resources would require what type of treatment and how often, would help establish priorities and schedules for resource treatment, and define measures for site maintenance, protection and preservation, a long-term, indirect, moderate, beneficial effect. The plan would help determine the best possible ways to "harden" the site so that significant character-defining elements of the property or the landscape would not be damaged by overuse or improper visitor use.

In comparison to Alternative A, the increased monitoring and ranger staffing levels included in Alternative C would offer slightly greater protection from degradation, vandalism or inadvertent damage by visitors to resources located outside of the cultural resources zones.

Rehabilitation of historic structures would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused. All work would adhere to the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995), and would be compatible with component landscapes. Adaptive use would help preserve structures because the frequent presence of park staff and other would highlight the presence of small problems early on, and provide the opportunity to correct problems before resource damage occurs. Areas in newly added parcels with significant cultural resources would be managed to protect values in accordance with *NPS Management Policies* (NPS 2006f) and the *NPS Cultural Resource Management Guideline* (1998).

Under Alternative C, increased monitoring, ranger presence, resource stewardship strategies and a collections management plan, and centralized access/development would reduce potential adverse effects on historic resources from natural processes and human activities so that overall effects would be long-term, direct and indirect, negligible to minor, and adverse. Implementation of Alternative C would have a far greater potential for preservation and interpretation of historic buildings, structures, landscapes and objects than Alternative A. This would constitute a long-term, major, beneficial effect.

Cumulative Impacts

Cumulative effects would be the same as described for Alternative B.

Conclusions

Under Alternative C, creation of hubs and establishment of cultural resource zones would focus visitor use and park on areas that could best accommodate use without damage to historic resources. Cultural resource stewardship strategies and collections management plans, rehabilitation and adaptive use of structures, increased visitor education and interpretation, increased monitoring and ranger patrols all would contribute to long-term, moderate to major benefits to historic resources. In addition, some long-term, direct and indirect, negligible to minor, adverse effects on historic resources from human activities and natural processes would occur.

Cumulative effects would be the same as described for the Alternative B, long-term, moderate to major, and adverse. Effects would be adverse and moderate to major because the number of historic resources that would receive moderate to major benefits from protection within the park is relatively small when compared to the large number outside the park likely to have major adverse effects from natural processes and human activities.

There would be no impairment of historic structures, buildings, landscapes, objects, or values as a result of park actions under Alternative C.

Impacts of Alternative D

Alternative D would establish seven cultural resources zones, in contrast with Alternative A, which would not provide any. The cultural resource zones that would be established as part of Alternative D would encompass a portion of the National Register-listed or National Register-eligible historic buildings, structures or objects in the park; the exceptions being resources located in the Fort Peachtree and Island Ford areas. However, Fort Peachtree has been reconstructed, and the area adapted for public use, so effects on historic resources in this area would be negligible to minor.

Implementation of Alternative D would, however, result in more resource protection and preservation than Alternative A. Historic resources in the cultural resource zones would be documented and interpreted. Rehabilitation, reuse, and adaptive use would help preserve structures because the frequent presence of park staff and other would highlight the presence of small problems early on, and provide the opportunity to correct problems before resource damage occurs.

Alternative D would offer slightly greater protection from degradation, vandalism or inadvertent damage by visitors to resources located outside of the cultural resources zones due to increased monitoring and ranger staffing levels as compared to Alternative A, and historic properties both within and outside of the cultural resource zones would benefit from implementation of a cultural resource stewardship strategy and a collections management plan. These plans would help establish priorities and schedules for resource treatment, and define measures for maintenance, protection and preservation, a moderate long-term indirect effect.

Under this alternative, the Island Ford area would contain two developed zones and a natural area recreation zone. The Island Ford complex, a property eligible for the National Register, is located here. It is likely that protection of archeological resources associated with the Island Ford complex

would be much more difficult because of the proximity of development and recreational facilities, and some adverse effects would be expected.

Historic properties both within and outside of the cultural resource zones would benefit from enhanced monitoring and ranger presence. Conversely, increased means of access into the park from neighborhoods would make it more difficult to control vandalism and inappropriate uses of buildings and structures, resulting in minor to moderate, adverse effects. The extensive and widely scattered developments under this alternative would have the potential to introduce intrusive modern elements into cultural landscapes or areas defined as potential cultural landscapes. Once these developments are in place, the landscape could not be easily returned to its former status.

In summary, the overall effects of this alternative on historic buildings, structures, landscapes and objects would be long-term, direct and indirect, minor to moderate adverse and long-term, direct and indirect, moderate beneficial.

Cumulative Impacts

Cumulative effects would be the same as described for Alternative B.

Conclusions

Effects of Alternative D would be long-term, direct and indirect, minor to moderate, and adverse due to increased numbers of recreational facilities and means of access into the park that could result in damage to structures and sites. Introduction of modern developments into the historic landscape also would have minor to moderate adverse effects. Because the Island Fort complex would not be included in a cultural resource zone, there could be some potential damage to the buildings and its associated landscape from development and inappropriate recreational uses.

Long-term, indirect and direct, moderate beneficial effects of protection and preservation would accrue from development of cultural resource zones, rehabilitation, reuse, and adaptive use of historic structures, implementation of resource stewardship strategies and collections management plans, increased monitoring and ranger presence.

Cumulative effects on historic buildings, structures, landscapes and objects would be long-term, moderate to major, and adverse because of the extensive and on-going nature of urban development in the Atlanta region.

There would be no impairment of historic buildings, structures, landscapes, objects, or values as a result of park actions under Alternative D.

Impacts of Alternative E

Historic resource zones would be established under Alternative E, and would encompass the majority of the National Register -listed or eligible historic buildings, structures, landscapes and objects in the park. The structures within the Fort Peachtree area would be included in the developed zone; however, these structures are a replica of the early day fort, reconstructed in a manner suitable for visitor use so effects of this zoning would be negligible. As a result of creating the historic resource zones, implementation of Alternative E would result in greater protection of these types of cultural resources in the park than that offered under Alternative A.

Because cultural resources in historic resource zones would be documented, rehabilitated, reused, adaptively used, and interpreted, the implementation of Alternative E would have a greater potential for preservation and interpretation of historic buildings, structures, landscapes and objects than Alternative A. Historic properties both within and outside of the historic resource zones would benefit from implementation of a resource stewardship strategy and collections management plan, which would help establish priorities and schedules for resource treatment, and define measures for site maintenance, and protection and preservation of resources. This would constitute long-term, moderate to major benefits.

Alternative E would offer slightly greater protection from degradation, vandalism or inadvertent damage by visitors to resources located outside of the historic resources zones or in developed zones due to proposed increased monitoring and ranger staffing levels as compared to Alternative A. Effects from visitor use and natural processes would be long-term, negligible to minor, and adverse.

In summary, the overall effect of Alternative E on historic buildings, structures, landscapes and objects would be long-term, direct and indirect, negligible to minor and adverse, as well as long-term, direct and indirect, moderate to major beneficial.

Cumulative Impacts

Cumulative effects would be the same as described for Alternative B.

Conclusions

Implementation of Alternative E would help protect and rehabilitate and reuse buildings, structures, landscapes, and objects within the historic resources zones. Increased ranger presence, monitoring, interpretation, and implementation of a resource stewardship strategy and a collections management plan park would have long-term, moderate to major, beneficial effects in preserving these resources for the future compared to Alternative A. Effects from visitor use and natural processes would be long-term, negligible to minor, and adverse.

Cumulative effects on historic buildings, structures, landscapes and objects would be the same as described for Alternative B, long-term, adverse, and moderate to major.

There would be no impairment of historic buildings, structures, landscapes, objects or values as a result of park actions under Alternative E.

Impacts of Alternative F, the Preferred Alternative

Alternative F would have similar impacts on historic buildings, structures and objects as described for Alternative E, a long-term, moderate to major, beneficial effect. However, because of the increased development of hardened recreational facilities and expanded recreational opportunities, cultural landscapes could suffer long-term, minor, adverse effects.

Cumulative Impacts

Cumulative effects would be the same as described for Alternative B.

Conclusions

Alternative F would have similar impacts on historic buildings, structures and objects as described for Alternative E, long-term, moderate to major beneficial effects. However, because of the increased development of hardened recreational facilities and expanded recreational opportunities, some cultural landscapes could suffer long-term, minor adverse effects.

Cumulative effects on archeological resources would be the same as described for Alternative B, long-term, moderate to major, and adverse.

There would be no impairment of historic structures, buildings, landscapes, objects or values as a result of park actions under Alternative F.

SECTION 106 SUMMARY

Five action alternatives (B through F) and one "No Action Alternative-A" are contained in this Final General Management Plan/Environmental Impact Statement. These action alternatives present differing scenarios for the management of the Chattahoochee River National Recreation Area over the next 15 to 20 years. These alternatives were developed to present viable solutions to issues identified in Chapter 1. This document analyzes the potential impacts associated with possible implementation of each of the alternatives, and outlines a series of best management practices that would help avoid adverse effects on cultural resources.

Archeological Resources

A number of studies provide data concerning the park's archeological resources as well as the status of archeological research and previous work at the park. These studies are listed in Chapter 3 and additional references are included in the park's Historic Resource Study (NPS 2005a). One hundred ninety seven prehistoric and historic archeological sites have been previously recorded within the boundaries of the park and include prehistoric artifact scatters, camps, rock shelters, open habitations, villages, quarries, a mound, earthworks, and fish weirs/rock dams. Historic sites with structural components include a bridge, three mills (one with a race), a cotton gin, a dam, a fence, a still, and nine structural foundations.

Only part of the park has been systematically surveyed or inventoried, and precise information about the location, characteristics, and significance of the majority of known archeological resources in the park is incomplete. Locational data is poorly documented so recertification of the survey data sets would be included as a task to be completed as part of a future cultural resources stewardship strategy for the park.

Two archeological sites recorded within the park have been listed on the National Register of Historic Places, 19 archeological sites have been recommended eligible for history, 72 have been recommended not eligible for listing, and the 104 remaining sites have not been evaluated in terms of their eligibility for listing on the Register. Until a National Register evaluation for any site was completed, it would be assumed that the site is eligible for listing on the register.

Wherever new construction is proposed (either within the park or externally), the area of potential effect would be inventoried and resources would be evaluated for National Register eligibility. As appropriate, an environmental assessment or environmental impact statement would be completed for these future, site-specific undertakings. A number of mitigation measures/best management practices are included in this document and would be applicable to future projects (for a full list of Best Management Practices see Table 7, "Mitigation Measures of the Action Alternatives".)

Wherever possible, the project would be structured to avoid National Register-eligible sites. If the site(s) could not be avoided, the National Park Service would develop additional mitigation and protection measures in consultation with the Georgia State Historic Preservation Officer.

Cultural resource zones/historic resource zones are proposed for all of the action alternatives. These resource zones proposed for the action alternatives would encompass some of the park's significant archeological sites. These resource zones would have a greater potential for inventory, preservation and protection for archeological sites than the other zones. Generally speaking, recreational activities would be situated in areas lacking archeological resources, or where sites could accommodate use without damage. Modest new facilities such as gravel parking and unpaved trails could be added at these types of sites to provide visitors a more structured experience, one with enriched interpretive and educational experiences that would encourage stewardship. Areas in newly added parcels with significant cultural resources would be managed to protect values in accordance with *NPS Management Policies* (2006f) and the *NPS Cultural Resource Management Guideline* (1998).

In all action alternatives, monitoring, ranger staffing, and educational programs would be increased, helping to provide greater protection of archeological resources. Development of resource stewardship strategies and collections management plans would aid the park in identifying and managing their resources more effectively by establishing priorities and schedules for resource treatment and by defining measures for site maintenance, protection, and preservation, both within and outside of the cultural resource zones. The identification and systematic inventory of archeological resources in the cultural/historic resource zones would increase the knowledge of the numbers and types of resources present within the park, and offer an opportunity to add to the knowledge of the prehistory and history of both the park and the surrounding area.

Once planning for improvements under the preferred alternative has begun, an appropriate site specific environmental document (likely an environmental assessment) would be developed to address potential impacts on cultural sites. Section 106 compliance would be included as part of or along with the development of this environmental document.

Historic Buildings, Structures, Landscapes, and Objects

Thirty-one historic structures or buildings have been recorded within the river corridor. Eighteen of these historic structures are listed on the park's List of Classified Structures (LCS). The park's historic resource study (NPS 2005a) identified five historic contexts that covered the major themes in American and Georgia history that impacted the river corridor: 1) American Indians, prehistory-1835; 2) Settlement and Agricultural Development, 1717 -1930; 3) The River as a Source of Energy, 1830-

present; 4) Landscape of Conflict, prehistory-present; and 5) The River as Recreation, prehistory-present.

These contexts were used in the recent National Register evaluations of structures within the park. Historic structures associated with early settlement and agricultural development that were found to be eligible for the National Register include the circa 1840 Hyde Farm Complex, which contains examples of antebellum and postbellum farmsteads in the upper Georgia Piedmont. Power House (a circa 1845 property that is representative of small farmsteads in the river corridor) was listed on the National Register in 2001. The Hyde Farm Complex and the Power House property are potentially eligible for the National Register as a landscape as well as a grouping of historic structures.

Scribner Cemetery (circa 1880) is a small family cemetery associated with an area homestead, while the Jones and Settles bridges (circa 1880 and circa 1904 respectively) reflect area modes of transportation as roadways replaced ferries in the area.

Three distinct concentrations of National Register-eligible sites associated with the industrial development of the Chattahoochee River corridor are within the study area. These sites include the Roswell Manufacturing Company (1838-1976) and Allenbrook (circa 1840) the Laurel/Ivy Woolen Mills (circa 1870-1917, listed on the National Register), and the Marietta Paper Mill/Sope Creek Mill ruins (circa 1854-1902, listed on the National Register).

Several of these properties (Settles Bridge, Laurel/Ivy Woolen Mills, and the Marietta Paper Mill Ruins or Sope Creek Mill ruins) have been recorded both as historic structures and as archeological sites.

The Gold Branch Unit/Morgan Falls rifle pits/picket posts (1864) is a National Register-eligible historic structure(s) associated with the Civil War in this area. Other rifle pits (Island Ford areas) are potentially eligible properties, pending additional research.

The Island Ford Lodge property was found to be eligible for the register and illustrates use of the rustic style of architecture for an early 20th century country retreat along the river. The Collins-Yardum House, also an extant example of a country home in the study area, has been recommended eligible for the register.

The original Fort Gilmer, now known as Fort Peachtree, is not listed on or eligible for the National Register but forms an important part of the cultural resource story of the region.

The following have not yet had a formal cultural landscape inventory to identify their important character-defining elements but have been identified as landscapes within the park that have sufficient integrity to be considered potentially eligible for the National Register: the Scribner Cemetery/Farmstead, the Island Ford complex, the Collins-Yardum complex, Sope Creek Ruins, Allenbrook-Ivy Mill complex, Rogers Homestead, an Hyde-Farm/Power House (NPS 2005a).

Alternatives

Under Alternative B, Alternative C, Alternative D, Alternative E, and Alternative F many of the park's known historic structures, buildings, and landscapes would be included within the cultural/historic resource zones described above for archeological resources. The mitigation measures described above for archeology would precede construction and would include systematic inventory, evaluation, resource protection, and avoidance. Appropriate environmental compliance and mitigation measures would be developed for and precede the undertaking.

Wherever possible, the project would be structured to avoid National Register-eligible sites. If the site(s) could not be avoided, the National Park Service would develop additional mitigation and protection measures in consultation with the Georgia State Historic Preservation Officer. Areas in newly-added parcels with significant cultural resources would be managed to protect values in accordance with *NPS Management Policies* (2006f) and *NPS-28, Cultural Resource Management Guideline* (1998).

Increased monitoring, ranger staffing, and educational programs, and development of collections and cultural resource stewardship strategies would establish priorities and schedules for maintenance, protection, and preservation of historic resources in the park.

This General Management Plan/Environmental Impact Statement will be sent to the Georgia State Historic Preservation Officer, 14 Tribal Historic Preservation Officers, and affiliated American Indian tribes for their review and comment.

An environmental assessment or other appropriate site specific environmental compliance document would be prepared prior to implementation of any actions described in this General Management Plan/Environmental Impact Statement that would affect cultural sites. Applying 36 CFR 800.5, the implementing regulations of the National Historic Preservation Act (revised regulations effective August 5, 2004) that address the criteria of effect and adverse effect, the National Park Service finds that implementation of Alternative B, Alternative C, Alternative E, and Alternative F would have an effect on National Register-eligible and listed archeological resources and historic structures, buildings, objects and cultural landscapes, but that this effect would not be adverse (No Adverse Effect).

Conversely, Alternative D would have somewhat more potential to adversely affect cultural resources. This alternative includes the potential for the greatest amount of construction of any of the action alternatives, and because of the extent and scattered nature of the new developments, the likelihood of damage to sites, even with prior survey analysis, and protection, would be slightly increased. There would be potential for new developments to introduce intrusive elements into cultural landscapes. Increased access from neighborhoods into the park would make it more difficult for patrols to prevent vandalism and inappropriate uses of sites.

Of the five action alternatives, Alternative D dedicates less acreage to the cultural resource/historic resource zones than any of the other alternatives. Under this alternative, the Island Ford area would contain two developed zones and a natural area recreation zone, but the National Register-eligible Island Ford complex would not be included within a cultural resource zone, increasing the potential for damage from inappropriate recreational uses, looting, and vandalism.

TRANSPORTATION

Regulations and Policies

The regulations and policies that guide National Park Service actions with respect to transportation resources are presented in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology

Transportation issues identified during public meetings and planning workshops primarily included concerns about traffic in the region in general, as well as concerns over the effects of transportation and traffic in the park on surrounding local and regional transportation patterns, how plan implementation would affect the use of both paved and unpaved trails, connections between adjacent communities and the park, and management of non-motorized transportation in the park. In addition, concern was expressed regarding the effects of off-road bicycle use on water quality and erosion.

All of these issues have been incorporated into a qualitative assessment of the potential effects of the alternatives on regional and local transportation resources. Thresholds for these generalized types of effects are presented in Table 34.

Table 34. Impact Thresholds for Local and Regional Transportation

Negligible: There would be no measurable effect on local or regional transportation.
Minor: Potential effects would be identified between the alternatives and local and regional transportation. However, those effects would be minor and could readily be reconciled to the satisfaction of all parties.
Moderate: Substantive potential effects would be identified between the alternatives and local and regional transportation. Although the effects could probably be reconciled by negotiation, this could require an amendment to or variance from the plan, policy, or control.
Major: A readily apparent effect would be identified between the alternatives and local and regional transportation. The effect probably could not be reconciled by negotiation and would result in a situation that was substantially out of compliance with land use plans, policies, or controls of a local, regional, state, or other federal organization or agency.
Duration: Long-term: Persists beyond the development of an alternative and includes the operation phase. Short-term: Occurs only during the duration of the project construction or alternative development phase.

The definition of effects on motorized transportation resources was estimated by comparing relative increases in traffic volumes under each alternative to known problem areas in the vicinity of the park, and areas with short- and long-term improvements being planned by the Georgia Department of Transportation. This information included the following:

- Roadways currently impacted by the park
- Currently congested roadways
- Roadways with planned short-range improvements
- Roadways with planned long-range improvements

Information on the above factors was obtained from the *Atlanta Region Transportation Planning Fact Book* (Atlanta Regional Commission 2005a), *Mobility 2030, Volume I: 2030 Regional Transportation Plan (*Atlanta Regional Commission 2004), the *Atlanta Regional Congestion Management Process (CMP) Update 2005* (Atlanta Regional Commission 2006a), and the *Atlanta Region Transportation Improvement Program*: 2006 – 2011 (Atlanta Regional Commission 2006c). Information from these plans, which is summarized in Chapter 3 and Appendix H, was related to the projected degree of effect at areas that were identified as being congested and/or where short- and long-term improvements are planned. The degree of effect was then assigned based on the estimated degree of congestion that

would result from construction of new National Park Service facilities in the vicinity of the identified areas.

An assessment of the relative cumulative effect of the alternatives on proposed future transportation projects in the vicinity of the park was also conducted. A list of future transportation projects in the area is provided in Appendix H. These include roads, bikeways, pedestrian facilities, and transit projects.

Because of the generic nature of this general management plan/environmental impact statement, highly detailed projections of specific traffic patterns and changes in volumes of traffic at specific locations were not possible. The designation of negligible, minor, moderate, or major adverse effects are therefore relative terms based on known and expected transportation problem areas and areas where improvements are planned. The effect designations are intended to indicate that a particular alternative would have a greater effect on the number of trips generated and effects on area roadways as compared with other alternatives and other areas of the park.

A primary assumption used in this analysis is that the amount of traffic generated by the alternatives would be dependent on the total acreage of zones that allow development (Table 24). Alternatives allowing a greater degree of development would be expected to have a greater potential to cause increased levels of adverse local and regional transportation effects. It is also assumed that the overall amount of adverse transportation-related effects generated by the park, although heavy in certain areas such as the Cochran Shoals area near Johnson Ferry road, would be relatively minor in comparison with the traffic generated and characteristic of the surrounding metropolitan Atlanta area.

An additional assumption was that alternatives with a greater amount of development and vehicular accessibility would be assumed to attract more visitors to the park in the future, and would have greater relative transportation-related effects. These areas would primarily include park entrances, zones allowing development, and the hubs (hubs are only proposed under Alternative C). As traffic volumes increase, transportation-related effects would include increased levels of traffic congestion on park roads and parking lots, increased noise levels in the park, and increased amounts of vehicle emissions. In addition, it was assumed that all transportation-related effects would be localized to park entrances.

All roads and other transportation-related facilities proposed under Alternative A are within National Park Service ownership and jurisdiction. Chapter 9 of the National Park Service's *Management Policies 2006* (NPS 2006f) provides guidance for management of park access and circulation systems. While there are no legal restrictions to the traffic management actions associated with any of the alternatives, their implementation in the park would require coordination with local, regional, and federal transportation and planning agencies.

The effects on types, availability, and management of trails, trail connectivity, and efforts to improve and manage non-motorized transportation (bicycles) within the park were qualitatively determined by analyzing the percent acreage of zoning allowing various types of trails and the level of coordination with local governments and private organizations that would be proposed under each alternative which would dictate the degree of trail connectivity.

Impacts of Alternative A

Under Alternative A, existing levels of access and other transportation features within the park would be maintained, and very few changes in park transportation features would occur. The majority of accessible park land would therefore continue to be located in the southern portion of the park, in proximity to the higher population densities of the park corridor. This would facilitate bicycle and pedestrian access to the park and would reduce travel distances for vehicle trips for those living near the park. Park-related transportation effects would be localized to park entrances and would be negligible compared to regional transportation effects, which will likely continue to worsen in the future. Park-related effects would increase during special events; however, continued use of shuttle services during those events would mitigate these effects. This form of mitigation would be common to all alternatives. The projected long-term transportation effects are, therefore, long-term, negligible, and adverse under Alternative A.

Limited new trails would be constructed under Alternative A, and an integrated trail system study would not be developed and implemented. Use of unauthorized trails in the park would continue to increase. Inappropriate use of off-road bicycles in certain areas and use of improperly designed and maintained trails would increase over time due to limitations of park staff to enforce proper use of existing trails. The effect would be increased erosion, rutting, and potential resource damage. These adverse effects associated with off-road bicycle use would increase over current levels in the park, since an intergrated trail system study would not be implemented. Efforts to increase connectivity with trails systems being developed in the area surrounding the park by local governments would be limited since an intergrated trail system study would not be implemented and limited coordination and partnerships with local governments and private organizations would occur. The overall effect on the availability, management, and connectivity of trails would be long-term, minor to moderate, and adverse.

Alternative A is estimated to have a long-term, negligible, adverse effect on an individual's decision to walk or ride a bicycle to get to the park.

Cumulative Impacts

Regional growth in the metropolitan Atlanta area is the primary reason for the projected increases in traffic volumes around the park. No matter which management actions are taken in the park, traffic in the region is expected to continue to increase in the future. The cumulative effects of Alternative A on transportation in the park and on the surrounding region would be long-term, moderate, and adverse. This level of cumulative effect would be the same under all alternatives and could vary somewhat in intensity depending on whether regionally-planned improvements on congested roadways near the park are funded and implemented. In certain areas, roadways that are currently congested are not planned for improvement.

Several city and county governments bordering the park have developed trails and recreation plans that propose linkages to the park trails system. In addition, regional growth has prompted an increased demand to use the park for off-road bicycling. Under Alternative A, current paved and unpaved trails throughout the park would continue to be managed in the same way, additional trails would not likely be planned, and an intergrated trail system study would not be implemented. These effects would be parkwide. The lack of improved connectivity would extend throughout the park, since expanded programs to partner with the surrounding local governments would not be implemented. The

cumulative effect of Alternative A on the availability, management, and connectivity of trails would be long-term, minor to moderate, and adverse.

Several new multi-use trails and bicycle lanes are proposed or are in the construction phase in areas near the park. The addition of such facilities would have a long-term, minor, beneficial, cumulative effect on an individual's decision to walk or ride a bicycle to get to the park.

Conclusions

Under Alternative A, existing levels of access and other transportation features within the park would be maintained and, very few changes in park transportation features would occur. Park-related transportation effects would be localized to park entrances and would be negligible compared to regional transportation effects, which will likely continue to worsen in the future. The projected long-term transportation effects are long-term, negligible, and adverse under Alternative A. The cumulative effects of Alternative A on transportation in the park and on the surrounding region would be long-term, moderate, and adverse. This level of cumulative effect would be the same under all alternatives and could vary somewhat in intensity depending on whether regionally-planned improvements on congested roadways near the park are funded and implemented.

Limited new trails would be constructed under Alternative A, and an integrated trail system study would not be developed and implemented. Efforts to increase connectivity with trails systems being developed in the area surrounding the park by local governments would be limited since coordination and partnerships with local governments and private organizations would be limited. The overall direct and cumulative effects on the availability, management, and connectivity of trails would be long-term, minor to moderate, and adverse.

Alternative A is estimated to have a long-term, negligible, adverse effect on an individual's decision to walk or ride a bicycle to get to the park. However, several new multi-use trails and bicycle lanes are proposed or are in the construction phase in areas near the park. The addition of such facilities would have a long-term, minor, beneficial, cumulative effect on an individual's decision to walk or ride a bicycle to get to the park.

Impacts of Alternative B

A key assumption in assessing transportation-related effects is that increased levels of development and vehicular accessibility in the park would attract more visitors to the park in the future, and would have greater relative transportation-related effects. Under Alternative B, construction of new visitor facilities would be less than what is proposed under Alternative A; however, it is likely that motorized vehicle patterns in the park would continue to exhibit patterns and problems similar to those described for Alternative A, since there is little the park can do to influence traffic patterns in the surrounding Atlanta metropolitan area. The projected long-term transportation effects are, therefore, long-term, negligible, and adverse under Alternative B.

Alternative B would have a long-term, moderate, adverse effect on the availability and types of trails in the park, since fewer new trails would be constructed compared to Alternative A. However, an intergrated trail system study would be developed and implemented, which would benefit the management of the trail system and associated visitor experience. Trails in areas that are currently being overused could be phased out and managed effectively under the plan. Use of unauthorized trails in the park would decrease over time as the integrated trail system study is implemented. Implementation of an integrated trail system study would also aid in efforts to increase connectivity

with trails systems being developed in the area surrounding the park. The level of partnering under Alternative B would increase compared to Alternative A which could possibly improve these efforts. Implementation of Alternative B would an over long-term, negligible, beneficial effect on the availability, management, and connectivity of trails.

The primary form of non-motorized transportation in the park is the bicycle. Alternative B would have a long-term, moderate, adverse effect on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be the most limited under this alternative. Off-road bicycling would be permissible in the developed zone and natural area recreation zone which constitutes approximately 23 percent of the park under Alternative B. The fewest number of bicycle trails would be available under this alternative since Alternative B emphasizes less diverse forms of recreation.

Cumulative Impacts

Regional growth in the metropolitan Atlanta area is the primary reason for the projected increases in traffic volumes around the park. No matter which management actions are taken in the park, traffic in the region is expected to continue to increase in the future. The cumulative effects of Alternative B on motorized transportation in the park and on the surrounding region would be long-term, moderate, and adverse. Areas currently experiencing congestion would be expected to continue to do so in the future if planned improvements do not take place. This level of cumulative effect would be the same under all alternatives.

Several city and county governments bordering the park have developed trails and recreation plans that propose linkages to the park trails system. In addition, regional growth has prompted an increased demand to use the park for off-road bicycling. Under Alternative B, fewer new trails would be constructed when compared to Alternative A. Under Alternative B, the cumulative amount of trail availability would be lower than any of the other alternatives. However, trails throughout the park would be managed under an intergrated trail system study which would aid in efforts to increase connectivity with trails systems being developed in the area surrounding the park. The level of partnering under Alternative B would also be increased when compared to Alternative A which could possibly improve these efforts. Implementation of Alternative B would constitute an overall long-term, negligible, beneficial, cumulative effect on the availability, management, and connectivity of trails.

Several new multi-use trails and bicycle lanes are proposed or are in the construction phase in areas near the park. The addition of such facilities would allow a greater opportunity for a visitor to walk or ride a bike to the park. However, the use of bicycles in the park (at least off-road bicycles) would be the most limited under Alternative B. Therefore, the overall cumulative effect on an individual's decision to walk or ride a bicycle to get to the park would be long-term, minor, and adverse.

Conclusions

It is likely that motorized vehicle patterns in the park would continue to exhibit patterns and problems similar to those described for Alternative A. The projected long-term transportation effects are, therefore, long-term, negligible, and adverse. Regional growth in the counties in the metropolitan Atlanta area is the primary reason for the projected increases in traffic volumes around the park. No matter which management actions are taken in the park, traffic in the region is expected to continue to increase in the future. The cumulative effects of Alternative B on motorized transportation in the park and on the surrounding region would be long-term, moderate, and adverse.

Alternative B would have direct and cumulative long-term, negligible, beneficial effects on the availability, management, and connectivity of trails since fewer new trails would be constructed compared to Alternative A but an integrated trail system study and an increased level of partnering with local governments and private organizations would be implemented.

An intergrated trail system study would be developed and implemented and partnering with Alternative B would have a long-term, moderate, adverse effect on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be the most limited under this alternative. However, the cumulative effect would be long-term, minor, and adverse since new multi-use trails and bicycle lanes are proposed or are in the construction phase in areas near the park.

Impacts of Alternative C

Under Alternative C, approximately 40 percent of the park would be zoned for a more facilitated experience, and up to three hubs would be located in the southern, central and northern ends of the park. Alternative C would result in increased numbers of trips made by visitors to hubs in the park, and a relatively higher degree of transportation effects as compared with those produced by Alternative A. This alternative could have a greater effect on surface roads where hubs would be located, since more facilities would be centralized in these areas compared to more dispersed facilities under Alternative A. However, this would only occur where zoning would be appropriate for an increased number of parking areas or a change the type of visitor experience as compared to Alternative A.

The locations of the proposed hubs have yet to be determined, and detailed, site-specific impacts of projects proposed would be addressed in future environmental assessments, tiered to this general management plan/environmental impact statement. Possible site-specific traffic solutions such as traffic calming measures or altered traffic flow patterns in and out of the hubs would be identified. This could result in improved conditions, which could have a beneficial effect on transportation resources in the park. Overall, however, the effects on transportation under Alternative C would be long-term, minor to moderate and adverse.

Under Alternative C, an intermediate amount of new trail construction would be appropriate when compared to Alternative A. An intergrated trail system plan would also be implemented, which would result in a beneficial effect on trail management, resource protection, and the associated visitor experience. Trails in areas that are currently being overused could be phased out and managed effectively under this alternative. Use of unauthorized trails in the park would decrease over time as the integrated trail system plan is implemented. Implementation of an integrated trail system study would also aid in efforts to increase connectivity with trails systems being developed in the area surrounding the park. In addition, the level of partnering and coordination with local governments and private organizations would be increased under Alternative C when compared to Alternative A. Implementation of Alternative C would have an overall long-term, minor to moderate, beneficial effect on the availability, management, and connectivity of trails.

The primary form of non-motorized transportation in the park is the bicycle. Alternative C would have a long-term, minor to moderate, beneficial effect on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be considered appropriate in more areas under this alternative than under Alternative A. Off-road bicycling would be permissible in the developed zone and natural area recreation zone which constitutes approximately 33 percent of the park under Alternative C. An increased number of bicycle trails would be available under this alternative since Alternative C emphasizes both passive and active forms of recreation.

Cumulative Impacts

Regional growthin the counties in the metropolitan Atlanta area is the primary reason for the projected increases in traffic volumes around the park. No matter which management actions are taken in the park, traffic in the region is expected to continue to increase in the future. The cumulative effects of Alternative C on motorized transportation in the park and on the surrounding region would be long-term, moderate, and adverse. Areas currently experiencing congestion would be expected to continue to do so in the future if planned improvements do not take place. This level of cumulative effect would be the same under all alternatives.

Several city and county governments bordering the park have developed trails and recreation plans that propose linkages to the park trails system. In addition, regional growth has prompted an increased demand to use the park for off-road bicycling. Under Alternative C, a moderate amount of new trails would be operated and constructed when compared to Alternative A and trails throughout the park would be managed under an intergrated trail system study which would aid in efforts to increase connectivity with trails systems being developed in the area surrounding the park. In addition, the level of partnering under Alternative C would be increased when compared to Alternative A which would contribute to these efforts. Implementation of Alternative C would constitute a long-term, minor to moderate, beneficial, cumulative effect on the availability, management, and connectivity of trails.

Several new multi-use trails and bicycle lanes are proposed or are in the construction phase in areas near the park. The addition of such facilities would allow a greater opportunity for a visitor to walk or ride a bike to the park. In addition, bicycle use would be more appropriate under Alternative C than under Alternative A since active and passive forms of recreation would be accommodated. Therefore, the overall cumulative effect on an individual's decision to walk or ride a bicycle to get to the park would be long-term, minor to moderate, and beneficial.

Conclusions

Transportation and traffic problems in the park and surrounding area would continue to increase under any of the alternatives, since traffic and transportation patterns and characteristics are largely controlled by factors outside the park. Overall, Alternative C would have a long-term, minor to moderate, adverse, direct effect and long-term, moderate, adverse, cumulative effect on transportation and traffic in the park and surrounding area, due to traffic congestion.

Alternative C would have a direct and cumulative, long-term, minor to moderate, beneficial effect on the availability, management, and connectivity of trails since an intermediate amount of new trail construction would be appropriate when compared to Alternative A and because an integrated trail system study and an increased level of partnering with local governments and private organizations would be implemented.

Alternative C would have a direct and cumulative, long-term, minor to moderate, beneficial effect on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be considered appropriate in more areas under this alternative than under Alternative A.

Impacts of Alternative D

Under Alternative D, approximately 85 percent of the park would be relatively accessible to visitors and zoned for a more facilitated experience. However, only a very small percentage of the park would

actually be used for construction of transportation related facilities such as roads and parking lots. Under this alternative, access would be dispersed throughout the 48-mile corridor at strategic locations. This would facilitate bicycle and pedestrian access to the park, and could reduce travel distances for vehicle trips.

As compared to Alternative A, more facilities would be constructed and operated under Alternative D. This would result in increased numbers of trips made by visitors to the park, and a relatively higher degree of transportation effects as compared with those produced by Alternative A. However, detailed site-specific transportation analyses would be conducted as part of tiered environmental assessments for future proposed projects and measures to minimize or reduce effects. As part of these environmental assessments, possible site-specific traffic solutions such as traffic calming measures or altered flow patterns at park access points would be identified. This would result in improved localized conditions. The overall effects of Alternative D would be long-term, moderate, and adverse as a result of these factors.

Under Alternative D, a greatest amount of new trail construction would be appropriate when compared to Alternative A. An integrated trail system study would also be implemented, which would benefit trail management, resource protection, and the associated visitor experience. Trails in areas that are currently being overused could be phased out and managed effectively under this alternative. Use of unauthorized trails in the park would decrease over time as the integrated trail system plan is implemented. Implementation of an integrated trail system study would also aid in efforts to increase connectivity with trails systems being developed in the area surrounding the park. In addition, the level of partnering and coordination with local governments and private organizations would be the greatest under Alternative D when compared to Alternative A. Implementation of Alternative D would constitute a long-term, moderate, beneficial, effect on the availability, management, and connectivity of trails.

The primary form of non-motorized transportation in the park is the bicycle. Alternative D would have a long-term, moderate, beneficial effect on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be considered appropriate in the most areas of the park under this alternative than under Alternative A. Off-road bicycling would be permissible in the developed zone and natural area recreation zone which constitutes approximately 79 percent of the park under Alternative D. An increased number of bicycle trails would be available under this alternative since Alternative D emphasizes diverse forms of recreational access and use.

Cumulative Impacts

Regional growth in the counties in the metropolitan Atlanta area is the primary reason for the projected increases in traffic volumes around the park. No matter which management actions are taken in the park, traffic in the region is expected to continue to increase in the future. The cumulative effects of Alternative D on motorized transportation in the park and on the surrounding region would be long-term, moderate, and adverse. Areas currently experiencing congestion would be expected to continue to do so in the future if planned improvements do not take place. This level of cumulative effect would be the same under all alternatives.

Several city and county governments bordering the park have developed trails and recreation plans that propose linkages to the park trails system. In addition, regional growth has prompted an increased demand to use the park for off-road bicycling. Under Alternative D, a greater amount of new trails would be operated and constructed when compared to Alternative A, and trails throughout the park would be managed under an integrated trail system study which would aid in efforts to increase

connectivity with trails systems being developed in the area surrounding the park. In addition, the proposed level of partnering under Alternative D would be greater when compared to Alternative A which would contribute to these efforts. Implementation of Alternative D would constitute a long-term, moderate, beneficial, cumulative effect on the availability, management, and connectivity of trails.

Several new multi-use trails and bicycle lanes are proposed or are in the construction phase in areas near the park. The addition of such facilities would allow a greater opportunity for a visitor to walk or ride a bike to the park. In addition, bicycle use would be more appropriate under Alternative D than under Alternative A since increased access for more diverse forms of recreation would be accommodated. Therefore, the overall cumulative effect on an individual's decision to walk or ride a bicycle to get to the park would be long-term, moderate, and beneficial.

Conclusions

Alternative D would result in a greater level of construction and operation of more facilities, and provide greater access throughout the park corridor in comparison with Alternative A. Transportation and traffic problems in the park and surrounding area would continue to increase under any of the alternatives, since traffic and transportation patterns and characteristics are largely controlled by factors outside the park. Overall, Alternative D would have a direct and cumulative, long-term, moderate, adverse effect on transportation and traffic in the park and surrounding area, due to traffic congestion.

Alternative D would have a direct and cumulative, long-term, moderate, beneficial effect on the availability, management, and connectivity of trails since more new trail construction would be appropriate, an integrated trail system study would be implemented, and an increased level of partnering would be coordinated to improve trail connectivity with surrounding local and county parks when compared to Alternative A.

Alternative D would have a direct and cumulative, long-term, moderate, beneficial effect on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be considered appropriate in the most areas of the park under this alternative than under Alternative A.

Impacts of Alternative E

Similar effects as those described under Alternative D are applicable to Alternative E. Although only 45 percent of the park would be readily accessible to visitors and zoned for a more facilitated experience, the dispersed nature of access and lack of hubs would result in transportation effects the same as described for Alternative D. The same level of partnering to enhance trail connectivity throughout the park would also be the same as that described for Alternative D. In addition, off-road bicycling would be permissible in the developed zone, natural area recreation zone, and rustic zone which constitutes approximately 65 percent of the park which is comparable to Alternative D.

Cumulative effects are the same as described for Alternative D.

Impacts of Alternative F, the Preferred Alternative

The same effects as those described under Alternative D are applicable to Alternative F. Approximately 66 percent of the park would be readily accessible to visitors and zoned for a more facilitated experience, which is a level similar to Alternative D. The dispersed nature of access and lack

of hubs would also result in transportation effects the same as described for Alternative D. The same level of partnering to enhance trail connectivity throughout the park would also be the same as that described for Alternative D. In addition, off-road bicycling would be permissible in the developed zone, natural area recreation zone, and rustic zone which constitutes approximately 62 percent of the park which is comparable to Alternative D. Individual preferences as to where these zones occur may result in differences in opinion regarding the benefits of Alternatives E and F.

Cumulative effects are the same as described for Alternative D.

VISITOR AND COMMUNITY VALUES

Regulations and Policies

The regulations and policies that guide National Park Service actions with respect to visitor and community values are presented in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology

This section provides an assessment of the potential effects of each alternative on visitor and community values as described in the "Traditional Park Character and Visitor Experiences" portion of Chapter 3. Public comments submitted during public meetings and planning workshops were used as an indication of the range of public concerns regarding visitor and community values. These issues included the following:

Recreational Opportunities

- The public appeared to be mostly satisfied with the range of recreational opportunities offered by the park, although the majority of comments dealt with trails and the need for an improved trail system that would provide increased connectivity.

- The ability to use motorized boats throughout the entire park corridor.

- Individual and physically challenging recreation such as bicycling, boating, fishing, jogging, and hiking.

- The traditional, familiar character of the park's recreational opportunities and the publics' desire to see this character maintained.

Visitor Experience

- Scenery, opportunities to learn about the natural world, natural quiet, and the ability to hear natural sounds were noted as desirable features of the park.

- The historic resources present within the park and their appreciation by visitors.

- The lasting value of the park as a gathering place for family and friends.

- The importance of shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.

Traditional Character

- The importance of protecting the park's natural qualities, not only for the ecological resources, but also for its restorative value to people within an urban setting.
- Preserving and protecting the natural and traditional character of the park from disturbance.
- Park actions will not conflict with land use plans, policies, or controls.

The effects of each alternative on these three issue areas then were estimated by qualitatively comparing the anticipated visitor experience for various prescribed uses under each alternative.

The assumptions used in this analysis were that: (1) under Alternative A, the existing management program for visitor experience would be extended into the future, and that few or no new programs for visitors would be planned and implemented; (2) the type of facilities for visitors would remain relatively unchanged under Alternative A and only a small number of new facilities would be constructed; (3) under any of the alternatives, new areas could be added to the park (up to a maximum of 10,000 acres), but, due to funding constraints, it's unlikely that these new areas could managed to their full potential under Alternative A; (4) Alternative C would provide more types and numbers of visitor facilities and programs than Alternative B in three hubs; (5) Alternatives D, E, and F would provide the highest number and greatest variety of visitor facilities and programs; (6) many of the resource stewardship strategies and management plans listed in Chapter 5 would not be developed and implemented under Alternative A, but would be developed and implemented under any of the five action alternatives.

Thresholds used to define the effects of the alternatives on visitor and community values are presented in Table 35. The thresholds were designed to assess the effects on the three issue areas (and subcategories) listed above:

Table 35. Impact Thresholds for Visitor and Community Values

Negligible: Visitors would not be affected, or changes in visitor experience and/or understanding would be below or at the level of detection. Visitors would not likely be aware of the effects associated with the alternative. Accessibility for individuals with disabilities would not be affected, or effects would not be noticeable or measurable.
Minor: Changes in visitor experience and/or understanding would be detectable, although the changes would be slight. Visitors could be aware of effects associated with the alternative, but only slightly. Changes to reduce or increase accessibility would be noticeable, but would affect only a small portion of the individuals with mobility-related disabilities who use the park.
Moderate: Changes in visitor experience and/or understanding would be readily apparent. Visitors would be aware of the effects associated with the Alternative and would likely be able to express an opinion about the changes. Changes to reduce or increase accessibility would be readily apparent to many individuals with mobility-related disabilities who use the park.
Major: Changes in visitor experience and/or understanding would be readily apparent and would have important consequences. Visitors would be aware of the effects associated with Alternative And would likely express a strong opinion about the changes. The effects on accessibility would be readily apparent to most individuals with mobility-related disabilities who use the park and would substantially change their ability to access and experience park features and resources.
Duration: Long-term: Changes would be recognized for more than one year. Short-term: Changes would be recognized for less than one year.

Impacts of Alternative A

Visitor Experience — Under Alternative A, visitor and community values would continue to be shaped by present management policies and programs. The park would continue to provide opportunities for solitude in more remote areas, as well as more active forms of recreation in areas such as Sope Creek and Cochran Shoals. The present opportunities to participate in park programs (interpretation) and education programs would continue. This includes education programs with area schools and a program for training teachers in the field of environmental education and special events such as the fall and spring festivals. Only limited additional park staff resources would be available to expand educational or research programs in the park or local communities, however. Few, if any, new visitor outreach programs would be developed and the visitor experience would not be expanded over the current teacher education program and research program. Coordination with local trail planning organizations and connectivity of new trails system would be similar to existing levels, and no integrated trails planning effort would be conducted or implemented. The quality of the visitor's experience would be diminished as visitation increases and services remain at current levels. Trail construction methods, monitoring, and restoration efforts would be similar to current practices. This alternative would have an overall long-term, moderate, adverse effect on visitor experiences since no new programs, facilities or increase in park staff levels would be expected to occur to accommodate an anticipated increase in future park visitation.

Recreational Opportunity — Under Alternative A, recreational opportunities that currently exist in the park (Table 21) would continue to be available, similar to existing conditions. These recreational opportunities would continue into the future unless resource management concerns arise. These opportunities include the existing system of trails (hiking, walking, bicycling, and horse), various river access facilities for fishing and boating, and maintenance of the administration building, restroom facilities, picnic facilities, parking lots, and roads. The availability and diversity of recreational opportunities would continue as currently managed. Some trails are relatively degraded and many unauthorized trails are causing soil erosion. Some areas are over-crowded and would continue to experience this problem.

Few, if any, new or expanded recreational opportunities would be available under Alternative A. A limited number of new trails would be constructed, but an integrated trail system study would not be developed and implemented, and the number of unauthorized trails and associated erosional effects would increase. Future limits on visitor numbers may be required due to an expected increase in park visitors and the continued need to protect and preserve the park's cultural and natural resources. Areas currently used for certain types of recreational activities could become increasingly crowded, and boating, hiking or fishing in high-use areas could become a more social rather than a solitary experience. Crowded conditions would worsen as competition grows for limited recreational opportunities. The overall effect on recreational opportunities under Alternative A would be variable depending on location in the park and visitor preferences.

Although, the continued availability of existing recreational opportunities throughout the park would result in a beneficial effect, the majority of comments received expressed a preference for a more facilitated park experience with expanded forms of recreation. Hence, the overall effect of Alternative A on recreational opportunities would be long-term, moderate, and adverse.

Traditional Character — As the population in the region grows, increased park visitation would be expected. Park staff would have increased difficulty protecting the natural and cultural features of the park that are valued by visitors, due to limitations in the numbers of park staff. Although visitors

would continue to have access to the wide variety of established opportunities described in Chapter 3, park staff and park management resources would face increasing pressure to address infrastructure problems, a need for additional administration and operations support, and increasing resource threats from natural degradation and visitor-related effects. This would result in an adverse effect on the ability to protect park resources, and the overall character of the park would be diminished because of a lack of suitable interpretive, education, and management programs. The continued availability of existing park resources to visitors, however, would result in a simultaneous beneficial effect.

During public meetings and workshops, the public expressed concern over protection of natural and cultural resources. Under Alternative A, additional resource stewardship strategies and management plans would not be developed or implemented. Without additional park staff to address these increasing concerns in resource protection, adverse effects on traditional park character and visitor experience would occur, as it would be increasingly difficult to maintain the traditional character of the park over time. Under Alternative A, none of the proposed park actions would conflict with land use plans, policies, or controls. In addition, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls in the surrounding areas.

Overall, Alternative A would have a long-term, moderate, adverse effect on the traditional character of the park since park management would face increasing pressure to address infrastructure problems, administration and operations support would be lacking, and it would be increasingly difficult to maintain the traditional character of the park over time due to increased resource threats.

Cumulative Impacts

Under Alternative A, the quality of the experience for the average visitor would decrease over time as a result of the cumulative effects of increasing numbers of visitors from the rapidly growing urban and suburban area surrounding the park, and the associated potential for reduction in the quality of the park's natural and cultural resources and decline in traditional character. The current level of staffing and facilities, education and outreach programs, recreational offerings, and natural and cultural resource management would continue at present levels throughout the park, but would not be expanded to meet the growing demand for more services to reach a much broader and diverse audience.

Many local and county governments surrounding the park have adopted greenspace initiatives and parks and recreation planning efforts that could potentially have a beneficial cumulative effect on visitor experience. Increased opportunities for recreation and enjoyment of greenspace outside of the park could reduce overcrowding and overuse of resources within the park. However, under Alternative A, park staff would not be able to increase the level of partnerships or coordination with local governments. This would reduce the ability to establish connectivity with surrounding parks which could promote shared facilities and programs.

When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting visitor and community values are combined with actions under Alternative A, the resulting cumulative effects would be long-term, moderate to major, adverse. Adverse effects would be moderate to major because regional growth would be the defining factor in assessing cumulative effects.

Conclusions

Although, the continued availability of existing recreational opportunities throughout the park would result in a beneficial effect, the majority of comments received expressed a preference for a more facilitated park experience with expanded forms of recreation. Hence, the overall effect of Alternative A on recreational opportunities would be long-term, moderate, and adverse.

This alternative would have an overall long-term, moderate, adverse effect on visitor experiences since no new programs, facilities or related increase in park staff levels would be expected to occur. The same level of effect would also be applicable to the traditional character of the park since park management would face increasing pressure to address infrastructure problems, administration and operations support would be lacking, and it would be increasingly difficult to maintain the traditional character of the park over time due to increased resource threats.

Cumulative effects on visitor and community values would be long-term, moderate to major, adverse, primarily due to regional growth.

Impacts of Alternative B

Visitor Experience —Under this alternative, approximately 68 percent of the park would be designated as either a river solitude zone or a natural zone with fewer facilities compared to Alternative A. Trails would be preferentially located away from the river and motorized boating would not be allowed in the river solitude zone. Alternative B would provide a relatively high level of opportunity for visitors to experience isolation, a feeling of closeness to nature, and solitude and tranquility. The variety of visitor experiences would be lowest under this alternative.

Compared to Alternative A, there would be increased education opportunities and ranger contact. Increased research opportunities would also be provided as well as opportunities for the park to coordinate with local agencies for monitoring and protection of park resources. This alternative would allow visitors to experience fewer encounters with other people while in the park compared to Alternative A. Alternative B would have a long-term, moderate to major beneficial, effect on visitors who value solitude and isolation, but it would also have a long-term, moderate to major, adverse effect on visitors who value a more facilitated park experience. However, the majority of comments received expressed a preference for a more facilitated park experience.

Recreational Opportunity - In comparison with Alternative A and the other action alternatives, Alternative B would provide visitors with a higher relative opportunity to achieve solitude and isolation and the lowest potential to experience more active and diverse forms of recreation. Approximately 68 percent of the park would be zoned to emphasize the experience of isolation and solitude under this alternative. As a result, this alternative would provide a greater relative opportunity for nature photography, wildlife observation, and similar types of recreational experiences. This alternative would provide visitors with a moderate degree of challenge and risk with respect to outdoor activities, and would require moderate to high knowledge of outdoor recreation skills.

Alternative B would also provide the river solitude zone, which would provide opportunities for enjoying relatively quiet stretches of the river, since motorized watercraft would not be permitted in this zone. Those that prefer to use motorized watercraft on the river in areas designated river solitude zones would be directed to other zones along the river. In addition, trails would not be developed along the riverbank, but would be placed further inland and away from the river. This type of zone does not currently exist and would not be provided under Alternative A. The overall effect on

recreational opportunities under Alternative B would be variable depending on location in the park and visitor preference.

Off-road bicycling would only be permissible in the developed and natural area recreation zones which would constitute approximately 23 percent of the park under Alternative B. Alternative B would provide less opportunity for off-road bicycling when compared to other alternatives, yet provide more opportunities than Alternative A.

Development and implementation of a resource stewardship strategy would benefit visitors in terms of defined preservation and protection measures that would enhance the visitor's recreational experience over the long-term. This alternative would have a long-term, moderate to major, beneficial effect on visitors who value solitude and isolation and less diverse forms of recreation, but it would have a long-term, moderate to major, adverse effect on visitors who value more active forms of recreation and diverse park use such as motorized boating and off-road bicycling.

Traditional Character— The traditional character of the park would be maintained under Alternative B as compared to Alternative A, through changes in management policy, to include development and implementation of a resource stewardship strategy and other management plans, as well as an emphasis on habitat restoration. Alternative B provides opportunities for increased park contact with visitors, and education programs designed to improve the visitor's understanding and appreciation of the natural and cultural resources in the park. This alternative would, therefore, allow for improved management and protection of park resources. Visitors would continue to have access to a variety of established recreational activities described in Chapter 3 yet, less diversity of opportunity than Alternative A due to restriction of motorized watercraft (see discussion under "Recreational Opportunity.") Increased staff levels would provide an opportunity to increase the level of agency coordination to help protect park resources from adverse effects to the watershed. Since it is assumed that park managers would have additional resources to effectively identify and manage degradation of natural and cultural resources, Alternative B would have a long-term moderate, beneficial effect on traditional character and experiences in the park.

Under Alternative B, none of the proposed park actions would cause conflicts with land use plans, policies, or controls. In addition, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls in the surrounding areas.

Cumulative Impacts

Growth in the surrounding area is expected to result in an increased demand for a variety of visitor experiences as compared with current visitor uses. Although the park would still be used as a means of seeking solitude and isolation for enjoyment of scenery and other passive forms of visitor experience, there would be pressure to change this as the area surrounding the park grows. Growth in the surrounding area would also cause increased pressure on the park to provide more active forms of recreation, but this would be limited under Alternative B. In addition, the traditional character of the park would be affected by demand for more active and varied forms of recreation and the increase of encroachment around the boundaries of the park.

Many local and county governments surrounding the park have adopted greenspace initiatives and parks and recreation planning efforts that could potentially have a beneficial cumulative effect on visitor experience in the park. Increased opportunities for recreation and enjoyment of greenspace outside of the park could reduce overcrowding and overuse of resources within the park. Under

Alternative B, proposed increase in park staffing levels could potentially increase the level of partnerships or coordination with local governments in an effort to establish connectivity with surrounding parks which could promote shared facilities and programs. Although the effectiveness of cooperative efforts would be difficult to quantify, it is likely that cumulative effects would be slightly less adverse than those described under Alternative A.

When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting visitor and community values are combined with actions under Alternative B, the resulting cumulative effects would be long-term, moderate, and adverse. Adverse effects would be moderate because growth in the surrounding area would make it increasingly difficult to maintain solitude within the park which is the underlying theme of Alternative B. Coordination with local governments and organizations would be the key to the successful implementation of this alternative.

Conclusions

Alternative B would result in construction of fewer facilities than Alternative A. Visitor experiences such as serenity, wildlife observation, solitude, and observing nature's beauty would be enhanced to the greatest degree under this alternative. The maximum amount of river solitude and natural zones in the park would be available to visitors under this alternative. Visitor encounter rates would be relatively low. Overall, this alternative would result in a long-term, moderate to major, beneficial effect on visitors who value solitude and isolation, and a long-term, moderate to major, adverse effect on visitors who value more varied, active recreational experiences and supportive facilities.

Alternative B would have a long-term, moderate, beneficial effect on traditional character and experiences in the park by providing an emphasis on improving resource conditions, and education programs designed to improve the visitor's understanding and appreciation of the natural and cultural resources in the park.

Growth in the surrounding area is expected to result in an increased demand for a variety of visitor experiences and more active forms of recreation as compared with current visitor uses resulting in a long-term, moderate, adverse, cumulative effect under Alternative B. Adverse effects would be moderate because growth in the surrounding area would make it increasingly difficult to maintain solitude within the park which is the underlying theme of Alternative B.

Impacts of Alternative C

Visitor Experience — Under Alternative C, approximately 60 percent of the park would be zoned as either a natural zone or river solitude zone. These areas would provide a relatively high level of opportunity for visitors to experience isolation, a feeling of closeness to nature, solitude and tranquility, all within a rapidly growing urban region. However, Alternative C would also provide visitors with other types of experiences and facilities centralized in hubs. Alternative A would not provide hubs and would largely rely on existing facilities and programs for visitors.

More facilitated experiences would be available in the hubs, including an increased likelihood of meeting a park ranger. Visitors would be more likely to obtain information from rangers under Alternative C than under Alternative A because facilities and information would be available from park staff at the hubs. Under this alternative, visitors would experience relatively low numbers of encounters with other people in the majority of the park, while simultaneously being provided with facilities at the hubs. A greater number and diversity of park facilities would be available to visitors under this alternative in the hubs in comparison with Alternative A. The more efficient and cohesive

working environment that this alternative would provide a benefit for park staff, and the dispersed park ranger presence would result in better service to park visitors.

Varied types of experiences would be possible under this alternative, due to the availability of more active forms of traditional recreation accessed via the hubs. However, once a visitor moved away from the hub, the probability of experiencing solitude and isolation would be more likely to increase. This alternative would have a long-term, minor to moderate, beneficial effect on all park visitors since both a facilitated experience and opportunities for solitude would be offered under Alternative C.

Recreational Opportunity — Alternative C would provide visitors with opportunities for less diverse types of recreation over the majority of the park (60 percent), and more active and varied forms of recreation in the developed zones and natural area recreation zones (2.7 and 29 percent, respectively). Alternative C would provide visitors with a moderate degree of challenge and risk with respect to outdoor activities, and would require moderate to high knowledge of outdoor recreation skills, in comparison with Alternative A.

Alternative C would also provide the river solitude zone, which would provide opportunities for enjoying relatively quiet stretches of the river, since motorized watercraft would not be permitted in this zone. Those that prefer to use motorized watercraft on the river in areas designated river solitude zones would be directed to other zones along the river. In addition, trails would not be developed along the riverbank, but would be placed further inland and away from the river. This type of zone does not currently exist and would not be provided under Alternative A.

Off-road bicycling would only be permissible in the developed and natural area recreation zones which would constitute approximately 33 percent of the park under Alternative C. Alternative C would provide an intermediate level of opportunity for off-road bicycling, an increase compared to Alternative A.

Development and implementation of a resource stewardship strategy would benefit visitors in terms of defined preservation and protection measures that would enhance the visitor's recreational experience over the long-term, and integrated trails throughout the park would provide a more pleasant recreational experience for most trail users. Compared to Alternative A, there would be centralized access to trailheads and the river, while simultaneously providing the opportunity for isolation and solitude in the park.

Alternative C could be considered by visitors to have beneficial or adverse effects on their recreational experience depending on the purpose of their visit. Overall, this alternative would have a long-term, minor to moderate, beneficial effect on the majority of park visitors since both active and passive forms of recreation would be accommodated. However, Alternative C is likely to have a long-term, moderate to major, adverse effect on visitors who prefer access for use of motorized boating throughout the entire 48-mile park corridor.

Traditional Character— The traditional character of the park would be maintained under Alternative C through management changes including preparation and implementation of a resource stewardship strategy. Additional changes would include increased communication and contact with visitors, increased education programs, and public/private partnerships designed to improve the visitor's understanding and appreciation of the natural and cultural resources in the park, and to allow for improved management and protection of park resources. Visitors would continue to have access to the wide variety of established recreational activities described in Chapter 3, yet less diversity of opportunity than Alternative A due to restrictions of motorized watercraft (see discussion under

"Recreational Opportunities.") Under Alternative C, park staff could increase the number of visitors they could communicate with due to the central location and availability of facilities in the hubs. The hubs would provide visitors with a known location for obtaining information about recreational opportunities, educational opportunities, resources and their protection, and general park information. Compared to Alternative A, more park rangers would be in the park to interact with visitors. The traditional character of the park would be more effectively communicated to visitors under this alternative as a result. With more park managers there would be an increase in the efficiency and ability to effectively identify, preserve and protect natural and cultural resources. Alternative C would have a long-term, major, beneficial effect on maintaining the traditional character and experiences in the park. This would all be augmented by the creation and operation of the hubs.

Under Alternative C, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls ion the surrounding areas.

Cumulative Impacts

Growth in the area and pressure to use the park for more active and varied forms of visitor use would increase under all of the alternatives, putting pressure on the park to provide a wider range of visitor experiences. Under Alternative C, however, the park would provide several hubs that would concentrate visitor activity at up to three selected locations. The operation of several new facilities in hubs would remove those areas for use by visitors who prefer isolation and solitude, but would promote a greater variety of visitor experience, for example, access to a boat ramp, trail, or interpretive facility. The hubs could also include educational facilities (building/kiosks) and centralized access to park rangers and information about park resources that would benefit the visitor. This alternative has been estimated to result in long-term, moderate, beneficial, cumulative effects on visitor experience.

Growth in the surrounding area would also cause increased pressure on the park to provide more active forms of recreation. In comparison to Alternative A, the cumulative effect of Alternative C would result in a lower intensity of effect because it could accommodate a wider variety of recreational opportunities and reduce potential adverse effects of additional recreation by development and implementation of a resource stewardship strategy. This alternative would, therefore, result in long-term, moderate, beneficial, cumulative effects on recreational opportunity.

The relative intensity of the cumulative effect of growth on traditional character of the park would be less than that associated with Alternative A since this alternative can accommodate a wider variety of visitor experiences and recreational activities while minimizing the associated adverse effects of increased recreational use on park resources. Since facilities would be centered in the hubs, the traditional character of the park would be more effectively maintained. In the developed zones and hubs, effects on the traditional character of the park would be minimized through proper site design and location. Implementation of increased numbers and varieties of education and outreach programs, a resource stewardship strategy, and an integrated trail system study would offset potential cumulative effects of growth on traditional character of the park. In addition, a proposed increase in park staffing levels could potentially increase the level of partnerships or coordination with local governments, which could have a beneficial effect on land-use planning in areas adjacent to the park. These programs and plans would result in long-term, minor to moderate, beneficial, cumulative effects on the traditional character of the park.

Conclusions

Varied types of experiences would be possible under this Alternative C, due to the availability of more active forms of traditional recreation accessed via the hubs. However, once a visitor moved away from the hub, the probability of experiencing solitude and isolation would be more likely to increase. This alternative would have a long-term, minor to moderate, beneficial effect on all park visitors since both a facilitated experience and opportunities for solitude would be offered under Alternative C.

Overall, this alternative would have a long-term, minor to moderate, beneficial effect on the majority of park visitors since both active and passive forms of recreation would be accommodated. However, Alternative C is likely to have a long-term, moderate to major, adverse effect on visitors who prefer access to motorized boating throughout the entire 48-mile park corridor.

An increase in park staff in comparison to Alternative A would result in an increase in the efficiency and ability to effectively identify, preserve and protect natural and cultural resources. Alternative C would have a long-term, major, beneficial effect on maintaining the traditional character and experiences in the park. This would be augmented by the creation and operation of the hubs.

Cumulative effects on visitor experience and recreational opportunities would be long-term, moderate, and beneficial, since Alternative C would accommodate a facilitated park experience with expanded forms of active recreation, while also maintaining solitude in the majority of the park. This approach would be further suited to accommodating surrounding growth patterns in comparison to Alternative A.

Implementation of increased numbers and varieties of education and outreach programs, a resource stewardship strategy, and an integrated trail system study would offset potential cumulative effects of growth on traditional character of the park. In addition, a proposed increase in park staffing levels could potentially increase the level of partnerships or coordination with local governments, which could have a beneficial effect on land-use planning in areas adjacent to the park. These programs and plans would result in long-term, minor to moderate, beneficial, cumulative effects on the traditional character of the park.

Impacts of Alternative D

Visitor Experience — Under Alternative D, visitors would be provided with the greatest opportunity for facilitated experience in numerous locations of the park in comparison with Alternative A. Approximately 85 percent of the park would be designated as a natural area recreation zone, cultural resource zone, or developed zone under this alternative. No river solitude zones would be established under this alternative, and approximately 14 percent of the park would be designated as a natural zone.

In developed zones (4.68 percent of the park acreage under this alternative), visitors would experience relatively low levels of solitude and isolation. In comparison with Alternative A, a greater relative amount of facilitated forms of visitor experience such as nature and environmental education would be available in the developed zones distributed along the length of the park under this alternative as compared to Alternative A. Increased visitor and administration/operations facilities would enhance educational and interpretive experiences and options compared to Alternative A. Visitors would experience more encounters with other people under this alternative. In addition, Alternative D also promotes expanded park access via connectivity to surrounding neighborhoods and developments.

This alternative would have a long-term, moderate to major, adverse effect on visitors who value solitude and isolation, and a long-term, moderate to major, beneficial effect on visitors who value more facilitated experiences and park access and use compared to Alternative A.

Recreational Opportunity — In comparison with Alternative A, Alternative D would provide visitors with the lowest relative potential for experiencing solitude and isolation, and an expanded opportunity for more varied, active forms of recreation experiences such as motorized boating, bicycling, horseback riding, and walking and hiking. Compared to Alternative A, this alternative would provide more trails in the park that are connected with trails outside the park. Approximately 74 percent of the park would be zoned to emphasize more active forms of recreation, with more acreage designated as natural area recreation zone. Alternative D would provide visitors with a minor to moderate degree of challenge and risk with respect to outdoor activities, and would require minor to moderate knowledge of outdoor recreation skills, in comparison with Alternative A.

Under this alternative, opportunities for enjoying relatively quiet stretches of the river would still be available, but to a lesser extent than would be available under Alternative B or Alternative C because there would be no designated river solitude zone. Large portions of the park corridor would still be available for photography, watching wildlife, and other passive visitor experiences, however. This alternative would have appreciably more facilities and associated recreational opportunities as compared with Alternative A.

Off-road bicycling would only be permissible in the developed and natural area recreation zones which would constitute approximately 79 percent of the park under Alternative D. Alternative D would provide a greater level of opportunity for off-road bicycling when compared to Alternative A and other alternatives.

This alternative would have a long-term, moderate to major, adverse effect on visitors who value more passive forms of recreation and a long-term, moderate to major, beneficial effect on visitors who value expanded access and more diverse forms of recreation, increased park access points, motorized boating throughout the entire park corridor, and a more social experience.

Traditional Character— The traditional character of the park would be maintained under Alternative D through changes in management policy, to include development and implementation of a resource stewardship strategy and other studies and plans. These changes would include increased communication with visitors, education programs, public/private partnerships designed to improve the visitor's understanding and appreciation of the natural and cultural resources in the park, and improved management and protection of park resources in comparison with Alternative A. In addition, visitors would have access to a variety of established recreational activities described in Chapter 3. The results of these actions would be a long-term, major, beneficial effect on traditional character and experiences in the park. However, this alternative also has a simultaneous potential for having a long-term, minor to moderate, adverse effect on traditional park character, since this alternative would involve a greater relative degree of constructed facilities and the highest rates of dispersed visitation. Under these circumstances, the traditional character of the park, including a higher degree of isolation and solitude, experiencing the natural river environment, and similar values, would not be as achievable as compared to Alternative A.

Under Alternative D, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls in the surrounding areas.

Cumulative Impacts

The same intensity of cumulative effects on visitor experience and recreational opportunities described under Alternative C would be applicable to Alternative D; however, effects would be distributed throughout the park and not centralized in hubs. Although, there is the potential for diminished traditional character of the park under Alternative D, the overall cumulative effect would be the same as Alternative C (long-term, minor to moderate, and beneficial) since Alternative D (and Alternative E and F) places greater emphasis on partnering and coordination with local governments. This would allow park managers to have a greater effect on land-use adjacent to the park when compared with Alternative A, which would aid in preserving traditional character. Partnerships could also improve connectivity with other community park-related initiatives, thereby providing an opportunity for shared facilities and programs while also dispersing visitors over a larger area potentially reducing some visitor-related resource impacts.

Conclusions

In comparison with Alternative A, Alternative D would provide visitors with the lowest relative potential for experiencing solitude and isolation, and an expanded opportunity for access and more active forms of recreation experiences such as motorized boating, bicycling, horseback riding, and walking and hiking. The result would be a long-term, moderate to major, adverse effect on visitors who value solitude and isolation, and a long-term, moderate to major, beneficial effect on visitors who value a more facilitated park experience.

Alternative D would have a long-term, moderate to major, adverse effect on visitors who value more solitude and less diverse types of recreation and a long-term, moderate to major, beneficial effect on visitors who value more active forms of recreation, increased park access points, and a more social experience.

The traditional character of the park would be maintained under Alternative D through changes in management policy resulting in a long-term, major, beneficial effect on traditional character and experiences in the park. However, this alternative also has a simultaneous potential for having a long-term, minor to moderate, adverse effect on traditional park character, since a higher degree of isolation and solitude, experiencing the natural river environment, and similar values, would not be as achievable as compared to Alternative A.

Cumulative effects on visitor experience and recreational opportunities would be long-term, minor to moderate, and beneficial, since Alternative D would accommodate a facilitated park experience with expanded forms of active recreation, while also maintaining solitude in the portions of the park. This approach would be further suited to accommodating surrounding growth patterns in comparison to Alternative A.

Although, there is the potential for diminished traditional character of the park under Alternative D, the overall cumulative effect would be long-term, minor to moderate, and beneficial since Alternative D (and Alternatives E and F) places a greater emphasis on partnering and coordination with local governments and organizations which would have a greater effect on land-use adjacent to the park when compared to Alternative A.

Impacts of Alternative E

Visitor Experience — Under Alternative E, visitors would be provided with an intermediate opportunity for a facilitated experience in numerous locations of the park in comparison with Alternative A. Approximately 45 percent of the park would be designated as a natural area recreation zone, historic resource zone, or developed zone under this alternative. In addition, a rustic zone would be created and occupy 28 percent of the park under Alternative E which would allow the same types of activities permissible in the natural area recreation zone but with less facilitation. For example, picnicking would be permissible in the rustic zone but picnic tables would not be provided. Visitor or administrative facilities would also be inappropriate in the rustic zone.

In comparison with Alternative A, a greater relative amount of facilitated forms of visitor experience such as environmental education would be available in the developed zones distributed along the length of the park under this alternative as compared to Alternative A. Increased visitor and administration/operations facilities would enhance educational and interpretive experiences and options compared to Alternative A. Visitors would experience more encounters with other people under this alternative. In addition, Alternative E also promotes expanded park access via connectivity to surrounding neighborhoods and developments and boating and fishing would be allowed in all park waterways. Alternative E would have a long-term, moderate, adverse effect on visitors who value solitude and isolation, and a long-term, moderate to major, beneficial effect on visitors who value more facilitated experiences and park use compared to Alternative A. However, the majority of comments received during public scoping expressed a preference for a more facilitated park experience.

Recreational Opportunity — In comparison with Alternative A, Alternative E would provide visitors with a lower relative potential for experiencing solitude and isolation, and an expanded opportunity for more diverse, active forms of recreation experiences such as motorized boating, bicycling, horseback riding, and walking and hiking. Approximately 45 percent of the park would be zoned to emphasize more active, facilitated forms of recreation and an additional 28 percent of the park contained within the rustic zone would permit active forms of recreation, but it would not be as facilitated. Alternative E would provide visitors with a moderate degree of challenge and risk with respect to outdoor activities, and would require moderate to high knowledge of outdoor recreation skills, in comparison with Alternative A.

Compared to Alternative A, this alternative would provide more trails in the park that are connected with trails outside the park, and off-road bicycling would be permissible in approximately 65 percent of the park under this alternative. In addition, greater river access would provided under Alternative E when compared to Alternative A, and motorized boating and fishing would be allowed in all park waterways in accordance with Georgia State laws and private property rights.

Under this alternative, opportunities for enjoying relatively quiet stretches of the river would still be available, but to a lesser extent that would be available under Alternative B and Alternative C because there would be no designated river solitude zone. Large portions of the park corridor would still be available for photography, watching wildlife, and other passive visitor experiences. This alternative would have more facilities and associated recreational opportunities as compared with Alternative A.

This alternative would have a long-term, moderate, adverse effect on visitors who value more passive forms of recreation and a long-term, moderate to major, beneficial effect on visitors who value more

diverse, active forms of recreation, increased park access points, motorized boating throughout the entire park corridor, and a more social experience.

Traditional Character— The traditional character of the park would be maintained under Alternative E through changes in management policy, to include development and implementation of a resource stewardship strategy and other studies and plans. These changes would include increased communication with visitors, education programs, public/private partnerships designed to improve the visitor's understanding and appreciation of the natural and cultural resources in the park, and improved management and protection of park resources in comparison with Alternative A. In addition, visitors would have access to a variety of established recreational activities described in Chapter 3. The results of these actions would be a long-term, major, beneficial effect on traditional character and experiences in the park. However, this alternative also has a simultaneous potential for having a long-term, minor, adverse effect on traditional park character, since this alternative would involve a moderate degree of constructed facilities and an increased rate of dispersed visitation when compared to Alternative A. Under these circumstances, the traditional character of the park, including a higher degree of isolation and solitude, experiencing the natural environment, and similar values, would not be as achievable as compared to Alternative A.

Under Alternative E, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls ion the surrounding areas.

Cumulative Impacts

Cumulative effects would be the same as those described under Alternative D.

Conclusions

In comparison with Alternative A, Alternative E would provide visitors with a lower relative potential for experiencing solitude and isolation, and an expanded opportunity for more diverse, active forms of recreation experiences such as motorized boating, bicycling, horseback riding, and walking and hiking. The result would be a long-term, moderate, adverse effect on visitors who value solitude and isolation, and a long-term, moderate to major, beneficial effect on visitors who value a more facilitated park experience.

Alternative E would have a long-term, moderate, adverse effect on visitors who value more solitude and less diverse opportunities for recreation and a long-term, moderate to major, beneficial effect on visitors who value more diverse, active forms of recreation, increased park access points, and a more social experience. Motorized boating and fishing would be allowed in all park waterways in accordance with Georgia State laws and private property rights.

The traditional character of the park would be maintained under Alternative E through changes in management policy resulting in a long-term, major, beneficial effect on traditional character and experiences in the park. However, this alternative also has a simultaneous potential for having a long-term, minor, adverse effect on traditional park character, since a higher degree of isolation and solitude, and similar values, would not be as achievable as compared to Alternative A.

Cumulative effects on visitor experience and recreational opportunities would be long-term, moderate, and beneficial, since Alternative E would accommodate a facilitated park experience with expanded forms of active recreation, while also maintaining solitude in the portions of the park. This

approach would be further suited to accommodating surrounding growth patterns in comparison to Alternative A.

Although, there is the potential for diminished traditional character of the park under Alternative E, the overall cumulative effect would be long-term, minor to moderate, and beneficial since Alternative E (and Alternatives D and F) places a greater emphasis on partnering and coordination with local governments and other organizations which would have a greater effect on land-use adjacent to the park when compared to Alternative A.

Impacts of Alternative F, the Preferred Alternative

Visitor Experience — Under Alternative F, visitors would be provided with a greater opportunity for a facilitated experience in numerous locations of the park in comparison with Alternative A. Approximately 62 percent of the park would be designated as a natural area recreation zone, historic resource zone, or developed zone under this alternative. In addition, a rustic zone would be created and occupy approximately 8.5 percent of the park under Alternative F which would allow the same types of activities permissible in the natural area recreation zone but with less facilitation. For example, picnicking would be permissible in the rustic zone but picnic tables would not be provided. Visitor or administrative facilities would also be inappropriate in the rustic zone.

In comparison with Alternative A, a greater relative amount of facilitated forms of visitor experience such as nature and environmental education would be available in the developed zones distributed along the length of the park under this alternative as compared to Alternative A. Increased visitor and administration/operations facilities would enhance educational and interpretive experiences and options compared to Alternative A. Visitors would experience more encounters with other people under this alternative. In addition, Alternative F promotes a greater expanded park access when compared to Alternative A via connectivity to surrounding neighborhoods and developments and access to boating and fishing in all park waterways.

Alternative F would have a long-term, moderate to major, adverse effect on visitors who value solitude and isolation, and a long-term, moderate to major, beneficial effect on visitors who value more facilitated experiences and park use compared to Alternative A.

Recreational Opportunity — In comparison with Alternative A, Alternative F would provide visitors with a lower relative potential for experiencing solitude and isolation, and an expanded opportunity for more diverse, active forms of recreation experiences such as motorized boating, bicycling, horseback riding, and walking and hiking. Approximately 45 percent of the park would be zoned to emphasize more active, facilitated forms of recreation and an additional 8.5 percent of the park contained within the rustic zone would permit active forms of recreation, but it would not be as facilitated. Alternative F would provide visitors with a minor to moderate degree of challenge and risk with respect to outdoor activities, and would require minor to moderate knowledge of outdoor recreation skills, in comparison with Alternative A.

Compared to Alternative A, this alternative would provide more trails in the park that are connected with trails outside the park, and off-road bicycling would be permitted in approximately 62 percent of the park. In addition, greater river access would provided under Alternative F when compared to Alternative A, and motorized boating and fishing would be allowed in all park waterways in accordance with Georgia State laws and private property rights.

Under this alternative, opportunities for enjoying relatively quiet stretches of the river would still be available, but to a lesser extent that would be available under Alternative B and Alternative C because there would be no designated river solitude zone. Large portions of the park corridor would still be available for photography, watching wildlife, and other passive visitor experiences. This alternative would have more facilities and associated recreational opportunities as compared with Alternative A.

This alternative would have a long-term, moderate to major, adverse effect on visitors who value more passive forms of recreation and a long-term, major, beneficial effect on visitors who value more diverse, active forms of recreation, increased park access points, motorized boating throughout the entire park corridor, and a more social experience. The majority of comments received during public scoping expressed a preference for expanded recreational opportunities and park access.

Traditional Character— The traditional character of the park would be maintained under Alternative F through changes in management policy, to include development and implementation of a resource stewardship strategy and other studies and plans. These changes would include increased communication with visitors, education programs, public/private partnerships designed to improve the visitor's understanding and appreciation of the natural and cultural resources in the park, and improved management and protection of park resources in comparison with Alternative A. In addition, visitors would have access to a variety of established recreational activities described in Chapter 3. The results of these actions would be a long-term, major, beneficial effect on traditional character and experiences in the park. However, this alternative also has a simultaneous potential for having a long-term, minor to moderate, adverse effect on traditional park character, since this alternative would involve a greater relative degree of constructed facilities and the highest rate of dispersed visitation. Under these circumstances, the traditional character of the park, including a higher degree of isolation and solitude, experiencing the natural river environment, and similar values, would not be as achievable as compared to Alternative A.

Under Alternative F, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls ion the surrounding areas.

Cumulative Impacts

Cumulative effects would be the same as those described under Alternative D.

Conclusions

In comparison with Alternative A, Alternative F would provide visitors with a lower relative potential for experiencing solitude and isolation, and an expanded opportunity for more active forms of recreation experiences such as motorized boating, bicycling, horseback riding, and walking and hiking. The result would be a long-term, moderate to major, adverse effect on visitors who value solitude and isolation, and a long-term, moderate to major, beneficial effect on visitors who value more facilitated experiences and park use. However, the majority of comments received during public scoping expressed a preference for a more facilitated park experience.

Alternative F would have a long-term, moderate to major, adverse effect on visitors who value more solitude and less diverse forms of recreation and a long-term, major, beneficial effect on visitors who value more diverse, active forms of recreation, increased park access points, and a more social experience. Motorized boating and fishing would be allowed in all park waterways in accordance with Georgia State laws and private property rights.

The traditional character of the park would be maintained under Alternative F through changes in management policy resulting in a long-term, major, beneficial effect on traditional character and experiences in the park. However, this alternative also has a simultaneous potential for having a long-term, minor to moderate, adverse effect on traditional park character, since a higher degree of isolation and solitude, and similar values, would not be as achievable as compared to Alternative A.

Cumulative effects on visitor experience and recreational opportunities would be long-term, moderate, and beneficial, since Alternative F would accommodate a facilitated park experience with expanded forms of active recreation, while also maintaining solitude in the portions of the park. This approach would be further suited to accommodating surrounding growth patterns in comparison to Alternative A.

Although, there is the potential for diminished traditional character of the park under Alternative F, the overall cumulative effect would be long-term, minor to moderate, and beneficial since Alternative F (and Alternatives D and E) places a greater emphasis on partnering and coordination with local governments which would have a greater effect on land-use adjacent to the park when compared to Alternative A.

PARK OPERATIONS

Regulations and Policies

The regulations and policies that guide National Park Service actions with respect to park operations are presented in the "Servicewide Mandates and Policies" section of Chapter 1 and in Appendix A.

Methodology

This section provides an assessment of the potential effects of each alternative on park operations as described in the "Park Operations" portion of Chapter 3. Public comments submitted during public meetings and planning workshops were used as an indication of the range of public concerns regarding park operations which included the numbers and types of visitor facilities, an increase in the operation of education and volunteer programs, and the desire for greater communication between the National Park Service and other agencies, organizations and visitors. The effects of each alternative on these issue areas were then estimated by qualitatively comparing the anticipated park operations for various prescribed uses under each alternative.

The assumptions used in this analysis were that: (1) under Alternative A, the existing management program for visitor experience would be extended into the future, and that few or no new programs for visitors would be planned and implemented; (2) the type of facilities for visitors would remain unchanged under Alternative A and only a small number of new facilities would be constructed; (3) Under any of the alternatives, new areas could be added to the park (up to a maximum of 10,000 acres), but, due to funding constraints, it's unlikely that these new areas could managed to their full potential under Alternative A; (4) Alternative C would provide more types and numbers of visitor facilities and programs than Alternative B in three hubs; (5) Alternatives D, E, and F would provide the highest number and greatest variety of visitor facilities and programs (6) many of resource stewardship strategies and management plans identified in Chapter 5 would not be developed and implemented under Alternative A, but would be developed and implemented under any of the five action alternatives.

Although increased staffing and funding are proposed, it should be noted that implementation of the approved plan will depend on future funding and servicewide priorities. The approval of a general management plan does not guarantee that funding and staffing needed to implement the plan will be forthcoming. Funding for capital construction improvements is not currently shown in National Park Service construction programs, and it is not likely that all potential capital improvements arising from this plan will be totally implemented during the life of this general management plan. Larger capital improvements may be phased over several years, and full implementation of the general management plan could be many years into the future.

Table 36 presents the thresholds used to define the effects of the alternatives on park operations. The thresholds were designed to assess the effects on the issues listed above:

Table 36. Impact Thresholds for Park Operations

Negligible: Park operations would not be affected, or effects would not be noticeable or measurable outside normal variability.
Minor: Effects would be measurable but would not appreciably change park operations. Effects would be noticed by park staff, but probably would not be noticed by visitors.
Moderate: The effects would be readily apparent and would result in a substantial change in park operations in a manner that would be noticeable to staff and visitors.
Major: The effects would be readily apparent and would result in a substantial change in park operations in a manner that would be noticeable to staff and visitors as markedly difference from existing operations.
Duration: Long-term: Changes would be recognized for more than one year. Short-term: Changes would be recognized for less than one year.

Impacts of Alternative A

Under Alternative A, the level of programming, activities, and enforcement would be expected to be maintained. Limited construction of new facilities would occur, but existing visitor facilities in the park would be utilized and maintained as funds allow. The park is currently functioning under a staffing deficit, and would require an additional eight staff (full time equivalents) under Alternative A in order to fulfill enforcement and resource management needs.

The current level of partnerships and cooperation with local governments and private organizations would continue; however, there is an ever increasing demand for park staff to address connectivity with local city and county parks and trails, which would be difficult to achieve with existing staffing levels. New areas could be added to the park under Alternative A; however, due to staffing and funding constraints, these areas would not be managed to the extent possible and could further burden park operations.

Park staff would have increased difficulty protecting the natural and cultural features of the park that are valued by visitors, due to limitations in the numbers of park staff. Although visitors would continue to have access to the wide variety of established opportunities described in Chapter 3, park staff and park management resources would face increasing pressure to address infrastructure problems, a need for additional administration and operations support, and increasing resource threats such as natural degradation and visitor effects to historic resources, erosion, sedimentation, and water quality concerns. Additionally, without the creation of management zoning, park operations would become increasingly difficult to implement resulting in less effective park management. Overall, Alternative A would have a long-term, moderate, adverse effect on park operations.

Cumulative Impacts

Continued growth and development in the area surrounding the park will result in an increased demand for greenspace and a subsequent increase in visitor use. Increased visitor use would, in turn, result in increased pressure on the park to provide more educational and interpretive programs as well as more facilitated forms of recreation. In addition, a regional trend in increased local and county park planning and greenspace initiatives will result in a greater emphasis on trail connectivity, which would require an increased level of partnering with the National Park Service. Current staffing levels and park funding are not sufficient to adequately meet the demands of regional growth.

When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting park operations are combined with actions under Alternative A, the resulting cumulative effects would be long-term, moderate, and adverse. Adverse effects would be moderate because coordination and planning between the National Park Service and local governments would not be increased above present levels under Alternative A.

Conclusions

Alternative A would have a long-term, moderate, adverse effect on park operations due to staffing and funding constraints; increased pressure to address infrastructure problems, the need for additional administration and operations support, and increasing resource threats; and the lack of management zoning.

Continued growth and development in the area surrounding the park will result in an increased demand for greenspace and a subsequent increase in visitor use resulting in a long-term, moderate, adverse, cumulative effect on park operations since current staffing levels and park funding are not sufficient to adequately meet the demands of regional growth.

Impacts of Alternative B

Alternative B would result in the construction and operation of fewer new visitor facilities in the park compared to Alternative A, which would result in less maintenance activities for park staff. However, staff workload would be increased by increased levels of habitat restoration and educational programs proposed under this alternative. Increased ranger presence would also be necessary to enforce restoration activities in order to ensure their success. Park operations and ranger contact would continue to be primarily based in the Island Ford area, which would reduce the efficiency of operations in the extreme northern and southern sections of the park. However, Alternative B would not expand access to the park or focus on facilitated forms of recreation, which would reduce the operational burden.

Common to all of the action alternatives is the recommended development and implementation of the studies and plans outlined in Chapter 5. This would include, but not necessarily be limited to, a resource stewardship strategy, an integrated trail system study, a collections management plan, flow studies, a commercial services plan, a comprehensive interpretive plan, and an easement study. While the implementation of these plans and studies would aid in the efficiency of park operations, there would be an adverse effect related to the level of effort and staff required to develop these plans. A staff increase of eight to ten staff to be phased in over the life of this general management plan (typically twenty years) would be proposed under Alternative B, which is the least amount proposed for all of the action alternatives. Thus, park operations would be the most strained by implementation and development of these management tools under Alternative B.

The overall effect on park operations would be long-term, negligible, and beneficial, largely due to the limited amount of development and the emphasis on a less facilitated visitor experience.

Cumulative Impacts

Cumulative effects would be of the same intensity as those described under Alternative A (long-term, moderate, and adverse). Although an increase in park staff would be proposed under Alternative B, which could address the need for greater partnering and coordination with local governments, it is likely that this benefit would be offset by the greater amount of management and enforcement required to effectively implement habitat restoration and management efforts under Alternative B, since effects related regional growth and development would run counter to restoration and the overall goals of Alternative B.

Conclusions

The limited amount of development and the emphasis on a less facilitated visitor experience would benefit park operations under Alternative B. However, park staff would be the most strained by implementation and development of the studies and plans that would be proposed under the action alternatives. Increased ranger presence would also be required to monitor habitat restoration activities. The overall effect on park operations would be long-term, negligible, and beneficial.

Cumulative effects on park operations would be long-term, moderate, and adverse due to the greater amount of management and enforcement required to effectively implement habitat restoration since effects related regional growth and development would run counter to the overall goals of Alternative B.

Impacts of Alternative C

Under Alternative C, strategic hubs, located inside or outside of the 48-mile park, would be developed to provide information, interpretation and services to visitors and would include administrative facilities for park staff. Improved visitor facilities located in centralized areas as well as increased staff levels proposed under Alternative C would offer a greater level of efficiency for park operations when compared to Alternative A. However, Alternative C would result in the construction and operation of more new facilities than Alternative A which require more maintenance, and education, research, and coordination with local governments would be expanded when compared to Alternative A which would also increase the operational burden. It is likely that proposed staff increases would offset the increased workload, however.

Common to all of the action alternatives is the recommended development and implementation of the studies and plans outlined in Chapter 5. This would include, but not necessarily be limited to, a resource stewardship strategy, an integrated trail system study, a collections management plan, flow studies, a commercial services plan, a comprehensive interpretive plan, and an easement study. While the implementation of these plans and studies would aid in the efficiency of park operations, there would be adverse effects related to the level of effort and staff required to develop these plans. A staff increase of eighteen to twenty staff to be phased in over the life of this general management plan (typically twenty years) would be proposed under Alternative C, which is greater than the staffing increase proposed for Alternatives A. Thus, park operations would have an increased amount of strain imposed by implementation and development of these management tools under Alternative C.

The overall effect on park operations would be long-term, moderate, and beneficial, largely due to the efficiency of providing services in hubs.

Cumulative Impacts

Continued growth and development in the area surrounding the park will result in an increased demand for greenspace and a subsequent increase in visitor use. Increased visitor use would, in turn, result in increased pressure on the park to provide more educational and interpretive programs as well as more facilitated forms of recreation. In addition, a regional trend in increased local and county park planning and greenspace initiatives will result in a greater emphasis on trail connectivity, which would require an increased level of partnering with the National Park Service.

The operational efficiency of Alternative C would be well suited to meet increased regional demands for increased park facilities and more educational and interpretive programs. When compared to Alternative A, a hub system would allow park staff to interact with the largest amount of park visitors with the least amount of effort or resources due to centralization of personnel resources. Also, additional staff proposed under Alternative C would allow increased partnering and cooperation with local governments and private organizations without added strain to operations. When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting park operations are combined with actions under Alternative C, the resulting cumulative effects would be long-term, moderate, and beneficial.

Impacts of Alternative D

When compared to Alternative A, a greater amount of new facility and trail development and operation would be permissible under Alternative D. The required environmental assessments for such projects as well as implementation of mitigative measures would increase the workload for park staff. Additional maintenance would also be required for operation of new trails and facilities. Facilities would be dispersed throughout the park requiring a greater operational effort when compared to a centralized hub system. In addition, park access would be expanded which would requiring additional enforcement. Education and outreach programs, resource monitoring, and cooperative efforts and partnerships would also be expanded which would increase staff workload. Increased staffing proposed under Alternative D would be beneficial to help offset increased workloads, however.

Common to all of the action alternatives is the recommended development and implementation of the studies and plans outlined in Chapter 5. This would include, but not necessarily be limited to, a resource stewardship strategy, an integrated trail system study, a collections management plan, flow studies, a commercial services plan, a comprehensive interpretive plan, and an easement study. While the implementation of these plans and studies would aid in the efficiency of park operations, there would be adverse effects related to the level of effort and staff required to develop these plans. A staff increase of twenty to twenty-two staff (full time equivalents) to be phased in over the life of this general management plan (typically twenty years) would be proposed under Alternative D, which is greatest staffing increase proposed. Thus, park operations would have the least amount of strain imposed by implementation and development of these management tools under Alternative D.

The overall effect on park operations under Alternative D would be long-term, negligible, and adverse, largely due to the operational requirements to support new trail and facility construction and overall increased access throughout the park.

Cumulative Impacts

Continued growth and development in the area surrounding the park will result in an increased demand for greenspace and a subsequent increase in visitor use. Increased visitor use would, in turn, result in increased pressure on the park to provide more educational and interpretive programs as well as more facilitated forms of recreation. In addition, a regional trend in increased local and county park planning and greenspace initiatives will result in a greater emphasis on trail connectivity, which would require an increased level of partnering with the National Park Service.

Alternative D would be well suited to meet increased regional demands for increased park facilities and more educational and interpretive programs. However, the dispersed nature of such facilities and programs would require a greater operational effort when compared to Alternative A or a centralized hub system. Dispersed access and facilities would also require ranger presence to be more dispersed. However, operational strain would be offset by additional staff proposed under Alternative D. Additional staff would allow increased partnering and cooperation with local governments and private organizations. When the beneficial and adverse effects of other past, ongoing, and future plans, projects, and activities affecting park operations are combined with actions under Alternative D, the resulting cumulative effects would be long-term, negligible, and adverse.

Conclusions

The overall direct and cumulative effects on park operations under Alternative D would be long-term, negligible, and adverse, largely due to the operational strain imposed by new trail and facility construction and the dispersed nature of visitor facilities and requirements to support access throughout the park.

Impacts of Alternative E

Effects would be similar to Alternative D; however, a lesser amount of facility development would be appropriate under Alternative E and the overall effect would be less adverse resulting in a long-term, negligible, beneficial effect on park operations. Cumulative effects would be the same as those described for Alternative D.

Impacts of Alternative F, the Preferred Alternative

The same effects as those described under Alternative E are applicable to Alternative F.

SUSTAINABILITY AND LONG-TERM MANAGEMENT

The National Environmental Policy Act (sec. 101 (b)), and the National Park Service Organic Act require an assessment of the potential of each alternative to produce long-term effects and the potential of foreclosing future options that are available to the National Park Service with regard to managing each park. An alternative is required to allow for sustainable development, which is defined as an action that meets the needs of the present without compromising the ability of future generations to meet their needs (*World Commission on Environment and Development* in National Park Service 2001(a). This section addresses the following three components of the sustainability assessment for each of the alternatives.

The Relationship Between Local Short-Term Uses of The Environment and The Maintenance And Enhancement of Long-Term Productivity - National Environmental Policy Act sec. 102 (c) (iv))

Alternative A

Existing problems related to growth in the surrounding urban and suburban area and watershed are likely to continue with the growth in population, putting additional pressures on the natural and cultural resources in the park. As demand for visitor use and recreation in the park grows, the long-term protection and enjoyment of park resources could be jeopardized. The continuation of existing visitor uses could jeopardize the long-term productivity of the environment. Sedimentation and erosion (primarily from development activity outside the park), if left unchecked, could have continued adverse effects on aquatic, and terrestrial natural resources.

Alternatives B, C, D, E, and F

Existing problems related to growth in the surrounding urban and suburban area and watershed are likely to continue with the growth in population, putting additional pressures on the natural and cultural resources in the park. As demand for recreation in the park grows, the long-term protection and enjoyment of park resources could be jeopardized. Despite implementation of a management strategy to provide more comprehensive protection of cultural and natural resources, there would likely continue to be instances where resources are disturbed by visitors. These impacts would be avoidable only if human use were not allowed in the park. Mitigation measures would be taken where possible to reduce these impacts. Improving the management of natural and cultural resources, along with enhancing research and education activities within the park, and establishing public/private partnerships would contribute to the long-term protection and preservation of resources. Increased coordination with local agencies, organizations, and other cooperative initiatives for resource and use management would further enhance resource protection and preservation. The development of new facilities would support the National Park Service mission while avoiding adverse cumulative impacts to ecosystems or resources. Short-term degradation of local water quality during construction projects would largely be prevented by best management practices. Short-term localized soil erosion (largely prevented by best management practices) and degradation of plant communities along trail construction corridors would be offset by long-term reductions in soil erosion resulting from the repair or realignment of poorly designed or damaged trails.

Any Irreversible or Irretrievable Commitments of Resources That Would be Involved if the Alternative Were Implemented - National Environmental Policy Act (Sec. 102(c) (v))

The National Environmental Policy Act and the National Park Service define irreversible effects as those effects that cannot be changed over the long term or are permanent (National Park Service 2001b). An effect to a resource is irreversible if the resource cannot be reclaimed, restored, or otherwise returned to its condition before the disturbance. An irretrievable commitment of resources refers to the effects to resources that, once gone, cannot be replaced.

Alternative A

There would be a potential for irreversible or irretrievable commitments of cultural resources under Alternative A. These losses could occur because of the lack of data and resources to implement a comprehensive program for cultural resource identification, preservation and protection. In addition, limited amounts of nonrenewable resources would be used for construction projects and park operations, including energy and materials. These resources would be irretrievable once they were committed.

Alternatives B, C, D, E, and F

There would be a potential for irreversible or irretrievable commitments of cultural resources under Alternatives B, C, D, E, an F. The implementation of a management strategy to provide comprehensive protection of cultural resources along with other natural resource protection measures would further reduce but not entirely eliminate the risk that visitors might disturb these resources. In addition, limited amounts of nonrenewable resources would be used for construction of projects and park operations, including energy and materials. These resources would be irretrievable once they were committed.

Any Adverse Impacts That Could Not Be Avoided If the Action Were Implemented– National Environmental Policy Act (sec. 101(c) (ii))

The National Environmental Policy Act and the National Park Service define adverse impacts as those that cannot be fully mitigated or avoided. Where construction activities could potentially disturb cultural resource sites, data recovery and conservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archeological resources.

Alternative A

There would be unavoidable adverse effects on natural and cultural resources under Alternative A as a result of the increasing development outside the park. Increased sedimentation and erosion from activities outside the park would continue to degrade water quality and riparian corridors in the park. Mitigation measures would be taken, where park staffing and funding resources allowed, minimizing or reducing these effects. Increased visitation rates would also have the potential to reduce future availability and access to some types of visitor uses and opportunities in certain areas during peak visitation periods because no additional facilities would be provided under Alternative A. This could result in adverse effects on the quality of the visitor experience.

Alternative B

There would be unavoidable adverse effects on natural and cultural resources under Alternative B as a result of the increasing development outside the park. With limited resources, these would tax the park staff's ability to effectively carry out resource protection measures. Mitigation measures would be taken, where resources allow, to reduce these effects. An increase in visitation would have the potential to reduce access to some activities and areas during peak visitation periods because few additional facilities would be provided under Alternative B. This could result in adverse effects on visitor experience and community values. In addition to the above unavoidable impacts, staff increases would require additional operational funding.

Alternative C

There would be unavoidable adverse impacts on natural and cultural resources under Alternative C as a result of the increasing development outside the park that, with limited resources, tax the park staff's ability to effectively carry out resource protection measures. Mitigation measures would be taken, where resources allow, minimizing these impacts. In addition to the above unavoidable impacts, staff increases would require additional operational funding. Centralization of staff resources would be an effective means of making visitor contact and increasing the staff's ability to carry out resource protection measures.

Alternatives D, E, and F

There would be unavoidable adverse impacts on natural and cultural resources under Alternative D as a result of the increasing development outside the park that, with limited resources, tax the park staff's ability to effectively carry out resource protection measures. Mitigation measures would be taken, where resources allow, reducing these impacts. In addition to the above unavoidable impacts, staff increases and increased facility support would require additional operational funding.

Chapter 5

RECOMMENDATIONS FOR FUTURE PLANNING EFFORTS

Bowmans Island

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CHAPTER 5
RECOMMENDATIONS FOR FUTURE PLANNING EFFORTS

Upon completion of this General Management Plan, other more detailed studies and plans would be needed for implementation of specific actions. These more detailed implementation plans will describe how the National Park Service will achieve the desired conditions outlined in the General Management Plan. As required, additional environmental compliance (National Environmental Policy Act, National Historic Preservation Act), and other relevant laws and policies would be conducted. Opportunities for public input would be provided during the development of these implementation plans. Those additional studies include, but would not be limited to these listed in this chapter.

CULTURAL RESOURCES

Unmanaged visitor use at archeological or historic sites may impact the integrity and scientific and cultural value of these sites. The nature and extent of these impacts is difficult to assess because baseline data on site conditions in the park are some times unavailable or incomplete. Long-term protective strategies are needed for significant sites to avoid impact by visitors and/or park management activities. Park managers must maintain historic buildings on an ongoing basis (i.e., periodic maintenance and rehabilitation) to ensure that conditions are suitable for National Register eligibility. A resource stewardship strategy outlined in a planning document would address these issues.

A Cultural Landscape Inventory is needed that would include such areas as Sope Creek Ruins, Roswell Mills, and Hyde Farm landscapes. Cultural Landscape Reports are needed to address treatment and use of the landscape and Historic Structure Reports are needed to determine treatment and use of historic buildings. The resource management strategy described below, under *Natural Resources*, will also describe the natural resource related activities needed to achieve desired future conditions for the historic landscapes in the park.

The ownership of historic steel-truss bridges within the park boundary requires further evaluation. Coordination with local governments, partners and stakeholders will be necessary to support preservation of these historic resources. Without protective coatings, the steel structure of these bridges will eventually deteriorate to the point of collapse (NPS 2006h).

The park's museum collections are maintained at the Southeast Archeological Center. In addition, some collections are held at the park. A regional Museum Storage Plan, approved by the Regional director in May 2006, recommends that all long-term collections be moved from the park. A Collections Management Plan would address collections for the park in a comprehensive manner.

NATURAL RESOURCES

Impacts on water quality and terrestrial resources have occurred in certain areas of the park due in part to recreational use, pipeline crossings, and development activities and use outside the park. Changes in water quality and water flows may have major effects on park resources and visitors, as documented in the existing water resources management plan and summarized in Chapter 3. The park is currently implementing recommendations from this plan. Sensitive habitats and species have not been thoroughly identified throughout the park. Long-term protective strategies are needed for these species and habitats to avoid impact by visitors and/or park management activities. Protection, study, and management of the park's natural resources and processes are essential for achieving the park's

purposes and mission. A park- wide resource stewardship strategy planning document will address these issues and other scientific and legal requirements to promote understanding and management of park resources. This planning document would provide details on the strategies and actions necessary to address the park's most important resource management problems and research needs. Integral to this strategy would be the need to address invasive plants in the park, including a strategy for control and long-term management goals with measurable results. Included in the resource stewardship strategy would be watershed management recommendations for improving water quality and habitat for aquatic resources in the park. This long-range strategy will integrate the best available science and prescribe activities including inventories, research, monitoring, restoration, mitigation, protection, education and management of resource uses.

Future planning efforts also would include incorporating Geographic Information Systems analysis. This technology allows for in-depth spatial analysis and landscape modeling and helps park managers analyze land-use trends in areas surrounding the park, track invasive species growth, and help predict the effects of urbanization of surrounding landscapes on the park's ecosystems.

The park monitors and reports pest control measures in accordance with National Park Services policies and guidelines. An Integrated Pest Management Plan is needed to address the growing numbers and types of pests within the park. Integrated pest management practices would reduce risks to the public, resources, and the environment from pests and pest-related management strategies.

FLOW STUDIES

There are ever-increasing demands on the Chattahoochee River as a water source. Additional studies are needed to address flow requirements within the park boundaries. Water flow studies are necessary to provide the information to address flow needs for recreation and resource protection in the park. The National Park Service will coordinate with the U.S. Army Corps of Engineers and other Federal, state, and local agencies and nongovernmental organizations to address flow requirements within the park.

FISHERIES MANAGEMENT

The Chattahoochee River is a popular fishing destination. The State of Georgia has an active stocking program within the river that has been in operation since the 1960s.

National Park Service Management Policies provide guidance in fisheries management, and these policies, in concert with cooperative efforts with the Georgia Department of Natural Resources, Wildlife Resources Division should be outlined and defined in a fisheries management plan that would tier to the General Management Plan. Additional data is needed to develop a predictive model for the effects of variable instream flows on fish and their habitats.

Goals would be established in cooperation with the State of Georgia detailing specific projects and activities to be conducted to protect aquatic resources and prevent resource degradation. Specific measures would be identified as appropriate to restore aquatic habitat and water quality to support the reintroduction of native aquatic species where feasible.

INTEGRATED TRAIL SYSTEM STUDY

The park is part of an important corridor that allows for connectivity within the metropolitan Atlanta area and regional trail networks. Multiple trail systems have been proposed by various local

governments that would integrate the park's trail network with existing popular trails, or include the park in their respective trail construction master plans. Trail connectivity along the Chattahoochee River corridor would serve multiple purposes, including promoting active recreation within the park and adjacent public land, providing a healthy commuting alternative, and potentially connecting the park with other National Park Service lands such as Kennesaw Mountain National Battlefield. The park legislation (16 USC Sec.460.ii) states that the park should manage lands "to increase the level of protection of the open spaces within the area of national concern along the Chattahoochee River and to enhance visitor enjoyment of the open spaces by adding land-based linear corridors to link existing units of the recreation area." Moreover: "(7) the State of Georgia and political subdivisions of the State along the Chattahoochee River have indicated willingness to join in a cooperative effort with the United States to link existing units of the recreation area through a series of linear corridors to be established within the area of national concern and elsewhere on the river."

An integrated trail system study is needed to consider design criteria, appropriate use in respective management zones, regulatory requirements, schedule and costs. The plan will integrate local environmental requirements such as the Metropolitan River Protection Act, appropriate buffers, and floodplain, wetland, and sensitive resource avoidance. Existing trails in the park will be mapped and a database will be created using Geographic Information Systems and Global Positioning Systems. Recommendations for linkages to other planned regional trail corridors will be made. Opportunities for public input will be provided.

COMMERCIAL SERVICES PLAN

Commercial visitor services planning will identify the appropriate role of commercial operations in the park. This level of planning will assist the park to achieve the desired visitor experiences identified in the General Management Plan, and integrate the results into other plans and planning processes. The concession management plan or commercial services plan will support the park's purpose and significance, resource values, and visitor experience objectives and be consistent with the enabling legislation. The commercial services plan and other implementation plans will also identify whether proposed concession facilities and services are necessary and appropriate, and will consider alternatives.

PARTNERING

The Chattahoochee River National Recreation Area is uniquely tied to the surrounding communities, and as such is part of a greater social, political, ecological, and historical fabric of the area. The National Park Service must consider how its actions in the park affect the surrounding environment and society. Partnering opportunities will be identified within all future planning and implementation projects. The park will be managed in a manner that proactively resolves external issues and concerns to ensure that park values are not compromised. In order to accomplish this, resources and strategies are needed to establish and foster partnerships with public and private organizations to achieve the purposes and mission of the park.

Partnerships will be sought for resource protection, research, education, and visitor enjoyment purposes. Partnerships are necessary with local, state, and federal agencies and organizations in programs that have importance within and beyond park boundaries. Park managers will be able to use these partnerships to better adapt to changing ecological and social conditions within and external to the park and coordinate regional planning and land management as it affects the park. Some partnerships could be facilitated with local governments in the form of specialized overlay zoning,

thereby buffering property adjacent to the park. Attending, or bordering area governments could consider changes to their comprehensive plans to address land use, zoning, permitting and regulatory issues within the view shed of the park. The combined effect of a unified strategy would be an effective public private partnership for increasing values and for preserving the park resources. Creating new economic, environmental and educational partnerships are integral to the success of the park.

TRACKING CUMULATIVE EFFECTS

Central to the natural and cultural resources management is long-term monitoring of the change in condition of natural and cultural resources and related human influences. A planned monitoring program would document improvement or degradation of resources and visitor experiences. The tracking or monitoring of these changes promotes increased understanding of park resources, natural processes, and human interactions with the environment.

EASEMENT STUDY

Numerous utility and other easements exist within the park and these easements have not been systematically surveyed and logged. An easement study would include an inventory and report on all utility and other easements and easement conditions within the park. In addition, these existing utility corridors and all other existing easements within the park would be mapped and entered into the park's Geographic Information Systems database.

COMPREHENSIVE INTERPRETIVE PLAN

The original Interpretive Prospectus for the Chattahoochee River National Recreation Area was completed in 1989. The park is on a waiting list to update and revise the prospectus, which is now referred to as the comprehensive interpretive plan. One area of consideration that was not included in the original interpretive plan is the importance of farm operations in the history of the Chattahoochee River corridor. There are several historic farmsteads within the park boundary that provide an opportunity to incorporate historic farm operations as one of the park's interpretive themes. In addition to interpretive themes, opportunities to partner to convey park resource values for recreational, historical, cultural and natural resources will be identified.

Chapter 6
CONSULTATION AND COORDINATION

Marietta Mill Site

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CHAPTER 6
CONSULTATION AND COORDINATION

SUMMARY OF PUBLIC INVOLVEMENT

The general management planning process involves many steps including: identification and confirmation of the park purpose, significance and mission goals; acknowledgement of special mandates, laws, and policies; involvement of the public and identification of issues; development of alternatives; and impact analysis. Agencies and the public were invited to participate at various steps throughout the planning process, and this coordination and involvement is described in this chapter.

The intent of the scoping process is to provide for early identification of concerns, issues, expectations, and values of existing and potential visitors, neighbors, cooperating associations, partners, scientists, scholars, and other government agencies. Public input gathered during the scoping process is used to assess and compare the effects of each available management alternative.

Scoping letters were mailed in the Spring of 2002 to local, state and federal agency representatives, tribal representatives and the public that contained information on the function of a general management plan, statements of the park purpose and significance, information on the planning team and the process for planning, and methods available to the public for communicating with the team and participating in the planning effort. A newsletter was published announcing the initiation of the planning process, and the public was invited to voice issues and suggest ideas for the future of the park at six public scoping meetings held in October 2000 and over a 60 day comment period. Over 200 written comments were received. A majority of the comments expressed concerns about access, facility needs throughout the park, habitat preservation, environmental impacts, different types of use, trails, education, boundaries, fisheries and fishing, and enforcement. In addition, over 20 meetings were also held with more than 50 area Planning and Greenspace Directors and local, State, and Federal agency representatives.

Information from the scoping meetings was used to develop a range of desired future conditions, or prescriptions for the park. Based on the results of the planning process, three management alternatives were developed: Alternatives B, C and D. In addition, Alternative A, the No Action alternative was also included for analysis.

Information regarding the preliminary alternatives was posted on the park's website, and a newsletter was also distributed to announce the availability of the Draft General Management Plan and Environmental Impact Statement in June, 2004. The Draft General Management Plan and Environmental Impact Statement was released in May, 2004, and there was a 60 day comment period. Public meetings were conducted on June 14, 15 and 16, 2004. The distribution list for the document in provided in Appendix H. Copies of the May, 2004 Draft Plan were also made available at 10 local libraries and at Island Ford, Park Headquarters. The Draft was made available for review in a variety of means: electronic format on the park's website, and approximately 40 CDs were mailed out, as well as a limited number of hard copies from the park or regional office. In addition, approximately 300 copies of the executive summary were distributed to the mailing list and emailed where possible.

Many criticisms were voiced during the public comment period regarding prescriptions for boating and fishing within the park, off-road bicycle use and other types of recreational use and access. In response to the input received, additional meetings were conducted with stakeholders in the community. The park has on-going stakeholder meetings on a quarterly basis to provide information regarding the general management planning status, other projects in the park, and general information sharing.

Based upon the input received, two additional alternatives were developed, Alternatives E and F to address the concerns raised. A newsletter was published in November of 2005 to update the public on the status of the plan, describe the new Alternatives E and F, and invite the public to attend meetings to discuss the new alternatives. Public meetings were announced and conducted on December 12, 13 and 20, 2005, with comments requested by January 31, 2006. Coordination letters were also sent to reviewing agencies to update them on the status of the plan in the spring of 2006.

This General Management Plan incorporates these comments and describes and analyzes each of the six alternatives. Each of the alternatives was the result of mapping management prescriptions, or kinds and levels of management and use. Each of the alternatives for the park consists of multiple zones with different management prescriptions.

Public service announcements were distributed, newspaper notices were published, flyers were distributed and signs were posted prior to each of the series of public meetings. In addition, newsletters were distributed prior to each set of public meetings for the Draft document. The public had many avenues by which it participated during the development of the plan: participation at public meetings, responses to newsletters, written letters, comment cards, and comments on the park's planning website.

The general management planning information is available on the project website at http://parkplanning.nps.gov.

CONSULTATION WITH OTHER AGENCIES / OFFICIALS AND ORGANIZATIONS

In addition to the consultation described above, additional consultation with agencies was conducted prior to completing the 2004 Draft General Management Plan / Environmental Impact Statement and again during the development of the 2008 Supplemental Draft document. Agency coordination letters are included in Appendix F.

In accordance with 36 CFR 800 and the Programmatic Agreement between the Advisory Council on Historic Preservation, the National Conference of State Historic Preservation Officers and the National Park Service, a letter was sent to the Georgia State Historic Preservation Office and to the Advisory Council on Historic Preservation to initiate consultation (see Appendix F). The letters invited them to participate in the planning process and informed them that the National Park Service plans to use this environmental impact statement to fulfill the requirements of Section 106 of the National Historic Preservation Act as well as comply with provisions of the National Environmental Policy Act.

In accordance with Section 7 of the Endangered Species Act (16 U.S.C. 1531 et seq.), the National Park Service contacted the U.S. Fish and Wildlife Service by letter to initiate consultation (see Appendix F) and to provide a list of threatened and endangered species, critical habitats, and species of concern. The Georgia Department of Natural Resources Natural Heritage Program was also contacted to provide a list of threatened and endangered species.

Consultation letters were also sent to the Environmental Protection Agency, Region 4 and the Georgia Department of Natural Resources, Environmental Protection Division. A list of agencies contacted is provided in Appendix H. In addition, letters were sent in January 2001 to Federally-recognized American Indian Tribes with ancestral lands in Georgia requesting feedback concerning the general management plan. These letters were followed up with individual phone calls and a subsequent letter identifying the purpose and need of the project and requesting input. A copy of this letter request and the list of American Indian Tribes contacted are included in Appendix F.

COMMENTS ON, CHANGES TO, AND RESPONSES TO COMMENTS ON THE SUPPLEMENTAL DRAFT PLAN

Availability of the Supplemental Draft General Management Plan/Environmental Impact Statement

The Supplemental Draft General Management Plan / Environmental Impact Statement was made available for public review in September, 2008. Public meetings were held on the 27th and 30th of October, 2008. A meeting with stakeholders was conducted on October 6, 2008. Public comment was solicited during both public meetings; electronic and hardcopy comments were collected during the public comment period between September and December 1, 2008. Copies of the Executive Summary from the Supplemental Draft were sent to 350 recipients. Copies of the Supplemental Draft were made available to those requesting a copy; copies were also available at park headquarters, and 11 regional public libraries. CDs of the Supplemental Draft were mailed to 107 individuals, agencies, organizations and tribes; hard copies and CDs were handed out at public meetings and park headquarters. The Supplemental Draft was also posted on the Web under the park's website as well as the National Park Service Planning, Environment and Public Comment website. Media and public service announcements were sent to local and regional newspapers and magazines, radio and television stations, and notices were posted at park units and park headquarters (see Appendix H for listing).

Changes to the General Management Plan/Environmental Impact Statement

Changes made to the General Management Plan/Environmental Impact Statement as a result of public comment include the following:

- Tables 2 and 3 were changed to reflect that off-road bicycling is an appropriate activity in the Natural Area Recreation Zone, Developed Zone, and Rustic Zone on designated trails only.

- Text was added to Chapter 2, Visitation, Land Acquisition, and Facilities, to reflect the National Park Service's commitment to sustainability through the consideration of sustainable practices in planning, design, and construction of proposed facilities.

Sustainable design and sustainable practices/principles are added to and defined in the Glossary of Terms.

- Text was added to Chapter 2, Visitation, Land Acquisition, and Facilities, to clarify that planning for future facilities, including trails, incorporates environmental review in compliance with the National Environmental Policy Act, the National Historic Preservation Act, and other laws and regulations. Future project environmental reviews will be site specific, and address cultural and natural impacts as well as park operations (i.e. maintenance, management, enforcement, safety and use), visitor experiences, and have opportunities for public input.

- The list of media contacts was added to Appendix H.

- Other minor changes were made to the document to edit for consistency.

Comments on the Supplemental Draft General Management Plan/Environmental Impact Statement

Comments on the Supplemental Draft General Management Plan/Environmental Impact Statement were invited by all means and received in several different formats, including comment cards, public meeting transcripts from public meetings, letters, e-mail, and postings on the National Park Service Planning, Environment and Public Comment website. Comment sheets were handed out at public meetings, stakeholder meetings, and from park headquarters. Over 145 individuals entered comments on the National Park Service Planning, Environment and Public Comment website. All comments received are considered part of the administrative record.

Responses to Comments on the Draft Plan

Letters and Web comments received from agencies are reprinted in full. Substantive comments are highlighted in the body of each letter, and a response to the comment is provided on the page beside the copy of the letter. Agency letters were received from the Centers for Disease Control and Prevention, the Environmental Protection Agency, and the Georgia Department of Natural Resources, Wildlife Resources Division. In addition, Mr. Jim Santo, Principal Planner with the Atlanta Regional Commission wrote via email that the "ARC staff concurs with the adoption of the Preferred Alternative (Alternative F).

Other substantive comments from individuals and organizations are paraphrased or reprinted in their entirety, and National Park Service responses are provided in the pages that follow. Comments are considered substantive if they:

- Question, with reasonable basis, the accuracy of information in the Environmental Impact Statement

- Question, with reasonable basis, the adequacy of the environmental analysis

- Suggest different viable alternatives

- Cause changes or revisions in the proposal

Comments in favor of or against the preferred or other alternatives, or comments that only agree or disagree with National Park Service policy, are not considered substantive. National Park Service has responded to comments in order to clarify policy, position, or procedure.

All comments received were reviewed, grouped by topic and responses were developed. Comments were either taken directly from the author or paraphrased to reflect the similar nature of comments received. Each of these comments is followed by a National Park Service response and presented in the pages that follow.

Access and Visitor Experience

Comment: The Chattahoochee River National Recreation Area General Management Plan should preserve natural resources and provide opportunity for solitude and isolation. The focus of the plan should not be about access.

Response: The purpose and mission of the park are as stated in the legislation establishing the park and presented in *Chapter 1, Purpose and Need for the General Management Plan*. The park's management alternatives provides a broad range of visitor uses and experiences that satisfy diverse visitor interests, including opportunities for solitude and isolation as well as varied river and trail experiences while providing for resource protection and preservation.

Comment: The EIS is wishy-washy in its analysis of visitor experience.

Response: Due to the varied nature of visitor interpretation of experiences, a range of impacts were provided. Visitors have a variety of needs, desires, and preferences, and the method of impact analysis is consistent with National Park Service policies and procedures.

Comment: The emphasis on increased access, by foot and bicycle, from neighborhoods and office complexes, in addition to greater trail interconnectivity has been only considered in this EIS as an advantage, rather than the management and supervisory issue that it inherently represents in such a scenario.

Response: Increased access was considered an advantage with respect to the issue of access, which was raised frequently during the scoping phase of the planning process. However, the potential negative impacts of increased connectivity were also considered during the process of selecting the preferred alternative. Ultimately, Alternative F was selected as having the greatest importance of advantages for the cost of all the alternatives (the Choosing By Advantages process is described in *Chapter 2, Selecting the Preferred Alternative*).

Boating

Comment: There is a need for a new deep water boat ramp for motorized boats at the Paces Mill unit downstream of the new Cobb Parkway Bridge. Other specific locations for additional boat access were named including Cochran Shoals, Holcomb Bridge, Island Ford, Settles Bridge, Highway 20, and McGinnis Ferry.

Response: There are no specific boat ramps planned or identified in the General Management Plan. An environmental assessment for seven new or refurbished river access facilities (4 refurbished boat

ramps plus 3 new step down ramps) was recently completed in 2005, with construction completed in 2007. Any future facilities would be subject to analysis of environmental impacts, per the National Environmental Policy Act of 1969, public input and availability of funding.

Comment: The park should limit gasoline powered boat engines to 9.9 horsepower.

Response: The Georgia Department of Natural Resources, Wildlife Resources Division regulates boating use within the state, including the Chattahoochee River. The state has no restriction regarding horsepower of gasoline powered vessels on the Chattahoochee River within National Park Service boundaries. The state has designated no wake zones within the park. All visitors must comply with boating regulations, policies and safe handling practices.

Comment: Motorized boating should be banned within the park due to safety concerns and conflicts with other park users.

Response: The park's management alternatives provide a broad range of visitor uses and experiences that satisfy diverse visitor interests, including opportunities for solitude and isolation as well as varied river and trail experiences. Alternatives were created to include motorized vessel use throughout the park as a result of public input on the 2004 Draft General Management Plan.

Comment: Permitting motorized boating within the National Recreation Area does not meet the mission of the National Park Service as stated in the National Park Service Organic Act. The River Zone of both Alternative E and F significantly impairs natural resources, namely solitude and natural soundscape throughout the entire park. Therefore, these two alternatives are not acceptable.

Response: Boating and other motorized forms of recreation occur in many national parks. There was no prohibition of motorized boating either before the creation of the park or when the park was established, and no mandate to do so either by the park's legislation or by the National Park Service Organic Act. As long as the resources and values for which the park was created remain "unimpaired" as a result of boating, then there is no mandate to stop boating. "Unimpaired" as defined by the National Park Service does not mean un-impacted. All human use of natural resources causes some measurable impact. Impairment is defined in *Chapter 4 Environmental Consequences, Impact Assessment Methodology*.

Boundary Expansion / Private Property Rights

Comment: Purchasing additional lands that would include the entire watershed of certain tributaries would enhance the environmental integrity of the River.

Response: The National Park Service has no authority or funding to purchase lands outside the presently authorized boundary of the Chattahoochee River National Recreation Area.

Comment: Does the recommended management plan have any impact on private property along the river?

Response: The National Park Service can only acquire land through willing sellers within the authorized boundary. The National Park Service will not "take" private property for public use. No trails will be planned that would cross private parcels without prior approval from the property owner. The NPS will coordinate with private property owners regarding conservation easements on private property where it is deemed more suitable than fee simple acquisition for the purposes of public access

and connectivity. The National Park Service will continue to coordinate with other agencies, organizations, and partners for connectivity where it is mutually agreeable and in keeping with National Park Service management policies.

Costing

Comment: The proposed Alternative F is nearly 50% more expensive than Alternatives A or B, according to Appendix D of the Study. There is no justification for spending the extra funds. Alternative F is within $500,000 of the most expensive alternative proposed. This level of differential is unjustifiable and constitutes irrational spending absent solid reasoning and publicly available value analysis of each project in each alternative.

Response: The National Park Service uses a method called Choosing by Advantages to select the preferred alternative. A multi-disciplinary planning team decided the relative advantages of each alternative and then decided the relative importance of the advantages. Finally, the total importance of the advantages for each alternative was charted in relation to the total cost of each alternative. Using this process, Alternative F was determined to provide more benefit for the cost than any other alternative. The costs presented in General Management Plans are intended for comparison purposes only and are not to be used for budgeting for capital projects. They are rough order of magnitude estimates based on very general management concepts.

Comment: Cost calculations and the assumptions contained in the General Management Plan were not located within the publicly available documents. This constitutes incomplete disclosure, as there may have been left out key assumptions for the ongoing management of the Park that are relevant to public consideration.

Response: The costs presented in General Management Plans are intended for comparison purposes only and are not to be used for budgeting for capital projects. They are rough order of magnitude estimates based on very general management concepts. A discussion of the cost analysis is included in *Chapter 2*. The details regarding the selection of the preferred alternative is also provided in *Chapter 2*.

Comment: The Plan does not demonstrate that Alternative F's increased burden on ongoing operational and security costs (operational spend vs. capital spend) have been adequately considered and factored into the estimated life cycle budget.

Response: Alternative F requests 20-22 additional employees (full time equivalents) and a substantial budget increase over current conditions, which, if approved and funded, would relieve the burden.

Comment: There is not publicly available a list of the capital projects included in the Alternatives. There is overly broad characterization of the types of projects and inadequate public disclosure of actual projects planned and incorporated into each Alternative

Response: Lists of specific capital projects are beyond the scope and purpose of General Management Plans. The General Management Plan is intentionally broad and conceptual in nature, as is explained in *Chapters 1* and *2*.

Comment: During the Oct. 30, 2008 public meeting, the Superintendent alluded to a pedestrian bridge over the Chattahoochee River. This fact was not disclosed to the public in the Plan. Further investigation has

revealed that the proposed bridge will link non-NPS land with Hyde Farm and will cost an estimated $1.2 million ($2008). The bridge purportedly will be wide enough for golf carts (the bridge will link a golf course to historic Hyde Farm). There will be a maximum of only 125 parking spaces on the city acreage linked to Hyde Farm over the river via the golf cart bridge. There is therefore no compelling reason to connect to non-NPS lands and spend Federal taxpayer money to build this bridge. The "connectivity" desired is provided by the river itself; bridges are neither necessary nor consistent with the enabling legislation. The Chattahoochee golf cart bridge at Sandy Springs/Hyde Farm should either be specifically eliminated from the Plan or specifically included in its detail so that the public and Congress can understand the direction the NPS, under the cloak of overly broad characterization, is taking the CRNRA.

Response: Specific capital projects are not included in general management plans, and no specific capital project has been proposed or recommended in the Chattahoochee River National Recreation Area General Management Plan/Environmental Impact Statement. An environmental assessment is currently underway that addresses this proposal and there will be ample opportunities for public review and comment. The project will only consider pedestrian and bicycle access and no construction funding has yet been identified or secured.

Comment: If one of the main arguments against the current No Action Alternative A is that there is not enough money to fund current staff positions, it does not make sense to approve an additional 20 to 22 personnel for Alternative F if the funding is not forthcoming. Alternative B provides the best protection of natural resources for the least money, with 20 year cost around $42-$45 million as opposed to Alternative F's $70-$78 million. Again, if there is currently not enough money to fund eight (8) approved positions, causing some instances of non-compliance, then, even more, unfunded positions and programs will wreak havoc with resource monitoring and environmental compliance.

Response: One goal of the General Management Plan is to set a vision for future management of the park that might be ambitious but is focused on creating the best combination of resource protection strategies and visitor experiences that is achievable. It is well understood that funding to accomplish all the objectives in the General Management Plan may not be available for years and language to this effect is found in *Chapter 1* and *Chapter 2*.

Enforcement

Comment: Supervision and enforcement are critical issues, which seem to have been given rather short shift in the current EIS.

Response: One goal of the General Management Plan is to set a vision for future management of the park that might be ambitious but is focused on creating the best combination of natural and cultural resource protection strategies, and visitor experiences that are achievable. It is well understood that staffing and funding to accomplish the objectives in the General Management Plan may not be available for years and language to this affect is found in *Chapter 2, Comparative Cost Analysis*. The types of hires (environmental compliance specialist, visitor protection rangers, rangers for interpretation, maintenance, etc) are described under each alternative in *Chapter 2, Range of Annual Costs*. The park submits requests for increased operational funding based upon needs. Upon receipt of funding, additional staff are hired. Supervision and enforcement are covered under the topic of Efficiency of Park Operations which was discussed at length and evaluated for each alternative in the process of selecting the preferred alternative.

Comment: With what tools is enforcement to be addressed? Is "increased ranger presence" sufficient? Would cameras at access points be considered? How is the "park closes at dark" rule enforced, other than at parking lots? If there are more access points for walkers and bicyclists, what is to prevent after dark activity?

Response: Enforcement is provided by National Park Service rangers. A description of each alternative and proposed increase in staff including enforcement rangers is provided in *Chapter 2*. The park has requested funding to install cameras at parking lots for security purposes, and for motorized gates at all vehicle access points that would close automatically during the hours the park is closed. The park is surrounded by subdivisions, sidewalks and roads and will always be vulnerable to after hours access by pedestrians and bicycles. Park closures are enforced by National Park Service rangers.

Future Management Plans

Comment: National Park Service should designate additional flow studies of the Chattahoochee River as top priorities for funding so that the Service will have all the necessary information at its disposal to protect recreational flow levels as decisions are made regarding river management to cope with the water crisis in north Georgia and the tri-state area. The National Park Service should also make the commercial services planning effort a high priority so that visitors without canoes/kayaks/rafts or other crafts will be able to easily enjoy the river itself as well as other park lands.

Response: The management plans and studies (including the flow studies) identified in *Chapter 5* are subject to funding availability. The park submits requests for project funding, including research studies, on an annual basis. These projects are evaluated against established ranking criteria, and compete for limited funding against projects submitted by all NPS units service-wide. The park has funding to prepare a Commercial Services Plan which will commence upon completion of the General Management Plan.

Comment: Create a carrying capacity for safe float rental businesses on the upper 30 miles of river below Buford Dam because the current special use permit holders are negligent concerning safety with flows and hypothermia threats to paddlers.

Response: A commercial services plan will be developed that will include the assessment of visitor experience and environmental impacts as described in Chapter 5.

Noise

Comment: The noise limit on Bull Sluice Lake is a concern.

Response: Title 36 of the Code of Federal Regulations (section 2.12) prohibits noise exceeding 60 decibels, or making a noise that is unreasonable considering the nature and purpose of the actor's conduct, location, time of day or night, purpose for which the park was established, impact on park user, and other factors that would govern the conduct of a reasonably prudent person under the circumstances. Park rangers have the authority to enforce this regulation and do so as needed. The park will coordinate with local clubs and stakeholders to address river use and noise.

Partnerships

Comment: We urge the National Park Service to continue its financial and in-kind support of river awareness activities (such as the Back to the Chattahoochee River Race and Festival, River Discovery Series, BaceteriALERT Program, trash cleanups, privet removals, etc) and others to be developed in the future.

Response: The National Park Service recognizes the benefits of cooperative conservation (in accordance with Executive Order 13352, Facilitation of Cooperative Conservation) as well as the significant role partners play throughout the national park system. Success of the existing and/or increased partner activities is linked to the willingness of partners to participate, the capabilities of partners to team on projects or provide services, and the potential for partners to provide support funding (see also *Partnering* section of *Chapter 2*). The National Park Service will embrace partnership opportunities that will help accomplish the National Park Service mission provided that personnel and funding requirements do not make it impractical for the Service to participate.

Comment: The NPS should continue to hold quarterly meetings with all interested stakeholders to review accomplishments and challenges and to seek assistance with collaborative projects.

Response: It is the intent of the park to continue to conduct routine stakeholder meetings to discuss park activities, projects, challenges and accomplishments and continue to coordinate and collaborate with the park's stakeholders.

Comment: The emphasis that Alternatives D, E and F place on public/private partnerships creates a working environment that is prone to compromise the environmental integrity of the Park.

Response: The National Park Service recognizes the benefits of cooperative conservation (in accordance with Executive Order 13352, Facilitation of Cooperative Conservation), as well as the significant role partners play in achieving conservation goals and funding conservation initiatives on behalf of the national park system. The National Park Service has had many successful partnerships with individuals; organizations; tribal, state, and local governments; and other federal agencies that have helped fulfill their mission. Through these partnerships, the National Park Service has received valuable assistance in the form of educational programs, visitor services, living history demonstrations, search-and-rescue operations, fund-raising campaigns, habitat restoration, scientific and scholarly research, ecosystem management (river clean up, privet removal, etc), and a host of other activities. These partnerships, both formal and informal, have produced countless benefits.

Benefits often extend into the future, because many people who participate as partners connect more strongly with the parks and commit themselves to long-term stewardship. The park will continue to welcome and actively seek partnership activities with individuals, organizations, and others who share the National Park Service's commitment to protecting park resources and values and providing for their enjoyment. The park will embrace partnership opportunities that will help accomplish the National Park Service mission provided that personnel and funding requirements do not make it impractical for the National Park Service to participate and that the partnership activity would not (1) violate legal or ethical standards, (2) otherwise reflect adversely on the National Park Service mission and image, or (3) imply or indicate an unwillingness by the Service to perform an inherently governmental function (NPS 2006f).

Public Involvement

Comment: 99 Stat., Public Law 106-154 (12/9/99), Sec 105 C (2) (B) as amended requires that the Secretary provide adequate public involvement in the comment and review process. The public notification, postings of public meeting dates, and comment process lacked adequate notice and transparency to nearly the point of being clandestine.

Response: *Chapter 6 Consultation and Coordination*, provides a summary of consultation and coordination. *Chapter 6* has been revised to include all media notifications that took place, and the list of media contacts is included in Appendix H. The list of recipients is provided in Appendix H.

Comment: The Friends of Hyde Farm, presented as the NPS partner Community Service Organization in the CRNRA's Centennial Project Plan and Congressional filings and testimony, did not receive notice of the public meetings or the opportunity to comment. A large portion of Hyde Farm is part of the CRNRA and some of the more radical changes in impervious surfaces (bicycle and pedestrian bridges, paved trails, etc.) are proposed in Alternative F as changes at historical Hyde Farm.

Response: There is no cooperative partnering agreement in place between the park and Friends of Hyde Farm. It is our understanding that this friends group disbanded in late summer 2008. Members of the former friends group have been added to the mailing list for the General Management Plan/Environmental Impact Statement. Specific planning regarding the type and location of future trails will be addressed by environmental review, with opportunity for future public input.

Comment: Landowners and residents along portions of the river on the Cobb County side were not notified of the public meetings or the public comment/review period. These landowners are directly and adversely impacted by some of the proposed use and infrastructure changes in several of the Alternatives, including Alternative F.

Response: *Chapter 6 Consultation and Coordination*, provides a summary of consultation and coordination. *Chapter 6* and *Appendix H* have been revised to include all media notifications that took place. National Park Service policy is to provide an open format for public comment, without specific targeted audiences.

Comment: There seemed to be specific groups targeted for notice of the second of two public comment meetings, as the Oct. 30 public meeting was well-attended by mountain biking advocates. At least 80% of the attendees spoke as if they were mountain biking advocates over all other interests. They had apparently been well-briefed in advance of the meeting and were familiar with all the details of the plan. They

addressed their comments in large part in rebuttal to people who spoke on behalf of interests other than mountain biking, or who questioned the soundness of environmental assumptions made by the biking advocates. The Superintendent informed the public meeting that one of the mountain biking groups had offered 1,500 (or 1,700) hours of "free" volunteer labor to build bike trails. In fact, other volunteer labor had been offered for trail work for hikers and other projects in the past but turned down or simply not responded to by CRNRA. The clear impression was one of prejudicial mission and selective information-sharing, if not an outright tradeoff of services for policy. This type communication is not within the intent of the enabling legislation that requires open and fair public comment for all interested parties, and sufficient notice to the public of both meetings and timelines.

Response: The National Park Service has not favored one group over another or over the general public in its outreach efforts. Throughout the eight years of planning efforts, different groups supporting various alternatives or activities (fishing, boating, mountain biking, hiking, etc.) have organized themselves and used their own networks to affect large attendance at public meetings. See also responses to comments regarding partnering as well as other responses to comments regarding public involvement.

Regulatory Compliance

Comment: 92 Stat. 474, Public Law 95-344 (8/15/78), Sec 103 (c) as amended requires the Secretary to consult with the Secretary of the Army on plans that impact national areas adjacent or related to water resources. To my knowledge, this consultation related to the Plan has not taken place and there is no public record of the discussion or results.

Response: The U.S. Army Corps of Engineers was invited and attended agency coordination meetings in November, 2000. The Savannah District, Mobile District and the Chief Ranger from Lake Lanier received copies of the 2004 Draft General Management Plan/Environmental Impact Statement as well as the 2008 Supplemental Draft General Management Plan/Environmental Impact Statement (as listed in *Appendix H, List of Recipients*). The documentation of these meetings and coordination is included in the project administrative record, which is the public record.

Comment: 98 Stat. 2929, Public Law 98-568 (10/30/84), Sec 105 (d) 1 as amended requires an environmental assessment and environmental impact statement in conformance with, among others, the National Environmental Policy Act. Each and every additional bike trail and infrastructure component, and every change in designation/use of each area, should have its individual environmental study and assessment to address the issues of the impact on the natural habitat and water quality issues that the Secretary is charged with stewarding in the enabling legislation.

Response: All future development projects are subject to compliance with the National Environmental Policy Act, the National Historic Preservation Act, and other laws identified in *Chapter 1* and *Appendix E*. See responses to related comments under trails category.

Comment: The EIS does not appear to take into account fully the responsibility to Americans with Disabilities Act.

Response: *Chapter 1* identifies responsibilities under the Americans With Disabilities Act, Architectural Barriers Act, Re-habilitation Act, and other National Park Service management policies (NPS 2006f). These acts and policies are among the servicewide mandates and policies that guide park

management. These laws are also described in Appendix A. *Chapter 4, Visitor and Community Values, Table 35* contains references to threshold values for persons with disabilities in terms of accessibility. Individual park projects proposed in the future will consider ways to provide opportunities for visitors with limited mobility. Detailed design features addressing access are not included in this stage of general management planning, and will be provided on a project specific basis.

Sustainability

Comment: The document should reflect the commitment by the NPS to the use of pervious paving wherever possible to avoid impacts related to access and facility developments that may occur. The National Park Service should consider environmentally friendly construction techniques and avoid creating obstacles that hinder wildlife and plant communities.

Response: The National Park Service is committed to the planning, design and operation of facilities using sustainable practices/principles, including the use of pervious paving systems. Sustainable principles and National Park Service management policies address natural resource protection. These types of systems and other sustainable and efficient technologies will be considered for each project while taking into consideration social, economic and environmental benefits. Sustainable practices/principles will be considered in accordance with National Park Service Management Policies (NPS 2006) and executive orders. These practices and principles are design and planning considerations and will be addressed during implementation, with site specific conditions in mind. Text has been added to *Chapter 2, Visitation, Land Acquisition, and Facilities* that describes the park's commitment to sustainable practices. Sustainable design and sustainable practices /principles are also defined and added to the Glossary of Terms.

Telecommunication Facilities

Comment: Construction of telecommunication facilities anywhere in the park would be in conflict with the park's mission as set forth in 1978.

Response: The National Park Service is required to process telecommunication facility applications in good faith in accordance with the Telecommunications Act of 1996. Details regarding this provision are provided in *Chapter 1*. As stated in *Chapter 1*, should the proposal cause unavoidable conflict with the park's mission, the permit will be denied (NPS 2006f).

Trails

Comment: No new trails should be designed or constructed until all issues with use and damage to existing trails, maintenance, and enforcement have been satisfactorily resolved. The National Park Service should also consider user conflicts on trails (mountain bicycle, walking, hiking, jogging, and equestrian), including management, enforcement, safety, and resource impacts.

Response: Planning for trails and other future facilities includes environmental review in compliance with the National Environmental Policy Act, the National Historic Preservation Act, and other laws and regulations. Future project environmental reviews will be site specific, and address number, location, and cultural and natural impacts as well as park operations (i.e. maintenance, management, enforcement, safety and use) and have opportunities for public input. Visitor experiences, including potential use conflicts are included in the environmental review process.

Comment: Do not construct any hard surface trails within the 150-foot buffer along the river or tributary buffers as established by the Metropolitan River Protection Act.

Response: Trail location, materials, and methods of construction will be determined on a site specific basis and only after environmental review has been conducted, and opportunities for public input have been provided.

Comment: Provide for multiple-use trails within park boundaries.

Response: Multiple use trails are provided within park boundaries. Further development of multiple use trails will be considered on a site specific basis pending further site specific environmental review and opportunities for public review and comment.

Comment: Provide trail connectivity throughout Chattahoochee River National Recreation Area and into local parks. The converse of this issue was also expressed, voicing opposition to connectivity due to natural resource concerns.

Response: The National Park Service will coordinate with other trail planning entities including local city, counties and state agencies and other non-government organizations on a case by case basis. The National Park Service is only responsible for park owned land. Note other responses regarding environmental review and opportunity for public comment.

Comment: Issues regarding right of way on multiple use trails, injury, insurance, and liability should be considered by the National Park Service.

Response: For any accident on federal property, a visitor can file a tort claim. Right of way and site specific trail conditions will be addressed in separate site specific environmental review. Violation of 36 CFR (Code of Federal Regulations) and the Superintendent's Compendium would be subject to fine or court appearances, and are addressed on a case by case basis.

Trails at Hyde Farm

Comment: Proposals to develop bicycle trails within the Hyde Farm area are a concern.

Response: The section of the Hyde Farm property that contains the farm structures, dirt road, cleared areas, and some woodland areas has been zoned Historic Resource Zone, where off-road bicycling is not appropriate. The section of the property that is closest to the river is zoned Natural Area Recreation Zone, where off-road bicycling is appropriate. However, as stated in response to other comments: management zoning is the method used by the National Park Service to identify and describe the appropriate variety of natural resource conditions, cultural resource conditions, and visitor experiences to be achieved and maintained in the different areas of a park. Management zones also define appropriate levels and types of facilities and development for various areas of the park. Management zones do not specify the location, design particulars, or footprint of any facility nor do they guarantee that any particular type of facility, although permitted by the zone definition, will ever be developed within that zone. No facilities of any kind will be proposed for areas that are not suitable by virtue of environmental conditions or the presence of important cultural resources. No facilities will be proposed without further site specific environmental analysis and opportunities for public review and comment.

Mountain Bike Trails

Comment: Mountain bike trails should not be located at Gold Branch.

Response: Mountain bicycle trails are appropriate on designated trails only in the Natural Area Recreation Zone, Developed Zone, and the Rustic Zone under the preferred alternative, as described in *Chapter 2*, as well as *Table 3*. No new facilities, including bicycle trails, would be constructed prior to environmental review and opportunity for public input as well as funding. Under the Preferred Alternative, Gold Branch is zoned as a Natural Zone which prohibits off-road bicycling.

Comment: Any new bicycle trails must be thoroughly evaluated prior to construction and not implemented unless there is a long-term maintenance plan that is not dependent on NPS appropriations.

Response: All park operations, including maintenance activities are subject to appropriations. The park cannot operate solely based upon volunteer hours, partnerships and external sources of funds. No new facilities, including bicycle trails, would be constructed prior to environmental review and opportunity for public input as well as funding.

Comment: 92 Stat. 474, Public Law 95-344 (8/15/78), Sec 103 (a) as amended requires the Secretary to administer, protect and develop the CRNRA for the conservation and management of historic and natural resources including fish and wildlife. The opening of 62% of the land area to mountain biking threatens fauna and flora, including some rare species, and may increase soil erosion and adversely impact water quality. Widespread mountain biking, hard trail construction, additional impervious surfaces, and increased motorboat traffic on the river are clear violations of the intent of the enabling legislation.

Response: General Management Plan alternatives represent broad management approaches/frameworks for resource preservation and visitor use. Specific designs, layouts, footprints, and other individual project features are not part of General Management Plan alternatives, and are addressed separately during future implementation. Zoning, as applied in general management plans, is the method by which desired future resource conditions and visitor experiences are established for park managers to use in future decision-making. Each zone provides a set of allowable activities and facilities when specific local site conditions and resources are appropriate for them and only after alternatives have been developed, environmental review has been completed, the public has had an opportunity to review and comment, and funding has been made available. The fact that a particular zone may allow for certain activities or types of facilities does not mean that those facilities will be developed in that zone nor does it mean that such facilities would be allowed to cover the entire zone. To further clarify, 62% of the park will not be designated for mountain bicycle trails. In addition, *Table 3 Management Prescriptions - Alternatives E and F* has been changed to clarify that mountain bicycling is appropriate on designated trails only. Alternatives E and F allow for the continued use of motorized vessels in the park, which is similar to existing conditions.

Comment: Scientific research funded by the NPS shows the environmental impacts of-mountain biking are similar to those of hiking and far less than other uses.

Response: Impacts associated with trails are related to a host of factors, including: site specific conditions for slope, curves, wetness, soil type, soil erosion rates, vegetation, ecological conditions, invasive species, use levels, and visitor conflict management. These and other factors contribute to overall visitor experience and resource protection and have been addressed in studies in other national parks. No facilities will be proposed without further site specific environmental analysis and opportunities for public review and comment.

Water Quality and Aquatic Resources

Comment: We urge the NPS to focus on sewer spills, construction activities, and buffer encroachments on tributaries as well as the main stem of the Chattahoochee River.

Response: The NPS has developed a GIS database of sewer spills in and bordering the park and coordinates with local cities and counties regarding spill prevention, reporting and clean-up. The NPS will continue to cooperate with its neighboring cities and counties to address these concerns. Although management of construction activities, and permit review and compliance is the responsibility of the issuing authority, the park continues to review permits that buffer its boundary when notified by the permitting agency. The NPS does not have enforcement authority for activities outside its boundaries; however it does coordinate with local authorities to address encroachment issues where it is affecting park property.

Comment: The NPS should monitor water temperature and phosphorous levels.

Response: The NPS coordinates with the Georgia Department of Natural Resources, the United States Geological Survey and other agencies regarding monitoring for aquatic resources and water quality concerns.

Zoning, Alternatives and Impacts Associated with Individual Facilities

Comment: Zoning is too general; more details should be provided regarding individual facilities including trails and their impacts.

Response: Management zoning is the method used by the National Park Service to identify and describe the appropriate variety of natural resource conditions, cultural resource conditions, and visitor experiences to be achieved and maintained in the different areas of a park. Management zones also define appropriate levels and types of facilities and development for various areas of the park. Management zones do not specify the location, design particulars, or footprint of any facility nor do they guarantee that any particular type of facility, although permitted by the zone definition, will ever be developed within that zone. No facilities of any kind will be proposed for areas that are not suitable by virtue of environmental conditions or the presence of important cultural resources. No facilities will be proposed without further site specific environmental analysis and opportunities for public review and comment.

Comment: Do not construct facilities that cannot be maintained and funding guaranteed.

Response: One goal of the General Management Plan is to set a vision for future management of the park that might be ambitious but is focused on creating the best combination of natural and cultural resource protection strategies, and visitor experiences that are achievable. It is well understood that staffing and funding to accomplish the objectives in the General Management Plan may not be available for years and language to this affect is found in *Chapter 2, Comparative Cost Analysis*. The park submits requests for increased operational funding based upon needs. Upon receipt of funding, additional staff are hired.

Comment: Alternative B is clearly best for protecting natural resources.

Response: The discussion of the Environmentally Preferred Alternative in Chapter 2 describes each of the six criteria listed in the Council on Environmental Quality regulations for implementing the National Environmental Policy Act. As stated in the plan, Alternative B would best fulfill the responsibilities of each generation as trustee of the environment for succeeding generations (Criterion #1) and would best enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources (Criterion #6). However, Criteria 2, 3, 4, and 5 were judged to be best served by Alternatives E and F.

The National Park Service uses the decision-making process called Choosing by Advantages to select the preferred alternative based upon the importance of advantages. The process of selection Alternative F is described in *Chapter 2, Selecting the Preferred Alternative*.

Comments	Responses
DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service Centers for Disease Control and Prevention (CDC) Atlanta GA 30333 November 25, 2008 Daniel R. Brown, Superintendent Chattahoochee River National Recreation Area 1978 Island Ford Parkway Atlanta, GA 30350-3400 Dear Superintendent Brown: This is in response to the Environmental Assessment for *the Supplemental Draft General Management Plan/Environmental Impact Statement for the Chattahoochee River National Recreation Area for the next 20 years, June 2008*. This document was reviewed by the Centers for Disease Control and Prevention on behalf of the Department of Health and Human Services, U.S. Public Health Service. We understand the National Park Service (NPS) is presenting 6 alternatives for the future management of the Chattahoochee River National Recreation Area. The proposed project seeks to define strategies that will allow for diverse visitor use, protect park resources, and provide for the enjoyment of the people. We are pleased to note that Alternative F, which seeks to expand use by local visitors and increase trail connectivity to neighboring communities, is the preferred alternative. These goals support community health. The Community Guide notes that, "Regular physical activity is associated with a healthier, longer life…. And found that people will become more physically active in response to the creation of or improved access to places for physical activity." (http://www.thecommunityguide.org/pa/pa-int-create-access.pdf) Your study should 1. consider expanding its evaluation of the alternatives to include external impacts on local transportation systems and potential effects on public health. It would be appropriate to mention the health benefits of the recreation area as a beneficial outcome. 2. We suggest an evaluation of the public health impacts of the alternatives. Additional evaluation areas might include: 3. - Analysis of populations that will have access to the recreation area. Establish catchment areas and estimate populations that can access different park zones by transportation mode: private vehicle, public transit, pedestrian, and bike. - Impact of new entrances and connectivity to local pedestrian and bike systems that expand trail networks and thereby reduce automobile usage on: a) vehicle travel to the park and b) opportunities to use the recreation area trails for active (bicycle and pedestrian) commuting. This analysis could address the following areas: o Air quality o Opportunities for physical activity o Exposure to traffic injury	1. Transportation related issues and impacts associated with each alternative are described in *Chapter 4*. The park offers relatively similar benefits under all alternatives; public health was considered as an impact topic and dismissed. 2. The National Park Service does not have the survey data available that would be required to quantitatively analyze use of specific transportation modes by different populations. The transportation impact analysis provided in *Chapter 4* addresses issues identified during scoping. These issues are incorporated into a qualitative assessment of the potential effects of the alternatives on regional and local transportation resources. The analysis suggested is beyond the general scope of this plan, which is conceptual in nature 3. The analysis suggested is beyond the scope of the *General Managemant Plan*, which is conceptual in nature. The level of analysis suggested would be more appropriate during implementation when site specific design details are available. • The rationale for considering, but dismissing air quality as an impact topic is provided in *Chapter 1,* page 33. • Opportunities for physical activity are addressed under the description of each zone in *Chapter2*, under the header "*Appropriate Kinds of Activities or Facilities"* as well as summarized in Tables 2 and 3. • Due to the urban nature of the park, the exposure to traffic injury would be similar under each alternative.

Comments	Responses
Because physical activity is positively impacted by increased access and connectivity it would be desirable to connect trails along the river. It has been noted that the NPS does not own all of the land within the authorized recreation area and that it is unlikely to receive funding for the 4. acquisition of all of these properties. Therefore the management plan should establish policies that encourage the development of a connected trail system along the river through collaboration with appropriate governments and land owners. The NPS should request notice when land within an identified buffer of its authorized boundary is to be subdivided and be given the opportunity 5. to review and comment on the proposed plans prior to their approval by local governments. NPS comments could address opportunities to create a connected trail along the river and expansion of the local trail network. Because street frontage greatly increases the exposure and natural surveillance of public space, adjacent developments should be encouraged to create street frontage along their boundaries with the recreation area. Local governments should be alerted to the desirability of such opportunities and be asked to coordinate the review of projects with NPS staff. 6. To promote pedestrian/bicycle travel to the park, we suggest that pedestrian/bicycle park entrances be prominently marked with signage, paving, fencing, and plant materials. The management plan should note the need for the prominent identification of pedestrian and bicycle entrances. Urban outdoor recreation areas can provide many opportunities for physical activity 7. and enjoyment of the outdoors, both of which are beneficial to the public's health. These benefits and goals should be articulated in the plan. The local Departments of Health should be asked to 8. review and comment on the public health impact of specific projects as they are identified. Additional links to data and resources you might find helpful can be found at: www.cdc.gov/healthyplaces Thank you for the opportunity to comment on this management plan/environmental impact statement. Sincerely yours, Andrew L. Dannenberg, MD, MPH Associate Director for Science Division of Emergency and Environmental Health Services National Center for Environmental Health Centers for Disease Control and Prevention 4770 Buford Highway, MS-F60 Atlanta, GA 30341 DM	4. The National Park Service will coordinate with other trail planning entities including local city, counties and state agencies and other non-government organizations on a case by case basis. The park will embrace partnership opportunities that will help accomplish the National Park Service mission provided that personnel and funding requirements do not make it impractical for the National Park Service to participate and that the partnership activity would not (1) violate legal ethical standards, (2) otherwise reflect adverse on the National Park Service mission and image, or (3) imply or indicate an unwillingness by the Service to perform an inherently governmental function (NPS 2006f). 5. The National Park Service will coordinate and comment where possible regarding projects that may influence the park. However, the National Park Service is only responsible for park owned land. 6. Site specific details regarding types and location of signage will be developed in the future during implementation. 7. The National Park Service concurs that the park provides benefits to public health under all proposed alternatives. See response number 1. 8. The park will continue to maintain the Centers for Disease Control and Prevention on the mailing list regarding future projects.

Comments	Responses

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

December 1, 2008

Daniel R. Brown, Superintendent
Chattahoochee River National Recreation Area
1978 Island Ford Parkway
Atlanta, GA 30350-3400

SUBJECT: Supplemental Draft General Management Plan/Environmental Impact Statement for the Chattahoochee River National Recreation Area in Atlanta, Georgia; CEQ Number 20080364

Dear Mr. Brown:

The U.S. Environmental Protection Agency (EPA) has reviewed the referenced Supplemental Draft General Management Plan/Environmental Impact Statement (EIS) in accordance with its responsibilities under Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act. The purpose of this general management plan and Supplemental Draft EIS is to present a plan for managing the Chattahoochee River National Recreation Area (CRNRA) in Atlanta, Georgia, for the next 15 to 20 years. The National Park Service (NPS) is the lead federal agency for the proposed action.

General management plans represent the broadest level of planning conducted by the NPS and are intended to provide overall guidance for making informed decisions about future conditions in national parks. The NPS released a Draft EIS in 2004 that assessed the potential environmental impacts of four alternatives (A, B, C, and D) for managing the CRNRA. Based upon feedback received regarding these alternatives, additional meetings were conducted and two new alternatives (E and F) were developed and analyzed. The Supplemental Draft EIS assesses the environmental impacts of these two new alternatives in terms of levels of service for visitor interpretation and education in the CRNRA, suitable locations for administration and visitor facilities, and management of the CRNRA to allow for preservation of natural and cultural resources. Alternative F is identified as the preferred alternative and would provide more opportunities for access to the Chattahoochee River, facilities development, and an increased diversity of experience, as compared to the other alternatives.

EPA appreciates that the NPS developed a Supplemental Draft EIS and new alternatives to respond to public criticism of the original Draft EIS. The new alternatives represent combinations of the existing alternatives along with new zone types and management prescriptions. Alternative F provides opportunities for the NPS to expand use to local visitors and increase connectivity to neighboring communities through trail linkages, partnering, and expanded interpretive, education and outreach activities. Alternative F would also have a greater relative amount of land disturbing activity, as compared to the other alternatives, due to an increase in "hardened" types of access (e.g., boat ramps, parking areas, and paved trails) and

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Comments	Responses
development of support facilities. A number of mitigation measures are proposed in the Supplemental Draft EIS to avoid or minimize potentially adverse impacts from implementation of the new management plan and to ensure that the park's natural and cultural resources are protected and preserved for future visitors. EPA supports inclusion of these mitigation measures as part of the new general management plan for CRNRA, particularly the commitment to develop a resource stewardship strategy, fisheries management plan, and instream flow studies. EPA recommends that these programs include significant monitoring activities to ensure that the increase in hardened access areas and likely subsequent increase in recreational and educational usage of the park do not negatively impact natural and cultural resources. 1. In addition, EPA recommends inclusion of two specific outreach items related to water quality in the resource stewardship strategy: 1) the bacteria monitoring program, BacteriALERT, that was described in the Supplemental Draft EIS; and 2) publication and awareness of the various fish consumption advisories that currently exist throughout the CRNRA. It is unclear from the Supplemental Draft EIS if the BacteriALERT program will be continued under the new management plan. Both of these programs represent additional partnership opportunities with public and private organizations, such as the Georgia Environmental Protection Division, Georgia Conservancy, and Upper Chattahoochee Riverkeeper, and could be included in an overall water quality improvement and educational awareness strategy. In particular, these items will be especially important as new facilities are developed or in areas that are currently not meeting their designated uses (e.g., below Morgan Falls dam). We rate this document LO (Lack of Objections). EPA lacks objections to the proposed project and believes that the Supplemental Draft EIS provided adequate information on the environmental impacts. All mitigation measures and monitoring programs, as described in the Supplemental Draft EIS and including the above recommendations, should be fully implemented. We appreciate the opportunity to review the proposed action. Please contact Ben West of my staff at (404) 562-9643 if you have any questions or want to discuss our comments further. Sincerely, Heinz J. Mueller, Chief NEPA Program Office Office of Policy and Management 2	1. The National Park Service recognizes the benefits of cooperative conservation (in accordance with Executive Order 13352, Facilitation of Cooperative Conservation) as well as the significant role partners play throughout the national park system. Success of the existing and/or increased partner activities is linked to the willingness of partners to participate, the capabilities of partners to team on projects or provide services, and the potential for partners to provide support funding (see also *Partnering* section of *Chapter 2*). the National Park Service will embrace partnership opportunities that will help accomplish the National Park Service mission provided that personnel and funding requirements do not make it impractical for the Service to participate.

Comments	Responses

Noel Holcomb, Commissioner
Dan Forster, Director

Georgia Department of Natural Resources
Wildlife Resources Division
2070 U.S. Highway 278, S.E., Social Circle, Georgia 30025
(770) 918-6400

February 27, 2009

Mr. Dan Brown
Superintendent
Chattahoochee River National Recreation Area
1978 Island Ford Parkway
Atlanta, Georgia 30350

Dear Mr. Brown:

Thank you for the opportunity to work cooperatively on the Chattahoochee River National Recreation Area's General Management Plan. We support Alternative F as the preferred alternative. Alternative F provides more opportunities for improved access and facilities, and we feel this is the best course because of the park's urban setting. Improved access and facilities will promote recreational use to a broader segment of the public, including the elderly and physically challenged.

I would like to thank you for asking the Georgia Department of Natural Resources to serve as a partner in the General Management Plan process and to help address angler and boater issues. I am pleased with our agencies close working relationship. This relationship benefits both the resources and the public.

Sincerely,

Dan Forster

DF:pw

LIST OF RECIPIENTS

A summary table of the list of recipients is provided in Appendix H.

LIST OF PREPARERS

Supplemental Draft and Final	Draft
Chattahoochee River National Recreation Area	**Chattahoochee River National Recreation Area**
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Kevin Cheri, Former Superintendent	Bill Carroll, Assistant Superintendent
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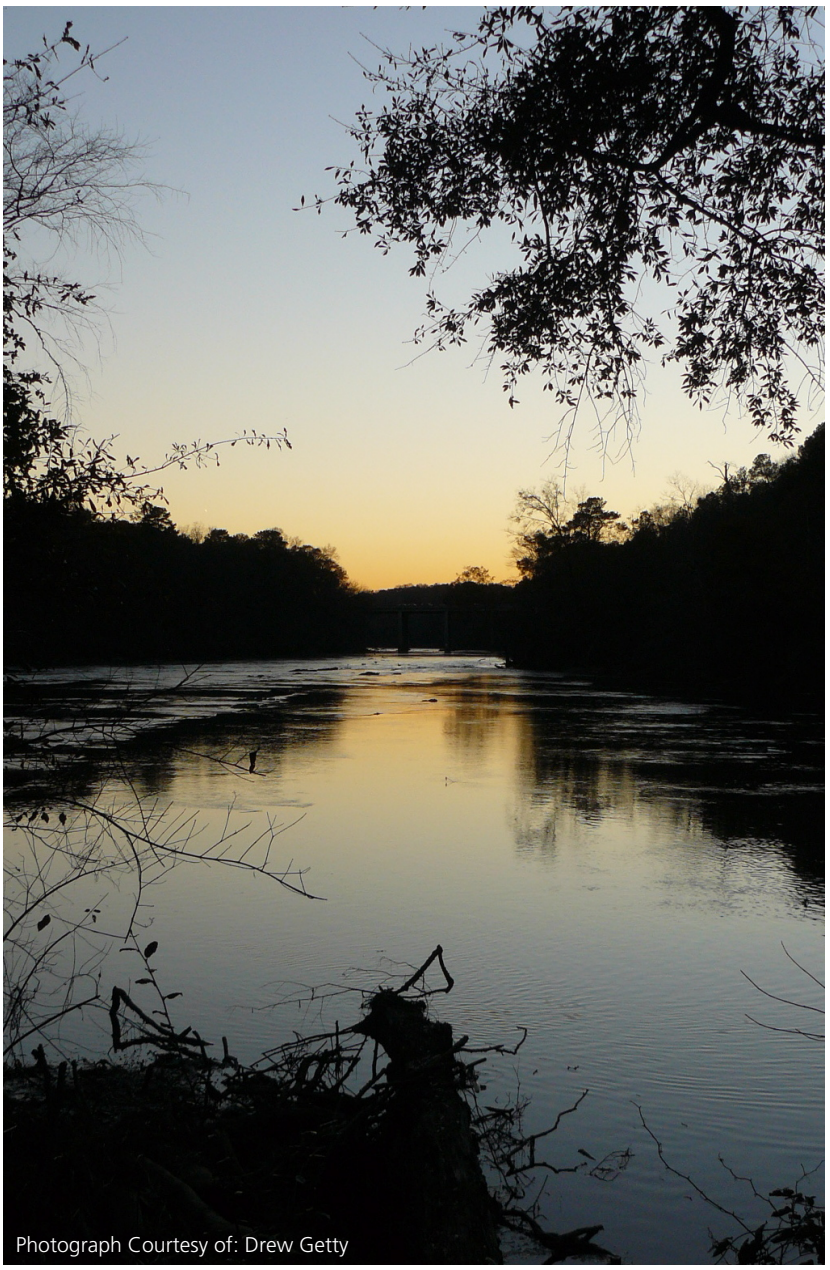

Sunset at Palisades

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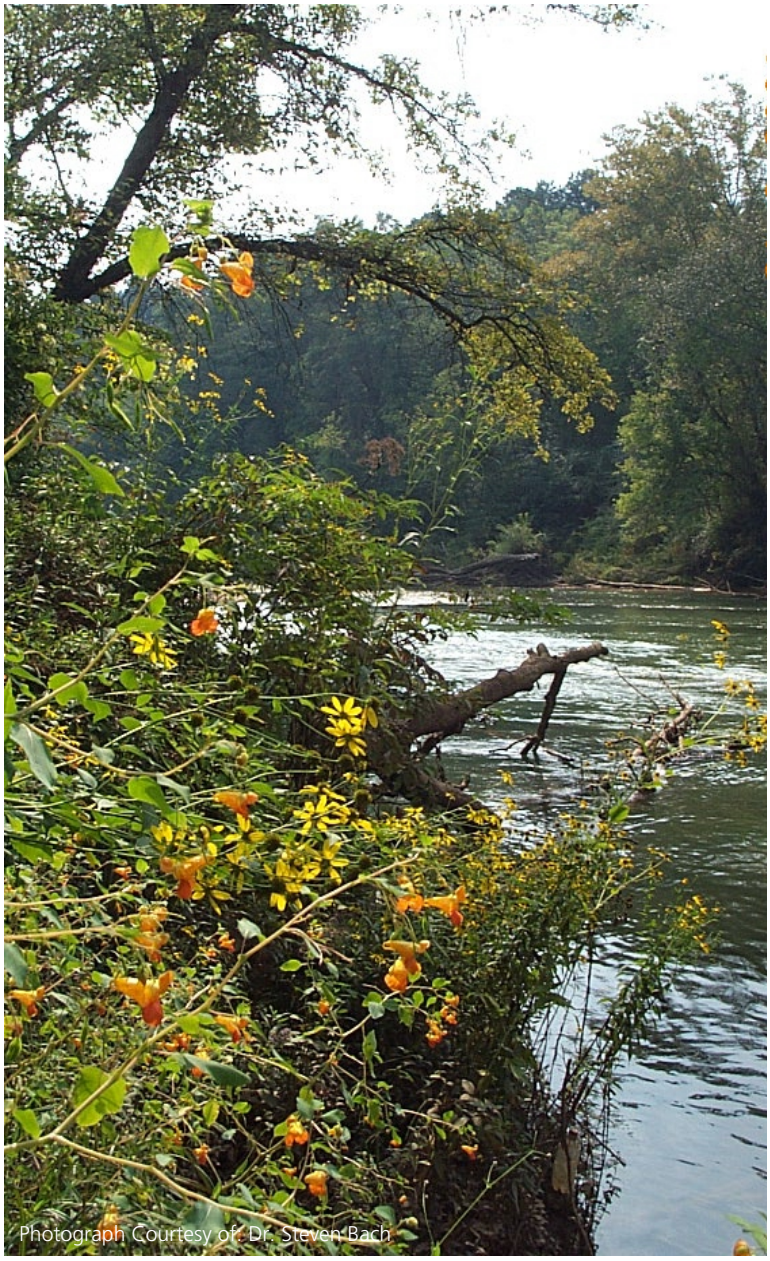
Glossary of Terms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GLOSSARY OF TERMS

The controlling definitions for terms under the President's Council on Environmental Quality National Environmental Policy Act regulations are contained at 40 Code of Federal Regulations; the numbers in parentheses refer to the appropriate section. These definitions are provided as a supplement to those regulatory definitions.

Categorical exclusion (1508.4)—An action with no measurable environmental impact which is described in one of the categorical exclusion lists in section 3-3 or 3-4 and for which no exceptional circumstances (section 3-5) exist.

Connected actions (1508.25)—Actions that are closely related. They automatically trigger other actions that have environmental impacts, they cannot or will not proceed unless other actions have been taken previously or simultaneously, or they are interdependent parts of a larger action and/or depend on the larger action for their justification.

Conservation planning and impact assessment—Within the National Park Service, this process is synonymous with the National Environmental Policy Act process. This process evaluates alternative courses of action and impacts so that decisions are made in accord with the conservation and preservation mandate of the NPS Organic Act.

Cooperating agency (1508.5)—A federal agency other than the one preparing the National Environmental Policy Act document (lead agency) that has jurisdiction over the proposal by virtue of law or special expertise and that has been deemed a cooperating agency by the lead agency. State or local governments, and/or Indian tribes, may be designated cooperating agencies as appropriate (see 1508.5 and 1502.6).

Cultural resources (NPS-28, appendix A)—Aspects of a cultural system that are valued by or significantly representative of a culture or that contain significant information about a culture. A cultural resource may be a tangible entity or a cultural practice. Tangible cultural resources are categorized as districts, sites, buildings, structures, and objects for the National Register of Historic Places, and as archeological resources, cultural landscapes, structures, museum objects, and ethnographic resources for NPS management purposes.

Cumulative actions (1508.25)—Actions that, when viewed with other actions in the past, the present, or the reasonably foreseeable future, regardless of who has undertaken or will undertake them, have an additive impact on the resource the proposal would affect.

Cumulative impact (1508.7)—The impacts of cumulative actions.

Direct effect (1508.8)—An impact that occurs as a result of the proposal or alternative in the same place and at the same time as the action.

Environmental assessment (1508.9)—A brief National Environmental Policy Act document that is prepared to (a) help determine whether the impact of a proposal or alternatives could be significant; (b) aid the National Park Service in compliance with the National Environmental Policy Act by evaluating a proposal that will have no significant impacts, but that may have measurable adverse impacts; or (c) evaluate a proposal that either is not described on the list of categorically excluded actions, or is on the list but exceptional circumstances (section 3-5) apply.

Environmental impact statement (1508.11)—A detailed National Environmental Policy Act document that is prepared when a proposal or alternatives have the potential for significant impact on the human environment.

Environmental screening process—The analysis that precedes a determination of the appropriate level of National Environmental Policy Act documentation. The minimum requirements of the environmental screening process are a site visit, consultation with any agency that has jurisdiction by law or special expertise, and the completion of a screening checklist. The process must be complete for all NPS actions that have the potential for environmental impact and are not described in section 3-3.

Environmentally preferred alternative (1505.2, Q6a)—Of the alternatives analyzed, the one that would best promote the policies in the National Environmental Policy Act section 101. This is usually selected by the interdisciplinary team members. It is presented in the NPS National Environmental Policy Act document (draft and final environmental assessment or environmental impact statement) for public review and comment.

Exceptional circumstances—Circumstances that, if they apply to a project described in the NPS categorical exclusion lists (sections 3-3 and 3-4), mean a categorical exclusion is inappropriate and an environmental assessment or an environmental impact statement must be prepared because the action may have measurable or significant impacts. Exceptional circumstances are described in section 3-5.

Finding of no significant impact (FONSI) (1508.13)—A determination based on an environmental assessment and other factors in the public planning record for a proposal that, if implemented, would have no significant impact on the human environment.

Human environment (1508.14)—Defined by the Council on Environmental Quality as the natural and physical environment, and the relationship of people with that environment (1508.14). Although the socioeconomic environment receives less emphasis than the physical or natural environment in the Council on Environmental Quality regulations, the National Park Service considers it an integral part of the human environment.

Impact topics—Specific natural, cultural, or socioeconomic resources that would be affected by the proposed action or alternatives (including no action). The magnitude, duration, and timing of the effect to each of these resources are evaluated in the impact section of an environmental assessment or environmental impact statement.

Indirect impact (1508.8)—Reasonably foreseeable impacts that occur removed in time or space from the proposed action. These are "downstream" impacts, future impacts, or the impacts of reasonably expected connected actions (e.g., growth of an area after a highway to it is complete).

Issues—In the National Environmental Policy Act, issues are environmental, social, and economic problems or effects that may occur if the proposed action or alternatives (including no action) are implemented or continue to be implemented.

Lead agency (1508.16)—The agency either preparing or taking primary responsibility for preparing the National Environmental Policy Act document.

Life Cycle Costing (Analysis)—An accounting method that analyzes the total costs of a product or service, including construction, maintenance, manufacturing, marketing, distribution, useful life, salvage, and disposal.

Major federal action (1508.18)—Actions that have a large federal presence and that have the potential for significant impacts to the human environment. They include adopting policy, implementing rules

or regulations; adopting plans, programs, or projects; ongoing activities; issuing permits; or financing projects completed by another entity.

Memo to file—A memo to the planning record or statutory compliance file that NPS offices may complete when (a) National Environmental Policy Act has already been completed in site-specific detail for a proposal, usually as part of a document of larger scope, or (b) a time interval has passed since the National Environmental Policy Act document was approved, but information in that document is still accurate.

Mitigated Environmental Assessment (Q40)—An environmental assessment that has been rewritten to incorporate mitigation into a proposal or to change a proposal to reduce impacts to below significance.

Mitigation (1508.20)—A modification of the proposal or alternative that lessens the intensity of its impact on a particular resource.

National Environmental Policy Act process—The objective analysis of a proposal to determine the degree of its environmental and interrelated social and economic impacts on the human environment, alternatives and mitigation that reduce that impact, and the full and candid presentation of the analysis to, and involvement of, the interested and affected public.

Notices of availability—Separate notices submitted to the Federal Register that the draft environmental impact statement and the final environmental impact statement are ready for distribution.

Notice of intent (1508.22)—The notice submitted to the Federal Register that an environmental impact statement will be prepared. It describes the proposed action and alternatives, identifies a contact person in the National Park Service, and gives time, place, and descriptive details of the agency's proposed scoping process.

Preferred alternative (1502.14 (e))—The alternative an NPS decision-maker has identified as preferred at the draft environmental impact statement stage or environmental assessment. Identification of the preferred alternative helps the public focus its comments during review of the National Environmental Policy Act document.

Programmatic documents—Broader scope environmental assessments or environmental impact statements that describe the impacts of proposed policy changes, programs, or plans.

Proposal (1508.23)—The stage at which the National Park Service has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal. The goal can be a project, plan, policy, program, and so forth. The National Environmental Policy Act process begins when the effects can be meaningfully evaluated.

Record of decision (1505.2)—The document that is prepared to substantiate a decision based on an environmental impact statement. It includes a statement of the decision made, a detailed discussion of decision rationale, and the reasons for not adopting all mitigation measures analyzed, if applicable.

Scoping (1508.25)—Internal NPS decision-making on issues, alternatives, mitigation measures, the analysis boundary, appropriate level of documentation, lead and cooperating agency roles, available references and guidance, defining purpose and need, and so forth. External scoping is the early involvement of the interested and affected public.

Step-down facility—An access point to the Chattahoochee River constructed by the National Park Service and primarily used for canoes and kayaks.

Sustainable design—design that applies the principles of ecology, economics, and ethics to the business of creating necessary and appropriate places for people to visit, live in, and work. Development that has a sustainable design sits lightly upon the land, demonstrates resource efficiency, and promotes ecological restoration and integrity, thus improving the environment, the economy, and society.

Sustainable practices/principles—those choices, decisions, actions and ethics that will best achieve ecological/biological integrity; protect qualities and function of air, water, soil, and other aspects of the natural environment; and preserve human cultures. Sustainable practices allow for use and enjoyment by the current generation, while ensuring that future generations will have the same opportunities.

Tiering (1508.28)—The use of broader, programmatic National Environmental Policy Act documents to discuss and analyze cumulative regional impacts and define policy direction, and the incorporation by reference of this material in subsequent, narrower documents to avoid duplication and focus on issues "ripe for decision" in each case.

Unauthorized trail—Visitor established trail not approved or maintained by the National Park Service and subject to closure due to safety and resource concerns.

Vessel—Under 36 Code of Federal Regulations 1.4, vessels are defined as every type or description of craft, other than a seaplane on the water, used or capable of being used as a means of transportation on water, including a buoyant device permitting or capable of free flotation.

Appendices

The Chattahoochee River

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APPENDIX A
LIST OF RELEVANT LEGISLATION

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APPENDIX A: LIST OF RELEVANT LEGISLATION

Laws and executive orders that apply to the management of the Chattahoochee River National Recreation Area are provided below.

NATIONAL PARK SERVICE ENABLING LEGISLATION

Act of August 25, 1916 (National Park Service Organic Act); Public Law 64-235; 16 United States Code Section1 et seq. as amended

Reorganization Act of March 3, 1933; 47 Stat. 1517

General Authorities Act, October 7, 1976; Public Law 94-458; 90 Stat. 1939; 16 United States Code 1a-1 et seq.

Act amending the Act of October 2, 1968 (commonly called Redwoods Act), March 27, 1978; Public Law 95-250; 92 Stat. 163; 16 United States Code Subsection(s) 1a-1, 79a-q

National Parks and Recreation Act, November 10, 1978; Public Law 95-625; 92 Stat. 3467; 16 United States Code 1 et seq.

OTHER LAWS AFFECTING NPS OPERATIONS

Accessibility

Americans with Disabilities Act; Public Law 101-336; 104 Stat. 327; 42 United States Code 12101

Architectural Barriers Act of 1968; Public Law 90-480; 82 Stat. 718; 42 United States Code 4151 et seq.

Rehabilitation Act of 1973; Public Law 93-112; 87 Stat. 357; 29 United States Code 701 et seq. as amended by the Rehabilitation Act Amendments of 1974; 88 Stat. 1617

Cultural Resources

American Indian Religious Freedom Act; Public Law 95-341; 92 Stat. 469; 42 United States Code 1996

Antiquities Act of 1906; Public Law 59-209; 34 Stat. 225; 16 United States Code 432; 43 Code of Federal Regulations 3

Archaeological and Historic Preservation Act of 1974; Public Law 93-291; 88 Stat. 174; 16 United States Code 469

Archaeological Resources Protection Act of 1979; Public Law 96-95; 93 Stat. 712; 16 United States Code 470aa et seq.; 43 Code of Federal Regulations 7, subparts A and B; 36 Code of Federal Regulations 79

Indian Sacred Sites. Executive Order 13007. 3 Code of Federal Regulations 196 (1997).

National Historic Preservation Act as amended; Public Law 89-665; 80 Stat. 915; 16 United States Code 470 et seq.; 36 Code of Federal Regulations 18, 60, 61, 63, 68, 79, 800

Protection of Historic and Cultural Properties, Executive Order 11593; 36 Code of Federal Regulations 60, 61, 63, 800; 44 Federal Register 6068

Public Buildings Cooperative Use Act of 1976; Public Law 94-541; 90 Stat. 2505; 42 United States Code 4151-4156

Natural Resources

Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act; E.S. 80-3, 08/11/80, 45 Federal Register 59109

Clean Air Act as amended; Public Law Chapter 360; 69 Stat. 322; 42 United States Code 7401 et seq.

Coastal Zone Management Act of 1972 as amended; Public Law 92-583; 86 Stat. 1280; 16 United States Code 1451 et seq.

Endangered Species Act of 1973, as amended; Public Law 93-205; 87 Stat. 884; 16 United States Code 1531 et seq.

Executive Order 11988: Floodplain Management; 42 Federal Register 26951; 3 Code of Federal Regulations 121 (Supp 177)

Executive Order 11990: Protection of Wetlands; 42 Federal Register 26961; 3 Code of Federal Regulations 121 (Supp 177)

Executive Order 11991: Protection and Enhancement of Environmental Quality

Federal Insecticide, Fungicide, and Rodenticide Act; Public Law 92-516; 86 Stat. 973; 7 United States Code 136 et seq.

Federal Water Pollution Control Act (commonly referred to as Clean Water Act); Public Law 92-500; 33 United States Code 1251 et seq. as amended by the Clean Water Act; Public Law 95-217

Fish and Wildlife Coordination Act of 1958 as amended; Public Law 85-624; 72 Stat. 563; 16 United States Code 661 et seq.

Migratory Bird Conservation Act; Public Law Chapter 257; 45 Stat. 1222; 16 United States Code 715 et seq.

Migratory Bird Treaty Act of 1918; Public Law 186; 40 Stat. 755

National Environmental Policy Act of 1969; Public Law 91-190; 83 Stat. 852; 42 United States Code 4321 et seq.

National Park System Final Procedures for Implementing Executive Order. 11988 and 11990 (45 Federal Register 35916 as revised by 47 Federal Register 36718)

Protection and Enhancement of Environmental Quality; Executive Order 11514 as amended, 1970; Executive Order 11991; 35 Federal Register 4247; 1977; 42 Federal Register 26967)

Resource Conservation and Recovery Act; Public Law 94-580; 30 Stat. 1148; 42 United States Code 6901 et seq.

Rivers and Harbors Act of 1899; 33 United States Code Chapter 425, as amended by Public Law 97-332, October 15, 1982 and Public Law 97-449; 33 United States Code 401-403

Water Resources Planning Act of 1965 (Public Law 89-80; 42 United States Code 1962 et seq.) and Water Resource Council's Principles and Standards; 44 Federal Register 723977

Watershed Protection and Flood Prevention Act; Public Law 92-419; 68 Stat. 666; 16 United States Code 100186

Other

Administrative Procedures Act; 5 United States Code 551-559, 701-706

Concessions Policy Act of 1965; Public Law 89-249; 79 Stat. 969; 16 United States Code 20 et seq.

Department of Transportation Act of 1966; Public Law 89-670; 80 Stat. 931; 49 United States Code 303

Energy Supply and Environmental Coordination Act of 1974

Executive Order 12003: Energy Policy and Conservation; 3 Code of Federal Regulations 134 (Supp 1977); 42 United States Code 2601

Executive Order 12008: Federal Compliance with Pollution Control Standards

Executive Order 12372: Intergovernmental Review of Federal Programs; 47 Federal Register 30959

Forest and Rangeland Renewable Resources Planning Act; Public Law 95-307; 92 Stat. 353; 16 United States Code 1600 et seq.

Freedom of Information Act; Public Law 93-502; 5 United States Code 552 et seq.

Intergovernmental Cooperation Act of 1968; Public Law 90-577; 40 United States Code 531-535 and 31 United States Code 6501-6508

Intergovernmental Coordination Act of 1969; 42 United States Code 4101, 4231, 4233

Noise Control Act of 1972 as amended; Public Law 92-574; 42 United States Code 4901 et seq.

Outdoor Recreation Coordination Act of 1963; Public Law 88-29; 77 Stat. 49

Payment in Lieu of Taxes Act; Public Law 94-565; 90 Stat. 2662; 31 United States Code 6901 et seq.

Surface Transportation Assistance Act of 1982; 96 Stat. 2097; 23 United States Code 101; and many others

Wildfire Disaster Recovery Act; Public Law 101-286

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APPENDIX B
PARK-SPECIFIC SPECIAL MANDATES AND COMMITMENTS

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APPENDIX B: PARK-SPECIFIC SPECIAL MANDATES AND COMMITMENTS

This section provides an overview of the laws and policies that are applicable to the management of the Chattahoochee River National Recreation Area. The following is a summary of key information on laws and regulations that have been enacted to manage the impact of activities along the Chattahoochee River corridor.

LEGISLATION

The Act of August 15, 1978 (Public Law 95-344) established the Chattahoochee River National Recreation Area and its boundaries, providing for the preservation and the protection of the natural, scenic, recreational, and historical values of the river. As created in the act, the recreation area consists of the river and its bed together with lands, waters, and interests therein, along the 48-mile corridor from Buford Dam to Peachtree Creek. The Act of October 30, 1984 (Public Law 98-568) increased the park size from 6,300 acres to 6,800 acres. The Secretary of the Interior may make minor revisions to the boundary map to facilitate access to the recreation area.

In 1999, a bill was passed that approved addition of approximately 3,200 acres to the existing 6,800 acre park, totaling an authorized 10,000 acres. Parcels within the new areas are currently being acquired by the National Park Service as they are negotiated with property owners. However, under this legislation, the National Park Service can only acquire land from willing sellers.

EROSION AND SEDIMENTATION ACT

The State of Georgia Erosion and Sedimentation Act (OCGA 12-7-1) provides a mechanism for controlling erosion and sedimentation from land-disturbing activities by establishing a permit process. To receive a permit, an applicant must submit an erosion and sedimentation control plan which incorporates best management practices. Local governments, with oversight by the Georgia Environmental Protection Division and the area Soil and Water Conservation District, are primarily responsible for implementing the act. State law directs local governments to enact erosion and sedimentation ordinances, granting the local government the authority to issue permits for land-disturbing activities. Stream buffer zone requirements under the Erosion and Sedimentation Act state that land-disturbing activities shall not be conducted within:

- 25 feet of any state waters. Construction of drainage structures are allowed in the buffer zone and a variance may be granted by the director of the Environmental Protection Division; and
- 100 feet of trout streams. Variance may be granted by the director of the Environmental Protection Division.

Cobb County has adopted more stringent minimum requirements for the control of erosion and sedimentation. As established in the Official Code of Cobb County, in addition to the 25-foot buffer for any state waters, land disturbing activities shall not be conducted within:

- 50 feet of the banks of any stream in Cobb County, as defined on the Cobb County Stream Buffer Map dated June 8, 1999, where total watershed area intercepted is less than or equal to 5 square miles;
- 75 feet of the banks of any stream in Cobb County where total watershed area intercepted is equal to 5 square miles and less than or equal to 10 square miles;
- 100 feet of the banks of any stream in Cobb County where total watershed area intercepted is greater than 10 square miles; and
- 200 feet of the banks of Nickajack Creek, from Church Road downstream to its confluence with Mill Creek and from Buckner Road downstream to its confluence with the Chattahoochee River.

Cobb County also requires that developers complete BMP training before they can receive a land-disturbing permit.

AQUATIC PLANT CONTROL ACT

The State of Georgia Aquatic Plant Control Act (HB 196) prohibits the importation, transportation, cultivation, or introduction of noxious, non-indigenous aquatic plants into the state and its waters. The act regulates any aquatic plant which is not native to the state of Georgia and that certain characteristics, such as massive productivity, choking density, or an obstructive nature, which render it detrimental, obnoxious, or unwanted in a particular location. The Aquatic Plant Control Act also regulates the seeds or reproductive parts of an aquatic plant which has the potential to hinder the growth of beneficial aquatic plants that may interfere with irrigation, navigation, or recreation, or affect the public welfare or the natural resources of the state of Georgia.

The following aquatic plants are designated as listed non-indigenous aquatic plants:

SCIENTIFIC NAME	COMMON NAME
Alternanthera philoxeroides	Alligator weed
Egeria densa	Brazilian Elodea
Elodea canadensis	Elodea
Hydrilla verticillata	Hydrilla
Ipomoea aquatica	Water spinach
Limnophila sessiliflora	Ambulla
Lythrum salicaria	Purple loosestrife
Myriophyllum spicatum	Eurasian watermilfoil
Pistia stratiotes	Water lettuce
Salvinia molesta	Giant salvinia
Schinus terebinthifolius	Brazilian pepper
Eichhornia crassipes	Water hyacinth
Zizaniopsis miliacea	Giant cutgrass
Trapa natans	Water chestnut

METROPOLITAN RIVER PROTECTION ACT

The Metropolitan River Protection Act (OCGA 12-5-440) was enacted in 1973 in recognition of both the value of the Chattahoochee River as a resource and its vulnerability to impacts from urban development. The act created a protection corridor encompassing all land within 2,000 feet of either bank of the Chattahoochee River for the 48 miles between Buford Dam and Peachtree Creek. In 1998, the Georgia General Assembly amended the act, extending the corridor another 36 miles to the downstream limits of the Atlanta Region in Fulton and Douglas Counties. The following local jurisdictions have land in the corridor: Cobb, Fulton, Gwinnett, Forsyth, and Douglas counties and the cities of Atlanta, Roswell, Berkeley Lake, Duluth, Suwanee, and Sugar Hill.

The Metropolitan River Protection Act directed the Atlanta Regional Commission to develop the Chattahoochee Corridor Plan establishing several criteria to minimize the impact of development of land along the river. The Metropolitan River Protection Act and the Chattahoochee Corridor Plan require that all land-disturbing activity within the protected corridor be reviewed and approved before the activity begins. The Atlanta Regional Commission is responsible for reviewing applications for land-disturbing activities and determining whether they are consistent with the Corridor Plan. Local governments then issue approvals based on commission findings, monitor development

activities, and enforce the act if required. The Atlanta Regional Commission monitors local implementation and enforcement of the act. In Forsyth County, reviews are conducted and local implementation monitored by the Georgia Mountains Regional Development Center.

All land-disturbing activities must be consistent with the corridor plan. The corridor plan establishes three sets of standards:

Vulnerability Standards: All land in the corridor is in one of six vulnerability categories (A-F) based on the land's susceptibility to development impacts. Vulnerability categories limit development by restricting the percentage of an area that can be disturbed and the percentage that can be converted to impervious surfaces. Percentages range from 90 percent maximum land disturbance and 75 percent maximum impervious surface in the least restrictive category (A) to 10 percent maximum land disturbance and 2 percent impervious surface in the most restrictive category (F).

Buffer Zone Standards: Buffer zone standards require an undisturbed, natural vegetative buffer within 50 feet of the Chattahoochee River and prohibit all impervious surfaces within 150 feet of the river. Natural vegetative buffers are also required within 35 feet of designated tributaries (those shown as blue lines on 1:24,000 scale USGS topographic maps).

Floodplain Standards: Fill in the river's 100-year floodplain must be balanced with an equal volume of cut so that there is not a reduction in flood storage. Obstruction of flood flow is prohibited in this area. Within the river's 500-year floodplain, building height is limited to 35 feet above the existing grade.

TRIBUTARY BUFFER ORDINANCES

The Metropolitan River Protection Act was amended in 1983 to require adoption of tributary buffer ordinances by jurisdictions that are outside of the corridor but have streams tributary to the corridor portion of the Chattahoochee River. Outside the corridor, tributary buffer ordinances are locally adopted and administered, with the width determined by individual jurisdiction. Buffer widths must be at least 25 feet, the minimum buffer for state waters under the Erosion and Sedimentation Act. Some localities have established larger buffers, such as:

South Fulton County has adopted the "South Fulton County Tributary Protection Ordinance," which requires that a 75-foot natural vegetative buffer be maintained on each side of all tributaries in unincorporated Fulton County south of the corporate city limits of Atlanta. An additional 25 feet of impervious surface setback shall be maintained adjacent to and outside of all required natural vegetative buffers.

North Fulton County has established the "Unified Stream Buffer Protection Ordinance," which requires that a 50-foot natural vegetative buffer be maintained on each side of all tributaries in North Fulton County. An additional 25 feet of impervious surface setback shall be maintained adjacent to and outside of all required natural vegetative buffers.

The official code of Cobb County requires that land-disturbing activities not be constructed within 50 to 200 feet of the banks of any stream in Cobb County.

Forsyth County requires a 50-foot natural vegetative buffer and a 75-foot impervious surface setback.

The city of Roswell has adopted a Chattahoochee Tributary Map that establishes tributary protection areas, requiring a minimum buffer of 50 feet with a 100-foot buffer along Big Creek and its tributaries.

The city of Alpharetta requires a 100-foot vegetative buffer and a 150-foot impervious surface setback.

PROTECTION OF WATER SUPPLY WATERSHEDS

A water supply watershed is an area of land within the drainage basin upstream of a public drinking water intake. To help protect surface water supplies, the Georgia Planning Act of 1989 (OCGA 12-2-8) directs steps to protect the quality and quantity of water available from watersheds used for public water supply. Minimum criteria for the protection of water supply watersheds have been established in the Environmental Protection Division's Rules for Environmental Planning Criteria (Chapter 391-3-16).

Criteria for protection of surface water supplies require buffer zones and setbacks around streams and a maximum impervious surface density. The specific standards to be applied depend on the distance from the water intake and the size of the watershed. For streams within seven miles upstream of the water supply intake, a 100-foot vegetative buffer is required with a 150-foot impervious surface setback. Outside a seven-mile radius upstream of the water supply intake, the buffer and impervious surface setback requirements are 50 feet and 75 feet, respectively. There also must be an overall impervious surface density of 25 percent or less.

Forsyth County and the cities of Roswell and Alpharetta are all located in the Big Creek water supply watershed. Forsyth County is located outside the seven-mile radius upstream of the surface water intake, thus requiring a 50-foot natural vegetative buffer, a 75-foot impervious surface setback, and an overall impervious surface density of 25 percent or less. Alpharetta and Roswell are located within seven miles of the surface water intake, and thus require a 100-foot vegetative buffer, a 150-foot impervious surface setback, and an overall impervious surface density of 25 percent or less.

STORMWATER MANAGEMENT

Stormwater management programs are implemented at both state and local levels. At the state level, the Environmental Protection Division has implemented a permit program that relies on the National Pollutant Elimination System to regulate discharge of stormwater to streams and rivers. Phase I of the program applies to medium and large municipal separate storm sewer systems, construction activity disturbing five acres of land or greater, and eleven categories of industrial activity. Large and medium systems are defined by populations greater than 250,000 and populations between 100,000 and 250,000 respectively. Metropolitan Atlanta fits the definition of a large municipal system, and permit requirements apply to Fulton and Gwinnett counties and all incorporated cities. Phase II of the program requires additional operators of small municipal separate storm sewer systems (serving populations of at 10,000 with a population density of 1000 people per square mile) and operators of small construction sites (1 to 5 acres) to be covered by National Pollutant Elimination System permits.

State permit requirements include development of local stormwater management programs to control the quantity and quality of stormwater release. Stormwater management ordinances are adopted by local governments to provide for implementation and enforcement of their stormwater management program. Ordinances generally require the use of BMPs and submittal and approval of stormwater management plans for new developments. A number of municipalities, like Gwinnett County, require that controls be included to maintain runoff from a developed site at the same level as before development. This is usually accomplished through detention and retention structures that store excess runoff and release it slowly, thus allowing sediment to settle and not increasing downstream flooding.

TOTAL MAXIMUM DAILY LOAD

Under Section 303 (d) of the Clean Water Act, states are required to develop lists of streams and water bodies that do not meet ambient water quality standards. The resulting inventory of impaired streams,

called the 303 (d) list, is updated every two years by states and is the basis for decisions related to restoring water quality. The law requires that the states establish priority rankings for waters on the lists and develop total maximum daily loads for these waters. A total maximum daily load is a calculation of the maximum amount of a pollutant that a waterbody can receive and continue to meet its designated use.

Based on an evaluation of the states' implementation of their Clean Water Act 303 (d) responsibilities, the U.S. Environmental Protection Agency developed changes and improvements to the total maximum daily load regulations. On July 13, 2000, the agency issued a final total maximum daily load rule that will improve current regulations. Congress has required the U.S. Environmental Protection Agency (delegated to the Environmental Protection Division) to establish total maximum daily loads for the Chattahoochee River basin by 2002, under the current total maximum daily load regulation.

SERVICEWIDE LAWS AND POLICIES

This section summarizes the most appropriate of the legal and administrative mandates that apply to managing all units of the national park service. These are measures that the National Park Service must strive to meet, regardless of the alternative selected for the long-term management of the Chattahoochee National Recreation Area. The body of laws and executive orders that guide park management, with their legal citations, are identified in Appendix A.

The National Park Service Organic Act and the Redwood Act Amendment to the National Park Service General Authorities Act

One of the most important statutory directives for the National Park Service (NPS) is provided by the interrelations of the NPS Organic Act of 1916 and the Redwood Act Amendment to the NPS General Authorities Act of 1970. The Organic Act mandates that the National Park Service "shall promote and regulate the use of Federal areas known as national parks, monuments, and reservations by such means and measures as conform to the fundamental purpose of said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

The General Authorities Act amends the Organic Act to broaden the types of areas that are included in the national park system, such as national seashores, recreation areas, and parkways. The Redwood Act further amends the General Authorities Act to reassert system-wide the high standard of protection set forth in the Organic Act. In the Redwood Act, "Congress further reaffirms, declares, and directs that the promotion and regulation of the various areas of the Nation Park System shall be consistent with and founded in the purpose established by the first section of the Act of August 25, 1916, to the common benefit of all the people of the United States. The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity on the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress."

Both the Organic Act and the General Authorities Act, as amended by the Redwood Act, define a single standard for the management of the park service: to safeguard the units of the national park system, conserving resources and values for enjoyment of all people of the United States and prohibiting impairment. Director's Order 55, Interpreting the National Park Service Organic Act, serves as the NPS interpretation of the meaning of the Organic Act and the General Authorities Act, as amended.

National Historic Preservation Act

The National Historic Preservation Act of 1966 authorized the Secretary of the Interior to “expand and maintain a national register of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, and culture.” Section 106 of the act requires federal agencies to consider the effects of their undertakings on National Register properties and to allow the Advisory Council on Historic Preservation “a reasonable opportunity to comment” on such undertakings. The National Register of Historic Places was expanded from the original roster of historic landmarks and areas of the National Park System to a comprehensive inventory of historic properties nationwide. National Park Service actions affecting properties listed on the National Register of Historic Places are subject to review by state historic preservation officers and the Advisory Council.

Section 110 requires among other things that the park to "establish a preservation program to protect and preserve historic properties in consultation with others" and that this program ensure "that historic properties under the jurisdiction or control of [the National park Service], are identified, evaluated, and nominated to the National Register." Further, Section 110 requires "that such properties under the jurisdiction or control of [the park] as are listed in or may be eligible for the National Register are managed and maintained in a way that considers the preservation of their historic, archaeological, architectural, and cultural values in compliance with section 106 of this Act and gives special consideration to the preservation of such values in the case of properties designated as having National significance." Section 112 requires that studies or other actions taken with regards to historic properties be done by personnel or contractors who meet appropriate professional qualifications standards developed by the Secretary of the Interior. It also requires that the park maintain data from historic properties studies in an appropriate database available to prospective researchers.

National Environmental Policy Act

The National Environmental Policy Act of 1969 states as policy that federal agencies must assess the environmental impacts of any proposed action that they fund, support, permit, or implement. It specifically directs federal agencies to document the environmental impact of the proposed action, any adverse environmental effects which cannot be avoided should the proposed action be implemented, and alternatives to the proposed action.

The act also established the Council on Environmental Quality, which is charged with the implementation and oversight of the National Environmental Policy Act. The Council on Environmental Quality subsequently developed the legal requirements (40 Code of Federal Regulations 1500-1508) that all federal agencies must follow in evaluating the environmental effects of proposed actions. These procedures involve three levels of documentation: categorical exclusions; environmental assessments; and environmental impact statements. In the National Park Service, construction activities, natural or cultural resource management projects, and park plans trigger the majority of National Environmental Policy Act documents. The National Environmental Policy Act enables the National Park Service to integrate compliance with other legal mandates and provides a format for public involvement. Director’s Order 12 sets forth the policy and procedures by which the service will comply with the National Environmental Policy Act.

Clean Air Act

The Clean Air Act provides a legal framework for the National Park Service to preserve and protect parks’ air quality related values. The act establishes national ambient air quality standards for certain criteria pollutants. Major provisions of the act are intended to set a goal for cleaner air by setting national primary and secondary ambient air quality standards. Primary standards define levels of air

quality necessary to protect public health, while secondary standards define levels necessary to protect public welfare from any known or anticipated adverse effects of a pollutant.

Under the Clean Air Act, the U.S. Environmental Protection Agency is required to set new source performance standards, based on best-demonstrated technology and to establish national emission standards for hazardous air pollutants. The U.S. Environmental Protection Agency is also required to develop programs for prevention of significant deterioration of air quality in attainment areas. Air pollution permits in attainment areas mandate installation of pollution controls that represent the best available control technology.

The Clean Air Act also requires states to develop and submit a state implementation plan for achieving national ambient air quality standards within each state. The state implementation plan must establish state air quality control regions and specify emission limits, schedules, and timetables for compliance from both stationary and mobile sources. The Clean Air Act requires federal facilities to comply with state air pollution requirements. The Clean Air Act reinforces the NPS Organic Act role as a protector of natural and cultural resources within the national park system. Under the Clean Air Act, the National Park Service is responsible for protecting air quality within park unit boundaries, and for taking appropriate action to do so, when reviewing emission sources within and outside of the park system.

Clean Water Act

The Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act and the Water Quality Act of 1987, forms the legal framework to support maintenance and restoration of water quality. The Clean Water Act establishes the National Pollutant Discharge Elimination System as the regulatory mechanism to achieve water quality goals by regulating pollutant discharge to navigable streams, lakes, and rivers. Through standards promulgated by individual states, the Clean Water Act requires the NPS to protect its water resources from point and nonpoint sources of pollution. Many NPS construction activities are regulated by the Clean Water Act under stormwater permitting requirements.

Endangered Species Act

The Endangered Species Act of 1973, amended in 1982 and 1987, is intended to prevent the further decline of endangered and threatened plant and animal species and to help in the restoration of populations of these species and their habitats. The Endangered Species Act, jointly administered by the Department of Commerce and the Department of the Interior, requires that each federal agency consult with the U.S. Fish and Wildlife Service to determine whether endangered or threatened species are known to exist or have critical habitats on or in the vicinity of the site of a proposed action.

Section 7(c) of the Endangered Species Act authorizes the U.S. Fish and Wildlife Service to review proposed major federal actions to assess the potential impacts to listed species. In accordance with Section 7 (c), the National Park Service, in consultation with the U.S. Fish and Wildlife Service, must identify and promote the conservation of all federally listed species and their critical habitat within park boundaries.

Executive Orders on Wetlands and Floodplains

Executive Order 11988, Floodplain Management (May 24, 1977), requires federal agencies to evaluate the potential effects of actions in floodplains to avoid adversely impacting floodplains wherever possible. Executive Order 11988 also requires federal agencies to ensure that planning programs and budget requests reflect consideration of flood hazards and floodplain management, including the

restoration and preservation of such land areas as natural undeveloped floodplains, and to prescribe procedures to implement the policies and procedures of this executive order.

Executive Order 11990, Protection of Wetlands (May 24, 1977), requires federal agencies to take action to avoid adversely impacting wetlands wherever possible, to minimize wetlands destruction, and to preserve procedures to implement the policies and procedures of this executive order. It is the intent of these executive orders that, wherever possible, federal agencies implement the floodplains/wetlands requirements through existing procedures, such as those internal procedures established to implement National Environmental Policy Act. The National Park Service often integrates compliance with the executive orders with other legal mandates, such as National Environmental Policy Act.

Wilderness Act

The Wilderness Act of 1964 established the National Wilderness Preservation System, composed of federal lands designated as wilderness areas. Wilderness areas are to be administered "for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness." The law states that "the designation of any area of any park, monument, or other unit of the national nark system as a wilderness area shall in no manner lower the standards evolved for the use and preservation of such park, monument, or other unit of the national park system."

Except as specifically provided by law, permanent roads are prohibited within any wilderness area. Except as needed for administrative purposes, temporary roads or use of motorized vehicles or equipment are forbidden within any wilderness area. The following exceptions are permitted: where the use of motorboats is already established, it may be permitted to continue subject to management restrictions; all wheelchairs, including motorized wheelchairs, are allowed in NPS wilderness areas; measures necessary to control fire, insects, and diseases may be taken; and certain mining activities are permitted.

Management Polices 2006

This is an update to the 2001 Management Policies. The policies are derived from the laws that have been enacted to establish and govern the NPS and the National Park System. This document serves as the basic, Servicewide policy manual used by park superintendents and other NPS managers to guide their decision-making. The manual prescribes policies which enable the NPS to preserve park resources and values unimpaired for the enjoyment of future generations, as required by law. The policies have been updated to keep pace with new laws that have been enacted, changes in technology and American demographics, and new understandings of the kinds of actions that are required to best protect the natural and cultural resources of the parks. The policies stress the importance of: using the parks for educational purposes; demonstrating environmental leadership in the parks; managing park facilities and resources in ways that will sustain them for future generations of Americans to enjoy; and working with partners to help accomplish the NPS mission. The new Management Policies is available on the NPS World Wide Web site at http://www.nps.gov/policy/MP2006.pdf.

Director's Order #12 (NPS 2001b)

Director's Order #12 describes the policy and procedures by which the National Park Service will comply with the National Environmental Policy Act. The Council on Environmental Quality, part of the Executive Office of the President, is the "caretaker" of National Environmental Policy Act. The National Park Service is required to abide by all National Environmental Policy Act regulations (40 Code of Federal Regulations 1500-1508) and any other procedures and requirements imposed by other higher authorities, such as the Department of the Interior.

Director's Order #24

Director's Order #24: Museum Collections Management Director's Order 24 lays the foundation by which the National Park Service meets its responsibilities toward museum collections. This Director's Order provides policy guidance, standards, and requirements for preserving, protecting, documenting, and providing access to, and use of, National Park Service museum collections.

Director's Order #28 (NPS 1998e)

Director's Order #28, issued pursuant to 16 United States Code (1 through 4), addresses cultural resource management. The National Park Service will protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with the policies and principles contained in the National Park Service Management Policies 2006.

Director's Order #28A

Director's Order #28A: Archeology provides a management framework for planning, reviewing, and undertaking archeological activities and other activities that may affect archeological resources within the National Park System.

Ban on Personal Watercraft

Personal watercraft use is a relatively new recreational activity that has been observed in approximately 32 of the 87 units of the national park system that allow motorized boating. The NPS is proposing regulations that will prohibit personal watercraft in units of the national park system unless the NPS determines that such use is appropriate for a specific unit based on that unit's enabling legislation, resources and values, other visitor uses, and overall management objectives.

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APPENDIX C
SPECIES LISTS

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TABLE C.1. Summary of results of aquatic macrophyte inventory at the Chattahoochee River National Recreation Area, October 2, 2002-October 22, 2003

Species Name	Common Name	# of Collections	Habitat	Notes
Alisma subcordatum	American Water Plantain	3	emergent	
Alternanthera philoxeroides	Alligatorweed	2	emergent	Invasive
Cabomba caroliniana	Carolina Fanwort	10	submersed	
Callitriche heterophylla	Two-headed Water-starwort	20	submersed	
Carex lurida	Shallow Sedge	4	emergent	
Ceratophyllum demersum	Coon's Tail	5	submersed	
Commelina virginica	Virginia Dayflower	1	emergent	
Egeria densa	Brazilian Waterweed	37	submersed	Invasive
Eleocharis obtusa	Blunt Spike-rush	2	emergent	
Fontinalis novae-angliae	New England Fontinalis Moss	19	submersed	
Gallium tinctorium	Stiff Marsh Bedstraw	1	emergent	
Gratiola virginiana	Water Hyssop	2	emergent	
Hydrolea quadrivalvis	Waterpod	2	emergent	
Juncus effusus	Common Rush	4	emergent	
Leersia oryzoides	Rice Cut Grass	1	emergent	
Lobelia cardinalis	Cardinal Flower	1	emergent	
Ludwigia palustris	Marsh Seedbox	6	submersed	
Luziola fluitans	Southern Watergrass	5	emergent	
Murdannia keisak	Wartremoving Herb	7	emergent	Invasive
Myriophyllum aquaticum	Parrotfeather Watermilfoil	8	emergent	Invasive
Myriophyllum cf. *laxum*	Loose Watermilfoil	8	submersed	State Threatened
Nitella flexilis	Smooth Stonewort	5	submersed	

TABLE C.1. Summary of results of aquatic macrophyte inventory at the Chattahoochee River National Recreation Area, October 2, 2002-October 22, 2003

Species Name	Common Name	# of Collections	Habitat	Notes
Nitella hyalina	Many Branched Stonewort	3	submersed	
Peltandra virginica	Green Arrow-Arum	1	emergent	
Podostemum ceratophyllum	Hornleaf Riverweed	52	submersed	
Polygonum densiflorum	Dense Flower Knotweed	7	emergent	
Polygonum hydropiperoides	Swamp Smartweed	3	emergent	
Polygonum punctatum	Dotted Smartweed	3	emergent	
Polygonum sagittatum	Arrowleaf Tearthumb	3	emergent	
Polygonum setaceum	Bog Smartweed	3	emergent	
Polygonum sp.	Knotweed	1	emergent	
Potamogeton diversifolius	Waterthread Pondweed	6	submersed	
Potamogeton pusillus	Small Pondweed	22	submersed	
Sagittaria latifolia	Broadleaf Arrowhead	3	emergent	
Saururus cernuus	Lizard's Tail	1	emergent	
Scirpus cyperinus	Woolgrass	1	emergent	
Sparganium americanum	American Bur-reed	10	emergent	
Spirogyra sp.	Spirogyra	3	submersed	
Typha latifolia	Broadleaf Cattail	2	emergent	
unidentified sp.	Unknown	7	submersed	
Vaucheria sp.	Felt Alga	19	submersed	

National Park Service
U.S. Department of the Interior

Chattahoochee River National Recreation Area

Checklist of Reptiles and Amphibians

This is the official checklist of reptiles and amphibians that occur at Chattahoochee River National Recreation Area. All species below have been documented at the Park or are presumed to be present based on available habitats.

Any species seen that are not on this checklist should be reported to the Visitor Center or to the Southeast Coast Inventory & Monitoring Program, Division of Science and Natural Resources, 100 Alabama St., SW, Atlanta, GA 30303. For more information on the Inventory & Monitoring Program, visit http://www1.nature.nps.gov/im/units/secn/.

Status

P – Present in Park
L – Likely Present in Park, but not yet documented
NN – Non Native

✓ ✓ ✓		Status
	Snakes	
___ ___ ___	Eastern Worm Snake (*Carphophis amoenus*)	P
___ ___ ___	Scarlet Snake (*Cemophora coccinea*)	P
___ ___ ___	Racer (*Coluber constrictor*)	P
___ ___ ___	Ring-necked Snake (*Diadophis punctatus*)	P
___ ___ ___	Corn Snake (*Elaphe guttata*)	P
___ ___ ___	Rat Snake (*Elaphe obsoleta*)	P
___ ___ ___	Eastern Hog-Nosed Snake (*Heterodon platirhonos*)	P
___ ___ ___	Prairie Kingsnake (*Lampropeltis calligaster*)	P
___ ___ ___	Common Kingsnake (*Lampropeltis getula*)	P
___ ___ ___	Milk Snake (*Lampropeltis triangulum*)	P
___ ___ ___	Plain-bellied Water Snake (*Nerodia erythrogaster*)	P
___ ___ ___	Northern Water Snake (*Nerodia sipedon*)	P
___ ___ ___	Rough Green Snake (*Opheodrys aestivus*)	P
___ ___ ___	Queen Snake (*Regina septemvittata*)	P
___ ___ ___	Dekay's Brown Snake (*Storeria dekayi*)	P
___ ___ ___	Red-bellied Snake (*Storeria occipitomaculata*)	P
___ ___ ___	Southeastern Crowned Snake (*Tantilla coronata*)	P
___ ___ ___	Eastern Ribbon Snake (*Thamnophis sauritus*)	P
___ ___ ___	Common Garter Snake (*Thamnophis sirtalis*)	P
	Smooth Earth Snake (*Virginia valeriae*)	P
___ ___ ___	Copperhead (*Agkistrodon contortrix*)	P
___ ___ ___	Timber Rattlesnake (*Crotalus horridus*)	L
	Lizards	
___ ___ ___	Slender Glass Lizard (*Ophisaurus attenuatus*)	P
___ ___ ___	Eastern Glass Lizard (*Ophisaurus ventralis*)	P
___ ___ ___	Eastern Fence Lizard (*Sceloporus undulatus*)	P
___ ___ ___	Green Anole (*Anolis carolinensis*)	P
___ ___ ___	Five-lined Skink (*Eumeces fasciatus*)	P
___ ___ ___	Southeastern Five-lined Skink (*Eumeces inexpectatus*)	P
___ ___ ___	Broad-headed Skink (*Eumeces laticeps*)	P
___ ___ ___	Ground Skink (*Scincella lateralis*)	P
___ ___ ___	Six-lined Racerunner (*Cnemidophorus sexlineatus*)	P
	Turtles	
___ ___ ___	Snapping Turtle (*Chelydra serpentina*)	P
___ ___ ___	Painted Turtle (*Chrysemys picta*)	P
___ ___ ___	River Cooter (*Pseudemys concinna*)	P
___ ___ ___	Florida Red-bellied Turtle (*Pseudemys nelsoni*)	P, NN
___ ___ ___	Eastern Box Turtle (*Terrapene carolina*)	P
___ ___ ___	Common Slider (*Trachemys scripta*)	P, NN
___ ___ ___	Common Mud Turtle (*Kinosternon subrubrum*)	P
___ ___ ___	Loggerhead Musk Turtle (*Sternotherus minor*)	P
___ ___ ___	Common Musk Turtle (*Sternotherus odoratus*)	P
___ ___ ___	Spiny Softshell Turtle (*Apalone spinifera*)	P
	Frogs	
___ ___ ___	American Toad (*Bufo americanus*)	P
___ ___ ___	Fowler's Toad (*Bufo fowleri*)	P
___ ___ ___	Northern Cricket Frog (*Acris crepitans*)	P
___ ___ ___	Cope's Gray Treefrog (*Hyla chrysoscelis*)	P
___ ___ ___	Spring Peeper (*Pseudacris crucifer*)	P
___ ___ ___	Southeastern Chorus Frog (*Pseudacris feriarum*)	P
___ ___ ___	Eastern Narrow-mouthed Toad (*Gastrophryne carolinensis*)	P
___ ___ ___	Eastern Spadefoot (*Scaphiopus holbrookii*)	P
___ ___ ___	Bullfrog (*Rana catesbeiana*)	P
___ ___ ___	Green Frog (*Rana clamitans*)	P
___ ___ ___	Pickerel Frog (*Rana palustris*)	P
___ ___ ___	Southern Leopard Frog (*Rana sphenocephala*)	P
	Salamanders	
___ ___ ___	Spotted Salamander (*Ambystoma maculatum*)	P
___ ___ ___	Marbled salamander (*Ambystoma opacum*)	P
___ ___ ___	Dusky Salamander (*Desmognathus fuscus*)	P
___ ___ ___	Seal Salamander (*Desmognathus monticola*)	P
___ ___ ___	Southern Two-lined Salamander (*Eurycea cirrigera*)	P
___ ___ ___	Three-lined Salamander (*Eurycea guttolineata*)	P
___ ___ ___	Spring salamander (*Gyrinophilus porphyriticus*)	P
___ ___ ___	Northern Slimy Salamander (*Plethodon glutinosus*)	P
___ ___ ___	Southern Red-backed Salamander (*Plethodon serratus*)	P
___ ___ ___	Red Salamander (*Pseudotriton ruber*)	P
___ ___ ___	Eastern Newt (*Notophthalmus viridescens*)	P

Locality_____Weather_____

Date_____Time_____Total_____

Observer(s)_____

Email Address _____

National Park Service. 2004. Checklist of Reptiles and Amphibians – Chattahoochee River National Recreation Area. Southeast Coast Inventory & Monitoring Network Technical Report 2004-04, Atlanta, Georgia.

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APPENDIX D
CHOOSING BY ADVANTAGES SUMMARY

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APPENDIX D
CHOOSING BY ADVANTAGES - SUMMARY

The National Park Service uses a decision-making system called Choosing by Advantages to select a preferred alternative in a general management plan/environmental impact statement. Choosing by Advantages was originally developed by Jim Suhr, author of *The Choosing by Advantages Decisionmaking System*. This decision-making system is based on determining the advantages of different alternatives for a variety of factors. The fundamental rule in this decision-making system is that sound decisions must be based on the importance of advantages.

One of the greatest strengths of the Choosing by Advantages system is its fundamental philosophy: decisions must be anchored in relevant facts. This minimizes the subjectivity in the decision-making process and makes the decision as objective as possible. For example, the question "Is it more important to protect natural resources or cultural resources?" is "unanchored"; it has no relevant facts on which to make a decision. Without such facts, it is impossible to make a defensible decision.

The Choosing by Advantages process instead asks us to decide which alternative gives the greatest advantage in protecting natural resources and cultural resources. To answer this question, relevant facts would be used to determine the advantages that the alternatives provide for both kinds of resources. For example, we may have facts that show that two alternatives disturb or restore equal amounts of vegetation, so neither alternative would be more advantageous than the other in protecting natural resources. On the other hand, we may have relevant facts that show that one alternative would disturb five known archeological sites, while the other alternative would disturb only one. This alternative, then, would be more advantageous since it provides natural resource protection (equal to the other alternative) and also provides the greatest advantage for cultural resources.

This process is a rational way to perform this complicated task which engages participants, and involves discussion and consensus building. It could be used to allocate capital funding or prioritize planning efforts. Its benefits include providing corporate memory and consistency, along with buy-in from all levels of participation.

The preferred alternative, Alternative F, for this General Management Plan/Environmental Impact Statement, was selected by the Choosing by Advantages method, and is the National Park Service's proposed action. The matrix used to evaluate the advantages of each alternative follows this summary of the CBA method.

The team that applied the Choosing by Advantages process consisted of the following individuals:

Kevin Cheri, Superintendent, Chattahoochee River National Recreation Area (CHAT NRA)

Chris Hughes, Acting Chief, Science & Resource Management, CHAT NRA

Riana Ventura Bishop, Administrative Officer, CHAT NRA

Richard Lutz, Chief, Facility Management, CHAT NRA

Nancy Poe, Chief, Resource Education, CHAT NRA

Scott Pfeninger, Chief Ranger, CHAT NRA

Richard Sussman, Chief, Planning and Compliance Division, National Park Service Southeast Regional Office (NPS SERO)

David Libman, Park Planner, NPS SERO

John Barrett, Park Planner, NPS SERO

Amy Wirsching, Park Planner, NPS SERO

Anita Barnett, Environmental Specialist, NPS SERO

Chris Martin, Senior Fisheries Biologist, Georgia Department of Natural Resources (GADNR)

Bill Couch, Buford Trout Hatchery Manager, GADNR

The first step in the Choosing by Advantages process is to decide the factors that will be used in the decision. For the National Park Service there are 4 categories of factors from which the specific factors for each decision (in this case the selection of the agency preferred alternative for the Draft General Management Plan). They are:

1. Protect Cultural and Natural Resources
2. Provide for Visitor Enjoyment
3. Improve Efficiency of Park Operations
4. Provide Cost-Effective, Environmentally Responsible, and Otherwise Beneficial Development for the National Park Service

Factor category number 4 was eliminated from the analysis because it mainly applies to selecting from among alternative line item construction projects which are beyond the scope of the General Management Plan. Specific factors within categories 1-3 were selected as follows:

1. Protect Cultural and Natural Resources
    a. Protects and enhances water quality
    b. Preserves and enhances biodiversity
    c. Preserves and enhances cultural resources
2. Provide for Visitor Enjoyment
    a. Provides visitor services and recreational opportunities
    b. Provides interpretive and educational opportunities
    c. Provides access for a variety of users
3. Improve Efficiency of Park Operations
    a. Extent to which the alternative benefits operational efficiency and effectiveness

For each of the 6 alternatives under consideration, including the no-action (continue current management policies and strategies) alternative the team discussed each alternative for each factor and reached a consensus regarding how each factor should be characterized for each alternative. In the CBA process this characterization is known as the attribute of that alternative for that factor. For

example, in a car buying decision where color is a factor in the decision, the colors red, blue, and black would be the attributes for three alternatives in that factor.

The following is a list, for each factor, of the criteria which the team used as a basis for discussion and building consensus on the attribute of each factor for each alternative.

1. Protects and enhances water quality
    a. Total acreage in the natural zone (from the acreages table)
    b. Level of the built environment
    c. Presence of the river solitude zone
    d. Environmental impacts matrix
2. Preserves and enhances biodiversity
    a. Same criteria as No. 1
3. Preserves and enhances cultural resources
    a. Environmental impacts matrix
    b. Level of preservation/restoration (similar attribute across all alternatives for historic resources)
    c. Preservation of Archeological resources
4. Provides visitor services and recreational opportunities
    a. Staffing levels required
    b. Level of built environment
    c. Differences in zoning (acreage table)
    d. Environmental impacts matrix
    e. Variety and number of opportunities throughout the park
    f. Stakeholder input and feedback
5. Provides interpretive and educational opportunities
    a. Zoning in general
    b. Staffing levels required
    c. Availability of educational facilities
    d. Level of partnering
6. Provides access for a variety of users
    a. Staffing levels required
    b. Level of built environment
    c. Differences in zoning (acreage table)
    d. Environmental impacts matrix
    e. Stakeholder input and feedback
    f. Reference to a table of all potential user groups and the level of access for each of those groups.

7. Extent to which the alternative benefits operational efficiency and effectiveness
    a. Distribution of facilities
    b. Environmental impacts matrix
    c. Staffing level table

Finally, the team reconsidered and re-discussed the entire process and the resulting analysis matrix which follows this discussion prior to preparing the preference chart which applies cost to the decision. That chart is also included in this appendix.

CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA

DRAFT GENERAL MANAGEMENT PLAN ALTERNATIVES

Choosing by Advantages

COMPONENT;													
FACTOR	ALTERNATIVES												
	Alternative A		Alternative B		Alternative C		Alternative D		Alternative E		Alternative F	
PROTECT CULTURAL AND NATURAL RESOURCES												
FACTOR 1 – Protects and enhances water quality.												
Attributes	• Very low level		• Very high level		• High level		• Low level		• Moderate level		• Low level	
Advantages			- Highest level of protection and enhancement	15	- Much higher	10	- Slightly higher	2	- Moderately higher	5	- Slightly higher	2
FACTOR 2 –Preserves and enhances biodiversity.												
Attributes	• Very low level		• Very high level		• High level		• Low level		• Moderate level		• Moderate (minus) level	
Advantages			- Highest level of preservation and enhancement	60	- Much higher	40	- Minimally higher	5	-Moderately higher	30	- Slightly higher	25
FACTOR 3 –Preserves and protects cultural resources.												
Attributes	• Low level		• High level		• High (minus) level		• Low level		• Moderate level		• Moderate level	
Advantages			-Moderately higher	10	- Slightly higher	8			- Minimally higher	6	- Minimally higher	6
PROVIDE FOR VISITOR ENJOYMENT												
FACTOR 4 - Provides visitor services and recreational opportunities.												
Attributes	• Low level		• Low level		• High level		• High (plus) level		• High (plus) level		• Very high level	
Advantages					- More services and opportunities	75	- Much more	85	- Much more	85	- Many more	95
FACTOR 5 – Provide interpretive and educational opportunities.												
Attributes	• Very low level		• Low level		• Moderate level		• Very high level		• Very high level		• Very high level	
Advantages			- Minimally more	40	- Many more	70	- Significantly more	85	- Significantly more	85	- Significantly more opportunities	85
FACTOR 6 – Provides access for a variety of users.												
Attributes	• Moderate (plus) level		• Very low level		• Moderate level		• High level		• High level		• Very high level	
Advantages	Moderate Increase	70			Minimal increase	45	Higher increase	85	Higher increase	85	Significantly higher increase in access for variety of users	100
IMPROVE EFFICIENCY OF PARK OPERATIONS												
FACTOR 7 – Extent to which the alternative benefits operational efficiency and effectiveness												

COMPONENT;												
FACTOR	ALTERNATIVES											
	Alternative A		**Alternative B**		**Alternative C**		**Alternative D**		**Alternative E**		**Alternative F**	
Attributes	• Very low level		• Moderate level		• High level		• Moderate (minus)		• Moderate level		• Moderate level	
Advantages			- Slightly more	20	- Significantly more efficient and effective	55	- Minimally more	10	- Slightly more	20	-Slightly more	20
TOTAL IMPORTANCES OF ADVANTAGES		70		145		303		272		316		333
Initial Cost (Net)												
Re-design Cost												
Compliance												
Life Cycle Cost (Net)	$44,300,000.00		$45,500,000.00		$61,900,000.00		$67,400,000.00		$65,300,000.00		$65,000,000.00	
TOTAL												

APPENDIX E
PARK LEGISLATION

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APPENDIX A

Public Law 95-344
95th Congress

An Act

Aug. 15, 1978
[H.R. 8336]

To authorize the establishment of the Chattahoochee River National Recreation Area in the State of Georgia, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Chattahoochee River National Recreation Area, Ga.
Establishment.
16 USC 460ii.

TITLE I

SEC. 101. The Congress finds the natural, scenic, recreation, historic, and other values of a forty-eight-mile segment of the Chattahoochee River and certain adjoining lands in the State of Georgia from Buford Dam downstream to Peachtree Creek are of special national significance, and that such values should be preserved and protected from developments and uses which would substantially impair or destroy them. In order to assure such preservation and protection for public benefit and enjoyment, there is hereby established the Chattahoochee River National Recreation Area (hereinafter referred to as the "recreation area"). The recreation area shall consist of the river and its bed together with the lands, waters, and interests therein within the boundary generally depicted on the map entitled "Chattahoochee River National Recreation Area", numbered CHAT-20,000, and dated July 1976, which shall be on file and available for public inspection in the office of the National Park Service, Department of the Interior.

Publication in Federal Register.

Following reasonable notice in writing to the Committee on Interior and Insular Affairs of the United States House of Representatives and to the Committee on Energy and Natural Resources of the United States Senate of his intention to do so, the Secretary of the Interior (hereinafter referred to as the "Secretary") may, by publication of a revised map or other boundary description in the Federal Register, (1) make minor revisions in the boundary of the recreation area, and (2) revise the boundary to facilitate access to the recreation area, or to delete lands which would be of little or no benefit to the recreation area due to the existence of valuable improvements completely constructed prior to the date of enactment of this Act. The total area, exclusive of the river and its bed, within the recreation area may not exceed six thousand three hundred acres.

Land acquisition.
16 USC 460ii-1.

SEC. 102. (a) Within the recreation area the Secretary is authorized to acquire lands, waters, and interests therein by donation, purchase with donated or appropriated funds, or exchange. Property owned by the State of Georgia or any political subdivision thereof may be acquired only by donation.

(b) When a tract of land lies partly within and partly without the boundaries of the recreation area, the Secretary may acquire the entire tract by any of the above methods in order to avoid the payment of severance costs. Land so acquired outside of the boundaries of the recreation area may be exchanged by the Secretary for non-Federal land within such boundaries, and any portion of the land not utilized for such exchanges may be disposed of in accordance with the provisions of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 471 et seq.).

(c) Except for property which the Secretary determines to be necessary for the purposes of administration, development, access, or public use, an owner of improved property which is used solely for noncommercial residential purposes on the date of its acquisition by the Secretary may retain, as a condition of such acquisition, a right of use and occupancy of the property for such residential purposes. The right retained may be for a definite term which shall not exceed twenty-five years or, in lieu thereof, for a term ending at the death of the owner or the death of the spouse, whichever occurs later. The owner shall elect the term to be retained. The Secretary shall pay the owner the fair market value of the property on the date of such acquisition, less the fair market value of the term retained by the owner.

(d) Any right of use and occupancy retained pursuant to this section may, during its existence, be conveyed or transferred, but all rights of use and occupancy shall be subject to such terms and conditions as the Secretary deems appropriate to assure the use of the property in accordance with the purposes of this Act. Upon his determination that the property, or any portion thereof, has ceased to be so used in accordance with such terms and conditions, the Secretary may terminate the right of use and occupancy by tendering to the holder of such right an amount equal to the fair market value, as of the date of the tender, of that portion of the right which remains unexpired on the date of termination.

"Improved property."

(e) As used in this section, the term "improved property" means a detached, year-round noncommercial residential dwelling, the construction of which was begun before January 1, 1975, together with so much of the land on which the dwelling is situated, the said land being in the same ownership as the dwelling, as the Secretary shall designate to be reasonably necessary for the enjoyment of the dwelling for the sole purpose of noncommercial residential use, together with any structures accessory to the dwelling which are situated on the land so designated.

16 USC 460ii-2.

SEC. 103. (a) The Secretary shall administer, protect, and develop the recreation area in accordance with the Act of August 25, 1916 (39 Stat. 535), and in accordance with any other statutory authorities available to him for the conservation and management of historic and natural resources, including fish and wildlife, to the extent he finds such authority will further the purposes of this Act. In developing and administering the recreation area, the Secretary shall take into consideration applicable Federal, State, and local recreation plans and resource use and development plans, including, but not limited to, the Atlanta Regional Commission Chattahoochee Corridor Study, dated July 1972.

16 USC 1.

(b) The Secretary is authorized and encouraged to enter into cooperative agreements with the State or its political subdivisions whereby he may assist in the planning for and interpretation of non-Federal publicly owned lands within or adjacent or related to the recreation area to assure that such lands are used in a manner consistent with the findings and purposes of this Act.

(c) In planning for the development and public use of the recreation area, the Secretary shall consult with the Secretary of the Army to assure that public use of adjacent or related water resource development or flood control projects and that of the recreation area are complementary.

Regulations.

(d) In administering the recreation area, the Secretary may permit fishing in waters under his jurisdiction in accordance with applicable State and Federal laws and regulations. The Secretary, after consultation with the appropriate State agency responsible for fishing activities, may designate zones where, and establish periods when, fishing shall be permitted and issue such regulations as he may determine to be necessary to carry out the provisions of this subsection. Except in emergencies, such regulations shall be put into effect only after consultation with the appropriate State agency.

16 USC 460ii-3.

SEC. 104. (a) The Federal Energy Regulatory Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act (16 U.S.C. 791a et seq.), on or directly affecting the recreation area, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such area is established, except where such project is determined by the State of Georgia to be necessary for water supply or water quality enhancement purposes and authorized by the United States Congress. Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments upstream or downstream from the recreation area or on any stream tributary thereto which will not invade the recreation area or unreasonably diminish the scenic, recreational, and fish and wildlife values present therein on the date of approval of this Act. Nothing contained in this subsection shall preclude the upgrading, improvement, expansion or development of facilities or public works for water supply or water quality enhancement purposes if such action would not have a material adverse effect on the values for which the recreation area is established.

(b) No department or agency of the United States shall recommend authorization of any water resources project that would have a direct and adverse effect on the values for which such area is established, as determined by the Secretary, nor shall such department or agency request appropriations to begin construction of any such project, whether heretofore or hereafter authorized, without at least sixty days in advance, (1) advising the Secretary in writing of its intention to do so and (2) reporting to the Committee on Interior and Insular Affairs of the United States House of Representatives and to the Committee on Energy and Natural Resources of the United States Senate the nature of the project involved and the manner in which such project would conflict with the purposes of this Act or would affect the recreation area and the values to be protected by it under this Act. It is not the intention of Congress by this Act to require the manipulation or reduction of lake water levels in Lake Sidney Lanier. Nothing in this Act shall be construed in any way to restrict, prohibit, or affect any recommendation of the Metropolitan Atlanta Water Resources Study as authorized by the Public Works Committee of the United States Senate on March 2, 1972.

Report to congressional committees.

(c) The Secretary is directed to proceed as expeditiously as possible to acquire the lands and interests in lands necessary to achieve the purposes of this Act.

Land acquisition.
16 USC 460ii-4.

SEC. 105. (a) From the appropriations authorized for fiscal year 1978 and succeeding fiscal years pursuant to the Land and Water

Conservation Fund Act (78 Stat. 897), as amended, not more than $72,900,000 may be expended for the acquisition of lands and interests in lands authorized to be acquired pursuant to the provisions of this Act. 16 USC 460*l*-4.

(b) Effective on October 1, 1978, there are authorized to be appropriated not to exceed $500,000 for the development of essential public facilities. Appropriation authorization.

(c) Within three years from the effective date of this Act, the Secretary shall, after consulting with the Governor of the State of Georgia, develop and transmit to the Committee on Interior and Insular Affairs of the United States House of Representatives and to the Committee on Energy and Natural Resources of the United States Senate a general management plan for the use and development of the recreation area consistent with the findings and purposes of this Act, indicating: Plan, report to congressional committees.

(1) lands and interests in lands adjacent or related to the recreation area which are deemed necessary or desirable for the purposes of resource protection, scenic integrity, or management and administration of the area in furtherance of the purposes of this Act, the estimated cost of acquisition, and the recommended public acquisition agency;

(2) the number of visitors and types of public use within the recreation area that can be accommodated in accordance with the full protection of its resources; and

(3) the facilities deemed necessary to accommodate and provide access for such visitors and uses, including their location and estimated cost.

TITLE II

SEC. 201. Section 4 of the Act approved August 31, 1965 (79 Stat. 588), as amended, providing for the commemoration of certain historical events in the State of Kansas, is further amended by changing "$2,000,000." to "$2,750,000.": *Provided*, That such increase shall be effective on October 1, 1978. Appropriation authorization.

TITLE III

FINDINGS AND PURPOSE

SEC. 301. (a) The Congress hereby finds that— 16 USC 2301.

(1) the purpose of the National Park System is to preserve outstanding natural, scenic, historic, and recreation areas for the enjoyment, education, inspiration, and use of all people;

(2) units of the National Park System have recently been established near major metropolitan areas in order to preserve remaining open space and to provide recreational opportunities for urban residents (many of whom do not have access to personal motor vehicles); and

(3) circumstances which necessarily require people desiring to visit units of the National Park System to rely on personal motor vehicles may diminish the natural and recreational value of such units by causing traffic congestion and environmental damage, and by requiring the provision of roads, parking, and other facilities in ever-increasing numbers and density.

XIV. NATIONAL RECREATION AREAS

1. Chattahoochee River

Public Law 98-568
98th Congress

An Act

To amend the Act of August 15, 1978, regarding the Chattahoochee River National Recreation Area in the State of Georgia.

Oct. 30, 1984
[H.R. 2645]

Be it enacted be the Senate and House of Representatives of the United States of America in Congress assembled, That (a) section 101 of the Act of August 15, 1978, entitled "An Act to authorize the establishment of the Chattahoochee River National Recreation Area in the State of Georgia, and for other purposes" (Public Law 95-344; 16 U.S.C. 460ii) is amended by adding the following at the end thereof: "For purposes of facilitating Federal technical and other support to State and local governments to assist State and local efforts to protect the scenic, recreational, and natural values of a 2,000 foot wide corridor adjacent to each bank of the Chattahoochee River and its impoundments in the 48-mile segment referred to above, such corridor is hereby declared to be an area of national concern. ".

(b) Section 101 of such Act is amended— 16 USC 460ii.

(1) by striking out "numbered CHAT-20,000, and dated July 1976" and substituting "numbered CHAT-20,003, and dated September 1984"; and

(2) by striking out "six thousand three hundred acres" and substituting "approximately 6,800 acres".

(c) Section 102 of such Act is amended by adding the following at the end thereof: 16 USC 460ii-1.

"(f)(1) The Secretary shall exchange those federally owned lands identified on the map referenced in section 101 of this Act as 'exchange lands' for non-Federal lands which are within the boundaries of the recreation area. The values of the lands exchanged under this subsection shall be equal, or shall be equalized in the same manner as provided in section 206 of the Federal Land Policy and Management Act of 1976. Public lands.

"(2) At three year intervals after the date of the enactment of this subsection, the Secretary shall publish in the Federal Register a progress report on the land exchanges which have taken place and the exchanges which are likely to take place under the authority of this subsection. Such report shall identify the lands which are unsuitable for exchange pursuant to such authority. Federal Register, publication. Report.

Termination.

"(3) Effective on the date ten years after the date of the enactment of this subsection, the exchange authority of paragraph (1) shall terminate. The exchange lands identified under paragraph (1) which have not been exchanged prior to such date shall be retained in Federal ownership as a part of the recreation area.

"(4) The Secretary shall publish a revision of the boundary map referred to in section 101 to exclude from the boundaries of the recreation area any exchange lands which are used to acquire non-Federal lands under paragraph (3).".

16 USC 460ii-3.

(d) Section 104 of such Act is amended by adding the following at the end thereof:

98 STAT. 2929
Public lands.

"(d)(1) Notwithstanding any other authority of law, any department, agency, or instrumentality of the United States or of the state of Georgia, or any other entity which may construct any project recommended in the study entitled 'Metropolitan Atlanta Water Resources Management Study, Georgia: Report of Chief of Engineers,' dated June 1, 1982, which directly adversely impacts any lands within the authorized recreation boundaries of the Bowman's Island tract as shown on the map numbered and dated CHAT–20,003, September 1984, which were in Federal ownership as of September 1, 1984, shall, upon request by the Secretary, mitigate such adverse impacts. It is expressly provided that use of or adverse impact upon any other lands within the recreation area as result of any such project shall not require mitigation. Mitigation required by this paragraph shall be provided by payment to the United States of a sum not to exceed $3,200,000. The mitigation funds paid pursuant to this paragraph shall be utilized by the Secretary for the acquisition of replacement lands. Such replacement lands shall be acquired only after consultation with the Governor of Georgia.

"(2) In acquiring replacement lands under paragraph (1) priority shall be given to acquisition of lands within the recreation area boundary and those lands within or adjacent to the 2,000 foot wide corridor referred to in section 101. Any lands acquired pursuant to this subsection lying outside the boundaries of the recreation area shall, upon acquisition, be included within the recreation area and transferred to the Secretary for management under this Act. The Secretary shall publish a revised boundary map to include any lands added to the recreation area pursuant to this subsection.

"(3) If lands as described in paragraph (2) are not available for acquisition, other lands within the State of Georgia may be acquired as replacement lands under paragraph (1) if such lands are transferred to the State of Georgia for permanent management for public outdoor recreation.".

(e)(1) Section 105(a) of such Act is amended by striking out "$72,900,000" and substituting "$79,400,000" and by adding the following at the end thereof: "For purposes of section 7(a)(3) of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601–9(a)(3)), the statutory ceiling on appropriations under this subsection shall be deemed to be a statutory ceiling contained in a provision of law enacted prior to the convening of the Ninety–sixth Congress.". 16 USC 460ii-4.

(2) Section 105(c) of such Act is amended by striking out "three years" and substituting "seven years".

(3) Section 105 of such Act is further amended by adding the following new subsection at the end thereof:

"(d)(1) Whenever any Federal department, agency, or instrumentality proposes to undertake any action, or provide Federal assistance for any action, or issue any license or permit for an action within the corridor referred to in section 101 which may have a direct and adverse effect on the natural or cultural resources of the recreation area, the head of such department, agency, or instrumentality shall—

"(A) promptly notify the Secretary of the action at the time it is planning the action, preparing an environmental assessment regarding the action, or preparing an environmental impact statement under the National Environmental Policy Act of 1969 for the action; 42 USC 4321 note.

"(B) provide the Secretary a reasonable opportunity to comment and make recommendations regarding the effect of the Federal action on the natural and cultural resources of the recreation area; and 98 STAT. 2930

"(C) notify the Secretary of the specific decisions made in respect to the comments and recommendations of the Secretary.

The requirements of this subsection shall be carried out in accordance with procedures established by the Federal agency responsible for undertaking or approving the Federal action. These procedures may utilize the procedures developed by such Agency pursuant to the National Environmental Policy Act. 42 USC 4321 note.

"(2) Following receipt of notification pursuant to paragraph (1)(A), the Secretary, after consultation with the Governor of Georgia, shall make such comments and recommendations as the Secretary deems appropriate pursuant to paragraph (1)(B) as promptly as practicable in accordance with the notifying agency's procedures established pursuant to paragraph (1)(A). In any instance in which the Secretary does not provide comments and recommendations under paragraph (1)(B), the Secretary shall notify in writing, the appropriate committees of Congress.

"(3) Following receipt of the notifying agency's decisions pursuant to paragraph (1)(C), the Secretary shall submit to the appropriate committees of Congress, including the authorizing committees with primary jurisdiction for the program under which the proposed action is being taken, a copy of the notifying agency's specific decisions made pursuant to paragraph (1)(C), along with a copy of the comments and recommendations made pursuant to paragraph (1)(B).

"(4) In any instance in which the Secretary has not been notified of a Federal agency's proposed action within the corridor, and on his or her own determination finds that such action may have a significant adverse effect on the natural or cultural resources of the recreation area, the Secretary shall notify the head of such Federal agency in writing. Upon such notification by the Secretary, such agency shall promptly comply with the provisions of subparagraphs (A), (B), and (C) of paragraph (1) of this subsection.

"(5) Each agency or instrumentality of the United States conducting Federal action upon federally owned lands or waters which are administered by the Secretary and which are located within the authorized boundary of the recreation area shall not commence such action until such time as the Secretary has concurred in such action.

"(6) The following Federal actions which constitute a major and necessary component of an emergency action shall be exempt from the provisions of this subsection—

"(A) those necessary for safeguarding of life and property;

"(B) those necessary to respond to a declared state of disaster;

"(C) those necessary to respond to an imminent threat to national security; and

"(D) those that the Secretary has determined to be not inconsistent with the general management plan for the recreation area.

Actions which are part of a project recommended in the study entitled 'Metropolitan Atlanta Water Resources Management Study, Georgia: Report of Chief of Engineers', dated June 1, 1982, and any Federal action which pertains to the control of air space, which is regulated under the Clean Air Act, or which is required for maintenance or rehabilitation of existing structures or facilities shall also be exempt from the provisions of this subsection.".

(f) Title I of such Act is amended by adding the following at the end thereof:

16 USC 460ii-5. Chattahoochee River National Recreation Area Advisory Commission, establishment.

"SEC. 106. (a) There is hereby established the Chattahoochee River National Recreation Area Advisory Commission (hereinafter in this Act referred to as the 'Advisory Commission') to advise the Secretary regarding the management and operation of the area, protection of resources with the recreation area, and the priority of lands to be acquired within the recreation area. The Advisory Commission shall be composed of the following thirteen voting members appointed by the Secretary:

"(1) four members appointed from among individuals recommended by local governments—

"(A) one of whom shall be recommended by the Board of County Commissioners of Forsyth County;

"(B) one of whom shall be recommended by the Board of County Commissioners of Fulton County;

"(C) one of whom shall be recommended by the Board of County Commissioners of Cobb County; and

"(D) one of whom shall be recommended by the Board of County Commissioners of Gwinnett County;

"(2) one member appointed from among individuals recommended by the Governor of Georgia;

"(3) one member appointed from among individuals recommended by the Atlanta Regional Commission;

"(4) four members appointed from among individuals recommended by a coalition of citizens public interest groups, recreational users, and environmental organizations concerned with the protection and preservation of the Chattahoochee River;

"(5) one member appointed from among individuals recommended by the Business Council of Georgia or by a local chamber of commerce in the vicinity of the recreation area; and

"(6) two members who represent the general public, at least one of whom shall be a resident of one of the counties referred to in paragraph (1).

In addition, the Park Superintendent for the recreation area shall serve as a nonvoting member of the Advisory Commission. The Advisory Commission shall designate one of its members as Chairman.

"(b)(1) Except as provided in paragraph (2), members of the Advisory Commission shall serve for terms of three years. Any voting member of the Advisory Commission may be reappointed for one additional three-year term.

"(2) The members first appointed under paragraph (1) shall serve for a term of one year. The members first appointed under paragraphs (2), (3), (5), and (6) shall serve for a term of two years.

"(c) The Advisory Commission shall meet on a regular basis. Notice of meetings and agenda shall be published in local newspapers which have a distribution which generally covers the area affected by the park. Commission meetings shall be held at locations and in such a manner as to insure adequate public involvement.

"(d) Members of the Commission shall serve without compensation as such, but the Secretary may pay expenses reasonably incurred in carrying out their responsibilities under this Act on vouchers signed by the Chairman.

"(e) The Advisory Commission shall terminate on the date ten years after the date of the enactment of this subsection.".

98 STAT. 2932
Effective date.
16 USC 460ii note.

SEC. 2. Any provision of any amendment made by this Act which, directly or indirectly, authorizes the enactment of new budget authority described in section 402(a) of the Congressional Budget Act of 1974 shall be effective only for fiscal years beginning after September 30, 1984.

Approved October 30, 1984.

LEGISLATIVE HISTORY—H.R. 2645:
HOUSE REPORT No. 98-607 (Comm. on Interior and Insular Affairs).
SENATE REPORT No. 98-633 (Comm. on Energy and Natural Resources).
CONGRESSIONAL RECORD, Vol. 130 (1984):
Mar. 5, considered and passed House.
Oct. 3, considered and passed Senate, amended.
Oct. 4, House concurred in Senate amendments.

PUBLIC LAW 106–154—DEC. 9, 1999

CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA IMPROVEMENTS

Public Law 106–154
106th Congress

An Act

Dec. 9, 1999
[H.R. 2140]

To improve protection and management of the Chattahoochee River National Recreation Area in the State of Georgia.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

16 USC 460ii note.

SECTION 1. FINDINGS AND PURPOSES.

(a) FINDINGS.—Congress finds that—

(1) the Chattahoochee River National Recreation Area in the State of Georgia is a nationally significant resource;

(2) the Chattahoochee River National Recreation Area has been adversely affected by land use changes occurring inside and outside the recreation area;

(3) the population of the metropolitan Atlanta area continues to expand northward, leaving dwindling opportunities to protect the scenic, recreational, natural, and historical values of the 2,000-foot-wide corridor adjacent to each bank of the Chattahoochee River and its impoundments in the 48-mile segment known as the "area of national concern";

(4) the State of Georgia has enacted the Metropolitan River Protection Act to ensure protection of the corridor located within 2,000 feet of each bank of the Chattahoochee River, or the corridor located within the 100-year floodplain, whichever is larger;

(5) the corridor located within the 100-year floodplain includes the area of national concern;

(6) since establishment of the Chattahoochee River National Recreation Area, visitor use of the recreation area has shifted dramatically from waterborne to water-related and land-based activities;

(7) the State of Georgia and political subdivisions of the State along the Chattahoochee River have indicated willingness to join in a cooperative effort with the United States to link existing units of the recreation area through a series of linear corridors to be established within the area of national concern and elsewhere on the river; and

(8) if Congress appropriates funds in support of the cooperative effort described in paragraph (7), funding from the State, political subdivisions of the State, private foundations, corporate entities, private individuals, and other sources will be available to fund more than half the estimated cost of the cooperative effort.

(b) PURPOSES.—The purposes of this Act are—

(1) to increase the level of protection of the open spaces within the area of national concern along the Chattahoochee

River and to enhance visitor enjoyment of the open spaces by adding land-based linear corridors to link existing units of the recreation area;

(2) to ensure that the Chattahoochee River National Recreation Area is managed to standardize acquisition, planning, design, construction, and operation of the linear corridors; and

(3) to authorize the appropriation of Federal funds to cover a portion of the costs of the Federal, State, local, and private cooperative effort to add additional areas to the recreation area so as to establish a series of linear corridors linking existing units of the recreation area and to protect other open spaces of the Chattahoochee River corridor.

SEC. 2. AMENDMENTS TO CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA ACT.

(a) BOUNDARIES.—Section 101 of the Act entitled "An Act to authorize the establishment of the Chattahoochee River National Recreation Area in the State of Georgia, and for other purposes", approved August 15, 1978 (16 U.S.C. 460ii), is amended—

(1) in the third sentence, by inserting after "numbered CHAT–20,003, and dated September 1984," the following: "and on the maps entitled 'Chattahoochee River National Recreation Area Interim Boundary Map #1', 'Chattahoochee River National Recreation Area Interim Boundary Map #2', and 'Chattahoochee River National Recreation Area Interim Boundary Map #3', and dated August 6, 1998,";

(2) by striking the fourth sentence and inserting the following: "No sooner than 180 days after the date of the enactment of this sentence, the Secretary of the Interior (hereafter referred to as the 'Secretary') may modify the boundaries of the recreation area to include other land within the Chattahoochee River corridor by submitting a revised map or other boundary description to the Committee on Energy and Natural Resources of the United States Senate and the Committee on Resources of the United States House of Representatives. The revised map or other boundary description shall be prepared by the Secretary after consultation with affected landowners, the State of Georgia, and affected political subdivisions of the State. The revised boundaries shall take effect 180 days after the date of submission unless, within the 180-day period, Congress enacts a joint resolution disapproving the revised boundaries."; and

(3) in the next-to-last sentence, by striking "may not exceed approximately 6,800 acres." and inserting "may not exceed 10,000 acres.".

(b) ACQUISITION OF PROPERTY.—Section 102 of the Act entitled "An Act to authorize the establishment of the Chattahoochee River National Recreation Area in the State of Georgia, and for other purposes", approved August 15, 1978 (16 U.S.C. 460ii–1), is amended—

(1) in subsection (a), by inserting "from willing sellers" after "purchase"; and

(2) by striking subsection (f).

(c) COOPERATIVE AGREEMENTS.—Section 103 of the Act entitled "An Act to authorize the establishment of the Chattahoochee River National Recreation Area in the State of Georgia, and for other

purposes", approved August 15, 1978 (16 U.S.C. 460ii–2), is amended by striking subsection (b) and inserting the following:

"(b) COOPERATIVE AGREEMENTS.—The Secretary may enter into cooperative agreements with the State of Georgia, political subdivisions of the State, and other entities to ensure standardized acquisition, planning, design, construction, and operation of the recreation area.".

(d) FUNDING.—Section 105 of the Act entitled "An Act to authorize the establishment of the Chattahoochee River National Recreation Area in the State of Georgia, and for other purposes", approved August 15, 1978 (16 U.S.C. 460ii–4), is amended—

(1) by striking "SEC. 105. (a)" and inserting the following:

"SEC. 105. FUNDING SOURCES AND GENERAL MANAGEMENT PLAN.

"(a) FUNDING.—

"(1) LIMITATION ON USE OF APPROPRIATED FUNDS.—";

(2) in subsection (a)—

(A) by striking "$79,400,000" and inserting "$115,000,000";

(B) by striking "this Act" and inserting "this title"; and

(C) by adding at the end the following:

"(2) DONATIONS.—The Secretary may accept a donation of funds or land or an interest in land to carry out this title.

"(3) RELATION TO OTHER FUNDING SOURCES.—Funds made available under paragraph (1) are in addition to funding and the donation of land and interests in land by the State of Georgia, local government authorities, private foundations, corporate entities, and individuals for purposes of this title."; and

(3) in subsection (c)—

(A) by redesignating paragraphs (1) through (3) as subparagraphs (A) through (C), respectively, and indenting appropriately;

(B) by striking "(c) Within" and inserting the following:

"(c) GENERAL MANAGEMENT PLAN.—

"(1) INITIAL PLAN.—Within";

(C) in paragraph (1) (as designated by subparagraph (B)), by striking "transmit to" and all that follows through "Representatives" and inserting "transmit to the Committee on Resources of the House of Representatives"; and

(D) by adding at the end the following:

"(2) REVISED PLAN.—

"(A) IN GENERAL.—Within 3 years after the date funds are made available, the Secretary shall submit to the committees specified in paragraph (1) a revised general management plan to provide for the protection, enhancement, enjoyment, development, and use of the recreation area.

"(B) PUBLIC PARTICIPATION.—In preparing the revised plan, the Secretary shall encourage the participation of the State of Georgia and affected political subdivisions of the State, private landowners, interested citizens, public officials, groups, agencies, educational institutions, and other entities.".

(e) TECHNICAL CORRECTIONS.—Title I of the Act entitled "An Act to authorize the establishment of the Chattahoochee River

National Recreation Area in the State of Georgia, and for other purposes", approved August 15, 1978 (16 U.S.C. 460ii et seq.), is amended—

(1) in sections 102(d) and 103(a), by striking "of this Act" and inserting "of this title"; 16 USC 460ii–1, 460ii–2.

(2) in section 104(b)— 16 USC 460ii–3.

(A) by striking "of this Act" and inserting "of this title";

(B) by striking "under this Act" and inserting "under this title";

(C) by striking "by this Act" and inserting "by this title"; and

(D) by striking "in this Act" and inserting "in this title";

(3) in section 104(d)(2), by striking "under this Act" and inserting "under this title";

(4) in section 105(c)(1)(A), as redesignated by subsection (d)(3), by striking "of this Act" and inserting "of this title"; 16 USC 460ii–4.

(5) in section 106(a), by striking "in this Act" and inserting "in this title"; and 16 USC 460ii–5.

(6) in section 106(d), by striking "under this Act" and inserting "under this title".

Approved December 9, 1999.

LEGISLATIVE HISTORY—H.R. 2140 (S. 109):

HOUSE REPORTS: No. 106–369 (Comm. on Resources).
SENATE REPORTS: No. 106–62 accompanying S. 109 (Comm. on Energy and Natural Resources).
CONGRESSIONAL RECORD, Vol. 145 (1999):
Oct. 18, considered and passed House.
Nov. 19, considered and passed Senate.
WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 35 (1999):
Dec. 9, Presidential statement.

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APPENDIX F
AGENCY COORDINATION

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72

United States Department of the Interior

National Park Service
Chattahoochee River
National Recreation Area
1978 Island Ford Parkway
Atlanta, Georgia 30350-3400

IN REPLY REFER TO:
D18 (CHAT)

April 20, 2006

Jennifer Derby
U.S. Environmental Protection Agency
Region 4
61 Forsyth Street, SW
Atlanta, GA, 30303

Dear Ms. Derby:

The purpose of this letter is to provide your office notice that the National Park Service has revised the alternatives for the General Management Plan / Environmental Impact Statement for the Chattahoochee River National Recreation Area, Atlanta, Georgia. General Management Plans represent the broadest level of planning conducted by the National Park Service, and are intended to provide guidance for making informed decisions about the future of the park and specify resource conditions and visitor experiences to be achieved. This action requires compliance with the National Environmental Policy Act (NEPA), and the National Historic Preservation Act (Public Law NHPA) as well as other laws and National Park Service policies. More specific site locations, design and resource management plans for fishing, trails, etc. come later with ample opportunity for additional agency and public review and comment.

A Draft of the General Management Plan / Environmental Impact Statement was sent to your office and made available for public review during the summer of 2004. This document is accessible on the Chattahoochee River National Recreation Area park website: http://www.nps.gov/chat/gmp.htm. Public meetings on the draft plan were held and comments were received last year on the No Action and three action alternatives. Major concerns were voiced over boating use and access and angling access along the Chattahoochee River. In addition, the issue of increased access for such recreational opportunities as fishing, hiking, and mountain biking was raised. As a result of this public input, the National Park Service, in partnership with the Georgia Department of Natural Resources, developed two new alternatives, identified as Alternative E and Alternative F. These alternatives were summarized in the November 2005 newsletter, which can be accessed at the website listed above by clicking on "Additional GMP Information."

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The 2004 EIS, prepared in conjunction with the General Management Plan, is being updated in response to public concerns and to meet the requirements of the National Environmental Policy Act. The updated EIS will provide detailed descriptions of alternative management plans, including the two new alternatives discussed in the November 2005 newsletter. The alternative management plans discussed in the GMP/EIS would guide the management of the park under different management zoning concepts, as well as a no-action alternative as required by law. The updated EIS also will analyze the potential impacts associated with possible implementation of each alternative and will describe the rationale for choosing the preferred alternative.

We formally initiated consultation in 2001 when a scoping letter was mailed to your agency. The purpose of our current letter is to update you regarding the status of the project and to request your comments regarding any issues that you might have regarding the GMP/EIS and the two proposed new alternatives described in the November 2005 newsletter.

As soon as the revised EIS is completed, we will send it to you for your review, comment, and concurrence. We look forward to your participation and input on the planning process. We believe that your ongoing participation will continue to result in better planning for resource management, and will help ensure that resources are adequately considered during preparation of the plan and the accompanying Final EIS. Consultation and coordination with other governmental agencies and with interested publics is also underway.

Please send any comments you might have regarding this project to:

Chattahoochee River NRA
1978 Island Ford Parkway
Atlanta, GA 30350

Or by e-mail: Chat_Superintendent@nps.gov

Sincerely,

Kevin G. Cheri

Kevin G. Cheri,
Superintendent

728

United States Department of the Interior

National Park Service
Chattahoochee River
National Recreation Area
1978 Island Ford Parkway
Atlanta, Georgia 30350-3400

IN REPLY REFER TO:
D18 (CHAT)

Mr. Don Klima, Director
Office of Federal Agency Programs
Advisory Council on Historic Preservation
Old Post Office Building
1100 Pennsylvania Avenue, NW, Suite 809
Washington, DC 20004

Dear Mr. Klima:

The purpose of this letter is to provide your office notice that the National Park Service has revised the alternatives for the General Management Plan / Environmental Impact Statement for the Chattahoochee River National Recreation Area, Atlanta, Georgia. General Management Plans represent the broadest level of planning conducted by the National Park Service, and are intended to provide guidance for making informed decisions about the future of the park and specify resource conditions and visitor experiences to be achieved. This action requires compliance with the National Environmental Policy Act (NEPA), and the National Historic Preservation Act (Public Law NHPA) as well as other laws and National Park Service policies. More specific site locations, design and resource management plans for fishing, trails, etc. come later with ample opportunity for additional agency and public review and comment.

A Draft of the General Management Plan / Environmental Impact Statement was made available for public review during the summer of 2004. This document is accessible on the Chattahoochee River National Recreation Area park website: http://www.nps.gov/chat/gmp.htm. Public meetings on the draft plan were held and comments were received last year on the No Action and three action alternatives. Major concerns were voiced over boating use and access and angling access along the Chattahoochee River. In addition, the issue of increased access for such recreational opportunities as fishing, biking, and mountain biking was raised. As a result of this public input, the National Park Service, in partnership with the Georgia Department of Natural Resources, developed two new alternatives, identified as Alternative E and Alternative F. These alternatives were summarized in the November 2005 newsletter, which can be accessed at the website listed above by clicking on "Additional GMP Information."

In accordance with Section 106 of the National Historic Preservation Act and 36 CFR 800.3(c) and 36 CFR 800.8 (c), we are formally initiating Section 106 consultation with your office. The purpose of this letter is to update you regarding the status of the project, and to consult with your office in accordance with 36 CFR 800.3(c) and with the 1995 Servicewide Programmatic

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Agreement among your office, the State Historic Preservation Officer, and the National Park Service (a copy of this letter has been sent to the State Historic Preservation Officer).

The 2004 EIS, prepared in conjunction with the General Management Plan, is being updated in response to public concerns and to meet the requirements of the National Environmental Policy Act. This letter also serves to notify your office that we plan to use the revised EIS for the project to accomplish compliance for both Section 106 and the National Environmental Policy Act (as described in 36 CFR 800.8 (a-c)).

The updated EIS will provide detailed descriptions of alternative management plans, including the two new alternatives discussed in the November 2005 newsletter. The alternative management plans discussed in the GMP/EIS would guide the management of the park under different management zoning concepts, as well as a no-action alternative as required by law. The updated EIS also will analyze the potential impacts associated with possible implementation of each alternative and will describe the rationale for choosing the preferred alternative. These details will be reiterated in a Section 106 Summary in the EIS. Also contained in the EIS will be measures that would help avoid adverse effects on cultural resources.

The purpose of this letter is to request your comments regarding any issues that you might have regarding the GMP/EIS and the alternatives described in the November 2005 newsletter.

As soon as the revised EIS is completed, we will send it to you for your review, comment, and concurrence that the Section 106 process has been completed. We look forward to your participation and input on the planning process. We believe that your ongoing participation will continue to result in better planning for cultural resources management, and will help ensure that cultural resources are adequately considered during preparation of the plan and the accompanying Final EIS. Consultation and coordination with other governmental agencies and with interested publics also is underway.

Please send any comments you might have regarding this project to:

Please send any comments you might have regarding this project to:

Chattahoochee River NRA
1978 Island Ford Parkway
Atlanta, GA 30350

Or by e-mail: Chat_Superintendent@nps.gov

Sincerely,

Kevin G. Cheri

Kevin G. Cheri,
Superintendent

729

United States Department of the Interior

National Park Service
Chattahoochee River
National Recreation Area
1978 Island Ford Parkway
Atlanta, Georgia 30350-3400

IN REPLY REFER TO:
D18 (CHAT)

Katrina Morris
Environmental Review Coordinator
Georgia Natural Heritage Program
2117 US Hwy 278 SE
Social Circle, GA 30025-4714

Dear Ms. Morris:

The purpose of this letter is to provide your office notice that the National Park Service has revised the alternatives for the General Management Plan / Environmental Impact Statement for the Chattahoochee River National Recreation Area, Atlanta, Georgia. General Management Plans represent the broadest level of planning conducted by the National Park Service, and are intended to provide guidance for making informed decisions about the future of the park and specify resource conditions and visitor experiences to be achieved.

A Draft of the General Management Plan / Environmental Impact Statement was made available for public review during the summer of 2004. This document is accessible on the Chattahoochee River National Recreation Area park website: http://www.nps.gov/chat/gmp.htm. Public meetings on the draft plan were held and comments were received last year on the No Action and three action alternatives. Major concerns were voiced over boating use and access and angling access along the Chattahoochee River. In addition, the issue of increased access for such recreational opportunities as fishing, hiking, and mountain biking was raised. As a result of this public input, the National Park Service, in partnership with the Georgia Department of Natural Resources, developed two new alternatives, identified as Alternative E and Alternative F. These alternatives were summarized in the November 2005 newsletter, which can be accessed at the website listed above by clicking on "Additional GMP Information."

The 2004 EIS, prepared in conjunction with the General Management Plan, is being updated in response to public concerns and to meet the requirements of the National Environmental Policy Act. The National Park Service would like to update the list of protected species that was provided by the Georgia Natural Heritage Program in 2001 for inclusion in the original EIS. It is understood that the requested information will include a list of potential or actual occurrences of protected species and special habitats within a radius of three miles around the park. A map of the park boundary is attached as well as a table that was constructed from the data provided in 2001. At that time, it was indicated that a species list had yet to be completed for Forsyth County, which borders the park. Also, the 2001 protected species list reflects a record search of a

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one half mile radius of the park as opposed to a three mile radius. For these reasons, it is anticipated that additional species may need to be added to the attached table.

Please forward the requested information and any questions regarding this request to:
Angie Cook, Parsons
5390 Triangle Parkway,
Suite 100 Norcross, GA 30092
phone: 678.969.2393
e-mail: angie.cook@parsons.com

Sincerely,

Kevin G. Cheri

Kevin G. Cheri,
Superintendent

730

United States Department of the Interior

National Park Service
Chattahoochee River
National Recreation Area
1978 Island Ford Parkway
Atlanta, Georgia 30350-3400

IN REPLY REFER TO:
D18 (CHAT)

April 20, 2006

Ms. Kathy Methier
Georgia Environmental Protection Division
Water Protection Branch
2 Martin Luther King Jr. Drive
Suite 1152, East Tower
Atlanta, GA 30334

Dear Ms. Methier:

The purpose of this letter is to provide your office notice that the National Park Service has revised the alternatives for the General Management Plan / Environmental Impact Statement for the Chattahoochee River National Recreation Area, Atlanta, Georgia. General Management Plans represent the broadest level of planning conducted by the National Park Service, and are intended to provide guidance for making informed decisions about the future of the park and specify resource conditions and visitor experiences to be achieved. This action requires compliance with the National Environmental Policy Act (NEPA), and the National Historic Preservation Act (Public Law NHPA) as well as other laws and National Park Service policies. More specific site locations, design and resource management plans for fishing, trails, etc. come later with ample opportunity for additional agency and public review and comment.

A Draft of the General Management Plan / Environmental Impact Statement was sent to your office and made available for public review during the summer of 2004. This document is accessible on the Chattahoochee River National Recreation Area park website: http://www.nps.gov/chat/gmp.htm. Public meetings on the draft plan were held and comments were received last year on the No Action and three action alternatives. Major concerns were voiced over boating use and access and angling access along the Chattahoochee River. In addition, the issue of increased access for such recreational opportunities as fishing, hiking, and mountain biking was raised. As a result of this public input, the National Park Service, in partnership with the Georgia Department of Natural Resources, developed two new alternatives, identified as Alternative E and Alternative F. These alternatives were summarized in the November 2005 newsletter, which can be accessed at the website listed above by clicking on "Additional GMP Information."

The 2004 EIS, prepared in conjunction with the General Management Plan, is being updated in response to public concerns and to meet the requirements of the National Environmental Policy

TAKE PRIDE IN AMERICA

Act. The updated EIS will provide detailed descriptions of alternative management plans, including the two new alternatives discussed in the November 2005 newsletter. The alternative management plans discussed in the GMP/EIS would guide the management of the park under different management zoning concepts, as well as a no-action alternative as required by law. The updated EIS also will analyze the potential impacts associated with possible implementation of each alternative and will describe the rationale for choosing the preferred alternative.

We formally initiated consultation in 2001 when a scoping letter was mailed to your agency. The purpose of our current letter is to update you regarding the status of the project and to request your comments regarding any issues that you might have regarding the GMP/EIS and the two proposed new alternatives described in the November 2005 newsletter.

As soon as the revised EIS is completed, we will send it to you for your review, comment, and concurrence. We look forward to your participation and input on the planning process. We believe that your ongoing participation will continue to result in better planning for resource management, and will help ensure that resources are adequately considered during preparation of the plan and the accompanying Final EIS. Consultation and coordination with other governmental agencies and with interested publics is also underway.

Please send any comments you might have regarding this project to:

Chattahoochee River NRA
1978 Island Ford Parkway
Atlanta, GA 30350

Or by e-mail: Chat_Superintendent@nps.gov

Sincerely,

Kevin G. Cheri

Kevin G. Cheri,
Superintendent

Noel Holcomb, Commissioner
Dan Forster, Director

Georgia Department of Natural Resources
Wildlife Resources Division
Nongame Wildlife & Natural Heritage Section
2117 U.S. Highway 278, S.E., Social Circle, Georgia 30025
(770) 918 6411

May 3, 2006

Angie Cook
Parsons
5390 Triangle Parkway
Suite 100
Norcross, GA 30092

Subject: **Known Occurrences of Special Concern Animals and Plants On or Near Chattahoochee River National Recreation Area EIS; Fulton, Gwinnett, Forsyth and Cobb Counties, Georgia**

Dear Ms Cook:

This is in response to your request of April 20, 2006. According to our records, within a three-mile radius of the Chattahoochee River National Recreation Area there are the following Natural Heritage Database occurrences:

	Scientific Name	Common Name	Counties	Waterbody
US	*Aster georgianus*	Georgia Aster	Forsyth, Fulton, Gwinnett	
GA	*Cyprinella callitaenia*	Bluestripe Shiner	Fulton	Big Creek, Vickery Creek
	Elliptio arctata	Delicate Spike	Cobb, Fulton	Chattahoochee River
	Elliptio fraterna	Brother Spike	Cobb	Chattahoochee River
	Fothergilla major	Mountain Witch-alder	Fulton	Chattahoochee River
US	*Hamiota subangulata*	Shinyrayed Pocketbook	Fulton	Chattahoochee River
GA	*Hydrastis canadensis*	Goldenseal	Gwinnett	
	Melanthium latifolium	Broadleaf Bunchflower	Cobb	
GA	*Melanthium woodii*	Ozark Bunchflower	Gwinnett	
	Micropterus cataractae	Shoal Bass	Cobb, Fulton	Chattahoochee River and Big Creek
	Monotropsis odorata	Sweet Pinesap	Fulton	
	Moxostoma sp. 1	Apalachicola Redhorse	Fulton	Big Creek
GA	*Nestronia umbellula*	Indian Olive	Cobb	
GA	*Notropis hypsilepis*	Highscale Shiner	Fulton	Big Creek, Vickery Creek
	Panax quinquefolius	American Ginseng	Gwinnett	
	Quincuncina infucata	Sculptured Pigtoe	Fulton	Chattahoochee River
US	*Rhus michauxii*	Dwarf Sumac	Cobb	
GA	*Schisandra glabra*	Bay Starvine	Cobb, Fulton, Gwinnett	
GA	*Waldsteinia lobata*	Piedmont Barren Strawberry	Gwinnett	

* Entries above proceeded by "US" indicates species with federal status in Georgia (Protected or Candidate). Species that are federally protected in Georgia are also state protected; "GA" indicates Georgia protected species.

IR 10689

We do not have a potential species list for Forsyth County. The lists that you received in the past for the nearby counties should contain most of the species that may potentially be found in Forsyth County. However, please be aware that these lists have not been updated and may be missing some information.

Disclaimer:

Please keep in mind the limitations of our database. The data collected by the Georgia Natural Heritage Program comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Georgia Natural Heritage Program can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know of populations of special concern species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (http://www.georgiawildlife.com) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,

Katrina Morris
Environmental Review Coordinator
GA Natural Heritage Program

IR 10689

Georgia Department of Natural Resources
Wildlife Resources Division

LONICE C. BARRETT, COMMISSIONER
DAVID WALLER, DIVISION DIRECTOR

Georgia Natural Heritage Program
2117 U.S. Hwy. 278 S.E., Social Circle, Georgia 30025-4714
(770) 918-6411, (706) 557-3032

February 1, 2001

Sean R. Wallace
Senior Environmental Scientist
Parsons Engineering Science, Inc.
5390 Triangle Parkway, Suite 100
Norcross, GA 30092

Subject: **Known or Potential Occurrences of Special Concern Plant and Animal Species on or near Proposed National Park Service Trails Construction Project at the Chattahoochee National Recreation Area in Cobb, DeKalb, Forsyth, Fulton, and Gwinnett Counties, Georgia**

Dear Mr. Wallace:

This is in response to your request of December 13, 2000. Enclosed is a list of special concern species found within one half mile of the proposed boundary of the Chattahoochee National Recreation Area and eight maps showing these occurrences. Also provided are lists that should aid in assessing the potential for rare species occurrences within the area of concern. Although lists of plant and animal species potentially occurring in Forsyth County have not yet been generated, provided are the lists of plant and animal species potentially occurring in Cobb, DeKalb, Fulton, and Gwinnett counties.

Please keep in mind the limitations of our database. The data collected by the Georgia Natural Heritage Program comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Georgia Natural Heritage Program can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.

If you know the location of populations of special concern species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (http://www.dnr.state.ga.us/dnr/wild/natural.html) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,

Greg Krakow
Data Manager

enclosures

UR 7998

Edition date: November 26, 2000

GEORGIA NATURAL HERITAGE PROGRAM

EXPLANATION OF CODES

FOR RARITY RANK AND LEGAL STATUS

The "State Rank" and "Global Rank" codes indicate relative rarity of species statewide and range-wide, respectively. An explanation of these codes follows. For further information please see www.natureserve.org/ranking.

STATE [GLOBAL] RANK

S1[G1]	Critically imperiled in state [globally] because of extreme rarity (5 or fewer occurrences).
S2[G2]	Imperiled in state [globally] because of rarity (6 to 20 occurrences).
S3[G3]	Rare or uncommon in state [rare and local throughout range or in a special habitat or narrowly endemic] (on the order of 21 to 100 occurrences).
S4[G4]	Apparently secure in state [globally] (of no immediate conservation concern).
S5[G5]	Demonstrably secure in state [globally].
SA	Accidental in state, including migratory or wide-ranging species recorded only once or twice or at very great intervals.
SN	Regularly occurring, usually migratory and typically nonbreeding species.
SR	Reported from the state, but without persuasive documentation (no precise site records and no verification of taxonomy).
SU[GU]	Possibly in peril in state [range-wide] but status uncertain; need more information on threats or distribution.
SX[GX]	Apparently extirpated from state [extinct throughout range]. GXC is known only in cultivation/captivity.
SE	An exotic established in state. May be native elsewhere in North America. Sometimes difficult to determine if native (**SE?**).
SH[GH]	Of historical occurrence in the state [throughout its range], perhaps not verified in the past 20 years, but suspected to be still extant.
[T]	Taxonomic subdivision (trinomial, either a subspecies or variety), used in a global rank, for example "G2T2."
Q	Denotes a taxonomic question - either the taxon is not generally recognized as valid, or there is reasonable concern about its validity or identity globally or at the state level.
?	Denotes questionable rank; best guess given whenever possible (e.g. **S3?**).

FEDERAL STATUS (US Fish and Wildlife Service, USFWS)

The following abbreviations are used to indicate the legal status of federally-protected plants and animals or those proposed for listing. For further information please see www.natureserve.org/status.

LE	Listed as endangered. The most critically imperiled species. A species that may become extinct or disappear from a significant part of its range if not immediately protected.
LT	Listed as threatened. The next most critical level of threatened species. A species that may become endangered if not protected.
PE or PT	Candidate species currently proposed for listing as endangered or threatened.
C	Candidate species presently under status review for federal listing for which adequate information exists on biological vulnerability and threats to list the taxa as endangered or threatened.
PDL	Proposed for delisting.
E(S/A) or T(S/A)	Listed as endangered or threatened because of similarity of appearance.
(PS)	Indicates "partial status" - status in only a portion of the species' range. Typically indicated in a "full" species record where an infraspecific taxon or population has U.S. ESA status, but the entire species does not.

STATE STATUS (Georgia Department of Natural Resources, GA-DNR)

The following abbreviations are used to indicate the status of state-protected plants and animals or those proposed for state-protection in Georgia.

E	Listed as endangered. A species which is in danger of extinction throughout all or part of its range
T	Listed as threatened. A species which is likely to become an endangered species in the foreseeable future throughout all or parts of its range.
R	Listed as rare. A species which may not be endangered or threatened but which should be protected because of its scarcity.
U	Listed as unusual (and thus deserving of special consideration). Uncommon plants subject to commercial exploitation would have this status.

NOTE:
This is a working list and is constantly revised. For the latest changes, acknowledgment of numerous sources, interpretation of data, or other information connected with this list, please contact:

Greg Krakow, Data Manager
Georgia Department of Natural Resources
Wildlife Resources Division
Georgia Natural Heritage Program
2117 U.S. Highway 278 S.E.
Social Circle, Georgia 30025-4714
Phone: 770-918-6411
Fax: 706-557-3033
E-mail: greg_krakow@mail.dnr.state.ga.us

The proper citation for this list is:

Georgia Department of Natural Resources, Social Circle

Report Generated 1 February 2001

Special Concern Species Known from within a Half Mile Radius of the Proposed National Park Service Trails Construction Project at the Chattahoochee National Recreation Area in Cobb, DeKalb, Forsyth, Fulton, and Gwinnett Counties, Georgia

Georgia Natural Heritage Program, 2117 US Hwy 278 SE, Social Circle, GA 30025, (770) 918-6411

According to our records, within one half mile of the project site (Forsyth County; Buford Dam Quadrangle), there are occurrences of the following:

Aster georgianus (Georgia Aster) 0.3 mi. NE of site

According to our records, within one half mile of the project site (Gwinnett County; Suwanee Quadrangle), there are occurrences of the following:

Hydrastis canadensis (Goldenseal) within the site
Melanthium woodii (Ozark Bunchflower) less than 0.1 mi. N of site
Schisandra glabra (Bay Starvine) within the site
Waldsteinia lobata (Piedmont Barren Strawberry) less than 0.1 mi. N of site

According to our records, within one half mile of the project site (Fulton County; Chamblee Quadrangle), there are occurrences of the following:

Schisandra glabra (Bay Starvine) 0.2 mi. N of site
Schisandra glabra (Bay Starvine) less than 0.1 mi. E of site

According to our records, within one half mile of the project site (Fulton County; Chamblee Quadrangle), there are occurrences of the following:

Lampsilis subangulata (Shinyrayed Pocketbook) within the site
Quincuncina infucata (Sculptured Pigtoe) within the site

According to our records, within one half mile of the project site (Fulton County; Sandy Springs Quadrangle), there are occurrences of the following:

Schisandra glabra (Bay Starvine) 0.1 mi. E of site

According to our records, within one half mile of the project site (Cobb County; Sandy Springs Quadrangle), there are occurrences of the following:

Schisandra glabra (Bay Starvine) 0.2 mi. E of site

 Report Generated 1 February 2001

Special Concern Species Known from within a Half Mile Radius of the Proposed National Park Service Trails Construction Project at the Chattahoochee National Recreation Area in Cobb, DeKalb, Forsyth, Fulton, and Gwinnett Counties, Georgia

Georgia Natural Heritage Program, 2117 US Hwy 278 SE, Social Circle, GA 30025, (770) 918-6411

According to our records, within one half mile of the project site (Forsyth County; Buford Dam Quadrangle), there are occurrences of the following:

Aster georgianus (Georgia Aster) 0.3 mi. NE of site

According to our records, within one half mile of the project site (Gwinnett County; Suwanee Quadrangle), there are occurrences of the following:

Hydrastis canadensis (Goldenseal) within the site
Melanthium woodii (Ozark Bunchflower) less than 0.1 mi. N of site
Schisandra glabra (Bay Starvine) within the site
Waldsteinia lobata (Piedmont Barren Strawberry) less than 0.1 mi. N of site

According to our records, within one half mile of the project site (Fulton County; Chamblee Quadrangle), there are occurrences of the following:

Schisandra glabra (Bay Starvine) 0.2 mi. N of site
Schisandra glabra (Bay Starvine) less than 0.1 mi. E of site

According to our records, within one half mile of the project site (Fulton County; Chamblee Quadrangle), there are occurrences of the following:

Lampsilis subangulata (Shinyrayed Pocketbook) within the site
Quincuncina infucata (Sculptured Pigtoe) within the site

According to our records, within one half mile of the project site (Fulton County; Sandy Springs Quadrangle), there are occurrences of the following:

Schisandra glabra (Bay Starvine) 0.1 mi. E of site

According to our records, within one half mile of the project site (Cobb County; Sandy Springs Quadrangle), there are occurrences of the following:

Schisandra glabra (Bay Starvine) 0.2 mi. E of site

Report Generated 1 February 2001

Special Concern Species Known from within a Half Mile Radius of the Proposed National Park Service Trails Construction Project at the Chattahoochee National Recreation Area in Cobb, DeKalb, Forsyth, Fulton, and Gwinnett Counties, Georgia

Georgia Natural Heritage Program, 2117 US Hwy 278 SE, Social Circle, GA 30025, (770) 918-6411

According to our records, within one half mile of the project site (Fulton and Cobb counties; Sandy Springs Quadrangle), there are occurrences of the following:

Elliptio fraterna (Brother Spike) within the site (Cobb County)
Quincuncina infucata (Sculptured Pigtoe), an imprecise location, within the site (Cobb County)
Schisandra glabra (Bay Starvine) less than 0.1 mi. E of site (Fulton County)
Schisandra glabra (Bay Starvine) within the site (Cobb County)

According to our records, within one half mile of the project site (Fulton and Cobb Counties; Northwest Atlanta Quadrangle), there are occurrences of the following:

Fothergilla major (Mountain Witch-alder) within the site (Fulton County)
Melanthium latifolium (Broadleaf Bunchflower) approx. 0.5 mi. W of site (Cobb County)
Nestronia umbellula (Indian Olive) approx. 0.5 mi. W of site (Cobb County)
Schisandra glabra (Bay Starvine) 0.2 mi. E of site (Fulton County)

According to our records, within one half mile of the project site (Fulton County; Northwest Atlanta Quadrangle), there are occurrences of the following:

Schisandra glabra (Bay Starvine) within the site

Table 1. List of Georgia Heritage Program Plants and Animals Recorded Within The USGS Quad Sheets for the Chattahoochee River Area
(Georgia Heritage Program Database, August 2000)

Quarter Quad Sheet record	Scientific Name	Common Name	Global Rank, State Rank, Federal Status, State Status[1]	Habitat
Buford Dam (NE)	Melanthium woodii	Ozark Bunchflower	G5 S2 — —	Mesic hardwood forests over basic soils
Buford Dam (SE)	Melanthium woodii	Ozark Bunchflower	G5 S2 — —	Mesic hardwood forests over basic soils
Buford Dam (SW)	Aster georgianus	Georgia Aster	G2G3 S2 — —	Upland oak-hickory-pine forests; especially with Echinaceae laevigata
Suwanee (NW)	Hydrastis canadensis	Goldenseal	G4 S2 — E	Rich woods in circumneutral soil
	Melanthium woodii	Ozark Bunchflower	G5 S2 — —	Mesic hardwood forests over basic soils
	Schisandra glabra	Bay Starvine	G3S2—T	Stream terraces
	Waldsteinia lobata	Piedmont Barren Strawberry	G2? S2 — T	Stream terraces and adjacent gneiss outcrops
Cumming (NE)	Amorpha schweriniii	Schwerin Indigo-bush	G3T2 S1 — —	Riverside terraces; borders of swampy floodplain woods, sometimes dominated by wiregrass and pine
	Platanthera integrilabia	Monkeyface Orchid	G2G3 S1S2 — T	Red maple-gum swamps; peaty seeps and streambanks with Parnassia asarifolia and Oxypolis rigidior asarifolia
Roswell (SE)	Schisandra glabra	Bay Starvine	G3 S2 — T	Stream terraces
	Waldsteinia lobata	Piedmont Barren Strawberry	G2? S2 — T	Stream terraces and adjacent gneiss outcrops
Roswell (SW)	Cyprinella callitaenia	Bluestripe Shiner	G2 S2 — T	Flowing areas in large creeks and medium-sized rivers over rocky substrates
	Lampsilis subangulata	Shiny-rayed Pocketbook	G2 S3 LE E	Sandy/rocky medium-sized rivers & creeks
	Notropis hypsilepis	Highscale Shiner	G3 S2S3 — T	Flowing areas of small to large streams over sand or bedrock substrates
	Quincuncina infucata	Sculptured Pigtoe	G4 S3 — —	Main channels of rivers and large streams with moderate current in sand and limestone rock substrate
	Rhus michauxii	Dwarf Sumac	G2 S1 LE E	Open forests over ultramafic rock
Chamblee (NE)	Schisandra glabra	Bay Starvine	G3 S2 — T	Stream terraces
Chamblee (NW)	Quincuncina infucata	Sculptured Pigtoe	G4 S3 — —	Main channels of rivers and large streams with moderate current in sand and limestone rock

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Table 1. List of Georgia Heritage Program Plants and Animals Recorded Within The USGS Quad Sheets for the Chattahoochee River Area
(Georgia Heritage Program Database, August 2000)

				substrate
	Schisandra glabra	Bay Starvine	G3 S2 — T	Stream terraces
Chamblee (SE)	Schisandra glabra	Bay Starvine	G3 S2 — T	Stream terraces
Chamblee (SW)	Schisandra glabra	Bay Starvine	G3 S2 — T	Stream terraces
Northwest Atlanta (NE)	Aster georgianus	Georgia Aster	G2G3 S2 — —	Upland oak-hickory-pine forests; especially with Echinaceae laevigata
	Elliptio fraterna	Brother Spike	G1G2Q S1 — —	Sandy substrates of river channels with swift current
	Fothergilla major	Mountain Witch-alder	G3 S1 — —	Rocky (sandstone, granite) woods; bouldery stream margins
	Quincuncina infucata	Sculptured Pigtoe	G4 S3 — —	Main channels of rivers and large streams with moderate current in sand and limestone rock substrate
	Schisandra glabra	Bay Starvine	G3 S2 — T	Stream terraces
orthwest Atlanta (W)	Aster georgianus	Georgia Aster	G2G3 S2 — —	Upland oak-hickory-pine forests; especially with Echinaceae laevigata
	Elliptio fraterna	Brother Spike		
	Fothergilla major	Mountain Witch-alder	G3 S1 — —	Rocky (sandstone, granite) woods; bouldery stream margins
	Melanthium latifolium	Broadleaf Bunchflower	G5S2?	Mesic deciduous hardwood forests
	Nestronia umbellula	Indian Olive	G4 S2 — T	Mixed with dwarf shrubby heaths in oak-hickory-pine woods; often in transition areas between flatwoods and uplands
	Quincuncina infucata	Sculptured Pigtoe	G4 S3 — —	Main channels of rivers and large streams with moderate current in sand and limestone rock substrate
	Schisandra glabra	Bay Starvine	G3 S2 — T	Stream terraces
orthwest Atlanta (E)	Aster georgianus	Georgia Aster	G2G3 S2 — —	Upland oak-hickory-pine forests; especially with Echinaceae laevigata
	Schisandra glabra	Bay Starvine	G3 S2 — T	Stream terraces
orthwest Atlanta (W)	Aster georgianus	Georgia Aster	G2G3 S2 — —	Upland oak-hickory-pine forests; especially with Echinaceae laevigata
	Schisandra glabra	Bay Starvine	G3 S2 — T	Stream terraces
ndy Springs	Quincuncina infucata	Sculptured Pigtoe	G4 S3 — —	Main channels of rivers and large streams with

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Table 1. List of Georgia Heritage Program Plants and Animals Recorded Within The USGS Quad Sheets for the Chattahoochee River Area
(Georgia Heritage Program Database, August 2000)

(NE)					moderate current in sand and limestone rock substrate
	Rhus michauxii	Dwarf Sumac	G2 S1 LE E		Open forests over ultramafic rock
	Schisandra glabra	Bay Starvine	G3 S2 — T		Stream terraces
Sandy Springs (NW)	Platanthera integrilabia	Monkeyface Orchid	G2G3 S1S2 — T		Red maple-gum swamps; peaty seeps and streambanks with Parnassia asarifolia and Oxypolis rigidior asarifolia
	Quincuncina infucata	Sculptured Pigtoe	G4 S3 — —		Main channels of rivers and large streams with moderate current in sand and limestone rock substrate
	Schisandra glabra	Bay Starvine	G3 S2 — T		Stream terraces
Sandy Springs (SE)	Elliptio fraterna	Brother Spike	G1G2Q S1 — —		Sandy substrates of river channels with swift current
	Fothergilla major	Mountain Witch-alder	G3 S1 — —		Rocky (sandstone, granite) woods; bouldery stream margins
	Quincuncina infucata	Sculptured Pigtoe	G4 S3 — —		Main channels of rivers and large streams with moderate current in sand and limestone rock substrate
	Schisandra glabra	Bay Starvine	G3 S2 — T		Stream terraces
Sandy Springs (SW)	Elliptio fraterna	Brother Spike	G1G2Q S1 — —		Sandy substrates of river channels with swift current
	Fothergilla major	Mountain Witch-alder	G3 S1 — —		Rocky (sandstone, granite) woods; bouldery stream margins
	Melanthium latifolium	Broadleaf Bunchflower	G5S2?		Mesic deciduous hardwood forests
	Nestronia umbellula	Indian Olive	G4 S2 — T		Mixed with dwarf shrubby heaths in oak-hickory-pine woods; often in transition areas between flatwoods and uplands
	Quincuncina infucata	Sculptured Pigtoe	G4 S3 — —		Main channels of rivers and large streams with moderate current in sand and limestone rock substrate
	Schisandra glabra	Bay Starvine	G3 S2 — T		Stream terraces

1 Global Rank, State Rank, Federal Status, State Status, based on the following system from the Georgia Heritage Program:

(Edition date: 14 May 1999)

EXPLANATION OF RARITY RANKS AND LEGAL STATUSES

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Table 1. List of Georgia Heritage Program Plants and Animals Recorded Within The USGS Quad Sheets for the Chattahoochee River Area
(Georgia Heritage Program Database, August 2000)

The "Global Rank" and "State Rank" columns indicate relative rarity of species at the rangewide or global level and the Georgia or state level, respectively. A simplified, standardized explanation of these ranks and of federal and state protection status follows.

STATE [GEORGIA NATURAL HERITAGE PROGRAM, GNHP]:
S1[G1] = Critically imperiled in state [globally] because of extreme rarity (5 or fewer occurrences).
S2[G2] = Imperiled in state [globally] because of rarity (6 to 20 occurrences).
S3[G3] = Rare or uncommon in state [rare and local throughout range or in a special habitat or narrowly endemic] (on the order of 21 to 100 occurrences).
S4[G4] = Apparently secure in state [globally] (of no immediate conservation concern).
S5[G5] = Demonstrably secure in state [globally].
SA = Accidental in state, including species (usually birds or butterflies) recorded once or twice or only at very great intervals.
SN = Regularly occurring, usually migratory and typically nonbreeding species.
SR = Reported from the state, but without persuasive documentation (no precise site records and no verification of taxonomy).
SU[GU] = Possibly in peril in state [range-wide] but status uncertain; need more information on threats.
SX[GX] = Apparently extirpated from state [extinct throughout range]. GXC is known only in cultivation/captivity.
SE = An exotic established in state; may be native elsewhere in North America; sometimes nativity is difficult to determine (SE?).
SH[GH] = Of historical occurrence in the state [throughout its range], perhaps not verified in the past 20 years, but suspected to be still extant (these organisms/communities need to be relocated.
[T] = Taxonomic subdivision (trinomial, either a subspecies or variety), used in a global rank, for example "G2T2".
Q = Denotes a taxonomic question - either the taxon is not generally recognized as valid, or there is reasonable concern about its validity or identity globally or at the state level.
? = Denotes questionable rank; best guess given whenever possible.

FEDERAL STATUS [U.S. FISH AND WILDLIFE SERVICE, USFWS]:
LE = Listed endangered. The most critically threatened species. A species that may become extinct or disappear from a significant part of its range if not immediately protected.
LT = Listed threatened. The next most critical level of threatened species. A species that may become endangered if not protected.
PE or PT = Candidate species currently proposed for listing as endangered or threatened.
C = Candidate species presently under status review for federal listing for which adequate information exists on biological vulnerability and threats to list the taxa as endangered or threatened.
"NL = Status varies for different populations or parts of range with at least one part not listed (e.g., a species with part of its range assigned by USFWS as threatened , would be recorded as "LTNL").

STATE STATUS [GEORGIA DEPARTMENT OF NATURAL RESOURCES, GADNR]:
The following abbreviations are used to indicate the status of state-protected plants and animals or those proposed for state-protection in Georgia.
E = Listed as endangered.
T = Listed as threatened.
R = Listed as rare.
I = Listed as unusual (and thus deserving of special consideration), for example: plants subject to commercial exploitation.

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United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
247 South Milledge Avenue
Athens, Georgia 30605

West Georgia Sub Office
P.O. Box 52560
Ft. Benning, Georgia 31995-2560

Coastal Sub Office
4270 Norwich Street
Brunswick, Georgia 31520

February 20, 2001

Sean R. Wallace
Parsons Engineering Science, Inc.
5390 Triangle Parkway, Suite 100
Norcross, Georgia 30092

RE: FWS Log No. NG-01-88-FORS

Dear Mr. Wallace:

As you requested, the U.S. Fish and Wildlife Service (Service) submits the following comments on potential threatened and endangered species in Cobb, DeKalb, Forsyth, Fulton, and Gwinnett Counties. This letter is in accordance with section 7 of the Endangered Species Act of 1973, as amended, (16 U.S.C. 1531 et seq.), regarding listed species that may occur within the delineated boundaries of the National Park Service recreation areas provided to the Service in a previous letter dated December 13, 2000.

The table provided appears to be a complete listing of threatened and endangered species that may potentially occur within the above counties. The Service recommends the monkey-face orchid (*Platanthera integrilabia*) be cross-listed with the white fringeless orchid (*Platanthera integrilabia*), a federal candidate species.

If you have questions or need additional information, please contact Kim Jefferson in the Athens office at (706) 613-9493 ext. 22.

Sincerely,

Deborah C. Harris
for

Sandra S. Tucker
Field Supervisor

LISTED SPECIES IN COBB COUNTY

FEDERAL ENDANGERED AND THREATENED SPECIES[1]

Animals

Bald eagle (T,SE)	Haliaeetus leucocephalus	Inland waterways and estuarine areas in Georgia
Red-cockaded woodpecker (E,SE)	Picoides borealis	Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥50 years of age, preferably ≥10" dbh
Cherokee darter (T,ST)	Etheostoma scotti	Shallow water (0.1-0.5 m) in small to medium warm water creeks (1-15 m wide) with predominantly rocky bottoms. Usually found in sections with reduced current, typically runs above and below riffles and at ecotones of riffles and backwaters.
Gulf moccasinshell mussel (E,SE)	Medionidus penicillatus	Medium streams to large rivers with slight to moderate current over sand and gravel substrates; may be associated with muddy sand substrates around tree roots

Plants

Michaux's sumac (E,SE)	Rhus michauxii	Sandy or rocky open woods, usually on ridges with a disturbance history (periodic fire, prior agricultural use, maintained right-of-ways); the known population of this species in Cobb County has been extirpated (last seen in county in 1900)

SPECIES OF MANAGEMENT CONCERN[1]: The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

Bachman's sparrow (SR)	Aimophila aestivalis	Abandoned fields with scattered shrubs, pines, or oaks
Appalachian Bewick's wren (SR)	Thryomanes bewickii altus	Dense undergrowth, overgrown fields, thickets, and brush in open or semi-open habitat; feed primarily on insects
Bluestripe shiner (ST)	Cyprinella callitaenia	Brownwater streams

Plants

Monkey-face (ST)	Platanthera integrilabia	Red maple-blackgum swamps; also on sandy damp stream margins; or on seepy, rocky, thinly vegetated slopes

STATE OF GEORGIA ENDANGERED AND THREATENED SPECIES[1]: The following species, as well as the Species of Management Concern marked above (SE, ST, SR), are protected by the State. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Plants

Granite whitlow-grass (SE)	Draba aprica	Shallow soils on granite outcrops, expecially beneath eastern redcedar
Indian olive (ST)	Nestronia umbellula	Dry open upland forests of mixed hardwood and pine
Bay star-vine (ST)	Schisandra glabra	Twining on subcanopy and understory trees/shrubs in rich alluvial woods

[1] Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Updated February 2000

LISTED SPECIES IN DEKALB COUNTY

FEDERAL ENDANGERED AND THREATENED SPECIES[1]

Animals

Gray bat (E,SE)	Myotis grisescens	Colonies restricted to caves or cave-like habitats; forage primarily over water along rivers or lake shores
Bald eagle (T,SE)	Haliaeetus leucocephalus	Inland waterways and estuarine areas in Georgia
Red-cockaded woodpecker (E,SE)	Picoides borealis	Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10" dbh

Plants

Little amphianthus (T,ST)	Amphianthus pusillus	Shallow pools on granite outcrops, where water collects after a rain. Pools are less than 1 foot deep and rock rimmed.
Black-spored quillwort (E,SE)	Isoetes melanospora	Shallow pools on granite outcrops, where water collects after a rain. Pools are less than 1 foot deep and rock rimmed.

SPECIES OF MANAGEMENT CONCERN[1]: The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

Bachman's sparrow (SR)	Aimophila aestivalis	Abandoned fields with scattered shrubs, pines, or oaks
Appalachian Bewick's wren (SR)	Thyromanes bewickii altus	Dense undergrowth, overgrown fields, thickets, and brush in open or semi-open habitat; feed primarily on insects
Bluestripe shiner (ST)	Cyprinella callitaenia	Brownwater streams

Plants

Flatrock onion (ST)	Allium speculae	Seepy edges of vegetation mats on outcrops of granitic rock
Alexander rock aster	Aster avitus	
Small-headed pipewort	Eriocaulon kornickianum	Granite outcrops and upland-sandhill-acid seeps

STATE OF GEORGIA ENDANGERED AND THREATENED SPECIES[1]: The following species, as well as the Species of Management Concern marked above (SE, ST, SR), are protected by the State. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Plants

Indian olive (ST)	Nestronia umbellula	Dry open upland forests of mixed hardwood and pine
Bay star-vine (ST)	Schisandra glabra	Twining on subcanopy and understory trees/shrubs in rich alluvial woods
Granite rock stonecrop (ST)	Sedum pusillum	Granite outcrops among mosses in partial shade under red cedar trees
Piedmont barren strawberry (ST)	Waldsteinia lobata	Rocky acedic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods

[1] Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Updated February 2000

LISTED SPECIES IN FORSYTH COUNTY

FEDERAL ENDANGERED AND THREATENED SPECIES[1]

Animals

Bald eagle (T,SE)	Haliaeetus leucocephalus	Inland waterways and estuarine areas in Georgia
Red-cockaded woodpecker (E,SE)	Picoides borealis	Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10" dbh

SPECIES OF MANAGEMENT CONCERN[1]: The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

Bachman's sparrow (SR)	Aimophila aestivalis	Abandoned fields with scattered shrubs, pines, or oaks
Bluestripe shiner (ST)	Cyprinella callitaenia	Brownwater streams

Plants

Monkey-face (ST)	Platanthera integrilabia	Red maple-blackgum swamps; also on sandy damp stream margins; or on seepy, rocky, thinly vegetated slopes

STATE OF GEORGIA ENDANGERED AND THREATENED SPECIES[1]: The following species, as well as the Species of Management Concern marked above (SE, ST, SR), are protected by the State. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Animals

Frecklebelly madtom (SE)	Noturus munitus	Rivers with moderate to swift current over substrates ranging from coarse gravel to boulders, submerged trees, and brush.

Plants

Piedmont barren strawberry (ST)	Waldsteinia lobata	Rocky acedic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods

[1] Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Updated February 2000

FULTON COUNTY

FEDERAL ENDANGERED AND THREATENED SPECIES[1]

Animals

Bald eagle (T,SE)	Haliaeetus leucocephalus	Inland waterways and estuarine areas in Georgia
Red-cockaded woodpecker (E,SE)	Picoides borealis	Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10" dbh
Gulf moccasinshell mussel (E,SE)	Medionidus penicillatus	Medium streams to large rivers with slight to moderate current over sand and gravel substrates; may be associated with muddy sand substrates around tree roots

SPECIES OF MANAGEMENT CONCERN[1]: The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

Bachman's sparrow (SR)	Aimophila aestivalis	Abandoned fields with scattered shrubs, pines, or oaks
Appalachian Bewick's wren (SR)	Thryomanes bewickii altus	Dense undergrowth, overgrown fields, thickets, and brush in open or semi-open habitat; feed primarily on insects
Bluestripe shiner (ST)	Cyprinella callitaenia	Brownwater streams

STATE OF GEORGIA ENDANGERED AND THREATENED SPECIES[1]: The following species, as well as the Species of Management Concern marked above (SE, ST, SR), are protected by the State. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Animals

Peregrine falcon (SE)	Falco peregrinus	F. p. anatum nests on cliffs, high hills, or tall buildings; F. p. tundrius primarily seen in Georgia migrating along the coast

Plants

Bay star-vine (ST)	Schisandra glabra	Twining on subcanopy and understory trees/shrubs in rich alluvial woods
Piedmont barren strawberry (ST)	Waldsteinia lobata	Rocky acedic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods

[1] Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Updated February 2000

LISTED SPECIES IN GWINNETT COUNTY

FEDERAL ENDANGERED AND THREATENED SPECIES[1]

Animals

Bald eagle (T,SE)	Haliaeetus leucocephalus	Inland waterways and estuarine areas in Georgia
Red-cockaded woodpecker (E,SE)	Picoides borealis	Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10" dbh

Plants

Little amphianthus (T,ST)	Amphianthus pusillus	Shallow pools on granite outcrops, where water collects after a rain. Pools are less than 1 foot deep and rock rimmed.
Black-spored quillwort (E,SE)	Isoetes melanospora	Shallow pools on granite outcrops, where water collects after a rain. Pools are less than 1 foot deep and rock rimmed.
Michaux's sumac (E,SE)	Rhus michauxii	Sandy or rocky open woods, usually on ridges with a disturbance history (periodic fire, prior agricultural use, maintained right-of-ways); the known population of this species in Gwinnett County has been extirpated

SPECIES OF MANAGEMENT CONCERN[1]: The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

Bluestripe shiner (ST)	Cyprinella callitaenia	Brownwater streams
Northern pine snake	Pituophis m. melanoleucus	

Plants

Alexander rock aster	Aster avitus	
Small-headed pipewort	Eriocaulon kornickianum	Granite outcrops and upland-sandhill-acid seeps

STATE OF GEORGIA ENDANGERED AND THREATENED SPECIES[1]: The following species, as well as the Species of Management Concern marked above (SE, ST, SR), are protected by the State. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Plants

Golden seal (SE)	Hydrastis canadensis	Rich woods and cove forests in the mountains
Bay star-vine (ST)	Schisandra glabra	Twining on subcanopy and understory trees/shrubs in rich alluvial woods
Granite rock stonecrop (ST)	Sedum pusillum	Granite outcrops among mosses in partial shade under red cedar trees
Piedmont barren strawberry (ST)	Waldsteinia lobata	Rocky acedic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods

[1] Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Updated February 2000

COORDINATION WITH FEDERALLY-RECOGNIZED AMERICAN INDIAN TRIBES WITH ANCESTRAL LANDS IN GEORGIA AND THE STATE HISTORIC PRESERVATION OFFICER

Consultation letters were sent in January 2001 to Federally-recognized American Indian Tribes with ancestral lands in Georgia requesting feedback concerning this GMP/EIS. These letters were followed up with individual phone calls. Additional letters were sent in March 2002 identifying the purpose and need of the project and requesting input. A copy of this letter request and the list of American Indian Tribes contacted follows. In addition, this letter request was also sent to the State Historic Preservation Officer.

Federally Recognized American Indian Tribes with Ancestral Lands in Georgia

Name	Contact Name and Title	Contact Address
Alabama-Coushatta Tribe of Texas	Mr. Kevin P. Battise, Chairman Ph: (409) 563-4391 Fax: (409) 563-4397	Route 3, P.O. Box 640, Livingston, TX 77351
Alabama-Quassarte Tribal Town (Creek)	Tarpie Yargee, Chief Ph: (405) 452-3968 Fax: (405) 452-3968	P.O. Box 187, Wetumka, OK 74883
Cherokee Nation of Oklahoma	Mr. Chad Smith, Principal Chief Ph: (918) 456-0671 Fax: (918) 458-5580	P.O. Box 948, Tahlequah, OK 74465
Coushatta Tribe of Louisiana (Creek)	Mr. Lovelin Poncho, Chairman Ph: (337) 584-2261 Fax: (337) 584-2998	P.O. Box 818, Elton, LA 70532
Eastern Band of Cherokee Indians	Mr. Leon Jones, Principal Chief Ph: (828) 497-2771 Fax: (828) 497-7007	Qualla Boundary, P.O. Box 455 Cherokee, NC 28719
Eastern Shawnee Tribe of Oklahoma	Charles D. Enyart, Chief Ph: (918) 666-2435 Fax: (918) 666-3325	P.O. Box 350 Seneca, MO 64865
Kialegee Tribal Town (Creek)	Lowell Wesley, Town King Ph: (405) 452-3262 Fax: (405) 452-3413	P.O. Box 332 Wetumka, OK 74883
Miccosukee Tribe of Indians of Florida	Mr. Billy Cypress, Chairman Ph: (305) 223-8380 Fax: (305) 223-1011	Tamiami Station P.O. Box 440021 Miami, FL 33144
Muscogee Nation of Oklahoma (Creek)	Mr. Perry Beaver, Principal Chief PH: (918) 756-8700 Fax: (918) 756-2911	P.O. Box 580 Okmulgee, OK 74447
Poarch Band of Creek Indians of Alabama	Mr. Eddie Tullis, Chief Ph: (251) 368-9136 Fax: (251-368-1026	5811 Jack Springs Rd., Atmore, AL 36502
Seminole Nation of Oklahoma	Mr. Jerry Haney, Principal Chief Ph: (405) 257-6287 Fax: (405) 257-6205	P.O. Box 1498 Wewoka, OK 74884
Seminole Tribe of Florida	Mr. James Billie, Chairman Ph: (954) 966-6500 Fax: (954) 967-3486	6300 Stirling Road, Room 421, Hollywood, FL 33024
Thlopthlocco Tribal Town (Creek)	Ms. Grace Bunner, Town King Ph: (918) 623-2620 Fax: (918) 623-0419	P.O. Box 188 Okemah, OK 74859
United Keetoowah Band (Cherokee)	Dallas Proctor, Chief Ph: (918) 431-1818 Fax: (918) 431-1873	P.O. Box 189 Parkhill, OK 74451

Source: BIA (2002) = Department of the Interior, Bureau of Indian Affairs. *Tribal Leaders Directory*. January 2002

United States Department of Interior

NATIONAL PARK SERVICE
CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA
1978 Island Ford Parkway
Atlanta, Georgia 30350-3400

D18(CHAT)

March 27, 2002

Mr. Kevin P Battise, Chairman
Alabama-Coushatta Tribe of Texas
PO Box 640
Livingston, TX 77351

Dear Mr. Battise:

In accordance with the National Environmental Policy Act of 1969 (Public Law 91-190, as amended) (NEPA), the National Park Service (NPS) is preparing an Environmental Impact Statement (EIS) for the General Management Plan (GMP) for Chattahoochee River National Recreation Area, Georgia (CRNRA). A regional map of the park is available on the Internet at www.npsplanning.org. Two additional maps are attached to assist you in locating the park in relation to the southeastern states and within metro Atlanta. The purpose of this letter is to request your comments on issues of concern that you might have regarding the updating of the GMP and input on the future management approaches for the park. We originally wrote to you in January 2001 and hope that this letter serves as a reminder that we welcome your input.

The Purpose and Need: The purpose of the Chattahoochee River National Recreation Area is to lead the preservation and protection of the 48 mile Chattahoochee River corridor from Buford Dam to Peachtree Creek, and its associated natural and cultural resources, for the benefit and enjoyment of the people. The general management planning process provides a comprehensive approach to establish the basic management philosophy for the park and provide strategies for addressing issues and achieving identified management objectives. The GMP/EIS will evaluate the environmental impacts of a range of alternatives to address distinct management approaches to preserving significant natural and cultural resources for public enjoyment, competing demands for limited resources, priorities for using available funds and

staff, and differing local and nationwide interests and views of what is most important.

The Process and Importance of Public Input: The intent of the NEPA scoping process is to provide for early identification of concerns, issues, expectations, and values of existing and potential visitors, neighbors, people with traditional cultural ties to lands within the park, cooperating associations, other partners, scientists, scholars, and other government agencies. Public input gathered during this scoping process will be used in the EIS to assess and compare the effects of each available management alternative on the natural and man-made environment. The EIS will also recommend selection of a "preferred" management alternative. The National Park Service is requesting your input in these early stages of this project.

Who to Contact: If you are interested in providing input on the updated GMP/EIS, you are invited to respond in writing to:

Mr. Kevin Cheri, Superintendent
Chattahoochee River National Recreation Area
1978 Island Ford Parkway
Atlanta, GA 30350-3400
Phone (770)-399-8074 extension 221

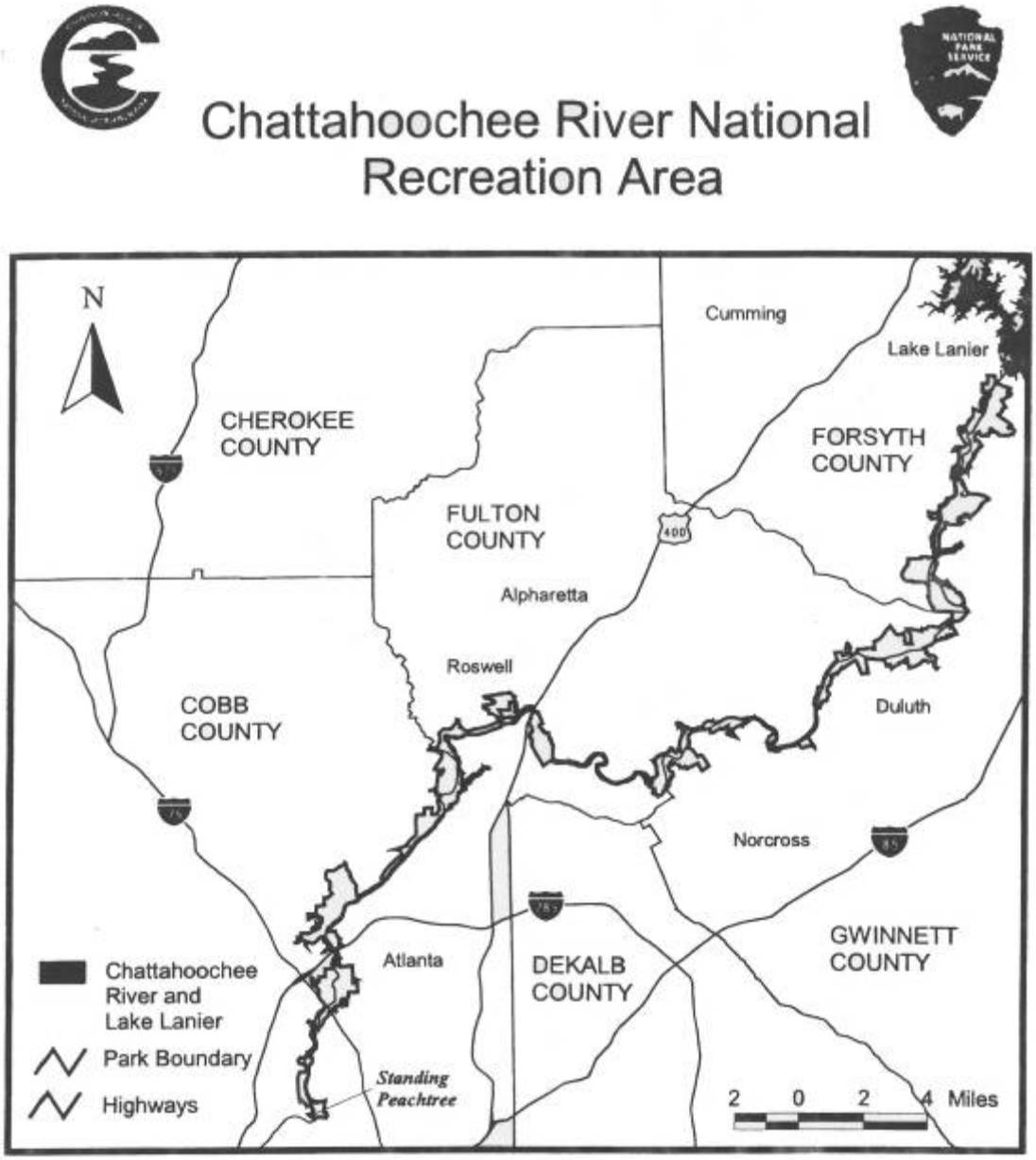
Full public participation by federal, state, and local agencies, as well as other concerned organizations and private citizens, is invited throughout the preparation process of the updated GMP/EIS. The National Park Service would like to thank you for reviewing this scoping letter, and for preparing and submitting written comments.

Sincerely,

Kevin G. Cheri

Kevin G. Cheri
Superintendent

TENNESSEE
Chattanooga
Cherokee National Forest
NORTH CAROLINA
Nantahala National Forest
Chickamauga and Chattanooga National Military Park
Chickamauga
59
S.C.
Sumter NF
Chattahoochee National Forest
Lake Sidney Lanier
Chattahoochee National Forest
75
GEORGIA
CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA
85
Kennesaw Mountain National Battlefield Park
Marietta
Talladega National Forest
Martin Luther King, Jr. National Historic Site and Preservation District
20
Atlanta
Oconee National Forest
20
Chattahoochee River
85
75
Oconee National Forest
Piedmont National Wildlife Refuge
ALABAMA
Ocmulgee National Monument
North
Macon
To Tuskegee Institute National Historic Site and Tuskegee Airmen National Historic Site
16



Park Boundary

APPENDIX G
SUMMARY OF TRANSPORTATION AND OTHER MAJOR IMPROVEMENT PROJECTS

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APPENDIX G: SUMMARY OF TRANSPORTATION AND OTHER MAJOR IMPROVEMENT PROJECTS

TRANSPORTATION IMPROVEMENT PROJECTS

The Transportation Improvement Program (TIP), FY 2006-2011, prepared by the Atlanta Regional Commission for the Atlanta Region (ARC 2006c) , identifies transportation capacity improvements that are scheduled for construction in the area during the next five years. A complete listing of these projects can be accessed at www.atlantaregional.com.

The TIP identifies 839 transportation projects totaling $8.2 billion to be funded in the Atlanta region through 2011. Approximately 25% of the funding is designated for adding roadway capacity, 20% for transit, 18% for roadway upgrades, 17% for expansion of high occupancy vehicle lanes, 8.2 % for roadway system maintenance, and 5.8% for pedestrian and bicycle facilities (Atlanta Regional Commission 2005a). Forsyth County (not an Atlanta Regional Commission member-county) has also identified long range transportation projects that will be needed in the future. Projects that are scheduled for construction in the study area include, but are not limited to, the following:

Road Projects

I-285 High Occupancy Vehicle (HOV) lanes (0 to 2 lanes)

I-285 Bus Rapid Transit (BRT)

I-75 HOV lanes (0 to 2 lanes)

I-75 Truck Only lanes (TOL)

I-75 Bus Rapid Transit (BRT)

I-85 North HOV lanes

I-20 HOV lanes

GA 400 Collector Distributor System

GA 400 Intelligent Transportation System (ITS) Monitoring

Morgan Falls Pedestrian Bridge Crossing from GA 400 to Lower Roswell Road

Chattahoochee Circle to Roberts Drive

Papermill Road over Sewell Mill Creek Bridge Replacement

Road Widening Projects

Old Alabama Road from Jones Bridge Road to GA 141/Medlock Bridge Road

McGinnis Ferry Road from the Chattahoochee River to Sargent Road

Johnson Ferry Road from Chattahoochee River to Abernathy Road

Abbotts Bridge Road at Parsons Road

Abbotts Bridge Road at Boles Road

Medlock Bridge at Abbotts Bridge Road

Dunwoody Place near Vickery Creek and Island Ford

McGinnis Ferry Road from Gwinnett County Line to McFarland Road (2 to 4 lanes)

GA 120/Abbotts Bridge Road from State Bridge Road to Peachtree Industrial Boulevard (2 to 4 lanes)

Transit Projects

Bus rapid transit service along I-75 North and I-285 North

Selected elements of the Belt Line multimodal transportation corridor

Continued expansion of the GRTA regional express bus program, including park and ride lots and shelters

Ongoing improvements and expansion of MARTA rail and bus services

People mover near the Cumberland Mall/Cobb Galleria area

Express bus service to selected new rail stations

Expansion of local bus service in the study area, particularly in Gwinnett and Cobb County

The Atlanta Regional Commission adopted the Atlanta Region Bicycle Transportation and Pedestrian Walkways Plan in September of 2002. In this plan, there are more then 1,000 miles of additional bike and pedestrian facilities proposed within the 10 county planning area totaling $400 million in project costs. In addition, there are also a number of bicycle and pedestrian projects in the study area that are scheduled for construction in the next five years. Due to the large number of bicycle and pedestrian projects included in the TIP, a small sampling of projects located in the proximity of the park are listed below:

Bicycle Projects

Western Gwinnett Bikeway (Peachtree Industrial Boulevard)

Suwannee Creek Greenway Expansion

Big Creek Greenway Expansion

McGinnis Ferry Road Multi-Use Walk/Bikeway (Chattahoochee River to Old Alpharetta)

Chattahoochee River Greenway (Buford Dam Road to McGinnis Ferry)

Akers Mill Road Bicycle and Pedestrian Improvements

Old Alabama Road from Riverside Drive to Market Boulevard

Riverside Drive from Johnson Ferry to I-285

Willeo/Azalea/Riverside from Cobb County line to GA 400

McGinnis Ferry Road from the Chattahoochee River to Sargent Road

Johnson Ferry and Roswell Roads from Hildebrand to Johnson Ferry / Roswell to Abernathy Road

Cobb County recreational trails to connect proposed East Cobb Trails, the proposed Wildwood Trail, the programmed Interstate North Parkway Trail, and the proposed Mountain-to-River Trail.

Pedestrian Projects

GA 400 from Alpharetta City Limit to the Chattahoochee River

Chattahoochee River from Riverside Road to Gwinnett County Line

Hermi's Bridge at Chattahoochee River

Roswell Road from I-285 south to Mt. Paran Road

Abbott's Bridge Road at Parsons Road

Chattahoochee River on Rogers Bridge Road to Bell Road to McGinnis Ferry Road

Jones Bridge Road at Sargent Road

Lower Roswell Road from Davidson Road to Timber Ridge Road and Willeo Road @ Fulton County Line

Cobb Galleria Parkway from Ackers Mill Road to I-75 North Overpass

Akers Mill Road form Cumberland Blvd. to I-75 North

Cobb Parkway US 41 from Circle 75 Parkway to Akers Mill Road

East Cobb Trail along State Route 120 Roswell Road to Providence Road near merchant walk to Fulton County Line

Interstate North Trail from Bob Callan Trail (formerly known Rottenwood Creek Trail) to Fulton County Line

NATIONAL PARK SERVICE PROJECTS

The National Park Service has programmed for funding a number of projects. The majority of these projects include facility maintenance and improvements, boat ramp improvements, rest rooms, additional parking spaces, non-impervious trail improvements, exotic species control efforts, and other similar types of projects. These projects are programmed for different locations throughout the park corridor and are not concentrated in any one area. Compliance activities with regard to these activities and other planning efforts would also be conducted.

OTHER MAJOR DEVELOPMENT PROJECTS IN THE METROPOLITAN REGION

Located outside the park are geographic areas of rapidly growing Forsyth, Gwinnett, North Fulton and Cobb Counties, Georgia. Of regional consequence are regional private economic and public infrastructure development trends in the Georgia 400 Sub Area whose epicenter is the Chattahoochee River drainage basin as it winds through metropolitan Atlanta. A review of studies related to regional trends for residential, commercial – office and industrial

construction in this described sub area, including Developments of Regional Impact (DRI), administered by the Atlanta Regional Commission and the Georgia Regional Transportation Authority, is provided in the paragraphs that follow. The following text provides a summary of the trends used as the basis for the cumulative impacts scenarios described in this GMP. An overview of the growth trends and sample projects is described below based upon The Economic Base Report of the Northern Sub Area Georgia 400 Study.

Residential - "The number of housing units in the Northern Sub Area is projected at 493,836 in 2001 and 608,749 in 2006 (Source: ESRI Business Information Services). This represents a growth of 31.6% between 2000 and 2006. In the GA 400 Corridor, the number of housing units is expected to increase form 128,136 to 168,242 over the same period, representing a growth of 31.3%....Since 1995, metropolitan Atlanta has led the nation in the number of housing units authorized by building permits.....Gwinnett, Fulton and Cobb have the largest share of building permits since 1995."

Office – "The northern office markets have added more square feet of space than any other market (in metro Atlanta) between the first quarter of 1999 and the lst quarter of 2002. The growth rates experienced in these other markets have also been very high."

The cumulative impact on the park regarding other actions by private development is 40,000 new housing units constructed in the North Sub Area Ga 400 Study Area and is further impacted as the leading area for construction of office and retail space since 1995.

Developments of Regional Impact

Under the Georgia Planning Act, development projects that are likely to have an impact beyond the host local government jurisdiction are subject to review as Developments of Regional Impact (DRI). These specific large scale development projects were reviewed as they potentially impact the park. In 2002, over 200 DRI were reviewed statewide. Ninety projects were specific to the counties surrounding the park as well as nearby DeKalb County. DRI projects are delineated into types of development, regions and square footage. The office space developments are all greater than 400,000 gross square feet. The commercial developments are greater than 300,000 gross square feet. Wholesale and distribution developments are greater than 500,000 gross square feet. Hospitals have more than 300 new beds. Housing has greater than 400 new lots or units. Industrial has more than 500,000 gross square feet and employ more than 1600 workers covering more than 400 acres.

There are 18 categories of DRIs and include mixed use developments (400,000square feet and 120-acres), hotels (400 rooms plus) and wastewater facilities (expansion by at least 50% from existing structures). In the 90 approved DRI projects in 2002, all of these DRI categories described above have been constructed in the counties surrounding the park. Thirteen DRI projects in the counties surrounding the park were complete or pending in 2002 (Source: ARC 2002 Developments of Regional Impact Status) including: Worldspan at Cobb Galleria, MBNA America Operations Center in Cobb County, Logust Grove Station and Indian Creek in Gwinnett County, and the Cauley Creek Water Reclamation Facility in Fulton County. In addition, DeKalb County is redesigning the raw water pump station located on the Chattahoochee River.

APPENDIX H
LIST OF AGENCIES OR ENTITIES RECEIVING A COPY OF THIS PLAN

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List of Agencies or Entities Receiving a Copy of This Plan

The Final General Management Plan/Environmental Impact Statement was distributed to the following delegates, agencies and organizations:

Georgia Congressional Delegation

- Hon. Saxby Chambliss
- Hon. Johnny Isakson
- Hon. John Lewis
- Hon. Tom Price
- Hon. John Linder
- Hon. Nathan Deal

Federal Departments, Agencies, and Offices

- Center for Disease Control
- Federal Bureau of Investigation
- Federal Emergency Management Association
- Kennesaw Mountain National Battlefield Park
- U.S. Army Corps of Engineers
- U.S. Department of Agriculture
  - -National Resources Conservation Service
- U.S. Department of Transportation
- U.S. Environmental Protection Agency
  - Criminal Investigation Division
  - Environmental Accountability Division
  - Watershed and Non-point Source Group
  - Water-Wetlands, Coastal and Water Quality Branch
- U.S. Fish & Wildlife Service
- U.S. Forest Service
  - Chattahoochee-Oconee National Forest
- U.S. Geological Survey

State of Georgia

- Georgia Department of Agriculture
- Georgia Department of Community Affairs
- Georgia Department of Economic Development, Tourism Division
- Georgia Department of Industry
- Georgia Department of Natural Resources
  - Environmental Protection Division, Water Protection Branch
  - Georgia State Parks and Historical Sites
  - Historic Preservation Division
  - Pollution Prevention Assistance Division
  - Wildlife Resources Division, Fisheries Section (Buford Trout Hatchery)
- Georgia Department of Revenue
- Georgia Department of Transportation
- Georgia Environmental Facilities Authority

- Georgia Forestry Commission
- Georgia Greenspace Program
- Georgia Regional Transportation Authority
- Georgia Scenic Byways Program
- Georgia Trust for Historic Preservation
- Panola Mountain State Conservation Park
- Sweetwater Creek State Conservation Park

County Agencies

- Bartow County
- Cherokee County
  Cherokee Clean Commission
- Cobb County
  - Cobb Commission
  - Cobb County Department of Public Safety
  - Cobb County Department of Transportation
  - Cobb County Parks, Recreation and Cultural Affairs
  - Cobb County Planning Commission
  - Cobb County School District
  - Cobb Marietta Water Authority
- Dekalb County
  - Convention and Visitors Bureau
  - Department of Watershed Management
- Douglas County
- Forsyth County
  - Forsyth County Board of Commissioners
  - Forsyth County Parks and Recreation
  - Forsyth County Planning and Development
- Fulton County
  - Fulton County Board of Commissioners
  - Fulton County Department of Environmental and Community Development
  - Fulton County Department of Parks and Recreation
- Gwinnett County
  - Gwinnett County Board of Commissioners
  - Gwinnett County Department of Community Services
- Paulding County

Local Agencies

- City of Atlanta
  - Atlanta Urban Design Commission
  - Mayor of Atlanta
  - Mayor's Office of Community Affairs
  - Metropolitan Atlanta Rapid Transit Authority
- City of Austell
- City of Berkley Lake
- City of Buford

- City of Duluth
- City of Johns Creek
- City of Kennesaw
- City of Marietta
    - Marietta City Schools
- City of Powder Springs
- City of Roswell
    - Historic Roswell Convention and Visitors Bureau
    - Roswell Recreation and Parks Department
    - Roswell Visitors Center
- City of Sandy Springs
- City of Smyrna
- City of Sugarhill
- City of Suwanee

Organizations

- American Hiking Society
- American Water Resources Association
- Association of County Commissioners of GA
- Atlanta Audubon Society
- Atlanta Bicycle Campaign
- Atlanta Botanical Garden
- Atlanta Center for Excellence
- Atlanta Chamber of Commerce
- Atlanta Convention and Visitor Bureau
- Atlanta Fly Fishing Club
- Atlanta History Center
- Atlanta Journal Constitution
- Atlanta Rowing Club
- Atlanta Junior Rowing Club
- Atlanta Outward Bound Center
- Atlanta Regional Commission
- Atlanta School of Kayaking
- Atlanta Urban Design Commission
- Atlanta Whitewater Club
- Bank of America
- Bells Ferry Civic Association
- Buford Trout Hatchery
- Campaign for Prosperous Georgia
- Center for Neighborhood Technology
- Central Atlanta Progress
- Chattahoochee Hill Country Alliance
- Chattahoochee Nature Center
- Chattahoochee Outfitters
- Chattahoochee Road Runners
- Chattowah Open Land Trust

- Clark Atlanta University
- Cobb Community Foundation
- Cobb County 4-H Club
- Cobb County Chamber of Commerce
- Cobb County Convention and Visitors Bureau
- Cobb Land Trust
- Cobb Landmarks & Historical Society
- Cobb Photographic Society
- Cochran Mill Nature Center & Arboretum, Inc.
- Conservation Fund
- Conyers/Rockdale County Clean and Beautiful
- Country Club of the South
- Cumberland CID
- Davidson-Arabia Mountain Nature Preserve
- DeKalb County Chamber of Commerce
- DeKalb County Clean and Beautiful
- Dunwoody Nature Center, Inc.
- Earth Share of Georgia
- East Cobb Civic Association
- East Cobber
- Eco Action
- Environmental Defense Fund
- Environmental Education Alliance, Inc.
- Environmental Fund for GA
- Fayette Clean and Beautiful
- Georgia Appalachian Trail Club
- Georgia Association of Water Professionals
- Georgia Native Plant Society
- Garden Club of Georgia, Inc.
- Georgia Bicycle Federation
- Georgia Canoeing Association
- Georgia Chamber of Commerce
- Georgia Clean and Beautiful
- Georgia Conservancy
- Georgia Endurance Riders Association
- Georgia Environmental Organization, Inc.
- Georgia Environmental Policy Institute
- Georgia Greenspace Program
- Georgia Forestry Association, Inc.
- Georgia Horse Council
- Georgia Lake Management Society
- Georgia Municipal Association
- Georgia Orienteering Club
- Georgia Ornithological Society
- Georgia Power
- Georgia Recycling Coalition

- Georgia Scenic Byways Project
- Georgia Tech Crew
- Georgia Trend
- Georgia Trust/Historic Preservation
- Georgia Water Wise Council
- Georgia Wildlife Federation
- Georgians for Better Transportation
- Georgia Municipal Association
- Geocachers Association
- Greater North Fulton Chamber of Commerce
- Gwinnett Chamber of Commerce
- Gwinnett Clean and Beautiful
- Gwinnett County Board of Commission
- Gwinnett Open Land Trust
- Health and Human Services
- Hands on Atlanta
- Henry County Clean and Beautiful
- High Country Outfitters
- IMBA
- Innovative Water Solutions
- Izaak Walton League of America
- Keep Georgia Beautiful
- Keep Sandy Springs North Fulton Beautiful
- Keep Smyrna Beautiful
- Kennesaw Archery Club
- Kennesaw State University
- Lake Allatoona Preservation Authority
- Latin American Association
- Life University
- Mable House
- Marietta Clean City Commission
- Metro Chamber of Commerce
- Metro North Youth Soccer Association
- Metropolitan Association of Soil and Water Conservation Districts
- Metropolitan Atlanta Rapid Transit Authority
- Mt. View Arts Alliance
- Mt. View Community Club
- National Association for the Advancement of Colored People
- National Parks Conservation Association
- Natural Science for Youth Foundation
- The Natural Step
- Nickajack Creek Watershed Alliance
- North Georgia Trout Online
- North Metro Tech
- Northridge Community Association
- Oglethorpe Power

- Outdoor Activity Center
- Outward Bound Center - Atlanta
- Park Pride
- PATH Foundation
- Piedmont Park Conservancy
- PLAN, Inc.
- Powder Springs Civic Assoc.
- Regional Business Coalition
- REI – Kennesaw
- River Ecologic
- River Through Atlanta
- Rockdale County Trail Riders
- Roswell Alpharetta Mountain Biking Association (RAMBO)
- Roswell Convention & Visitor Bureau
- Roswell Historical Society
- Saddle Up Cobb
- Sandy Springs Conservancy
- Sandy Springs Hospitality and Tourism
- Sandy Springs Revitalization, Inc.
- SCAT
- Sierra Club
- Sierra Club - Georgia Chapter
- Sierra Club, Centennial Group
- Smyrna Clean and Beautiful
- SORBA
- SORBA/IMBA
- SORBA – RAMBO
- SORBA – Atlanta, GA Chapter
- SORBA-Woodstock, GA Chapter
- South Cobb Community Center
- South Peachtree Creek Nature Preserve
- Southeast Land Preservation Trust
- Southeast Region Eastern National
- Southeast Tourism Society
- Southern Bicycle League
- Southern Conservation Trust
- St. Andrew Rowing Club
- The Conservation Fund
- The Georgia Conservancy
- The Georgia Wildlife Federation
- The National Trust
- The Nature Conservancy of Georgia
- The Star & Beacon
- The Trust for Public Land
- The Turner Foundation
- The University of Georgia

- The Wilderness Society
- Town Center Area CID
- Trees Atlanta
- Trout Unlimited
- Trout Unlimited Georgia Chapter
- Trout Unlimited Cohutta Chapter
- Trout Unlimited GA Fishing Council
- Upper Chattahoochee Riverkeeper
- Whitefield Academy
- Zoo Atlanta

MEDIA CONTACTS

Newspapers and Magazines

- Atlanta Journal - Constitution
  Business
  Cobb Extra
  DeKalb Extra
  Faith and Values
  Fayette/Coweta Extra
  Fulton Extra
  Gwinnett Extra
  Leisure/Kids/Entertainment AJC News for Kids
  Opinion Page
- Alpharetta News and Revue
- Atlanta Business Chronicle
- Atlanta Daily World
- Atlanta Jewish Times
- Atlanta Latino
- Atlanta Magazine
- Atlanta Parent
- Cherokee Tribune
- Citizen Review Newspaper
- Clayton News Daily
- Cobb Neighbor
- Creative Loafing
- Creative Loafing - Topside Loaf
- Daily Herald
- Dallas News Extra
- Dekalb Neighbor
- Douglas/Paulding Sentinel
- El Deportivo
- El Norte
- Estadio La Casa de Deporte
- Fayette Daily News

- Forsyth County News
- Forsyth Daily News
- Fulton County Daily Report
- Gwinnett Daily Post
- Henry County Record
- Jezebel Magazine
- Johns Creek Herald
- La Voz del Pueblo
- Marietta Daily Journal
- Metro Networks News
- Mundo Hispanico
- Northside Neighbor
- Rockdale Citizen
- Rockdale Neighbor
- Roswell Neighbor
- Senior News
- South Fulton Neighbor
- South Metro Neighbor
- The Champion
- The Dunwoody/Roswell Crier
- The Gazette
- The Lakeside Ledger
- The Newnan Times Herald
- The South Fulton Citizen
- The Weekly
- The Weekly Gay
- Villa Rican

Radio and Television Stations

- Good Day Atlanta (ABC)
- CNN - Atlanta
- Channel 11 -WXIA
- Channel 14 - WPXA
- Channel 2 - WSB
- Channel 34 - WUVG
- Channel 46
- Channel 5 - WAGA
- Channel 8 - GPTV
- Public Broadcasting Atlanta
- PBS Atlanta
- Peach State Public Radio
- TBS Superstation
- WAFS-AM

- WAGA-TV Fox
- WATL-TV
- WAZX-FM/AM
- WAZX 1550 AM
- WCLK FM
- WFSH-FM
- WGCL-TV CBS
- WGST
- WKHX-FM
- WLBA 1130 AM
- WNNX-FM
- WPCH-FM
- WSB-AM 750
- WSB-FM
- WSB-TV ABC
- WSTR-FM
- WUPN-TV
- WVEE-FM
- WVFJ-FM
- WWWQ-FM
- WXEM-AM
- WXHK-FM
- WYAY-FM
- WZGC-FM
- WVFJ-FM
- WWWQ-FM
- WXEM-AM
- WXHK-FM
- WYAY-FM
- WZGC-FM

Individuals and Others

The General Management Plan/Environmental Impact Statement was also made available to individuals, private companies, and commercial institutions on a mailing list maintained by the park. Copies of the Final General Management Plan/Environmental Impact Statement were posted in eleven area public libraries (Forsyth County, Fulton County, Cobb County, and Gwinnett County) and the park; CDs were mailed to agency representatives; and those that requested email notification were also notified of the availability of the document on the internet.

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