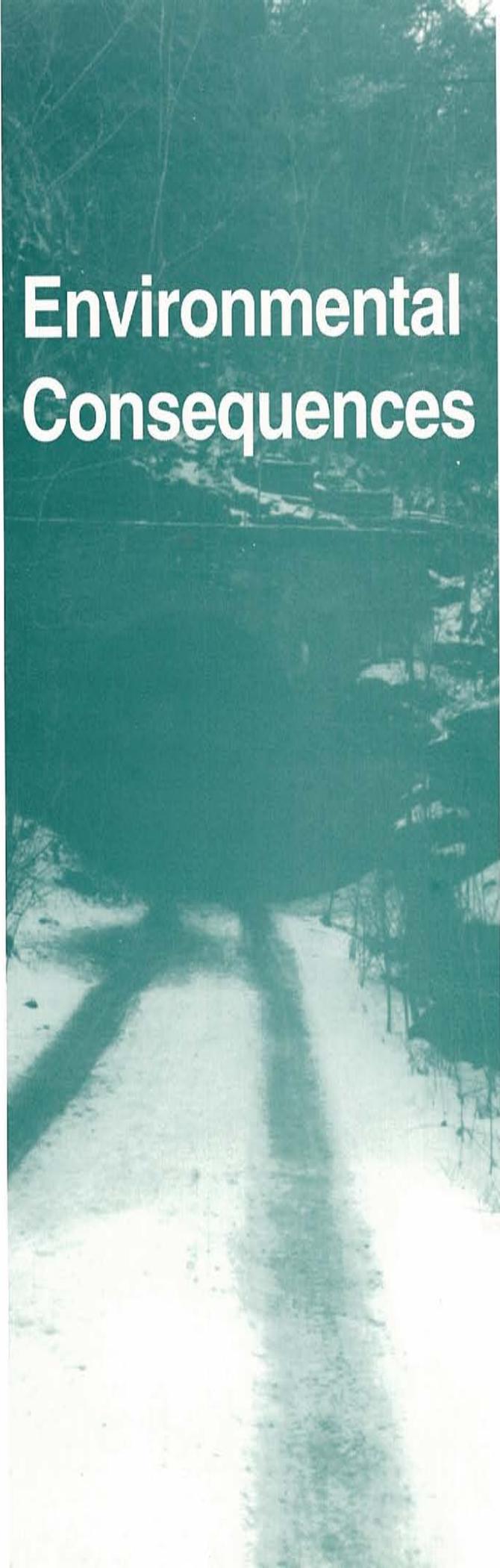


# Environmental Consequences





## INTRODUCTION

As required by the National Environmental Policy Act of 1969 (NEPA), the potential consequences of both alternatives are discussed. The consequence discussion addresses all significant adverse and beneficial impacts--past, present, future, direct, indirect, cumulative, irreversible, and irretrievable--on the human environment that would occur from implementation of either alternative.

Topic headings are organized by resources and are based on the affected environment, legislative requirements, and public and other agency concerns. The impacts of implementing each alternative are discussed for each resource topic to help the reader draw comparisons. A description of associated Federal and State laws that the alternatives comply with are highlighted alongside each appropriate impact topic.

Many of the impacts are similar for both alternatives. The difference primarily deals with the recognition for and methods used to protect the values and unique visitor experience of the Obed WSR. A chart

summarizing the environmental consequences can be found at the end of this chapter.

The analysis of environmental consequences assumes full implementation of alternatives. It is important to note that the rate of initiating programs and developments largely depends on funding and staffing levels. If funding permits the addition of two to three FTE employees per year, it would take at least 4 years to reach the minimum number of employees needed under current conditions. Under this assumption, it would take an additional 2 years to reach the minimum number of employees needed to fully implement the proposed action. If funding and staffing levels see only modest growth over the next decade, the Obed WSR would still continue to develop, but at a much slower rate. However, if funding and/or staffing levels were to stabilize or be reduced due to budgetary or other considerations beyond the control of the Park Service, implementation of either alternative as currently envisioned would not be possible.

# CONSEQUENCES

## EFFECTS ON WATER RESOURCES

### ***Alternative A: The Proposed Action***

Implementation of this alternative would document the quantity and quality of the waters, reduce water resource impacts over the long-term, and provide for greater recognition of the need to achieve and maintain natural stream flows and the highest water quality standards.

Enhancing the existing water resources

The **Federal Water Pollution Control Act Amendments of 1972** (Public Law 92-500, sec. 313) and the **Clean Water Act of 1977** (33 USC) directs the NPS to comply with State laws for water quality management and to meet certain water quality standards, regardless of jurisdictional status or land ownership. Based on the Federal requirements, the proposed actions comply with the **State of Tennessee's Water Control Act** [Tennessee Code 69-3-102(b)] and **Water Quality Control Act of 1971**, [9CA 70-324 through 70-342). These acts aim to protect water quality through regulation of pollution sources, monitoring of streams and lakes, and public education. The Acts contain an antidegradation policy which applies to the Obed WSR stating that no degradation of high quality, natural resource waters of recreational and ecological significance is allowable.

monitoring effort would serve to better document existing conditions as well as improvements in and degradation to water quantity and quality. A reduction of water resource impacts, such as erosion and sedimentation, would occur from:

--acquisition and therefore greater control of approximately 156 acres (63.1 hectares) where these impacts are occurring;

--reducing the number of vehicles accessing the river between existing bridge crossings through application and enforcement of

the management zone system;

--where appropriate, locating developments on previously disturbed areas and using erosion control measures during site development;

--the use of paving for proposed parking areas on currently disturbed lands; and

--revegetation or reclamation of abandoned mine sites and oil and gas operations in the Obed WSR boundaries.

Some limited, short-term impact to water resources would occur from development of the visitor use facilities. Approximately 0.75 acre (0.3 hectare) of land would be cleared of existing vegetation, primarily early successional forest. Less than 1 acre (0.4 hectare) would require grading or fill which could result in some short-term sedimentation impacts. About 3,500 square feet (315 square meters) of land would be paved for parking. Increasing the amount of paving increases the amount of surface runoff. The use of asphalt or petroleum based products for paved surfaces can also impact water quality as these products tend to break down and can be carried by runoff into streams.

Enhanced facility development and concentration of use at river access areas within the Development Zone/Recreational Facilities Subzone may lead to increased visitor use. More visitors would generally mean that more vehicles, trash, and human wastes would have to be addressed. To reduce the impacts from development of the facilities and increased visitor use on water resources, the following would be accomplished:

--institute erosion control measures during site development and adhere to all State and local erosion and sedimentation control measures;

--sensitively locate trails and backcountry campsites and where possible, locate proposed trails along existing social trails and campsites in currently used camping areas;

--provide adequate sanitary facilities for visitor use;

- remove the three sanitary toilet facilities, that are or would be located in the 100-year flood zone, during flood periods to reduce the potential for spills of human wastes;
- use vegetative filters or other devices alongside paved parking areas to minimize impacts from surface runoff;
- where feasible, use alternatives to asphalt for paved surfaces, such as porous concrete, soil stabilization agents, or gravel;
- after facilities are in place, continue monitoring to detect any additional water resources impacts; and
- apply additional management controls, including the preparation and implementation of a River Management Plan, if water quality impacts from increased visitor use are detected through monitoring.

Greater recognition of the need for protection of water resources would occur from:

- the existence of a group or "committee" who would address watershed-wide water resource protection measures,
- enhancing interpretive programs and services to educate and make visitors aware of the importance of water resources and their protection; and
- stationing a resource management specialist at the Obed WSR to increase the ability of the Park Service to initiate and manage proposed resource management strategies.

**Alternative B: The Current Course**

Knowledge of existing water resources would increase as in Alternative A, how-

ever, the reduction of water resource impacts would not be as great because:

- only 62 acres (25 hectares) are proposed to be added into the Obed WSR boundaries which would mean less direct protection of lands within the stream corridor; and
- increased water resource impacts would occur from the construction and maintenance of approximately additional 3.3 miles (5.3 kilometers) of road at Obed River/Clear Creek Junction right-of-way, Norris Ford, and Obed Junction. An additional 8 acres (3.2 hectares) of land would be cleared of vegetation and 4 acres (1.6 hectares) would require a significant amount of grading for these developments.

**EFFECTS ON FLOODPLAINS AND WETLANDS**

**Alternative A: The Proposed Action**

No adverse impacts to floodplains are expected. Proposed developments are excepted from agency floodplain management guidelines.

Because of the steep terrain, the following facilities are located inside the designated 100-year flood zone:

- trails, picnic areas, sanitary facilities, parking areas, and a developed camping area; and
- portions of the long distance trails and undeveloped campsites located throughout the Obed WSR.

**Executive Order 11988 "Floodplain Management" and Executive Order 11990 "Protection of Wetlands"** requires all Federal agencies to enhance floodplain and wetland values, to avoid development in floodplain and wetlands when practicable alternatives exist, and to avoid creating adverse impacts if a floodplain or wetland will be occupied or modified.

These facilities are integral to the recreational experience. The proposed contingency plan will allow for the safe evacuation of the Norris Bottoms campground during periods of flooding. For the more remote undeveloped camping areas, the registration system together with signs and pamphlets containing flood information, would serve to warn visitors of potential hazards and precautions to take.

Enhanced protection for wetlands would result from implementing the Proposed Action. This would occur as a result of:

- acquiring 126 acres (50.9 hectares) of lands, with their associated shorelines and wetlands, where impacts are occurring, and reducing vehicle access to the river corridor between existing bridge crossings to reduce erosion, sedimentation, compaction, and pollution impacts from off-road vehicles;
- implementation of resource data collection, monitoring, and protection programs to document the location, types, and conditions of wetlands; and
- enhanced interpretive programs and services to educate and make visitors aware of the importance of wetlands.

***Alternative B: The Current Course***

As in Alternative A, no adverse impacts to floodplains would occur; however, protection for wetlands would not be as great because no new wetland areas would be acquired through the boundary adjustments proposed in this Alternative.

## EFFECTS ON VEGETATION and WILDLIFE

***Alternative A: The Proposed Action***

Implementing Alternative A would serve to directly and indirectly increase protection of the vegetation and wildlife in the Obed WSR. No impacts to State or federal listed species or critical habitats are expected. This would occur because:

- protection of the critical habitat and listed species in the riverine environment would be enhanced by application of the resource management strategies and adding approximately 6.5 river miles (10.46 kilometers) and more than 190 acres (76.8 hectares) of lands adjacent to streams and tributaries to the Obed WSR boundaries;
- identification and protection efforts would increase under the direction of a resource management specialist stationed at the Obed WSR;
- proposed facility developments would be located primarily in previously disturbed areas; and
- visitors would be made more aware of sensitive species and the need for protection.

Clearing about 0.75 acre (0.3 hectare) of vegetation for parking, trails, and use areas would displace some small wildlife species. Siltation and sedimentation control measures would be used to protect vegetation and wildlife species that live in the river and streams.

No significant impacts to riverine species are expected from fishing and swimming during low water levels. If negative impacts are documented, a River Management Plan would be developed and implemented to control use and mitigate impacts.

The proposed developed overlook at Lilly Bluff would enhance protection of the plant community on the bluff which contains the fameflower (*Talinum mengesii*) a State-listed threatened species. While increased visitor use is expected, it would be of a different type and more controlled by the use of trails, boardwalks, interpretive waysides, and the increased presence of NPS staff. Impacts that would occur from construction would be mitigated by:

- first establishing sufficient baseline data on the location and environmental needs of the plant community;
- use of the baseline data to help determine specific design and layout details to avoid destruction of plants or important attributes of the site;
- use of appropriate materials and construction methods to minimize impacts on drainage and shade patterns; and
- use of interpretive waysides to help inform visitors of the need to protect and enhance the rare plants on the bluff.

Continued monitoring would occur to document the effects of development and visitor use on the plant community. Negative impacts would be mitigated while long-term effects, including regeneration of the plant in areas where it has been severely impacted, would be recorded.

**Alternative B: The Current Course**

Protection for vegetation and wildlife would not be as great as a result from implementation of Alternative B because no additional lands adjacent to the river, streams, or tributaries would be added to the boundaries.

No known endangered or threatened species occur on the proposed site for the overlooks near Obed River/Clear Creek Junction. Greater impacts would result from the increased 3.3 miles (5.3 kilometers)

of roads at Obed River/Clear Creek Junction right-of-way, Norris Ford, and Obed Junction. An additional 8 acres (3.2 hectares) of land would be cleared and 4 acres (1.6 hectares) would require a significant amount of grading for these developments. Strict control measures for siltation and sedimentation will be an important part of all construction activities to protect the many species of concern in the river corridors of the Obed WSR.

No development is proposed at Lilly Bluff; however, the existing impacts from use would probably increase and would need to be mitigated through area closure, increased enforcement, or other strategy.

**Endangered Species Act of 1973**, as amended (16 USC 1531 et seq.), sets up a process to identify and protect endangered and threatened species and their habitats, and requires all Federal agencies to coordinate with the U.S. Fish and Wildlife Service to determine their existence and to evaluate the impacts of a project on any listed species and their habitat.

## EFFECTS ON AIR QUALITY

**Alternative A: The Proposed Action**

No significant impact on air quality would occur as the result of implementation of this alternative and this proposal is consistent with the State Air

Quality Implementation Plan. Increased vehicular emissions at the Visitor Contact Station and within the Development Zone/ Recreational Facility Subzone may be expected due to increased use at these areas; however, this would have a negligible impact on the air quality in the Obed WSR.

Obed WSR is designated as a Class II Clean Air area under the **Clean Air Act**, as amended (42 USC 7401 et seq.). Section 118 of the Clean Air Act requires all Federal facilities to comply with State laws. The Tennessee Department of Environment and Conservation, Office of Pollution Control, is responsible for ensuring that all activities within the Obed WSR comply with existing Federal, State, and local air pollution control laws and regulations.

**Alternative B: The Current Course**

The same air quality impacts would occur as described above.

## EFFECTS ON CULTURAL RESOURCES

### Alternative A: The Proposed Action

Implementation of this alternative provides for enhanced protection and appreciation of cultural resources. This would occur as a result of:

--identifying, studying, and monitoring cultural resources;

The **National Parks Act of August 25, 1916**, the **Antiquities Act of 1906**, **National Environmental Policy Act of 1969**, and the **National Historic Preservation Act of 1966**, mandates the preservation and protection of cultural resources. **Section 106 of the National Historic Preservation Act**, as amended (16 USC 470, et seq.) requires Federal agencies take into account the effect of actions on cultural or archeological resources. **Executive Order 11593 "Protection and Enhancement of the Cultural Environment"**, further directs the Park Service to have all areas that are proposed for development tested and cleared by an archeologist to ensure that such resources are not inadvertently damaged. Potentially significant sites are evaluated in consultation with the State Historic Preservation Officer to determine their eligibility for listing on the National Register of Historic Places.

--most proposed development would occur in previously disturbed areas;

--acquisition of additional lands that are likely to contain cultural resources;

--enhanced interpretive services and the use and continuance of oral history studies to convey local cultural identity to visitors; and

--increased staffing for additional monitoring and enforcement capabilities.

The development of long distance trails may make some cultural resources more accessible to visitors and potential vandalism. Archeological and resource surveys would be done before construction is to begin to allow for:

--trail relocation if appropriate;

--enhanced interpretation if appropriate; and

--mitigation of potential impacts.

Surveys have been completed at some of the existing bridge crossings where proposed development would occur.

### Alternative B: The Current Course

The impacts of implementing this alternative are the same as described for the Proposed Action.

## EFFECTS ON PRIME and UNIQUE AGRICULTURAL LANDS

No prime or unique farmlands have been identified within the existing or proposed boundaries of the Obed WSR.

Federal agencies are required to analyze the impacts of Federal actions on prime and unique agricultural lands, in accordance with the **Farmland Protection Policy (45 F 59189)**.

## EFFECTS ON VISITOR USE

### Alternative A: the Proposed Action

Implementing the proposed action would impact visitor use in three ways:

--use patterns, including the methods and locations of access, would change for some current visitors;

--inappropriate use at some areas would decrease; and

--total use of the Obed WSR would increase.

Change in traditional use patterns would occur for the following:

--visitors who currently use vehicles to access riverside areas between existing bridge crossings. For resource protec-

tion and a quality visitor experience, roads would not be designated within the Wild Zone, and NPS policies and regulations regarding off-road vehicles in these areas would be enforced. (Park Service use of vehicles for emergency or administrative use would be allowed.) Instead, visitors are expected to use other areas where vehicles are allowed to access the river or other means of transportation such as hiking;

--hunters who would have less land base (generally 0.5 mile from 0.24 mile) available for hunting due to the increased safety zones around Recreational Facility Subzones. However, this decrease would be offset by proposed land acquisition which would increase the acres of land available for hunting, and the development of trails which would enhance access throughout the Obed WSR. Increased visitor safety would also result;

--the horseback riders and mountain bicyclers who would not be provided opportunity for these activities. In the future, designated trails for these groups may be developed in appropriate areas and with Park Service assistance; and

--users who may encounter change in order to provide the necessary protection for significant resources. An example might be to eliminate camping on sand or gravel bars to protect habitat for Endangered and Threatened Plants.

The reduction in inappropriate use at some areas would result from enhanced enforcement of off-road vehicle use, marijuana cultivation, and consumption of drugs and alcohol.

An increase in total use is expected due to the enhancement of the visitor experience which would occur as a result of:

--improved water quality;

--enhanced resource management;

--increased quantity and quality of visitor facilities; and

--protection of the landscape character.

**Alternative B: The Current Course**

The same impacts to visitor use--changes in use patterns, decreased illegal activities, and increased total visitation--would be similar to Alternative A. In addition to these impacts, a developed overlook at the junction of Clear Creek and the Obed River would impact views from the river corridor in an area that is presently undeveloped.

**EFFECTS ON ACCESSIBILITY**

**Alternative A: The Proposed Action**

The Obed WSR would be more accessible to visitors with disabilities. The visitor contact station in Wartburg, the developed overlook at Lilly Bluff, and river access trails at Nemo Bridge would be fully accessible. To a lesser degree, trails at river access sites and the right-of-way leading to Obed River/Clear Creek Junction would be accessible to many visitors, but due to the elevation changes would be more challenging.

Under the mandates of the **Architectural Barriers Act of 1968** (42 USC 4151 et seq.), the **Rehabilitation Act of 1973** (29 USC 701 et seq.), and the **Americans with Disabilities Act of 1990** (Public Law 101-336, 104 Stat. 327), facilities, services, and programs would be as accessible to disabled visitors as feasible. Per NPS management policies, the degree of accessibility of any area would be proportionate to the extent it has been developed and its visitation levels allowing for resources to be protected and a high quality visitor experience to be maintained.

**Alternative B: The Current Course**

Enhanced accessibility would also occur from implementation of Alternative B.

## EFFECTS ON SOCIOECONOMY

### ***Alternative A: the Proposed Action***

Increased tourism and a possible reduction of county tax income would be the primary impacts on the socioeconomy of the surrounding three county area.

Increased tourism would occur as a result of several factors:

- several resource management and visitor use strategies are proposed that would help distinguish the uniqueness of the area; any action that helps to distinguish the unique values of the Obed WSR would enhance its ability to attract visitors;
- maintaining high water quality will continue to draw visitors who use the waters in the Obed WSR to swim, fish, or boat in; and
- all visitor related programs and facilities proposed would enhance opportunities available and increase visitation as evidenced by recently implemented developments at Nemo and Jett Bridges.

Since implementation of this alternative would lead to increased visitation, it is likely that some private lands in the surrounding area would be developed to provide additional facilities and services to visitors. This type of development would affect land use patterns outside the Obed WSR boundaries.

Implementation of this alternative would have no significant additional impact on Federal or federally-assisted projects that may affect the Obed WSR because of the protection afforded by the Wild and Scenic Rivers Act.

While the Wild and Scenic Rivers Act and NEPA provide for full consideration and protection of the values of Obed WSR from

effects of Federal or federally-assisted projects, it is expected the educational aspect of this alternative would influence land uses by private individuals and others. Hopefully, this would result in greater protection for the Obed WSR.

If any of the boundary adjustments proposed resulted in the acquisition of fee title by the NPS, a loss in tax revenues would result. These revenues would be replaced in part through payments in lieu of taxes. Since many of these lands would be purchased as less-than-fee (easements), taxes would continue to be paid on these lands however, at a reduced rate which would affect county income. At this time, it is not possible to estimate an impact on county revenues.

An increase in staff would lead to an increase in spending in the area through additional purchases of supplies, food, housing, and utilities.

### ***Alternative B: the Current Course***

The same impacts as listed above would result from implementing Alternative B. Fewer acres of boundary adjustments are proposed. It is not possible to identify the effect of acquisition of these lands on county income since a determination has not been made as to the method of acquisition (fee or less-than-fee).

## EFFECTS ON CATOOSA WILDLIFE MANAGEMENT AREA

### **Alternative A: The Proposed Action**

No significant impact would occur on the Catoosa WMA from implementation of this Alternative. Designation of 6 additional river miles of the Obed WSR, currently owned by TWRA, and application of the management zone system would not affect current use patterns. TWRA would need to devote a minimal amount of space in their Crossville office to display and store informational materials on the Obed WSR.

### **Alternative B: The Current Course**

No significant impacts would occur from implementation of this alternative. The existing MOU currently addresses provisions for the proposed 32.5 miles (52.2 kilometers) of trails to occur on Catoosa WMA lands.

## CUMULATIVE IMPACTS

No specific cumulative impacts have been identified resulting from implementation of either of the alternatives. Generally, recognition of the Obed WSR's presence and, therefore, the need to protect its values and visitor experience, is expected to increase over time.

## Summary of Environmental Consequences

Resource Topics	Alternative A: The Proposed Action	Alternative B: The Current Course
<b>Effects on Water Resources</b>	Documents the existing quality of waters. Reduces water resource impacts over the long-term. Short-term sedimentation impacts due to facility construction.	Water resource impacts would not be reduced as much as in Alternative A. All other consequences are the same.
<b>Effects on Floodplains and Wetlands</b>	No adverse impacts to floodplains. Enhanced protection for wetlands.	Wetland protection would not be as enhanced as in Alternative A.
<b>Effects on Vegetation and Wildlife</b>	Increased protection for vegetation and wildlife. Impacts expected from facility development to include loss of some vegetation and displacement of small wildlife species.	Vegetation and wildlife protection would not increase as much as in Alternative A. Greater amounts of vegetation lost and wildlife species displaced because of additional roads and different location of developed overlook.
<b>Effects on Air Quality</b>	No significant positive or negative impacts.	No significant positive or negative impacts.
<b>Effects on Cultural Resources</b>	Enhanced protection and appreciation for cultural resources.	Enhanced protection and appreciation for cultural resources.
<b>Effects on Prime and Unique Agricultural Lands</b>	No such lands have been identified.	No such lands have been identified.
<b>Effects on Visitor Use</b>	Use patterns would change for some current visitors. Illegal activities would decrease. Total use would increase.	Use patterns would change for some current visitors. Illegal activities would decrease. Total use would increase.
<b>Effects on Accessibility</b>	Enhanced accessibility for visitors with disabilities.	Developed Overlook would be accessible to visitors with disabilities.
<b>Effects on Socioeconomics</b>	Tourism would increase. County tax income may be reduced if boundary adjustments are acquired in fee.	Same as Alternative A except that fewer acres of boundary adjustments are involved.
<b>Effects On Catoosa WMA</b>	No significant impacts.	No significant impacts.
<b>Cumulative Impacts</b>	Increased recognition over time for Obed WSR and need to protect its values and visitor experience.	Increased recognition over time for Obed WSR and need to protect its values and visitor experience.