

National Park Service
U.S. Department of the Interior

PRINCE WILLIAM FOREST PARK
VIRGINIA



Environmental Assessment Reestablishment of South Valley Trail July 2003



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I. EXECUTIVE SUMMARY

Prince William Forest Park is proposing to re-establish visitor use along a section of South Valley Trail that has been closed since February 2003. Approximately two miles south from its origin near Oak Ridge Campground, the South Valley Trail crosses to the river right side of South Fork Quantico Creek and remains there until Mawavi Road, where the trail picks up again on the river left side of the creek. The foot bridge across South Fork at the two mile mark is a large wooden foot bridge that washed out during a February 2003 flood event. South Valley Trail has been closed between the location of the foot bridge and Mawavi Road since early February, impacting the visitor use experience.

Three alternatives are considered in detail in this Environmental Assessment. Alternative 1 is the no action alternative, Alternative 2 proposes to reroute South Valley Trail, and Alternative 3 proposes to repair the existing one-mile section of South Valley Trail and foot bridge. Alternative 2 is the preferred and environmentally desirable alternative. Actions would include removing a washed out foot bridge over South Fork Quantico Creek, rehabilitating approximately one mile of trail on the river right side and $\frac{3}{4}$ mile of access road, and establishing a new one mile length of trail on the river left side.

II. PURPOSE AND NEED FOR ACTION

A. INTRODUCTION

1. Project Description

Prince William Forest Park proposes to re-establish visitor use along a section of South Valley Trail that has been closed since February 2003. Under the preferred alternative, a washed out foot bridge over South Fork Quantico Creek will be removed, approximately one mile of trail on the river right side and $\frac{3}{4}$ mile of access road will be rehabilitated, and a new one mile length of trail will be established on the river left side to replace in kind the rehabilitated trail.

2. Map of Project Area

See Figure 2.

B. BACKGROUND AND NEED

Prior to the 1700's, the area that is now Prince William Forest Park was forested by deciduous trees. By the early part of the 20th century, much of that land had been farmed or mined. In 1933, the Chopawamsic Recreation Demonstration Area was created, one of 46 recreation demonstration projects in 25 states. The Civilian Conservation Corps (CCC) constructed five cabin camps, numerous roads and lakes, and miles of trails to provide recreational opportunities. Management of the recreation area was turned over to The National Park Service (NPS) in 1936 through Executive Order 7496, and, in 1948, its name was changed to Prince William Forest Park (Public Law 736). Today, the park's focus is on preserving and interpreting the natural and cultural resources and providing recreational opportunities for the public in accordance with the Organic Act of 1916.

The South Valley Trail, one of the most popular hiking trails within the park, is a 9.7 mile long trail that follows South Fork Quantico Creek. The National Register Ineligible List shows that Oak Ridge Campground was built in 1963-1964, and it is believed that the trail was built after the campground was completed. A park map dated June 1953 (Appendix 1), does not show this portion of South Valley Trail. Approximately two miles south from its origin near Oak Ridge Campground, the trail crosses to the river right side of South Fork Quantico Creek and remains there until Mawavi Road, where the trail returns to the left side of the creek. The foot bridge across South Fork at the two mile mark is a large wooden foot bridge that was washed out during a February 22, 2003 flood event (Figure 3). South Valley Trail has been closed between the location of the old foot bridge and Mawavi Road since early February, impacting the visitor use experience.

Figure 1 – Vicinity Map

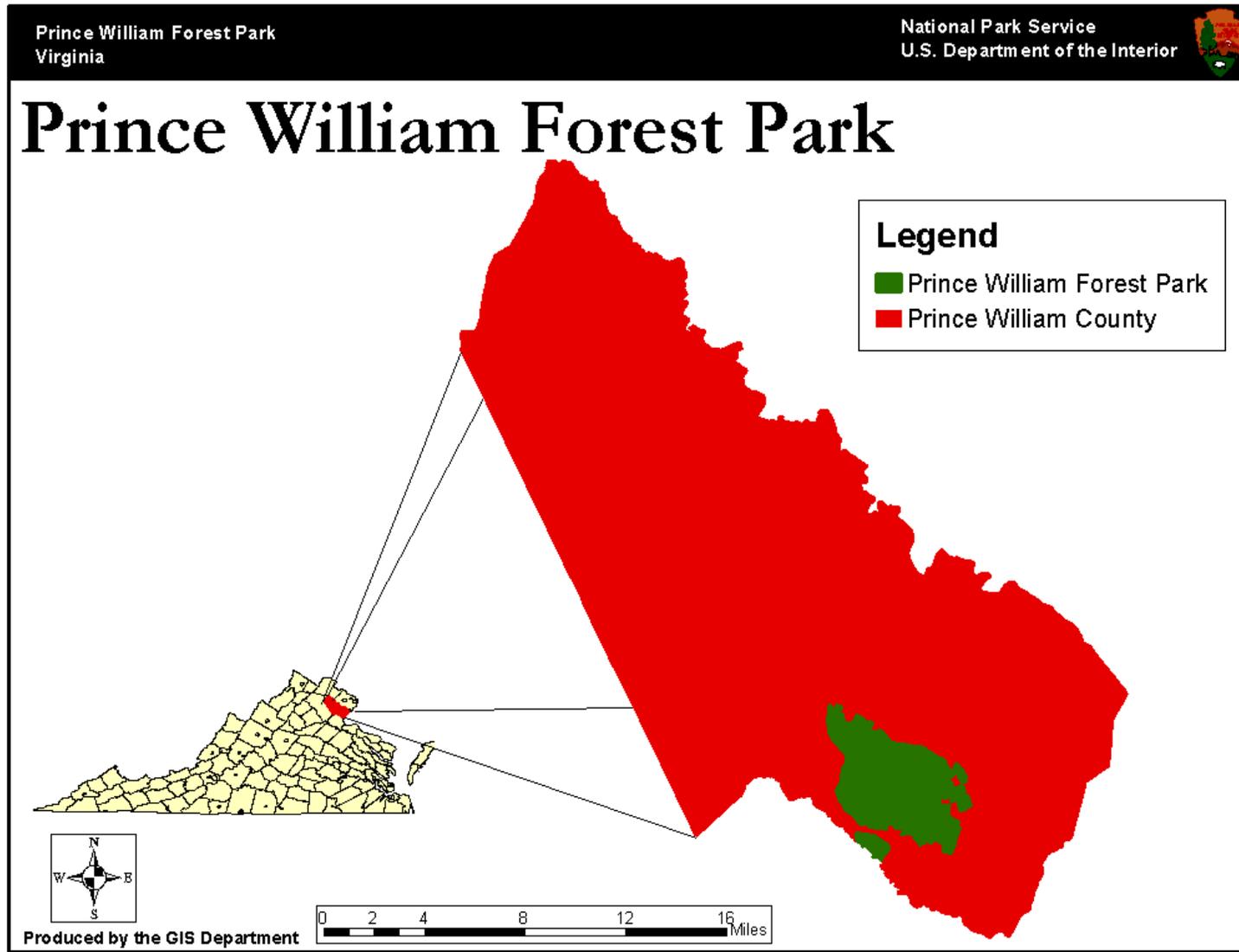


Figure 2 – Location of Project within the Park

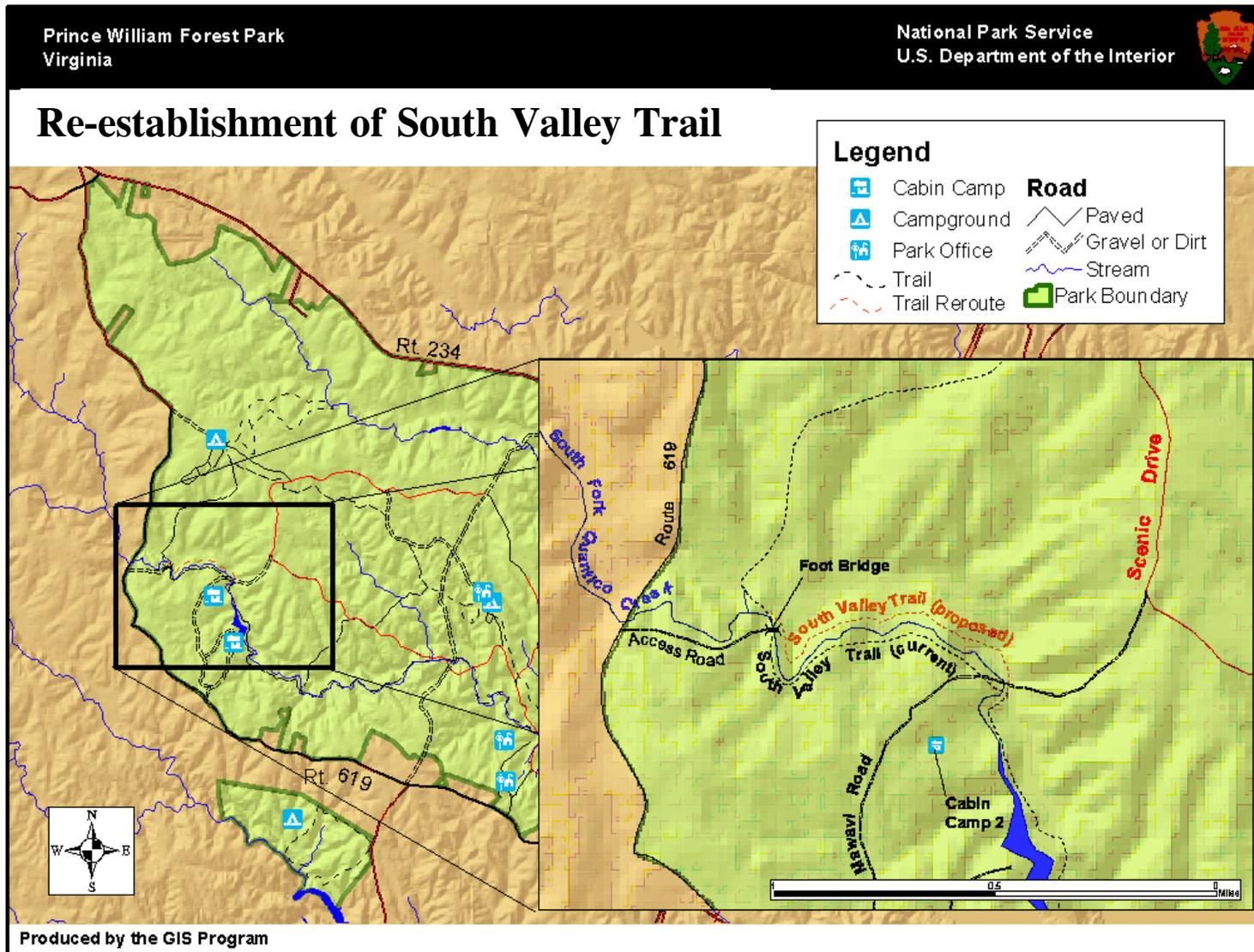


Figure 3 - Photograph of Foot Bridge after the Flood



Prince William Forest Park is proposing this project to address the following issues:

The reduction in the quality of the visitor use experience due to the trail closure

South Valley Trail has been closed between the washed out foot bridge and Mawavi Road since February 4, 2003 when an inspection of the foot bridge revealed that it was unsafe for human use. Visitors beginning a hike at Oak Ridge Campground are forced to double back at this point, as are those who are hiking north on South Valley Trail when they reach Mawavi Road. In addition, this section of South Valley Trail is included in several longer trail loops that are heavily utilized by hikers. Until the trail is reopened, impacts to the visitor use experience will continue.

The impact to water quality as a result of stream bank and trail erosion

The stream bank at the foot bridge location has been severely undercut and has required stabilization with large rocks, held in place with metal fencing. The foot bridge has washed out or required repairs on a frequent basis. Additionally, several sections of the existing trail (approximately one-quarter mile in total length) on the river right of South Fork Quantico Creek are heavily eroded and washed out. This has resulted in steep slopes that drop off to the creek, allowing sediment from the trail and stream bank to enter the stream and increase the total sediment load.

The need for an access road to make routine repairs to a foot bridge over South Fork Quantico Creek

There are no permanent roads that provide access to the foot bridge along South Fork Quantico Creek at this location. The size of the foot bridge necessitates the use of heavy equipment to

make repairs. An infrequently used two track road has been used to access this point which causes resource damage and creates an unauthorized entrance into the park from Route 619. If a foot bridge is to be maintained in this area, a gravel access road will need to be created and gated for maintenance purposes in order to contain the impacts to one area, and minimize unauthorized access.

The sustainability of this section of South Valley Trail

The one-mile closed section of South Valley Trail is located on the river right side of South Fork Quantico creek adjacent to the stream bank. In many areas, the trail drops straight down to the creek, and in others, wooden logs and stakes have been installed to stabilize the slope. This section of trail, in its current condition, will need to either be reinforced or moved out of the 100 year flood plain to enable its continued use.

The protection of visitor and employee safety

The steep slopes that drop down to the creek are creating a safety hazard for those who hike the existing section of trail. In several areas, the edge of the trail drops straight down to the creek, and in others it has been necessary to stabilize the creek side of the trail with wooden boards and stakes which are now exposed. These areas are slip and trip hazards that could result in the injury of anyone hiking this section of South Valley Trail.

C. OBJECTIVES

The objectives of this project are:

1. Reopen South Valley Trail along its entire length
2. Minimize erosion and potential water quality effects
3. Determine the sustainability of a permanent access road
4. Develop a more sustainable section of trail
5. Ensure the safety of park staff and visitors

The objectives were developed based upon the issues discussed in section II.B of this document, and follow established National Park Service (NPS) and park management objectives.

Section 8.2 of the 2001 Management Policies (USDI, National Park Service, 2000) states that the NPS will “provide opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the parks,” and that such activities should “...be sustained without causing unacceptable impacts to park resources or values.”

Prince William Forest Park’s General Management Plan (USDI, National Park Service, 1999), identifies hiking as the most popular activity in the park, and discusses the park’s goals of providing recreational opportunities that are consistent with the protection of park resources.

The Resource Management Plan (RMP) (USDI, National Park Service, 1995) states that “much of the current trail system was established without regard to topography, soil conditions, hydrology or visitor use. Past trail maintenance techniques have been inadequate in dealing with erosion, trail widening, compaction, and stream crossings. Conditions on some trails have

deteriorated to the point that the hazards of the trail slope, slant, or wetness seriously detract from the hiking experience.” The RMP recommends the development of a Master Plan for the trails which would evaluate trail placement throughout the park, outline a recommended trail system that minimizes environmental affects, and identifies trails in need of rehabilitation.

Under the direction of the Government Performance Results Act (1993), Prince William Forest Park developed Performance Management Goals. The objectives of this project meet the following goals:

1. Goal Category I: Preserve Park Resources

Ia. Natural and cultural resources and associated values at Prince William Forest Park are protected, restored and maintained in good condition and managed within their broader ecosystem and cultural context.

Ia4. PRWI Water Quality - By September 30, 2005, Prince William Forest Park maintains unimpaired water quality.

2. Goal Category II: Provide for the Public Use and Enjoyment and Visitor Experience of Prince William Forest Park

Iia. Visitors to Prince William Forest Park safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of park facilities, services, and appropriate recreational opportunities.

Iia1. PRWI Visitor Satisfaction: By September 30, 2005, 90% of visitors to Prince William Forest Park are satisfied with appropriate park facilities, services, and recreational opportunities.

Prince William Forest Park has also defined four Mission Goals:

1. Prince William Forest Park staff provides leadership in the conservation and preservation of natural and cultural resources.

2. Prince William Forest Park offers recreational opportunities that are compatible with the natural and cultural environment and their safe use.

3. Park staff provides educational public information services that give visitors an opportunity to form a resource stewardship and conservation ethic.

4. Park management values and invests in its employees, volunteers and visitors and is committed to a workplace and park that is safe, healthy, sustainable and protective of the environment.

The project objectives are directly tied to goals 1, 2, and 4.

D. POLICY

In addition to the NPS and park policies discussed in section II.C, this project is subject to the following laws and regulations:

The National Park Service Organic Act (1916) mandates that purpose of the national parks is “...to conserve the scenery and the natural and historic objects and the wild life 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 National Environmental Policy Act (1969, as amended) requires all federal agencies to carefully consider the range of alternatives and impacts for a proposed project that may affect the human environment.

Director’s Order 12: Conservation Planning and Environmental Impact Analysis, and Decision-Making (2001) provides guidance to National Park Service sites on preparing documents that comply with the National Environmental Policy Act.

The Endangered Species Act (1978, as amended) requires all federal agencies to consult with the United States Fish and Wildlife Service to determine the potential impacts to federally listed rare, threatened or endangered species that may result during a proposed project.

The Archeological and Historic Preservation Act of 1974 authorizes Federal agencies to protect historical and archeological data that might be lost as a result of construction of irrigation projects, a dam, or other Federal activity.

Section 106 of the National Historic Preservation Act (1966), requires that every Federal agency “take into account” the effects of its proposed actions on areas that are listed in or eligible for the National Register of Historic Places, and provide the Advisory Council on Historic Preservation an opportunity to comment on the proposed actions.

The Virginia Coastal Resources Management Program (VCP), authorized by Virginia Executive Order Number Thirteen (86), and continued by subsequent Executive Orders, the most recent being Executive Order 23 (02), requires that “federal activities which are reasonably likely to affect any land or water use or natural resources of Virginia’s designated coastal resources management area must be consistent with the [nine] enforceable policies of the Virginia Coastal Resources Management Program.”

In accordance with the above laws, policies, and regulations, Prince William Forest Park has initiated the appropriate level of consultation and coordination to fulfill all obligations.

III. ALTERNATIVES

A. PROCESS USED TO FORMULATE THE ALTERNATIVES

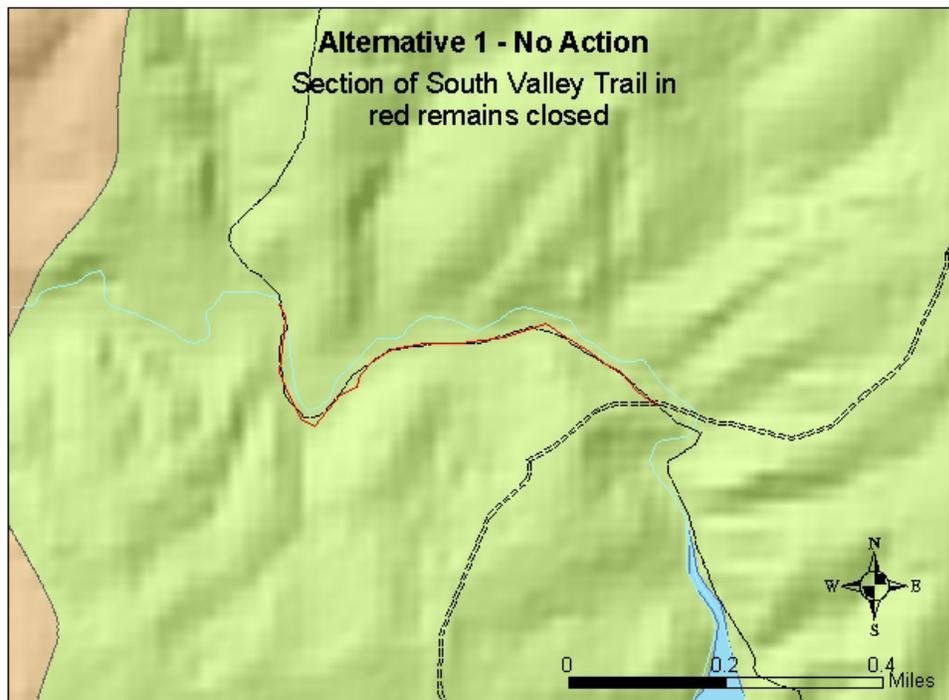
Alternatives for the South Valley Trail project were developed within the defined project objectives, and were based upon National Park Service and Prince William Forest Park guidelines and management objectives.

B. ALTERNATIVES CONSIDERED IN DETAIL

1. Alternative 1 – No Action

Under this alternative, the area would remain in its current condition. Individuals beginning a hike at Oak Ridge Campground will continue to be forced to double back at the location of the washed out foot bridge, as will those who are hiking north of Mawavi Road on South Valley Trail, as there is no way to cross South Fork Quantico Creek. It is likely that social trails would be created by visitors along the northeast side of the creek in an attempt to continue the hike. Numerous trails created haphazardly will negatively affect the vegetation resources in this area. Additionally, some individuals may attempt to cross South Fork Quantico Creek to reach the old trail on the southwest side. The depth and current of South Fork vary greatly in this area and are largely dependent upon rainfall. During particularly wet times of the year or following large storms, attempting to cross the creek may be extremely unsafe.

Figure 4 – Alternative 1



2. Alternative 2 – Reroute South Valley Trail

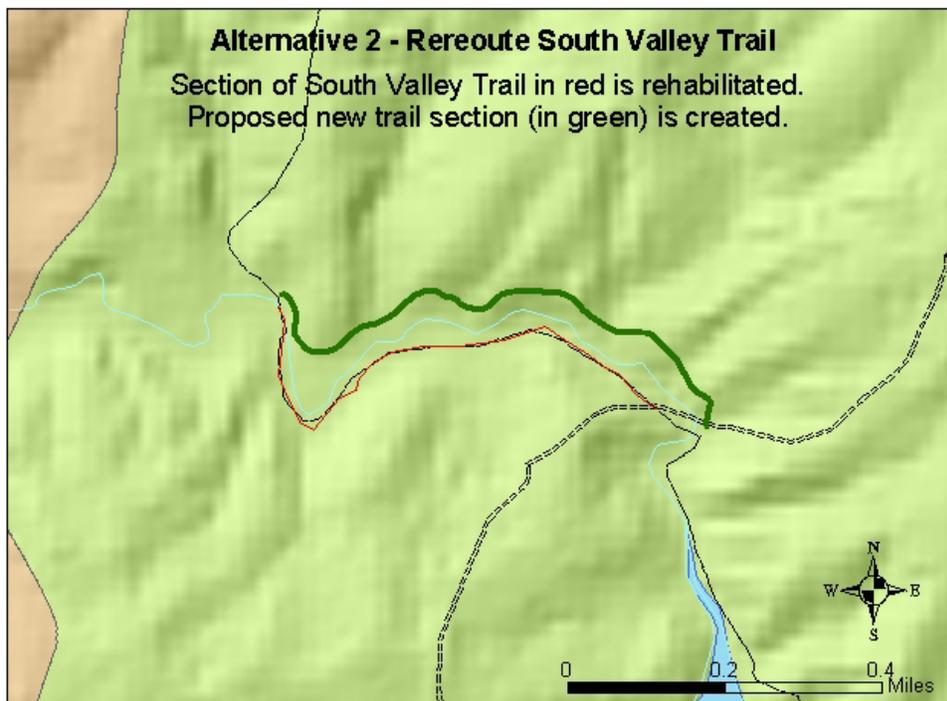
Under this alternative the washed out foot bridge would be removed, the trail re-routed, and the old trail and access road rehabilitated. This would be the most sustainable alternative as it would eliminate the need to continually repair the foot bridge and stabilize the stream bank. Heavy equipment would no longer be needed, the new trail section would be safer and would not experience the same problems with erosion, and the South Valley Trail could be reopened along its length for visitor use.

Tasks associated with this alternative include:

1. Salvaging the old foot bridge and associated materials for use as board walks and small foot bridges for the new section of trail.
2. Stabilizing and repairing the stream banks in the former foot bridge location.
3. Rehabilitating the access road and one mile of trail on the river right side of South Fork Quantico Creek – aerating the soil, dropping trees at both ends of the closed trail/road, dragging dead woody material/leaf litter to cover exposed soil.
4. Mapping a new section of trail on the river left side of the South Fork Quantico Creek between the old foot bridge location and Mawavi Road (approximately one mile).
5. Surveying this new section of trail for state or federally listed rare, threatened, or endangered plant species.
6. Establishing the new section of trail - clearing brush, installing sections of boardwalk, adding appropriate blazing and signage.

Alternative 2 is the Preferred Alternative as well as the Environmentally Desirable Alternative.

Figure 5 – Alternative 2



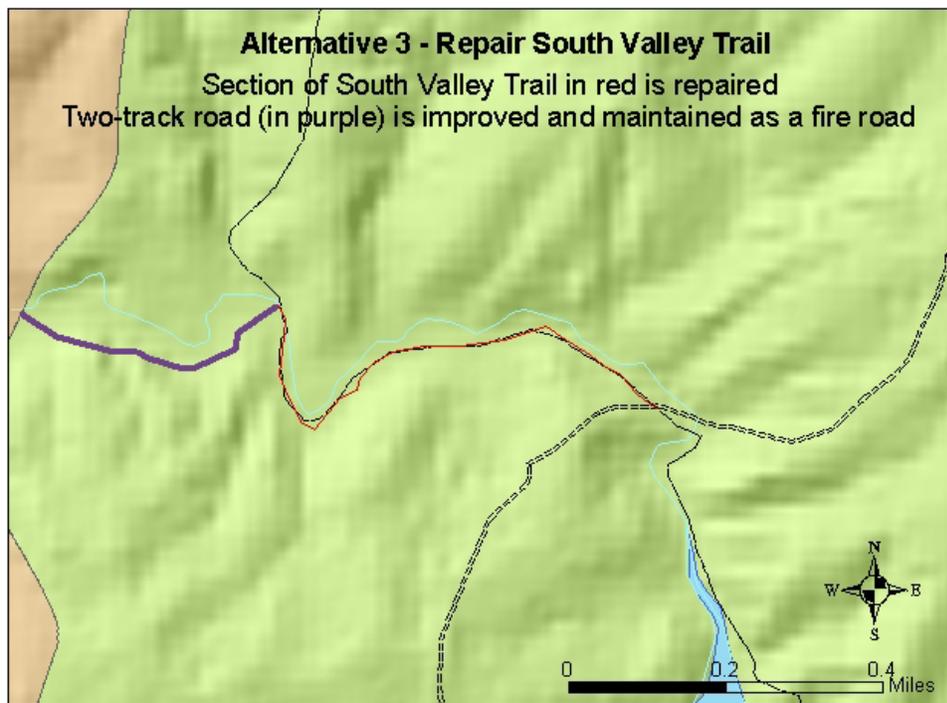
3. Alternative 3 – Repair South Valley Trail

Under this alternative, the washed out foot bridge would be replaced and the existing section of trail would continue to be used. The stream crossing (foot bridge location) and existing trail will need continual stabilization and maintenance, and the old access road will need to be developed into a permanent fire road to allow park staff access to the area. The road will need to be grated and gravel poured to minimize erosion and the creation of large ruts in the soil. The existing road cut is located on the flood plain of South Fork Quantico Creek, and it passes through vernal pools and other low-lying wet areas.

Tasks associated with this alternative include:

1. Acquiring the materials needed to construct a new foot bridge.
2. Stabilizing the stream banks in the foot bridge location.
3. Constructing a new foot bridge.
4. Stabilizing the trail in areas where it currently drops off sharply to the creek.
5. Grating the old access road and putting down gravel.
6. Routinely checking the foot bridge and trail for signs of future failure.
7. Maintaining the access road for use.
8. Increasing boundary and law enforcement patrols to ensure that individuals are not seeking illegal access into the park along this road.

Figure 6 – Alternative 3



C. COMPARSION OF ALTERNATIVES

Table 1 provides a comparison of how each of the three alternatives meets the stated project objectives.

Table 1- Comparison of the Alternatives

Objective	Alternative 1	Alternative 2	Alternative 3
Reopen South Valley Trail along its entire length	Does not meet this objective. South Valley Trail would not continue along its length as there would be no way to cross South Fork Quantico Creek.	Meets this objective. South Valley Trail would be reopened along its entire length.	Meets this objective. South Valley Trail would be reopened along its entire length.
Minimize erosion and potential water quality effects	Does not meet this objective. The stream banks at the old foot bridge location and along the existing trail would not be stabilized or rehabilitated.	Meets this objective. The stream banks at the old foot bridge location and along the existing section of trail would be stabilized, the existing section of trail rehabilitated and allowed to recover, and a new section of trail that would not exhibit the same issues with erosion would be created. The amount of sediment reaching the creek as a result of this section of trail would be reduced.	Meets this objective in the short term. The stream banks at the foot bridge location and along the existing trail would be stabilized. Visitors will utilize the existing trail which would continue to fail and erode away due to its location immediately adjacent to the creek. Routine stream bank stabilization will be necessary, and sediment will be washed into the creek during storm events.
Determine whether a permanent access road is needed in this area	Meets this objective. No permanent access road would be needed under this alternative.	Meets this objective. No permanent access road would be needed under this alternative.	Meets this objective. A permanent access road will be needed under this alternative.
Develop a more sustainable section of trail	Does not meet this objective. No actions to stabilize or rehabilitate the area are being taken.	Meets this objective. The old trail will be stabilized and rehabilitated, reducing the sediment input into the creek, the	Does not meet this objective. A permanent access road will be required, as will continual foot bridge and trail

		need for an access road and continual foot bridge and trail stabilization will be eliminated, and the existing foot bridge materials will be reused for board walk and small tributary crossings in the new section of trail.	maintenance. The existing trail will continue to erode and wash out during storm events and will need to be routinely stabilized.
Ensure the safety of park staff and visitors	Does not meet this objective. Visitors will be tempted to cross the creek or walk off trail which may create potential safety problems.	Meets this objective. The slip and trip hazards associated with the eroding trail and stream bank on the existing trail would not be present on the new section of trail due to its topographic position.	Meets this objective. The existing section of trail will be stabilized and monitored to reduce the slip and trip hazards associated with the eroding trail and stream bank.

IV. DESCRIPTION OF THE ENVIRONMENT

Prince William Forest Park consists of approximately 17,600 acres of mixed hardwood forest within a major portion of the Quantico Creek watershed and the lower portion of the Chopawamsic Creek watershed. Quantico Creek is noted for its excellent water quality and has been used as a reference stream by several federal, state, and local agencies. The park's relatively large size and the fact that it protects a significant portion of mature eastern deciduous forest make it a significant natural resource. In addition, because the park includes two physiographic provinces and lies in the transition zone between northern and southern climates, it exhibits a wide range of habitat and vegetative communities. Despite its history of human activity, the recovery of the area has led to its recognition as one of the least impacted watersheds in the Commonwealth of Virginia.

Most of the park lies within the Piedmont Physiographic Province. Typical of the Piedmont, the park is a lowland plateau with rolling hills and stream cut valleys. Elevations range from about 10 feet up to 400 feet above sea level. About one fourth of the park lies in the Coastal Plain Physiographic Province, which is of flatter relief and contributes significantly to the geological diversity of the park. The Coastal Plain consists of stratified marine sediments of sand, silt, clay and gravel. The older Piedmont consists largely of granite, gneiss and mica schist. The park also has large mineral deposits, primarily pyrite and associated minerals. The largest concentration of pyrite is found at the confluence of the two main branches of Quantico Creek.

The dominant forest species in the park are white oak, red oak, tulip-poplar, and American beech, along with occasional large stands of Virginia pine. Some uncommon or rare tree species present include butternut, bigtooth aspen, black walnut, sweet bay magnolia, and eastern hemlock, as well as floodplain species like American sycamore. The park includes one seepage swamp area in which poison sumac has been observed, and an Eastern Hemlock stand designated as a Conservation Area by the Virginia Department of Conservation and Recreation, Division of Natural Heritage (VA, DNH 1999). Several of these species are at their distributional limits in the park. Understory species include dogwood, redbud, mountain laurel, and American holly. Ferns, mosses, vines and wildflowers form the groundcover. Cardinal flower and Hercules club are common in the park, but uncommon elsewhere. The small whorled pogonia (*Isotria medeoloides*), a federally listed threatened plant species, is considered one of the rarest plants in the United States and has been identified in the park. Lemmer's pinion moth, *Lithophane lemmeri*, a state rare moth, and the Sedge sprite, a state rare damselfly, have also been found in the park (Roble, 2002). Several state Watch List species including the Diana butterfly (*Speyeria diana*), the tiger beetle (*Cicindela unipunctata*), and the star-nosed mole (*Condylura cristata cristata*) have been observed in PRWI. The first documented observation of a timber rattlesnake (*Crotalus horridus horridus*) in Prince William County was recorded in the park in 1992.

The park's dense forests and varied topography provide diverse habitat for wildlife species. White-tailed deer, wild turkey, fox and beaver populations thrive within the park. Small mammals, reptiles and amphibians are abundant. American black bear have been observed both in the park and in the surrounding environs. Owls and hawks, pileated woodpeckers, warblers, bluebirds and other songbirds are known to inhabit the park. Bald eagles, although not known to nest in the park, have been observed passing through the area.

Prince William Forest Park is located in Prince William County, Virginia, one of the fastest growing counties in the state. As development around the park increases, the value of the park and its resources is also increasing. The park receives about 225,000 visitors annually who participate primarily in passive forms of recreation such as driving the nine mile Scenic Loop, hiking, biking, and camping. A 1996 Visitor Use Survey indicated that hiking was the most popular activity at the park, and South Valley Trail is one of the most heavily used trails. At 9.7 miles, it is the longest trail in the park, beginning near the northwest corner and continuing to the southeast portion of the park. Additionally, the trail is part of approximately nine trail loops of varying lengths that are recommended to park visitors for hiking.

Table 2: Rare, Threatened and Endangered Species in Prince William Forest Park

Species	Federal Status	Global Rank / State Rank
Small Whorled Pogonia (<i>Isotria medeoloides</i>)	Threatened	G2; S2
Lemmer's pinion moth (<i>Lithophane lemmeri</i>)	N/A	G3/G4; S1/S2
Sedge sprite (<i>Nehalennia irene</i>)	N/A	G5; S1

V. ENVIRONMENTAL IMPACTS

Numerous ecological, aesthetic, economic, visitor-use, and safety concerns have been considered in assessing the potential environmental impacts of the alternatives. There are no anticipated impacts to populations of federally listed threatened or endangered species. Table 3 provides a summary of the impacts of the considered alternatives. Only those resources affected by the alternatives will be discussed in detail.

Table 3: Summary of Potential Environmental Impacts of the Alternatives

Resource Topic	Alternative 1 – No Action	Alternative 2 – Reroute South Valley Trail	Alternative 3- Repair South Valley Trail
Air Quality	No impact.	No impact. Use of gasoline powered equipment will be restricted on ozone orange and red days.	No impact. Use of gasoline powered equipment will be restricted on ozone orange and red days.
Archaeological Resources	No impact.	No impact.	No impact.
Cultural Resources and Historic Properties	No impact.	No impact.	No impact.
Federally Listed Threatened and Endangered Species	No impact.	No impact.	No impact.
Flood Plains	Continued impact.	Minimized impact with new trail as proposed route is primarily outside the 100 year floodplain. Impact will be mitigated through the use of foot bridges and wooden/recycled lumber boardwalks.	Continued impact.
Land Use	Potential impact to forested area along northeast side of the creek due to the creation of social trails by visitors attempting to continue hiking South Valley Trail.	Change in land use from a forested area to trail use in the section of new trail. The old trail area will be rehabilitated and returned to a forested area.	Change in land use along the old access road which is currently vegetated and passes through several low lying areas and vernal pools to a permanent gravel road.
Noise	No impact.	No impact.	No impact.

Park Infrastructure	Impacts park trail system, as South Valley Trail is not continuous in its present condition.	No impact.	No impact.
Safety	Potential impact as visitors will be tempted to cross the creek or walk off trail. Existing section of trail between washed out foot bridge and Mawavi Road has slip and trip hazards.	Would result in safer trail conditions.	Would result in safer trail conditions.
Scenic Value	Minimal impact due to the presence of the washed out foot bridge that is currently lying along the bank on the northeast side of the creek.	No impact.	No impact.
Socio-economic environment	No impact.	No impact.	No impact.
Surface Water Quality and Wetlands	Potential minimal impacts due to erosion and sediment loading from the unstabilized stream banks during storm events.	No impact.	Potential minimal impacts in the long run due to erosion and sediment loading from unstabilized stream banks during storm events.
Vegetation	Potential trampling of vegetation as a result of the creation of social trail by visitors attempting to reach other areas of South Valley Trail.	Impacts to vegetation in new trail location. The area has been surveyed by two botanists for any rare, threatened, or endangered species. The old trail section and access roads would be rehabilitated and vegetation would be restored naturally.	Impacts to vegetation along the access road would occur when it is grated and gravel poured.
Visitor Experience	Impacts due to the current trail closure and foot bridge	Would improve the visitor experience from the current	Would improve the visitor experience from the current

	outage.	condition, as this alternative would reopen South Valley Trail.	condition, as this alternative would reopen South Valley Trail.
Wildlife	Potential minimal impact to fish and other aquatic life due to erosion and sediment loading.	Potential impact to terrestrial species due to the development of the new section of trail which will reduce vegetative cover. Vegetative cover would be returned to the area of the existing trail following rehabilitation.	Potential minimal impact to fish and other aquatic life due to erosion and sediment loading. Potential impact to terrestrial and vernal pool species due to the development of the permanent access road which will reduce vegetative cover and cross through vernal pools.

A. LAND USE

Affected Environment

Prince William Forest Park consists of approximately 17,600 acres of mixed hardwood forest within a major portion of the Quantico Creek watershed and the lower portion of the Chopawamsic Creek watershed. The park is located in Prince William County, Virginia, one of the fastest growing counties in the state. As development around the park increases, the value of the park and its resources is also increasing. Park visitors participate primarily in passive forms of recreation such as driving the nine mile Scenic Loop, hiking, biking, and camping. Recreation resources include 37 miles of trails, 25 miles of streams, five ponds, one 100-site campground, a group tent campground, an RV concession operated campground, a designated backcountry campground, three picnic areas, and five cabin camps.

Direct and Indirect Effects

Alternative 1

Under Alternative 1, the forested area along northeast side of the creek may be affected by the creation of social trails by visitors attempting to continue hiking South Valley Trail.

Alternative 2

Under Alternative 2, there will be a change in land use from a forested area to trail use in the section of new trail. The old trail area will be rehabilitated and returned to a forested area.

Alternative 3

Under Alternative 3, there will be a change in land use along the old access road which is currently vegetated and passes through several low lying areas and vernal pools to a permanent gravel road.

Cumulative Effects

Creating a new section of trail will alter the current land use, but the effects will be mitigated by developing a trail which will contain the effects to one area. Additional trampling of vegetation should be minimal under Alternatives 2 and 3. Cumulative effects to land use under Alternative 1 may be greater due to the development of a large number of social trails over time.

B. SAFETY

Affected Environment

Prince William Forest Park has between 40-60 persons on staff at any point during the year, and receives approximately 225,000 visitors annually. The park has committed to developing a safe environment for visitors and staff and is guided by its documented safety plan. The Superintendent has made safety a top priority, and it is included as one of the park's four mission goals.

Direct and Indirect Effects

Alternative 1

Under Alternative 1, the existing trail conditions would not be changed, and South Valley Trail would remain disconnected. Potential safety hazards exist as individuals will be tempted to cross the creek or walk off trail. South Fork Quantico Creek varies in depth and current velocity at this location depending upon storm events. High, fast moving water may make it very dangerous to cross the creek without the benefit of a foot bridge. Existing sections of the current trail between the washed out foot bridge and Mawavi Road have slip and trip hazards. The steep slopes that drop off down to the creek are creating a safety hazard for those who hike along the existing section of trail. In several areas, the edge of the trail drops straight down to the creek, and in others it has been necessary to stabilize the creek side of the trail with wooden boards and stakes which are now exposed.

Alternative 2

Under Alternative 2, the safety hazards would be eliminated.

Alternative 3

Under Alternative 3, the safety hazards would be eliminated.

Cumulative Effects

Negative Cumulative Effects to safety are not expected as a result of this project. Under Alternatives 2 and 3, safety hazards would be eliminated, thus resulting in a cumulative improvement of safety conditions.

C. SURFACE WATER QUALITY AND WETLANDS

Affected Environment

Prince William Forest Park contains approximately 70% of the Quantico Creek watershed and the lower portion of the Chopawamsic Creek watershed. In addition, the park has numerous

vernal pools and a seepage swamp area. The Quantico Creek watershed consists of 2 creeks, South Fork Quantico Creek and Quantico Creek, and numerous tributaries. The park has 5 man-made lakes or ponds that are used as recreation areas and provide wildlife habitat. The water quality of the creeks in PRWI is considered to be good, and the park is used as a reference or benchmark for good water quality in scientific studies.

Direct and Indirect Effects

Alternative 1

Under this alternative there are potential minimal impacts due to erosion and sediment loading from the unstabilized stream banks. Trails that are constructed directly adjacent or parallel to stream banks can experience extensive erosion due to rain and overland flow (Lanehart, 1998).

Alternative 2

Under this alternative, no effects to surface water quality and wetlands are expected. The existing trail will be rehabilitated and the stream banks will be stabilized where necessary. The new trail will have vegetation between it and the stream channel which will drastically reduce any potential sedimentation.

Alternative 3

Under this alternative, there are potential minimal impacts due to erosion and sediment loading from the unstabilized stream banks. Trails that are constructed directly adjacent or parallel to stream banks can experience extensive erosion due to rain and overland flow (Lanehart, 1998). Since the stream banks will be stabilized as part of this alternative, the effects to water quality will be minimal, but may increase over time as other sections erode due to the rain and overland flow.

Cumulative Effects

There are potential cumulative impacts to the water quality of South Fork Quantico Creek under Alternatives 1 and 3. The erosion and input of sediments from isolated storm events create temporary impacts to water quality. If allowed to continue, however, these impacts may degrade the quality of the creek over time.

The cumulative impacts of constructing the trail on the river left side outside of the 100 year floodplain, and leaving a vegetation buffer between the trail and the creek (Alternative 2) would be a reduction in the amount of sediment that reaches South Fork Quantico Creek from South Valley Trail.

D. VEGETATION

Affected Environment

PRWI contains 17,600 acres of Piedmont forest. The dominant forest species in the park are white oak, red oak, tulip-poplar, and American beech, along with occasional large stands of Virginia pine. Some uncommon or rare tree species present include butternut, bigtooth aspen, black walnut, sweet bay magnolia, and eastern hemlock, as well as floodplain species like American sycamore. The park includes one seepage swamp area in which poison sumac has

been observed, and an Eastern Hemlock stand designated as a Conservation Area by the Virginia Department of Conservation and Recreation, Division of Natural Heritage (VA, DNH 1999). Several of these species are at their distributional limits in the park. Understory species include dogwood, redbud, mountain laurel, and American holly. Ferns, mosses, vines and wildflowers form the groundcover. Cardinal flower and Hercules club are common in the park, but uncommon elsewhere. The small whorled pogonia (*Isotria medeoloides*), a federally listed threatened plant species, is considered one of the rarest plants in the United States and has been identified in the park.

Direct and Indirect Effects

Alternative 1

Under this alternative, the section of trail between the washed out foot bridge and Mawavi Road would remain closed. Trampling of vegetation on the river left side of South Fork Quantico Creek as visitors attempt to reach other areas of South Valley Trail is expected. These social trails compact soil, damage and limit root systems, reduce aeration, decrease soil water, and destroy soil structure (Trails and Wildlife Task Force, 1998).

Alternative 2

Under this alternative, impacts to vegetation on the river left side are expected in the new trail location. The area was surveyed by two botanists for any rare, threatened, or endangered species and none were identified. A species of lycopodium that is not common in the area was noted, and the proposed new section of trail has been planned so that it will not interfere with these plants. The affects to vegetation are expected to be minimal and limited to the new trail area. Additionally, the old trail section and access road would be rehabilitated and vegetation would be restored naturally.

Alternative 3

Under this alternative, impacts to vegetation along the infrequently used two track access road would occur when it is graded and when the gravel is poured. This area has already been disturbed so impacts are expected to be minimal initially. The area will be maintained as a fire road, after it is established and all vegetation will be removed or trimmed back.

Cumulative Effects

Under Alternative 2, vegetation will be removed permanently when the trail is constructed, but the two-track road and the existing trail section will be rehabilitated and allowed to revegetate naturally.

E. VISITOR EXPERIENCE

Affected Environment

The park receives about 225,000 visitors annually who participate primarily in passive forms of recreation such as driving the nine mile Scenic Loop, hiking, biking, and camping. A 1996 Visitor Use Survey indicated that hiking was the most popular activity at the park, and South Valley Trail is one of the most heavily used trails.

Direct and Indirect Effects

Alternative 1

Under this alternative, the visitor use experience would be negatively affected due to the current trail closure and foot bridge outage. Visitors beginning a hike at Oak Ridge Campground are forced to double back at this point, as are those who are hiking north on South Valley Trail when they reach Mawavi Road. In addition, this section of South Valley Trail is included in several longer trail loops that are heavily utilized by hikers.

Alternative 2

Under this alternative, the visitor use experience would improve from its current state, as this alternative would reopen South Valley Trail.

Alternative 3

Under this alternative, the visitor use experience would improve from its current state, as this alternative would reopen South Valley Trail. Short-term closures of the same trail section may occur in the future when bridge and trail maintenance is needed.

Cumulative Effects

Alternative 1 will result in continued impacts to the visitor use experience, as one of the most popular trails in the park would remain disconnected. Alternatives 2 and 3 would both improve the visitor use experience over time. Alternative 2 is the preferred alternative in terms of visitor use experience because the new section of trail on the river left side would eliminate the need for a foot bridge, and would not need to be closed for routine bridge repairs.

F. WILDLIFE

Affected Environment

Prince William Forest Park is home to a diverse group of vertebrates including approximately 30 species of fish, 36 species of amphibians, 41 species of reptiles, 105 species of birds, and 37 species of mammals. White-tailed deer, wild turkey, fox and beaver populations thrive within the park. Small mammals, reptiles and amphibians are abundant. American black bear and coyote have been observed both in the park and in the surrounding environs. Owls and hawks, pileated woodpeckers, warblers, bluebirds and other songbirds are known to inhabit the park. Bald eagles, although not known to nest in the park, have been observed passing through the area. Insects and other invertebrates have not been thoroughly inventoried in the park, but the Lemmer's pinion moth, *Lithophane lemmeri*, a state rare moth, and the Sedge sprite, a state rare damselfly, have been found (Roble, 2002), as have two state watch species, the Diana butterfly (*Speyeria diana*), and the tiger beetle (*Cicindela unipunctata*).

Direct and Indirect Effects

Alternative 1

Under this alternative there are potential minimal impacts to fish and other aquatic life due to erosion and sediment loading expected. The existing trail would not be rehabilitated and would continue to erode during storm events. The affects are expected to be during and immediately after heavy storms and are expected to be temporary.

Alternative 2

Under this alternative, impacts to terrestrial species are expected. The zone of influence associated with the trail is not limited to the trail itself and may extend for hundreds of feet on either side of the trail (Trails and Wildlife Task Force, 1998). Construction of a new trail results in “edge effects” as edges attract generalist species such as jays and raccoons and some plant species that can tolerate human disturbance, light, reduced vegetation, and wind conditions better than the more specialized species. New trails also reduce vegetative cover in that area, making the smaller terrestrial mammals, reptiles, amphibians, and ground nesting birds more vulnerable to predation. Care will be taken to ensure the new trail is effectively screened and that wildlife breeding areas are avoided. Leash laws will be enforced to limit the impacts of visitors with pets to wildlife. Additionally, the creation of this new trail will concentrate recreational use to a single area, rather than the numerous social trails that are expected under Alternative 1.

Alternative 3

Under this alternative, potential minimal impacts to fish and other aquatic life due to erosion and sediment loading are expected. The existing trail is failing in several locations and will need to be stabilized, and there is not currently a vegetation buffer between the trail and the creek. During and immediately following heavy storm events, erosion and sediment loading are expected. Additionally, the development of a permanent access road following the trace of the infrequently used two track road will potentially impact terrestrial and vernal pool species as the road will reduce vegetative cover and cross through vernal pools. Reducing vegetative cover will make the smaller terrestrial mammals, reptiles, amphibians, and ground nesting birds more vulnerable to predation and grading and filling the vernal pools will reduce the area available for several species of amphibians to breed.

Cumulative Effects

There are potential cumulative impacts to the water quality of South Fork Quantico Creek under Alternatives 1 and 3 due to erosion and sediment loading during heavy storm events. If water quality is degraded, aquatic species may be impacted over time.

Under Alternative 2, cumulative impacts may occur as a result of human disturbance along the new trail. “Disturbance by humans can cause nest abandonment, decline in parental care, shortened feeding times, increased stress, and possibly lower reproductive success (Trails and Wildlife Task Force, 1998, p20). A change in species composition in the zone of influence is also possible as the generalist species which favor edge areas may displace the specialist species over time. Care will be taken to monitor the new trail to ensure leash laws are enforced, to route the trail away from wildlife breeding areas, and to close the trail during breeding seasons if necessary. Surveys for non-native vegetation that often prefers edge areas will be conducted, and these non-natives will be removed when identified.

VI. CONSULTATION AND COORDINATION

A. PUBLIC INVOLVEMENT AND NOTIFICATION

This Environmental Assessment will be made available for public review for a period of 30 days from August 15, 2003 through September 14, 2003 in compliance with the National Environmental Policy Act. Copies are available at the park and on the park's website, <http://www.nps.gov/prwi>. The public is invited to submit comments and concerns which will be addressed in the Final EA.

B. LIST OF AGENCIES AND INDIVIDUALS CONSULTED

1. Dr. Ted Bradley, Botanist, George Mason University
Mr. John Dodge, George Mason University

Dr. Bradley and John Dodge conducted vegetation surveys in the area of the proposed new trail in early May 2003, and July 2003. No rare, threatened, or endangered plant species were identified as being present. Dr. Bradley and Mr. Dodge did note a species of lycopodium that is not common in the area, and the proposed new section of trail has been planned so that it will not interfere with these plants.

2. Jolie Harrison, Endangered Species Biologist, United States Fish and Wildlife Service

Jennifer Lee, PRWI Biologist, spoke with Jolie Harrison, USFWS Endangered Species Biologist, regarding this project on July 17, 2003. Ms. Harrison will be reviewing the draft Environmental Assessment and will provide her findings to the park.

3. National Park Service, National Capital Region, Cultural Resources Management Program

Section 106 Compliance was completed by the park 106 Coordinator and submitted to the National Capital Region Cultural Resource Specialists for Review. The consensus was that the project will have no effect on historic, archaeological, or cultural resources.

4. State Historic Preservation Office

A copy of the draft Environmental Assessment and the Section 106 compliance paperwork was forwarded to the State Historic Preservation Office for 30 day review on August 19, 2003.

5. Virginia Department of Environmental Quality, Office of Environmental Impact Review

Eighteen copies of the draft Environmental Assessment were sent to the DEQ Office of Environmental Impact Review for circulation to state agencies and review on August 19, 2003.

C. COMMENTS, CONCERNS, ISSUES

To be addressed in the final EA.

VII. PREPARERS

Jennifer A. Lee, Biologist, Prince William Forest Park, National Park Service

Brian Carlstrom, Chief, Resources Management Program, Prince William Forest Park, National Park Service

VIII. REVIEWERS

Robert S. Hickman, Superintendent, Prince William Forest Park, National Park Service

Alex Romero, Assistant Superintendent, Prince William Forest Park, National Park Service

IX. REFERENCES

Bradley, Dr. Ted. Personal Communication. July 2003.

Lanehart, Eric. Backcountry Trails Near Stream Corridors: An Ecological Approach to Design. Masters Thesis. Virginia Polytechnic Institute and State University. 1998.

Trails and Wildlife Task Force, Colorado State Parks and Hellmund Associates. Planning Trails with Wildlife in Mind. A Handbook for Trail Planners. 1998.

United States Department of the Interior. National Park Service. Director's Order #12 and Handbook: Conservation Planning, Environmental Impact Analysis, and Decision Making. January 2001.

United States Department of the Interior. National Park Service. General Management Plan. Prince William Forest Park. February 1999.

United States Department of the Interior. National Park Service. Management Policies 2001. December 2000.

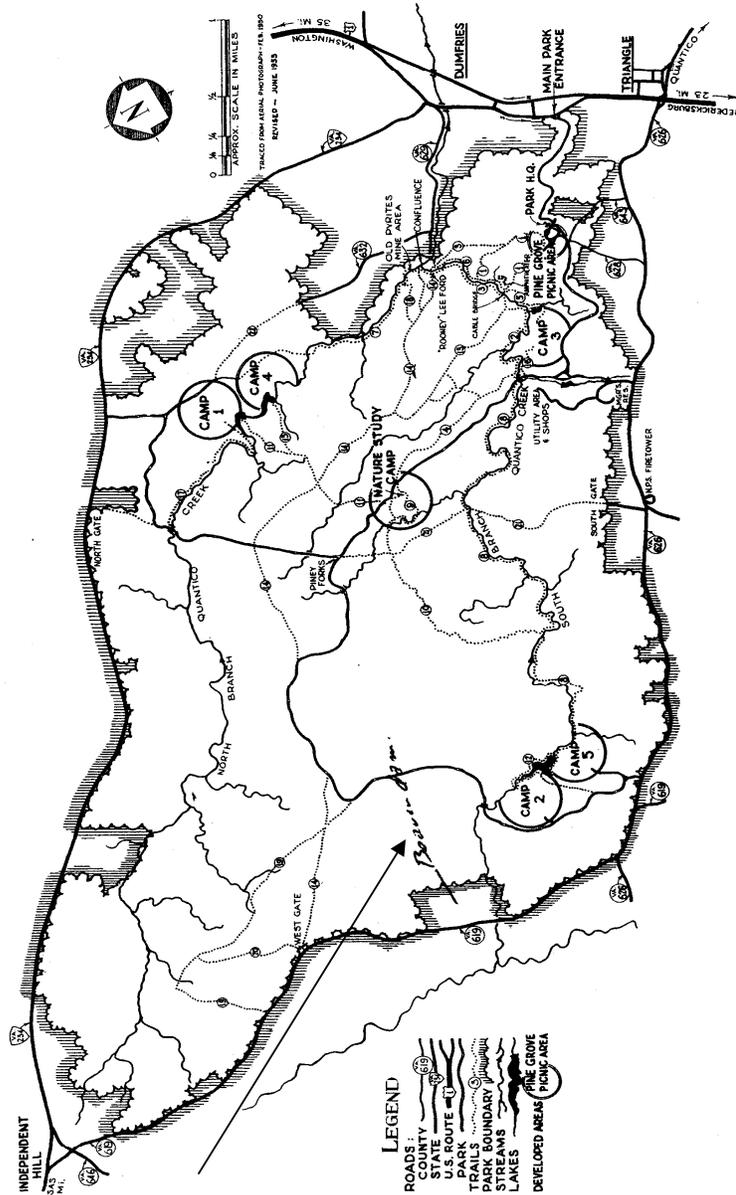
United States Department of the Interior. National Park Service. Resource Management Plan. Prince William Forest Park. February 1995.

United States Department of the Interior. U.S. Fish and Wildlife Service. 1992. Small Whorled Pogonia (*Isotria medeoloides*) Recovery Plan, First Revision. Technical/Agency Draft. Newton Corner, Massachusetts. 68 pp.

APPENDIX -1 Map of Prince William Forest Park (1953)

540-4

UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE ---- NATIONAL CAPITAL PARKS
PRINCE WILLIAM FOREST PARK
 TRIANGLE, VIRGINIA



Location of current South Valley Trail

HC P 6.5-121

APPENDIX 2 – Section 106 Compliance

Section 106 Compliance was completed by the park 106 Coordinator and submitted to the National Capital Region Cultural Resource Specialists for Review on July 16, 2003. The review was completed on July 31, 2003 and the determination was no effect. A copy of the draft Environmental Assessment and the Section 106 compliance paperwork was forwarded to the State Historic Preservation Office (SHPO) for 30 day review on August 19, 2003. The SHPO determination will be included in the Final EA.

APPENDIX 3 – Endangered Species Act Consultation

Consultation with the USFWS was initiated on July 17, 2003. The draft EA will be sent to Ms. Jolie Harrison for review and will the USFWS decision will be included in the Final EA.

APPENDIX 4 - Federal Consistency under the Coastal Zone Management Act



United States Department of the Interior
NATIONAL PARK SERVICE
PRINCE WILLIAM FOREST PARK
18100 Park Headquarters Road
Triangle, Virginia 22172



August 19, 2003

Ms. Ellie Irons
Department of Environmental Quality
Division of Environmental Enhancement
Environmental Impact Review
629 E. Main Street, 6th Floor
Richmond, VA 23219

RE: Coastal Zone Management Act Consistency Determination

Dear Ms. Irons:

This document provides the Commonwealth of Virginia with Prince William Forest Park's Consistency Determination under Coastal Zone Management Act section 307(c)(1) [or (2)] and 15 CFR Part 930, sub-part C, for the Reestablishment of South Valley Trail Project. The information in this Consistency Determination is provided pursuant to 15 CFR section 930.39. A detailed Environmental Assessment (EA) has been prepared and will be distributed for public review for 30 days as required by the National Environmental Policy Act (NEPA). Eighteen copies have been sent to the Virginia Department of Environmental Quality's (DEQ) Environmental Impact Review Section for distribution to the agencies within the Commonwealth. All references to the EA in this Consistency Determination will be annotated as follows: (EA, p.X). The objectives of the project are:

1. Reopen South Valley Trail along its entire length
2. Minimize erosion and potential water quality effects
3. Determine the sustainability of a permanent access road
4. Develop a more sustainable section of trail
5. Ensure the safety of park staff and visitors (EA, p.7)

The preferred and environmentally preferable alternative for this project is Alternative 2, Reroute South Valley Trail (EA, p.11). Actions would include removing a washed out foot bridge over South Fork Quantico Creek, rehabilitating approximately one mile of trail on the river right side and ¾ mile of access road, and establishing a new one mile length of trail on the river left side (EA, p.11).

According to the Virginia Coastal Resources Management Program, “all federal activities which are reasonably likely to affect any land or water use or natural resources of Virginia’s designated coastal resources management area must be consistent with the enforceable policies of the Virginia Coastal Resources Management Program (VCP).” The designated coastal resources management area covers 29 counties in Virginia, to include Prince William County. Since Prince William Forest Park is located in Prince William County, its projects must be consistent with the VCP, and a Federal Consistency Review must be prepared. The requirements for this review are outlined on the Virginia DEQ website (<http://www.deq.state.va.us/eir/federal.html>). The VCP consists of Nine Enforceable Regulatory Programs, each of which is addressed below.

1. Fisheries Management

The Fisheries Management program is administered by the Virginia Marine Resources Commission (VMRC). Section V.C. (EA, p.19) addresses the impacts of the project on surface water quality and wetlands, and Section V.F. (EA, p.22) addresses the impacts of the project on wildlife to include fish. No impacts to surface waters or fishery resources are expected under the preferred alternative.

This regulatory program also includes the State Tributyltin (TBT) Regulatory Program. The Reestablishment of South Valley Trail Project does not involve the use of tributyltin.

2. Subaqueous Lands Management

This project does not involve any encroachments in, on, or over state-owned subaqueous lands.

3. Wetlands Management

The preferred alternative for the Reestablishment of South Valley Trail Project does not affect wetland species (EA, pp.19,20).

4. Dunes Management

There are no sand dunes in Prince William Forest Park. The park is located primarily in the Piedmont province and along the fall line.

5. Non-point Source Pollution Control

The preferred alternative for the Reestablishment of South Valley Trail Project will involve soil disturbance when the new trail is constructed. A vegetative buffer will be left between the trail and the creek to minimize potential non-point source pollution (EA, pp.11,19).

6. Point Source Pollution Control

The preferred alternative for the Reestablishment of South Valley Trail Project will not involve point source pollution.

7. Shoreline Sanitation

The Reestablishment of South Valley Trail Project does not involve septic tanks.

8. Air Pollution Control

The proposed project area falls within an ozone non-attainment area and a state volatile organic compounds and nitrogen oxides emission area. No gasoline powered equipment to include leaf blowers, chainsaws, or weed whackers, will be used for trail construction under alternative 2 on days designated as “ozone orange” or “ozone red” (EA, p.16). No impact to air quality is expected due to trail construction considering that the airspace over the park is within the flight path for Dulles International Airport and routine military aircraft exercises on Quantico Marine Corps Base.

9. Coastal Lands Management

There are no anticipated Chesapeake Bay Preservation Act issues raised by this project.

Based upon the following information, data, and analysis, Prince William Forest Park believes that the Reestablishment of South Valley Trail Project is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Resources Management Program. Thank you for reviewing this document. If you have any questions or comments, please contact Brian Carlstrom, Chief, Resources Management Program, (703-221-3329, brian_carlstrom@nps.gov), or Jennifer Lee, Biologist, (703-221-3406, jennifer_lee@nps.gov).

Sincerely,

Robert Hickman
Superintendent

APPENDIX 5 – Press Release



National Park Service
U.S. Department of the Interior

Prince William
Forest Park

Prince William Forest Park
18100 Park HQ Road
Triangle, Virginia 22172

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Prince William Forest Park News Release

For Immediate Release
Jennifer Lee 703/221- 3406

REESTABLISHMENT OF SOUTH VALLEY TRAIL PROJECT

Prince William Forest Park is proposing to re-establish a section of South Valley Trail that was closed when flood waters washed out a foot bridge across South Fork Quantico Creek. South Valley Trail has been closed between the location of the foot bridge and Mawavi Road since early February, impacting the visitor use experience.

A draft Environmental Assessment has been prepared to consider the alternatives in detail. Alternative 1 is the no action alternative, Alternative 2 proposes to reroute South Valley Trail, and Alternative 3 proposes to repair the existing section of South Valley Trail.

The draft Environmental Assessment is available for public review for 30 days from August 19, 2003 through September 18, 2003. A copy of the EA can be obtained by writing to the park at

Prince William Forest Park
ATTN: Resource Management
18100 Park Headquarters Rd.
Triangle, VA 22172

or by calling 703- 221- 3406. The draft EA will also be posted to the park's website:
<http://www.nps.gov/prwi>.

Please forward your written comments to:

Prince William Forest Park
Resource Management
18100 Park Headquarters Rd.
Triangle, VA 22172

If commenting by email, please address your comments to Jennifer_Lee@nps.gov.

All comments are due in writing by September 18, 2003.