

Volume 1
Final
General Management Plan
Environmental Impact Statement

**ROCK CREEK PARK
AND THE
ROCK CREEK AND
POTOMAC PARKWAY**

Washington, D.C.

PURPOSE OF AND NEED FOR ACTION

This section defines the purposes of the general management plan for Rock Creek Park and the Rock Creek and Potomac Parkway, and why the general management plan is needed. It includes planning direction and guidance, and identifies the issues (decision points and impact topics) that were considered.

PURPOSE OF THE GENERAL MANAGEMENT PLAN

Rock Creek Park and the Rock Creek and Potomac Parkway are heavily used by the public. This use places demands on park personnel and facilities to protect resources and maintain a suitable visitor experience. Use and associated demands are expected to increase in the future. A coordinated, integrated plan is required to guide park management in a direction that best meets the multiple demands being placed on the area.

This plan is the basic document for managing Rock Creek Park and the Rock Creek and Potomac Parkway. The purposes of this general management plan are to

- specify resource conditions and visitor experiences to be achieved in Rock Creek Park and the Rock Creek and Potomac Parkway

- provide the basic foundation for decision-making regarding the management of the park and parkway

This general management plan identifies goals that the National Park Service (NPS) is trying to achieve in the management of the park and parkway and outlines possible approaches to meet those goals. However, if an initial approach is not successful in accomplishing all or part of the goals presented in this plan, the National Park Service will use adaptive management and try other approaches to attempt to achieve the goals. It should be understood that this plan provides a long-range vision, and that more detailed implementation and annual plans that tier from this plan will be used to attempt to turn the vision into reality.

The final general management plan will be the first comprehensive plan prepared for Rock Creek Park and the Rock Creek and Potomac Parkway by the National Park Service. When completed, it will represent an agreement by the National Park Service with the public on how the park and parkway will be used and managed. As such, it is intended to

- confirm the significance of the park and parkway

- establish the direction and values that should be considered in planning to achieve the purposes defined in the establishing legislation of the park and parkway

- define management prescriptions 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 prescription

PURPOSE AND NEED FOR ACTION

determine areas where management prescriptions should be applied to achieve the overall management goals of the park and parkway

assist NPS staff in determining whether actions proposed by the National Park Service or others are consistent with the goals embodied in the management prescription where the action would occur

serve as the basis for shorter-term management documents such as 5-year strategic plans, annual performance plans, and implementation plans

Some of the future visitor experience, natural resource, and cultural resource conditions of Rock Creek Park and the Rock Creek and Potomac Parkway are specified in law and policy. Others must be determined through planning. The alternatives in this final general management plan address the resource and experience conditions that are not mandated by law and policy.

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

soliciting public participation in the planning process and incorporating suggestions from the public into the park management alternatives

performing public scoping to identify important impact topics and evaluating the effects of the alternatives to those impact topics in the draft environmental impact statement

inviting the public to comment on the draft general management plan and environmental impact statement

using that input in the preparation of this final general management plan and environmental impact statement

This document consists of two volumes.

Volume 1 is the general management plan and environmental impact statement. It describes the purpose and need for general management planning; identifies the alternatives for managing the park and parkway; summarizes the existing natural resources, cultural resources, and visitor and community values that could be affected by the management plan; and evaluates the effects of each of the alternatives on these resources and values.

Volume 2 provides the public comments and NPS responses regarding the draft environmental impact statement that were received from the public between the publication of a notice of availability on March 14, 2003 and closure of the comment period on July 15, 2003.

The general management plan does not propose 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. All of those plans will derive from the goals, future conditions, and appropriate types of activities established in the general management plan. As part of that decision-making process,

project-specific National Environmental Policy Act documents with opportunities for public review and comment, if appropriate to the project, would be prepared prior to the implementation of any actions included in this general management plan.

NPS planning guidelines recognize that circumstances can change and that general management plans sometimes need to be modified. Therefore, a general management plan amendment could be prepared at any time after the general management plan has been approved and put into effect. Such an action would involve National Environmental Policy Act compliance, including preparation of an environmental assessment or environmental impact statement and opportunities for public review and comment.

NEED FOR THE GENERAL MANAGEMENT PLAN

A general management plan is needed for Rock Creek Park and the Rock Creek and Potomac Parkway because there is no modern document to guide their management. The only previous broad management plan for Rock Creek Park was written in 1918 (Olmsted Brothers 1918). The Olmsted brothers' plan was prepared prior to the park coming under NPS jurisdiction in 1933 and before lands around the park were heavily developed. The Rock Creek and Potomac Parkway, which opened in 1936, has never had a plan to guide management.

The first sentence of the Olmsted brothers plan stated that "The dominant consideration, never to be subordinated to any other purpose in dealing with Rock Creek Park, is the permanent preservation of its wonderful natural beauty and the making of that beauty accessible to the people without spoiling the scenery in the process" (Olmsted Brothers 1918). The Olmsted plan for Rock Creek Park was adopted in 1919 and has remained an important management document ever since (Black 2003).

Without any planning update over the subsequent 85 years, decisions for both the park and parkway have been made in a piecemeal fashion. This general management plan, which provides broad direction for the future of the park and parkway, is needed to assist park managers in making purposeful decisions based on a deliberate vision of the park and parkway.

General management planning is needed to

- clarify the minimum levels of resource protection and public use that must be achieved for the park and parkway, based on the park- and parkway-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

- mission of the park and parkway
- range of public expectations and concerns
- resources occurring within the park
- 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
- control nonrecreational traffic

A general management plan also is needed to meet the requirements of the National Parks and Recreation Act of 1978 and NPS policy, which mandate an up-to-date general management plan for each unit of the national park system.

PARK HISTORY AND USE RELATIVE TO MANAGEMENT PLANNING

Rock Creek Park is located in the northern portion of Washington, D.C. (Region map). It consists primarily of an undeveloped, wooded valley, with some associated tributaries and uplands. The major landscape feature is Rock Creek, a perennially flowing stream that bisects the length of the park before joining the Potomac River south of the park. The park is completely surrounded by the heavily urbanized metropolitan Washington, D.C. area (Existing Conditions map).

The central issue for general management planning in Rock Creek Park is how to meet the often conflicting purposes of protecting the scenic, natural, and cultural resources of the park, while concurrently providing for appropriate public use of these resources. This issue is complicated by the location of Rock Creek Park within a major metropolitan area. As a result of its location, the park has many users, some of whom hold widely varying opinions about its optimal use. Another challenge of this urban location involves encouraging use by all segments of the public.

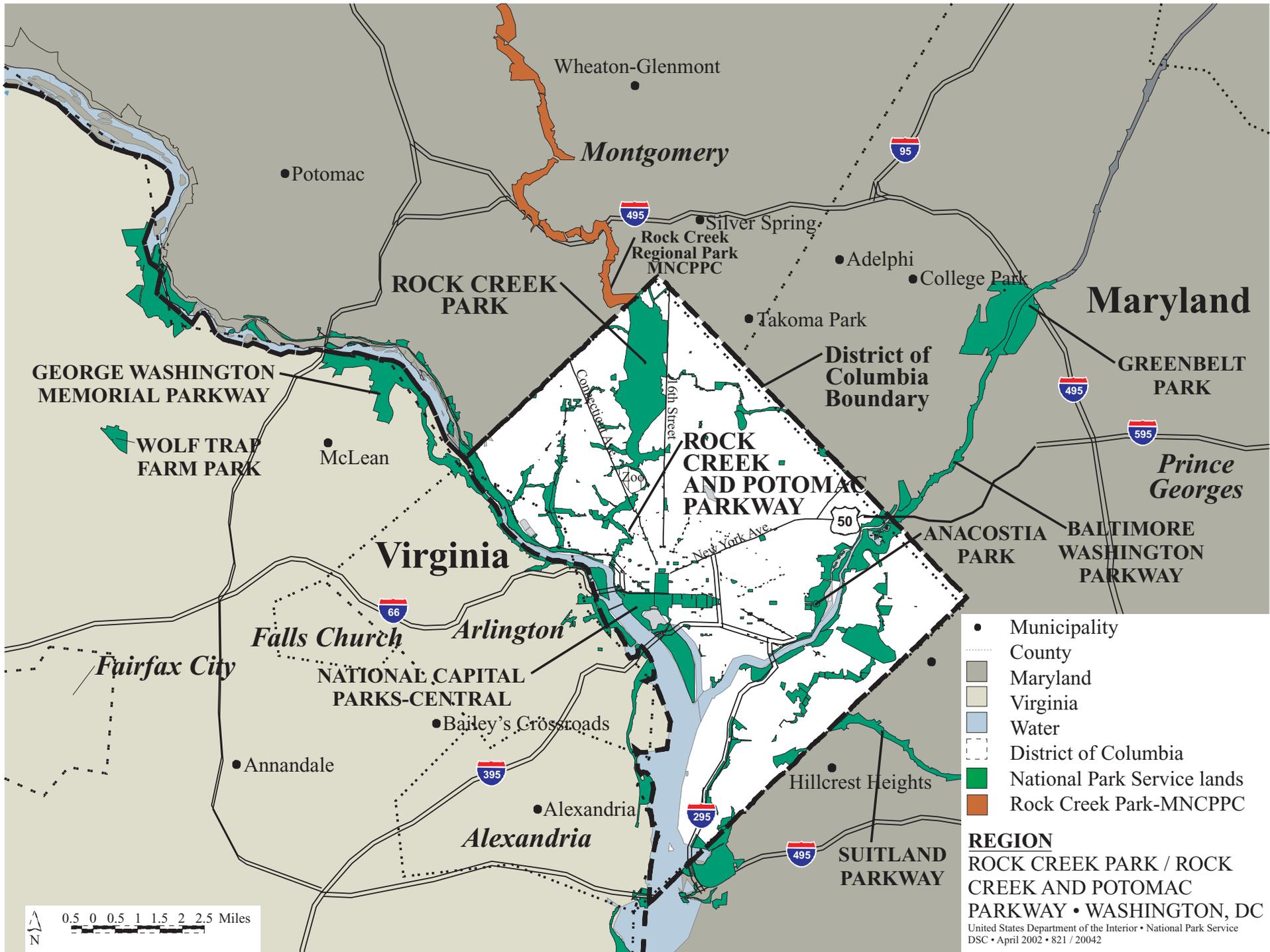
Rock Creek Park was founded in 1890 as one of the first federal parks. Its establishing legislation, provided in appendix A, cites the area's natural beauty and high public value. When the park was established, it was on the edge of the growing city and was already a favorite area for rural retreat. In the establishing legislation, Rock Creek Park was "dedicated and set apart as a public park or pleasure ground for the benefit and enjoyment of the people of the United States." The park would "provide for the preservation from injury or spoliation of all timber, animals, or curiosities within said park, and their retention in their natural condition, as nearly as possible."

Rock Creek Park was set aside as an asset in anticipation of its envelopment by Washington, D.C. and its suburbs. As the area became more urbanized, the park's value has been recognized not only for the recreation opportunities it provides, but also for the protection it affords to remnant native wildlife populations and their habitats, and to historic structures and cultural landscapes.

Initially, Rock Creek Park was managed by the U.S. Army Corps of Engineers (NPS 1985b). It subsequently was transferred to the Office of Public Buildings and Parks (NPS, Cox 2004a). During this time, many of the developed areas of the park were established, including its road system and the golf course (NPS 1985b).

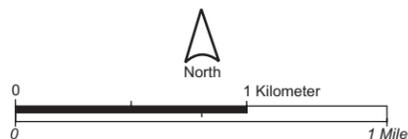
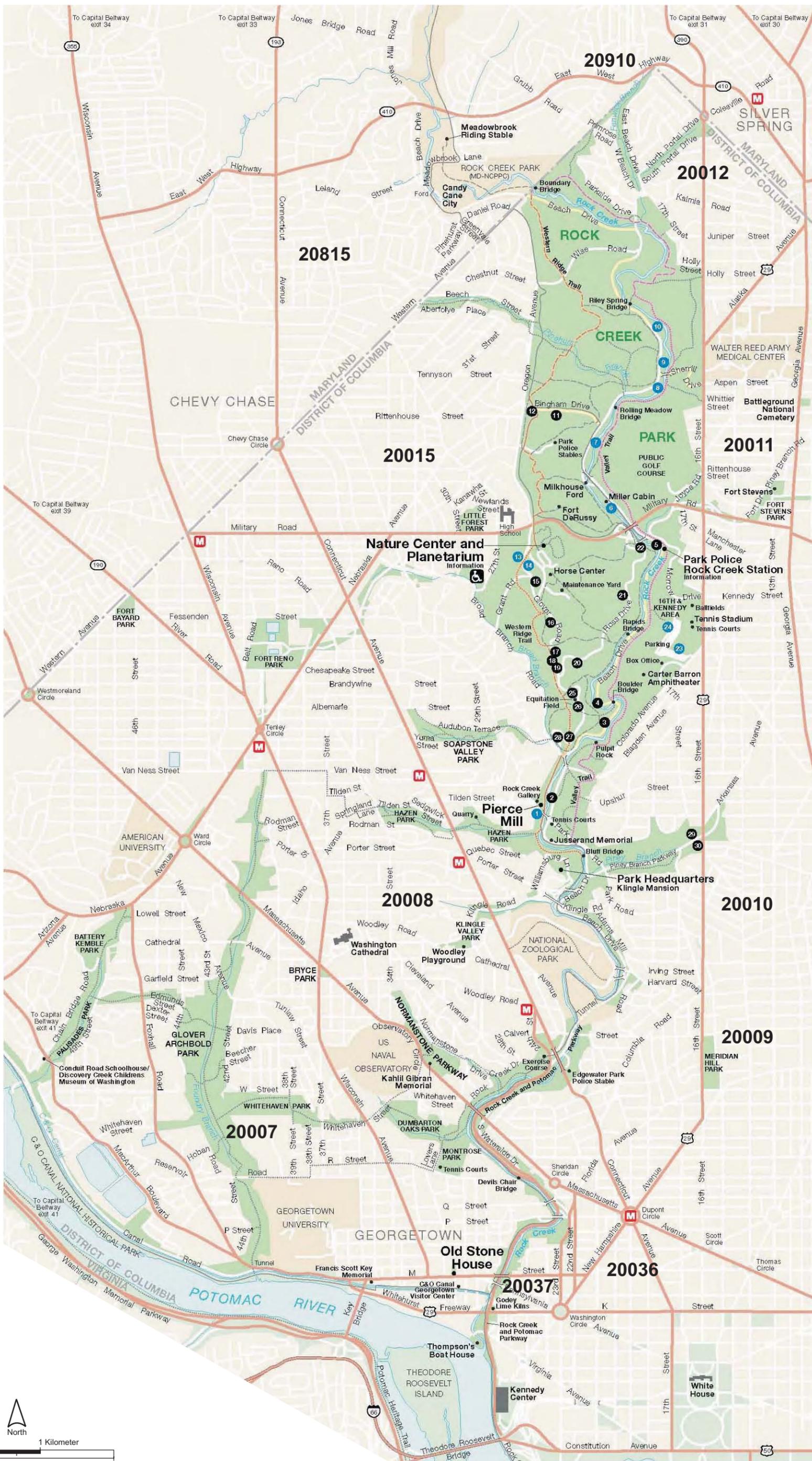
Beach Drive, which bisects the length of the park from the Maryland state line to the Rock Creek and Potomac Parkway, was originally designed as an internal park travel road to provide recreational access to the valley. In the 1918 master plan for the park, the Olmsted brothers warned against bringing the "noise and tangle" of city traffic into the heart of the park. At the same time, they recognized a need to accommodate urban traffic across the park.

In 1916, Congress passed the Organic Act, which created the National Park Service. Through this act, Congress established the NPS' mission 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."



- Municipality
- County
- Maryland
- Virginia
- Water
- - - District of Columbia
- National Park Service lands
- Rock Creek Park-MNCPPC

REGION
 ROCK CREEK PARK / ROCK CREEK AND POTOMAC PARKWAY • WASHINGTON, DC
 United States Department of the Interior • National Park Service
 DSC • April 2002 • 821 / 20042



EXISTING CONDITIONS

Continue Current Management/No Action
**ROCK CREEK PARK/ROCK CREEK AND
 POTOMAC PARKWAY • WASHINGTON, DC**
 United States Department of Interior • National Park Service
 DCS • January 2005 • 821/20035

- Foot trail
- Horse and foot trail
- Bike and foot trail
- West Ridge Trail
- Valley Trail
- Weekend/holiday road closure
- Rock Creek Park
- Other NPS property
- 2011 Zip Code Tabulation Area
- 1 Picnic area (no permit needed)
- 2 Picnic area (permit needed)
- M Metro Station
- Handicap Access

In 1933, administration of the park was transferred to the National Park Service (NPS 1985b). Since then, the National Park Service has managed the park in accordance with the Organic Act. Thus, any management actions in Rock Creek 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.

The Rock Creek and Potomac Parkway was established by the Public Buildings Act of March 4, 1913. According to Section 22 of that legislation, which is provided in appendix A, the parkway was authorized “for the purpose of preventing pollution and obstruction of Rock Creek.” It also was intended as a travel corridor “connecting Potomac Park with the Zoological Park and Rock Creek Park.”

There are differences in the legislative purposes of the park and parkway. However, both were intended to blend recreation with the preservation of natural scenery and environmental quality.

Since the parkway opened in 1936, it has served as a scenic roadway in the city. Since 1937, the National Park Service has been managing traffic on weekdays by making the parkway one-way inbound during the morning rush hour and one-way outbound during the afternoon rush hour. Traffic management techniques implemented by the National Park Service within Rock Creek Park have included replacing fords with bridges and providing turning lanes at intersections.

The opening of the Zoo Tunnel in 1966 removed a major impediment to traffic. The tunnel was to be part of a larger project that would relieve traffic congestion in the area of the National Zoo. However, the other project components were never funded or built. The inadvertent result of the Zoo Tunnel was to make the corridor consisting of Beach Drive and the Rock Creek and Potomac Parkway into an attractive route for traveling by automobile between the city center and the residential areas of northwest Washington, D.C. and Montgomery County, Maryland. As discussed in detail in the “Affected Environment” section, weekday traffic averages 6,600 vehicles per day on Beach Drive north of Broad Branch Road, and 25,000 vehicles per day in the vicinity of the National Zoo. The busiest portion of the Rock Creek and Potomac Parkway typically supports 55,000 vehicle trips per day. More than 95 percent of the vehicles entering the park during commuting hours pass through without stopping (Robert Peccia & Associates 1997).

As the population of Washington, D.C. has increased, so has the demand for recreational opportunities. As described in the “Affected Environment” section, Rock Creek Park currently supports more than 2 million recreation visits per year.

Since the 1970s, the National Park Service has been closing sections of Beach Drive and some other park roads to motorized traffic during weekends and holidays to better accommodate recreational uses in the park. These closures have been very popular with the recreating public.

The most controversial management issue to be resolved by this general management plan involves the use of park roads for nonrecreational travel on weekdays. Specifically, this issue includes management of traffic in Rock Creek Park and the degree to which park values would be affected by nonrecreational automobile use. During scoping, many members of the public indicated that the recreational and environmental values of the park are compromised by what they perceive as heavy, high-speed automobile traffic, particularly on Beach Drive. They would like to reduce and control nonrecreational traffic to enhance park recreational values and visitor safety. Some called for extensive road closures in favor of bicycling and other more recreational and less

polluting forms of travel through the park. Others said that the current mix of recreational and nonrecreational use of the park and parkway, including urban traffic, is appropriate and enhances the quality of life in the city and surrounding region.

Another key management issue, which has been expressed both by the National Park Service and members of the public, is the current limited ability to provide adequate orientation, interpretation, and education services to visitors in the park. In addition, park services have outgrown the historic structures in which they are located. These include administrative and operational activities at headquarters in the Peirce-Klingling Mansion at Linnaean Hill and the U.S. Park Police District 3 substation in the Lodge House. Continuing the current arrangement would lead to increased inefficiencies and could affect the historical integrity of these buildings.

These key management issues of Rock Creek Park can be summarized in three questions.

How should traffic be managed in Rock Creek Park and on the Rock Creek and Potomac Parkway?

What are the most appropriate levels of service and locations for visitor interpretation and education in the park?

What are the most appropriate locations to support administration and operations functions with respect to minimizing resource disturbance?

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

GEOGRAPHIC AREA COVERED BY THE GENERAL MANAGEMENT PLAN

Rock Creek Park, as an administrative unit of the national park system, is composed of 99 separate areas, known as reservations, located in the northern part of Washington, D.C. However, not all of those reservations are included in this general management plan. The area covered by this general management plan includes

the 1,754 acres administered by the National Park Service in the Rock Creek valley from the Maryland state line south to the National Zoo

the Rock Creek and Potomac Parkway from the National Zoo to Virginia Avenue

selected tributaries to Rock Creek and associated roadways, including Pinehurst Parkway, Melvin Hazen Park, Klingling Valley, Soapstone Valley Park, Normanstone Parkway, Portal Parkway, and Beach Parkway

Areas that are not included in this general management plan include the following:

The Rock Creek Tennis Stadium and adjoining playing fields. Management direction for this area was established in the *Final Environmental Impact Statement, Tennis Stadium, Rock Creek Park* (NPS 1995b).

The Carter Barron Amphitheater complex.

The similarly named Rock Creek Regional Park in Maryland, which is administered by the Maryland-National Capital Park and Planning Commission (MNCPPC).

A number of historical and recreational reservations administered by the staff of Rock Creek Park but not within the park proper. Such sites include the Civil War defenses of Washington, D.C. other than Fort DeRussy (for example, Fort Reno and Fort Stevens), Dumbarton Oaks Park, the Old Stone House, Meridian Hill Park, Montrose Park, and Glover Archbold Park. These sites have specific management and design needs because of their special historic value and/or because their public uses are different from those of Rock Creek Park. In many cases, other planning efforts already are underway. For example, cultural landscape reports recently were completed for Dumbarton Oaks Park and Montrose Park, and the management plan for the Fort Circle Parks was issued in September 2003 (NPS 2003b).

The geographic area covered by the general management plan should not be confused with the geographic area covered in the environmental impact statement. For cultural resources and most natural resources, impact evaluations primarily were considered within the boundaries of the park and parkway. However, even for these impact topics, the evaluation of cumulative impacts considered effects in a regional context. For impact topics such as air quality, regional and local transportation, and community character, a regional approach was taken, with analysis areas that extended outside the park and even into the adjoining state of Maryland. The area included in each analysis is stated in the “Methodology” section of each analysis.

PLANNING DIRECTION OR GUIDANCE

This section defines the basis for any actions taken at Rock Creek Park and the Rock Creek and Potomac Parkway. Guidance and direction include the purpose and significance of the park and parkway, the goals of the National Park Service for the park and parkway, any park- and parkway-specific mandates and administrative commitments, and servicewide mandates and commitments that the National Park Service applies to all units under its administration.

Park Mission

This section describes the legislatively established missions of Rock Creek Park and the Rock Creek and Potomac Parkway. It defines why the park and parkway were created and why they are special. These are the fundamental criteria against which the appropriateness of all plan recommendations, operational decisions, and actions are tested.

Park and Parkway Purposes. The 1890 legislation establishing Rock Creek Park is provided in appendix A.

It states that the area is to be “perpetually dedicated and set apart as a public park or pleasure ground for the benefit and enjoyment of the people of the United States.”

It specifies that the park is to “provide for the preservation from injury or spoliation of all timber, animals, or curiosities within said park, and their retention in their natural condition, as nearly as possible.”

PURPOSE AND NEED FOR ACTION

It directs park managers to provide for public recreation, specifically to “lay out and prepare roadways and bridle paths, to be used for driving and for horseback riding, respectively, and footways for pedestrians.”

Portions of tributaries to Rock Creek, such as Soapstone Valley and Hazen Park, have been added to the park management unit over the years as separate reservations. The legislative language for tributary additions typically states that they are to preserve the flow of water in Rock Creek, prevent pollution of Rock Creek and the Potomac River, and preserve forests and natural scenery in and around Washington, D.C.

Rock Creek Park is linked to the Potomac River and the monumental core of Washington, D.C. by the Rock Creek and Potomac Parkway. Congress established the parkway in 1913 for “the purpose of preventing pollution and obstruction of Rock Creek and of connecting Potomac Park with the Zoological Park and Rock Creek Park.” The parkway corridor is managed contiguously with Rock Creek Park.

The following purpose statements are based on and represent the NPS’ interpretation of the above legislative mandates and NPS policies. These purpose statements are the most fundamental criteria against which the appropriateness of all plan recommendations, operational decisions, and actions are to be tested.

Rock Creek Park exists to

- preserve and perpetuate for this and future generations the ecological resources of the Rock Creek valley within the park in as natural a condition as possible, the archeological and historic resources in the park, and the scenic beauty of the park

- provide opportunities for the public to experience, understand, and appreciate the park in a manner appropriate to the preservation of its natural and cultural resources

- provide opportunities for recreation appropriate to the park’s natural and cultural resources

The Rock Creek and Potomac Parkway exists to

- connect Rock Creek Park and the National Zoological Park (National Zoo) to Potomac Park with a scenic road

- prevent pollution and obstruction of Rock Creek

Park areas that contain tributaries to Rock Creek exist to

- preserve the flow of water in Rock Creek

- prevent the pollution of Rock Creek and the Potomac River

- preserve forests and natural scenery in and around Washington, D.C.

Park and Parkway Significance. Park significance statements capture the essence of the park’s importance to the nation’s natural and cultural heritage. Understanding park significance helps

managers to make decisions that preserve the resources and values necessary to the park's purposes. The following significance statements recognize the important features of the park and parkway.

Rock Creek Park is one of the oldest and largest naturally managed urban parks in the United States.

The park and parkway contains approximately 2,100 acres of valuable plant and wildlife habitat, providing protection for a variety of native species within a heavily urbanized area.

Rock Creek Park encompasses a rugged stream valley of exceptional scenic beauty with forested, natural landscapes and intimate natural details, in contrast to the surrounding cityscape of Washington, D.C.

Rock Creek Park's forests and open spaces help define the character of the nation's capital.

Rock Creek valley was important in the early history of the region and in the development of the nation's capital, and the park's cultural resource are among the few tangible remains of the area's past.

Rock Creek Park is an oasis for urban dwellers, offering respite from the bustle of the city.

The Rock Creek and Potomac Parkway is the first federally constructed parkway and one of the best examples of early parkway design.

The Rock Creek and Potomac Parkway provides a scenic gateway to the city's monumental core.

Rock Creek Park is a historic designed landscape incorporating early 20th century picturesque and rustic features designed to enhance the visitors' experience of the naturalistic park scenery.

Located in the heart of a densely populated cosmopolitan area, Rock Creek Park serves as an ambassador for the national park idea, providing outstanding opportunities for education, interpretation, and recreation to foster stewardship of natural and cultural resources.

Mission Goals

This section defines in broad terms the ideals that the National Park Service is striving to attain, as they are applicable to Rock Creek Park and the Rock Creek and Potomac Parkway.

Park mission goals articulate the broad ideals and vision that the National Park Service is trying to achieve at Rock Creek Park. The goals for the park are directly linked to the NPS servicewide mission goals contained in the *National Park Service Strategic Plan* (NPS 2000b). They are written as desired outcomes in keeping with the Government Performance and Results Act. Mission goals for Rock Creek Park are as follows:

PURPOSE AND NEED FOR ACTION

The natural and cultural resources and associated values of Rock Creek Park are protected, preserved, and maintained in good condition and managed within their broader ecosystem or cultural context (Service Mission Goal Ia).

Visitors safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of park facilities, services, and appropriate recreational opportunities (Service Mission Goal IIa).

Park visitors and the general public understand and appreciate the preservation of the park and its resources for this and future generations (Service Mission Goal IIb).

Natural and cultural resources are conserved through formal partnership programs (Service Mission Goal IIIa).

Through partnerships with other federal, state, and local agencies and non-profit organizations, Rock Creek Park contributes to a nationwide system of parks, open spaces, rivers, and trails and provides educational, recreational, and conservation benefits for the American people (Service Mission Goal IIIb).

The National Park Service uses current management practices, systems, and technologies to accomplish its mission at Rock Creek Park (Service Mission Goal IVa).

The National Park Service increases its managerial capabilities through initiatives and support from other agencies, organizations, and individuals (Service Mission Goal IVb).

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. Rock Creek Park and the Rock Creek and Potomac Parkway do not have any special mandates that would affect this general management plan and future planning activities.

Service-wide Mandates and Policies

This section identifies what must be done at Rock Creek Park and the Rock Creek and Potomac Parkway to comply with federal laws and with the policies 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 park and parkway.

As with all NPS units, management of the park and parkway is guided by numerous congressional acts and executive orders, in addition to the establishing legislation. Many of the laws and executive orders that guide park management, with their legal citations, are identified in appendix B. Some of these laws and executive orders are applicable primarily to units of the national park system. 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 broader application, such as the Endangered Species Act, the National Historic Preservation Act, and Executive Order 11990 addressing the protection of wetlands.

The National Park Service also has established policies for all units under its stewardship. These are identified and explained in the NPS guidance manual entitled *Management Policies 2001* (NPS 2000a).

Some of the conditions prescribed by servicewide mandates and policies are summarized below. These servicewide legal mandates and policies can all 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. In addition to the approaches specified in this general management plan, the National Park Service will strive to implement all of the servicewide mandates and policies at Rock Creek Park. The general management plan is not needed to state, for instance, that it is appropriate to protect endangered species, control invasive species, improve water quality, protect archeological sites, preserve historic structures, provide access for citizens with disabilities, and conserve artifacts.

Natural Resource Management Requirements. Categories included in natural resource management requirements are 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.

Optimum Conditions	Sources
Air quality in the park and parkway meets National Ambient Air Quality Standards (NAAQS) for specified pollutants.	Clean Air Act <i>Management Policies 2001</i>
Park activities do not contribute to deterioration in air quality.	Clean Air Act <i>Management Policies 2001</i>
The National Park Service perpetuates the best possible air quality in Rock Creek Park and assumes an aggressive role in promoting and pursuing measures to protect air quality related values from the adverse impacts of air pollution. This includes minimizing air quality pollution emissions associated with park operations and visitor use activities, and aggressively participating in the development and implementation of federal, state, and local air pollution control plans and regulations that will remedy existing, and prevent future, impacts on park resources and values from human caused air pollution.	<i>Management Policies 2001</i>

The National Park Service has little control over air quality within the metropolitan Washington, D.C. regional airshed, which encompasses the park. However, the National Park Service recog-

nizes that incremental reductions in pollutant emissions will help improve air quality both locally and regionally. Therefore, the National Park Service commits to continued cooperation with local, state, and regional agencies and the Environmental Protection Agency to develop and implement air pollution control approaches that will remedy existing, and prevent future, impacts on resources and values from human-caused air pollution. The National Park Service will take the following kinds of actions to meet legal and policy requirements related to air quality in Rock Creek Park and the Rock Creek and Potomac Parkway.

Conduct air quality monitoring in conjunction with regional air quality agencies. This could include enhanced monitoring of localized air quality, either by establishing long-term monitoring stations in the Rock Creek valley or by conducting sampling during pollution high-risk periods.

Participate in regional air pollution control plans and regulations.

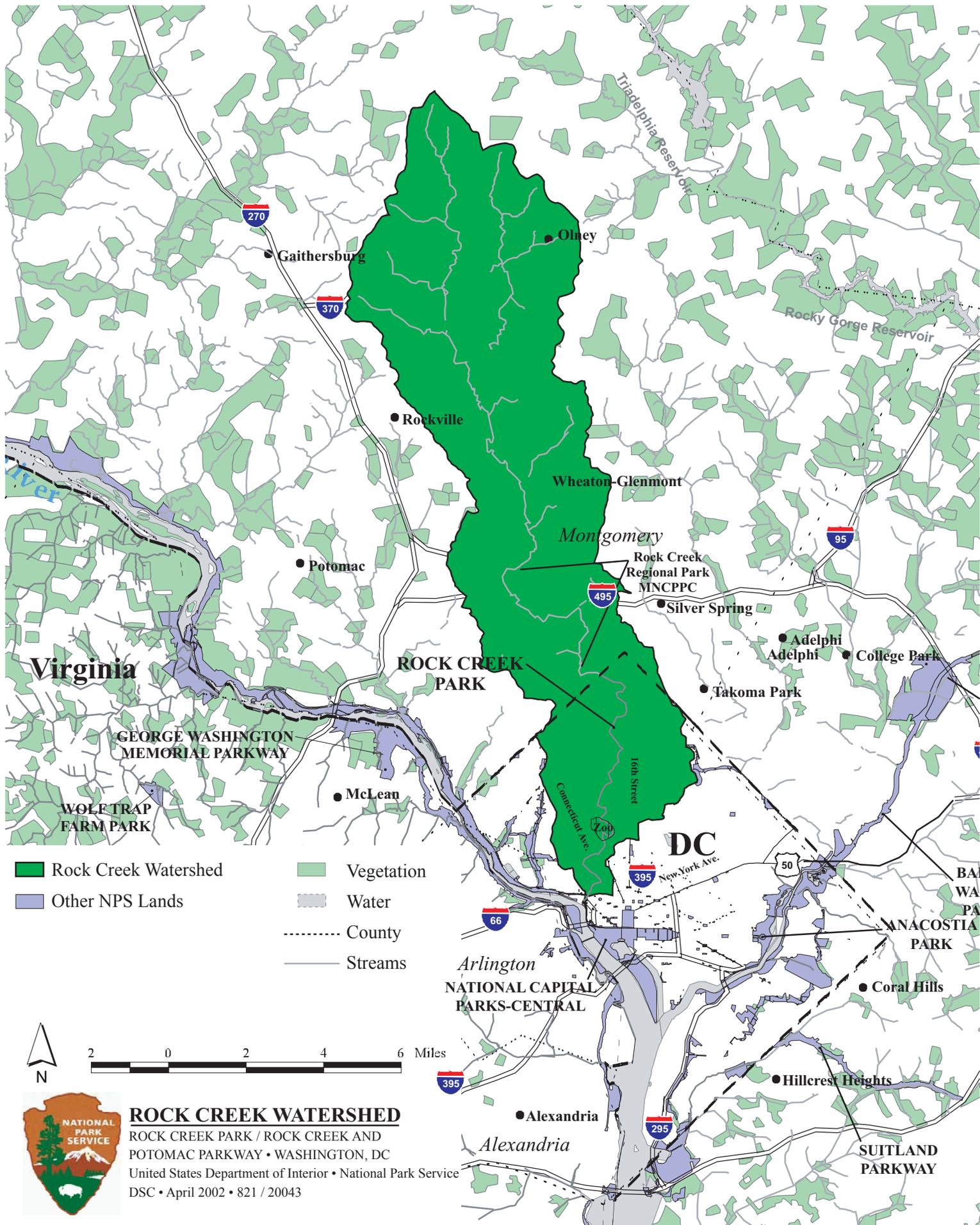
Review permit applications for major new air pollution sources that could affect the park.

Conduct park operations in compliance with federal, state, and local air quality regulations.

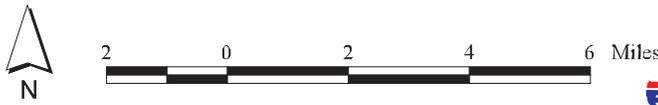
Water Resources – Current laws and policies require that the following condition be achieved in the park.

Optimum Conditions	Source
Rock Creek and its tributaries within the park and parkway are free flowing.	Rock Creek Park and Rock Creek and Potomac Parkway enabling legislation
Surface waters and groundwater are protected or restored such that water quality as a minimum meets all applicable Washington, D.C. water quality standards.	Clean Water Act Executive Order 11514 <i>Management Policies 2001</i>
NPS and NPS-permitted programs and facilities are maintained and operated to avoid pollution of surface waters and groundwater.	Clean Water Act Executive Order 12088 <i>Management Policies 2001</i>
Natural floodplain values are preserved or restored.	Executive Order 11988 Rivers and Harbors Act Clean Water Act <i>Management Policies 2001</i>
The natural and beneficial values of wetlands are preserved and enhanced.	Executive Order 11990 Rivers and Harbors Act Clean Water Act <i>Management Policies 2001</i>

Rock Creek is the central feature of Rock Creek Park. As shown in the Rock Creek Watershed map, Rock Creek Park is located within the lower watershed. The park comprises only a small portion of the watershed and, therefore, has limited opportunities to control actions that produce substantial changes in overall water quality. Activities occurring elsewhere in the watershed out-



- Rock Creek Watershed
- Vegetation
- Other NPS Lands
- Water
- County
- Streams



ROCK CREEK WATERSHED
 ROCK CREEK PARK / ROCK CREEK AND POTOMAC PARKWAY • WASHINGTON, DC
 United States Department of Interior • National Park Service
 DSC • April 2002 • 821 / 20043

side the boundaries of the park have a greater influence on water quality in the park than activities inside the park.

The basin drains approximately 77 square miles and includes urban, suburban, residential, agricultural, and parkland areas. About 70 percent of the watershed is developed, and much of the developed area contains impervious surfaces. As a result, the park is increasingly subjected to flooding caused by rapid runoff, abnormal stream bed scouring in some places and sedimentation in others, bank erosion, organic and chemical pollution, and accumulation of litter and other solid waste. Park waters do not meet quality standards for human contact, thus limiting water-oriented recreation.

The Rock Creek drainage lies within the 64,000-square-mile watershed for the Chesapeake Bay, which is the largest estuary in the United States and one of the most productive in the world. As with air quality, the National Park Service must cooperate with regional agencies to improve water quality within the Rock Creek drainage and the entire Chesapeake Bay watershed. Approximately 1,650 area governments are involved in the Chesapeake Bay restoration effort. The U.S. Environmental Protection Agency is the lead agency for the federal government and has been directing and conducting restoration efforts since the signing of the historic Chesapeake Bay Agreement of 1983 (NPS 2003e).

In July 1994, federal officials from 25 agencies and departments, including the National Park Service, signed the Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay. This agreement outlined cooperative federal efforts with specific goals and commitments by federal agencies on federal lands throughout the watershed. In November 1998, the National Park Service and 21 other federal agencies signed an updated agreement, the Federal Agencies' Chesapeake Ecosystem Unified Plan, which contains 50 specific goals and commitments by federal agencies (NPS 2003e).

On November 7, 2000 the President signed the Estuaries and Clean Waters Act of 2000, which included Title II B, Chesapeake Bay Restoration. This act amends Section 117 of the Federal Water Pollution Control Act (known as the Clean Water Act). It includes explicit mandates that federal agencies that own or operate facilities within the Chesapeake Bay watershed shall

participate in regional and sub-watershed planning and restoration programs

ensure that the property, and actions taken by the agency with respect to the property, comply with the Chesapeake Bay Agreement, the Federal Agencies Chesapeake Ecosystem Unified Plan, and any subsequent agreements and plans (NPS 2003e)

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

Improve coordination with other agencies to ensure proper monitoring, inspection, and repair of sanitary sewers in and around the park to reduce the impacts on park water and land. Work toward the NPS' long-term goal of eliminating contaminant releases from all sanitary and storm sewers in the park. Work with other agencies in the watershed to trace and eliminate illegal discharges into the storm sewer networks that drain into Rock Creek. Coordinating agencies include, but are not limited to, the

District of Columbia Water and Sewer Authority

District of Columbia Department of Health, Water Quality Division
 Montgomery County Department of Public Works and Transportation
 Washington Suburban Sanitary Commission
 Maryland-National Capital Park and Planning Commission
 U.S. Environmental Protection Agency

Support the investigation and mitigation of artificially accelerated streambank erosion and stream bed incision and their effects on natural riparian areas. This could include implementing erosion control measures, such as establishing new streambank vegetation in eroded areas and riprap placement.

Apply best management practices to all pollution-generating activities and facilities in the park, such as operation of stables (both by a concessioner and the National Park Service), maintenance and storage facilities, the golf course, and parking areas.

Minimize the use of pesticides, fertilizers, and other chemicals and manage them in conformance with NPS 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 Rock Creek watershed.

Promote greater public understanding of water resource issues in the park and encourage public support for and participation in improvements in the Rock Creek, Potomac River, and Chesapeake Bay watersheds.

Support initiatives by the U.S. Environmental Protection Agency, State of Maryland, the District of Columbia, and local governments, including Montgomery County, that monitor, reduce, or eliminate the pollution in urban, non-point-source runoff that affect Rock Creek or its tributary streams. These could include implementation of best management practices in communities within the watershed, improved methods or enforcement of erosion control, assistance to watershed agencies for dry weather outfall surveys, and public outreach to gain cooperation of watershed residents in reducing their contributions to pollution from fertilizers, pesticides, pets, and vehicles.

Support strategies and initiatives of the District of Columbia and Montgomery County to reduce storm flow volumes into Rock Creek and its tributaries. Examples could include installing surface or underground storm water detention and storage ponds, and using permeable materials for parking lots and road surfaces.

Geologic Resources – Current laws and policies require that the following condition be achieved in the park for geologic resources, which include soils.

Optimum Conditions	Source
Natural soil resources and processes function 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.	Rock Creek Park enabling legislation <i>Management Policies 2001</i>

Optimum Conditions	Source
Soils classified by the U.S. Department of Agriculture, Natural Resources Conservation Service as prime or unique farmland soils are retained.	Council on Environmental Quality (1980) memorandum on prime and unique farmlands

Soil resources 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 related to geologic resources.

Survey areas of the park with soil resource problems and take actions appropriate to the management zone to prevent further erosion, compaction, or deposition and to restore original contours, as practical.

Avoid disturbance of prime farmland soils. These include Chillum silt loam on 0 to 8 percent slopes and Glenelg Loam on 0 to 8 percent slopes.

Participate in interagency efforts to reduce erosion from accelerated runoff and streamflows in conformance with “Water Resources,” above.

Apply effective best management practices to problem soil erosion and compaction areas 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.

Optimum Conditions	Source
Federal- and state-listed threatened or endangered species and their habitats are protected and sustained.	Endangered Species Act and equivalent state protective legislation <i>Management Policies 2001</i>
Populations of native plant and animal species function in as natural a condition as possible except where special management considerations are warranted. Areas of special management considerations are determined through management zoning decisions in this general management plan.	Rock Creek Park enabling legislation <i>Management Policies 2001</i>
Native species populations that have been severely reduced in or extirpated from the park are restored where feasible and sustainable.	Rock Creek Park enabling legislation <i>Management Policies 2001</i>
Invasive species are reduced in numbers and area, or are eliminated from the natural areas of the park.	<i>Management Policies 2001</i>

Rock Creek Park represents one of the oldest and largest protected areas of natural vegetation in the region. Despite its small size, the capability of the park to sustain native species is valuable.

The National Park Service will take the following kinds of actions to comply with legal and policy requirements related to native species.

Implement measures to protect the federally endangered Hays spring amphipod and the rare Kenk's groundwater amphipod and their habitats (NPS 1997a). These actions include, but are not limited to

protecting springs and seeps known to contain these species from disturbance

protecting the watersheds immediately upgradient from such springs and seeps from earth moving, pollution, or changes in groundwater supply or hydrology

developing a management plan for the continued protection of the amphipods, including an assessment of recharge areas for amphipod sites and a monitoring strategy

informing the public about the presence and value of groundwater amphipods in the park without disclosing site-specific information that could increase the risks from illegal collection or disturbance

Initiate and maintain measures to protect plant and animal species listed as rare (both currently and in the future) by Maryland or Virginia. These measures include, but are not limited to

protecting the habitats known to contain these species from disturbances such as pollution, changes in hydrology, visitor uses, mowing or maintenance activities, and earth moving or trail construction

developing a management plan for the continued protection of these rare species on park lands, including regular monitoring of populations, assessing current or potential threats, implementing mitigation approved for their protection, and continuing limitations on providing information regarding their locations

Inventory the plants and animals in the park. Use the inventory 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 non-native species. Modify management plans to be more effective, based on monitoring results.

Monitor native species that are capable of creating resource problems, such as overgrazing associated with over-population of white-tailed deer. If unacceptable levels of habitat degradation are indicated, implement humane measures to control the animal population.

Support research that contributes to management knowledge of native species.

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

PURPOSE AND NEED FOR ACTION

Review park fishing regulations and revise fish management as appropriate to support native fish populations.

Continue to participate in regional ecosystem-level undertakings to restore native species, such as the Chesapeake Bay Program effort to restore migratory fish to Rock Creek. Facilitate implementation of the Woodrow Wilson Bridge mitigation project, which will remove or mitigate nine man-made obstructions to fish migration in Rock Creek, including the Peirce Mill dam, fords, and sewerline crossings.

Manage vegetation in accordance with *Management Policies 2001* (NPS 2000a). In natural zones, manage vegetation exclusively for native plant species. In other management zones, use native species to the maximum extent possible. Where non-native species are justified within cultural resource zones, limit these plantings to non-aggressive species.

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 for visitors and for residents neighboring the park boundary. Subjects could include low-impact landscaping, control of domestic animals, and avoidance of boundary encroachments, and could be presented through such forums as workshops and newsletters.

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

Optimum Conditions	Source
Park fire management programs are designed to meet park resource management objectives while ensuring that firefighter and public safety are not compromised.	<i>Management Policies 2001</i>
A fire management plan is prepared and implemented for Rock Creek.	<i>Management Policies 2001</i>

Consistent with *Management Policies 2001* (NPS 2000a), a fire management plan has been prepared for Rock Creek Park (NPS 1991, revised 1995). The plan will respond specifically to the park’s natural and cultural resource objectives; provide for safety considerations for park visitors, employees, neighbors, and developed facilities; and address potential impacts on public and private property adjacent to the park. It also will address the need for adequate funding and staffing to support the fire management program.

An environmental assessment developed in support of the plan will tier from this general management plan and environmental impact statement and will consider effects on air quality, water quality, health and safety, and natural and cultural resource management objectives. Preparation of the plan and environmental assessment will include collaboration with interest groups, nearby communities, and governments at the federal, state and district, regional, and local levels. The deciduous forests of Rock Creek Park are relatively moist, and fires do not play a major role in maintaining the native vegetation. An average of only two woodland fires occur in the park each year, with most burning involving less than an acre. Most fires are human-caused, rather than from natural ignition sources. Wildfires in the park usually are not intense and consume only fallen leaves and duff. Barriers such as streams, mowed fields, roads, and trails usually limit the spread of fires.

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 smoke pollution. To prevent these types of fires, the National Park Service will 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 Washington, D.C. fire department for wildfire suppression in the park.

Management fires, or prescribed burns, would be used sparingly if at all and only on a case-by-case basis.

Cultural Resource Management Requirements. Categories included in cultural resource management requirements are archeological resources, historic structures and cultural landscapes, and collections.

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

Optimum Conditions	Source
Archeological sites are identified and inventoried, and their significance is determined and documented.	National Historic Preservation Act Executive Order 11593 Archeological and Historic Preservation Act
Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable.	Archeological Resources Protection Act <i>Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> (1992)
In those cases where disturbance or deterioration is unavoidable, the site may be professionally documented and salvaged.	Programmatic Memorandum of Agreement among the National Park Service, Advisory Council on Historic Preservation, and National Council of State Historic Preservation Officers (1995) <i>Management Policies 2001</i>

PURPOSE AND NEED FOR ACTION

The archeological sites in the park have not been systematically surveyed or inventoried. Precise information about the location, characteristics, significance, and condition of the majority of archeological resources in the park is lacking, and impacts are difficult to measure. The National Park Service will take the following kinds of actions to meet legal and policy requirements related to archeological sites.

Survey and inventory archeological resources and document their significance.

Treat all archeological resources as eligible for listing in the National Register of Historic Places pending the opinion of the District of Columbia State Historic Preservation Officer and a formal determination by the Keeper of the National Register as to their significance.

Protect all archeological resources determined eligible for listing or listed on the National Register of Historic Places. If disturbance to such resources is unavoidable, conduct formal consultation with the Advisory Council on Historic Preservation and District of Columbia State Historic Preservation Officer in accordance with the National Historic Preservation Act.

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

Optimum Conditions	Source
Historic structures and cultural landscapes are inventoried and their significance and integrity are evaluated under National Register criteria.	National Historic Preservation Act Executive Order 11593 Archeological and Historic Preservation Act
The qualities of historic properties that contribute to their actual listing or their eligibility for listing in 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.	The Secretary of the Interior’s Standards for the Treatment of Historic Properties: with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings The Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes Programmatic Memorandum of Agreement among the National Park Service, Advisory Council on Historic Preservation, and National Council of State Historic Preservation Officers (1995) <i>Management Policies 2001</i>

Many of the historic structures and cultural landscapes in Rock Creek Park exhibit deterioration that has resulted from a lack of systematic preservation. The National Park Service will take the following kinds of actions to meet legal and policy requirements related to historic properties.

Complete a survey, inventory, and evaluation of historic properties under National Register criteria.

Analyze the design elements, such as materials, colors, shape, massing, scale, architectural details, and site details, of historic structures and cultural landscapes in the park and parkway. These could include such features as bridges, trails, roads and intersections, curbing, signs, picnic tables, and parkway embayments. Use this information to guide rehabilitation and maintenance of sites and structures and to ensure that future park structures are compatible with the historic character in design and materials.

Submit the inventory and evaluation results to the District of Columbia State Historic Preservation Officer and the Keeper of the National Register with recommendations for eligibility to the National Register.

Determine the appropriate level of treatment for each historic property formally determined to be eligible for listing or actually listed in the National Register, subject to the Secretary of the Interior’s (1995a) standards.

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

Collections – Current laws and policies require that the following conditions be achieved in Rock Creek Park.

Optimum Conditions	Source
All museum objects and manuscripts are identified and inventoried, and their significance is determined and documented.	National Historic Preservation Act American Indian Religious Freedom Act
The qualities that contribute to the significance of collections are protected in accordance with established standards.	Archeological and Historic Preservation Act Archeological Resources Protection Act Native American Graves Protection and Repatriation Act <i>Management Policies 2001</i>

The Rock Creek Park museum collections are at risk. Improper storage and lack of adequate security and fire protection at facilities where the collections are housed threaten their safety and integrity. Portions of the archeological and historical collections are not yet cataloged and need to be consolidated in one location. The National Park Service will take the following kinds of actions to meet legal and policy requirements related to collections.

Inventory and catalog all of the park’s museum collection in accordance with standards outlined in the *Manual for Museums* (NPS, Lewis 1976).

Develop and implement a collection management program according to NPS standards to guide protection, conservation, and use of museum objects.

Visitor Experience and Park Use Requirements. This category, which derives in part from the Organic Act, includes providing an enjoyable experience relating to the park’s scenic, natural,

PURPOSE AND NEED FOR ACTION

and historic resources “in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” It also includes measures to ensure visitor health and safety.

Current laws and policies require that the following conditions be achieved in Rock Creek Park.

Optimum Conditions	Source
A safe and healthful environment is provided for visitors and employees. Management actions strive to protect human life and provide for injury-free visits.	<i>Management Policies 2001</i>
Park visitors assume a substantial degree of risk and responsibility for their own safety when visiting areas that are managed and maintained as natural, cultural, or recreational environments.	<i>Management Policies 2001</i>
Effective law enforcement occurs as part of a cooperative community effort. The park encourages and assists park neighbors in the development of cooperative crime prevention and detection programs.	<i>Management Policies 2001</i>
Park roads are well constructed, sensitive to natural and cultural resources, and enhance the visitor experience. Park roads are not intended to provide fast and convenient transportation; rather, they enhance the quality of a visit, while providing for safe travel, with few or no impacts on natural and cultural resources.	<i>Management Policies 2001</i>
The National Park Service works with governments and private organizations and individuals to minimize impacts of traffic on park resources and values.	<i>Management Policies 2001</i>
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 Rock Creek Park enabling legislation <i>Management Policies 2001</i>
Park recreational uses are promoted and regulated. Basic visitor needs are met in keeping with the park purposes.	NPS Organic Act Rock Creek Park enabling legislation Title 36 of the Code of Federal Regulations <i>Management Policies 2001</i>
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 <i>Management Policies 2001</i>

Because of the location of Rock Creek Park within a major metropolitan area, a high degree of cooperation with other governments and organizations is necessary to achieve the optimum conditions identified above. For example, the U.S. Park Police routinely coordinate with law enforcement agencies in Washington, D.C. and other nearby jurisdictions with regard to traffic management and to help ensure a safe environment for park visitors.

Regulations governing visitor use and behavior in units of the national park system are contained in Title 36 of the United States *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 Rock Creek Park because of issues raised by the public during scoping.

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

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).

As a result of these regulations, as discussed under the heading “Alternatives or Actions Eliminated from Further Study,” suggestions from the public to allow bicycling off currently permitted roads and trails and to allow pets to run unleashed in the park were not included in any of the alternatives.

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 evaluated in this final general management plan represent four approaches to visitor experience and park use.

Special Use Management Requirements. Special uses refer to the use of park and parkway lands for non-park purposes. Current laws and policies require that the following conditions be achieved in the park and parkway with regard to the management of special uses.

Optimum Conditions	Source
Park resources or public enjoyment of the park are not denigrated by nonconforming uses.	Telecommunications Act 16 United States Code 5
Only telecommunication structures that do not jeopardize the park’s mission and resources may be permitted within the park.	16 United States Code 79 23 United States Code 317
No new nonconforming use or rights-of-way are permitted through the park without specific statutory authority and approval by the director of the National	36 <i>Code of Federal Regulations</i> 14 <i>Management Policies 2001</i>

Optimum Conditions	Source
Park Service or his representative and only if there is no practicable alternative to such use of NPS lands.	<i>Reference Manual #53, Special Park Uses. Appendix 5: Rights-of-Way – Rights of Way for Telecommunications Facilities (NPS 2000c)</i>

Rock Creek Park has ongoing special use concerns associated with the presence of sanitary and storm sewerlines within the park, including the antiquated, combined sanitary and storm water sewers that discharge raw sewage into Piney Branch and Rock Creek in association with storm events. The water resource section describes the types of actions that the National Park Service will take to meet legal and policy requirements related to sewers.

A more recent special use management issue at Rock Creek Park involves locating telecommunications infrastructure inside the park. The Telecommunications Act of 1996 directs all federal agencies to assist in achieving a seamless telecommunications system throughout the nation by accommodating requests from telecommunication companies for the use of property, rights-of-way, and easements to the extent allowable under the agency's mission. However, the National Park Service is legally obligated to issue right-of-way permits only for those requests for which there is no feasible and prudent alternative and will not result in a derogation of the resources, values, and purposes for which the park was established (*RM-53 Special Park Uses, Rights-of-Way, Wireless Telecommunications Facilities*, Appendix 6, Exhibit 6, page A6-51).

Actions Outside the Park. Rock Creek Park and the Rock Creek and Potomac Parkway include only part of the natural resources, cultural sites, and scenic vistas of the Rock Creek valley. As a result, actions by others in the watershed can affect park resources and visitor experiences. Similarly, NPS activities may have impacts outside the park's boundaries. Therefore, servicewide mandates and policies recognize the need for the superintendent and other park staff to be involved with actions outside the park. This includes working with the city, other public agencies, and landowners to address park integrity concerns and deal with issues relating to the protection and enhancement of resources, even when the resources are outside the park.

Optimum Conditions	Source
Resources outside the park are managed in such a way that the park will be safeguarded.	NPS Organic Act Redwood Amendment to the General Authorities Act
The National Park Service works cooperatively with others to anticipate, avoid, and resolve potential conflicts and address mutual interests.	<i>Management Policies 2001</i>

Examples of this type of participation were described in the "Air Quality" and "Water Resources" sections. Other actions could include, but would not be limited to, the following:

Supporting the establishment of land use agreements and easements to ensure green space.

Monitoring the park boundaries and working with the city and landowners to ensure that private developments do not encroach on the park or have visual impact.

Working with the city to control stray and feral pets that can prey on native wildlife or be hit by cars, and to educate citizens on the importance of animal control.

Planning projects so that noise and visual effects within the park are minimized and perceptions of solitude are enhanced.

Providing alternate transportation modes so that visitors can arrive at the park by means other than privately owned, motorized vehicles.

PLANNING OPPORTUNITIES AND ISSUES

The previous section summarized major legal and policy requirements for Rock Creek Park. This section identifies the decisions that need to be made through the general management planning process and summarizes the resources and other values that may be affected (impact topics).

Decision Points

This section identifies the major resource condition and visitor experience issues that need to be addressed in the general management plan.

A variety of issues and concerns were identified by the public, park staff, and other agencies during scoping for this general management plan. Comments were solicited at public meetings, through planning newsletters, and on the park web site and telephone hotline. Additional information on issues identification is provided in the “Consultation and Coordination” section.

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 were discussed in the preceding section entitled “Servicewide Mandates and Policies.” Because they are mandatory requirements, these matters are not subject to decision 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 5-year strategic plan or annual implementation plans. Those plans will be based on the resource conditions and visitor experiences to be achieved in Rock Creek Park that are established in the final general management plan. Some of the concepts behind operational or developmental issues were incorporated into the alternatives considered in the environmental impact statement on this final general management plan.

Scoping demonstrated that there is much that the public likes about the park. Indeed, one of the most common comments during scoping was that the park is fine just the way it is today. In particular, people want the traditional character of the park to continue, although many also expressed concern about the effects of traffic on the recreational experience. Another concern is that continued use of some of the park’s historic resources as administration offices may affect their historic integrity. It has been proposed that these structures may be more appropriate for interpretive or educational activities, and that administrative functions could be performed more efficiently from modern office facilities.

Based on public comments and agency concerns, three major resource condition and visitor experience issues, called “decision points,” were identified. This final general management plan focuses on addressing these decision points, which are identified below.

How Should Traffic Be Managed in Rock Creek Park and on the Rock Creek and Potomac Parkway. The most controversial issue to be resolved by this plan involves establishing the appropriate level of through-traffic in Rock Creek Park and on the Rock Creek and Potomac Parkway. Some people feel that park values are compromised by what they perceive as heavy, high-speed traffic, and that nonmotorized recreation should be promoted by closing parts of Beach Drive and other park roads to automobiles. Others believe that the current mix of recreational and nonrecreational traffic is appropriate and that automobile access through the park enhances the quality of life in the region.

The Rock Creek and Potomac Parkway was established as a scenic travel corridor for the city. In contrast, Beach Drive primarily was an internal park road that provided recreational access to the valley. When the Zoo Tunnel opened to relieve traffic congestion in the area of the National Zoo in 1966, it inadvertently made the corridor consisting of Beach Drive and the Rock Creek and Potomac Parkway into an attractive route for traveling by automobile between the city center and the residential areas of northwest Washington, D.C. and Montgomery County, Maryland. As a result, weekday traffic on Beach Drive averages 6,600 vehicles per day north of Broad Branch Road, and 25,000 vehicles per day in the vicinity of the National Zoo. The busiest portion of the Rock Creek and Potomac Parkway typically supports 55,000 vehicle trips per day. More than 95 percent of the vehicles entering the park during commuting hours pass through without stopping (Robert Peccia & Associates 1997).

Traffic models predict that the volume of regional traffic will increase substantially by the year 2020. Projections indicate that without additional management, traffic on portions of Beach Drive could more than double by 2020 (Robert Peccia & Associates 1997). This traffic growth would further compromise the suitability of park roads for recreational uses.

Another traffic-related issue on Beach Drive involves the effort to provide a continuous, regional recreation trail system that is free of automobile traffic. Paved trails and roads in Rock Creek Park and along the parkway connect with the Rock Creek Trail and the Capital Crescent Trail both to the north and south and to the C and O Canal Tow Path to the south. However, the paved recreation trail system through Rock Creek valley is not continuous. Recreationists must use portions of Beach Drive in the upper valley between the Maryland boundary and Bingham Drive and in the gorge section between Joyce Road and Broad Branch Road.

Both of these road sections are constricted, winding, and have narrow or no shoulders. During the weekend, both sections are closed to automobiles, except for the short section between West Beach Drive and Wise Road. During the week, they carry heavy automobile traffic.

A 1980 study by the National Park Service recommended constructing a separate paved trail through the upper valley and gorge sections of Beach Drive (NPS 1980). A recommendation to provide a paved trail in these areas was included in *Paved Recreation Trails of the National Capital Region* (NPS 1990c), but this recommendation could be satisfied only by building a separate trail or by closing Beach Drive and using it as a recreation trail.

During the current planning effort, NPS landscape architects, resource specialists, and a civil engineer reconnoitered these sections. They also consulted with representatives of the U.S. Fish and

Wildlife Service and the District of Columbia State Historic Preservation Officer about potential effects on endangered species and properties listed in the National Register of Historic Places. The team concluded that there are no acceptable routes along these sections to construct a separate, paved trail. Impediments include potential damage to endangered species habitat, wetlands, properties listed in the National Register of Historic Places, and other environmental obstacles that would be extremely difficult and expensive to mitigate. They concluded that the only way to provide a continuous recreational trail through the valley would be to permanently close sections of Beach Drive to automobiles.

The following statement in regard to through-traffic routes in national parks is included in Section 9.2.1.2.1 of *Management Policies 2001* (NPS 2000a).

Where a determination is made that existing through-traffic routes have adverse impacts on park resources and values, the Service will work with the appropriate government authorities to minimize the impacts, or to have the traffic flow re-routed over an alternative route. Where feasible and practicable, roads that are no longer needed will be closed or removed, and the area restored to a natural condition.

During scoping, there was strong disagreement among the public about whether some sections of Beach Drive should be permanently closed and about the degree to which through-traffic should be controlled in the park and on the parkway. To address these views, four approaches for managing through-traffic are analyzed in this final general management plan and environmental impact statement.

What are the Most Appropriate Levels of Service and Locations for Visitor Interpretation and Education in the Park? This final general management plan and environmental impact statement analyzes two alternatives regarding the appropriate levels of service and locations for visitor interpretation and education. Factors that led to the development of these alternatives include the following:

It currently is difficult to reach the thousands of visitors who recreate each week in the Rock Creek valley, especially those who are unfamiliar with the park and its broader purposes. Visitors to Rock Creek Park often do not receive any initial orientation to the park, what it has to offer, or how to safely and appropriately experience park resources. As a result, many visitors do not even know that they are in a national park.

Interpretive programming in the park has evolved without the benefit of an interpretive plan. This has resulted in a hodgepodge of stories and facts that may not help the public understand the significance of the park and its resources. Many opportunities for reaching the public in the park are unrealized.

Over the past two decades, recreational visitation to Rock Creek Park has almost doubled while the park's visitor services have been severely reduced because of funding limitations. This has resulted in a substantial decline in visitation to the main interpretive sites in the park, which consist of the Rock Creek Nature Center and Planetarium and Peirce Mill.

Some facilities are in need of attention. Some exhibits need updating, and some of the sites are open only on a limited schedule because of a lack of personnel.

In spite of current limitations, Rock Creek Park has a long tradition of providing a wide range of visitor interpretive and educational services. Its location in the nation's capital makes the park particularly well suited to provide a large, diverse population with resource interpretation and educational opportunities and to serve as an ambassador for the national park idea.

It is important within this final general management plan to establish the desired resource condition and visitor experience for interpretation and education with regard both to location and levels of service. Two approaches for responding to this issue were included in this document.

What Are the Most Appropriate Locations to Support Administration and Operations Functions with Respect to Minimizing Resource Disturbance? The following have been identified with regard to the use of the existing infrastructure to support administration and operations of the park.

Some administrative and operations functions are housed in historic structures. Examples include the location of the park headquarters in the Peirce-Klingbein Mansion and the U.S. Park Police station in the Lodge House on Beach Drive. These uses may not effectively protect the historic resources of the park or efficiently serve administrative and operational needs. They also preclude the ability to use these historic resources for educational or interpretive purposes.

Spaces available for office, work, and storage activities are insufficient.

Aging buildings have been repeatedly adapted beyond their original capacities to accommodate growing functions and required personnel.

Facility expansion is necessary for administration and operations functions in the park to keep pace with increasing visitor use and resource protection demands.

Two alternatives for supporting administration and operations functions are analyzed in this final general management plan and environmental impact statement. This document also analyzes two options for the U.S. Park Police station.

Alternatives or Actions Eliminated from Further Study

Several actions suggested by the public are not incorporated into this final general management plan. This section identifies those actions and provides rationales of why they were not included.

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 of the actions suggested by the public were included in the draft general management plan.

As the National Park Service learned more about public concerns, the draft 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 actions 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

This section briefly describes each of these actions and the basis for excluding them from this final general management plan.

In the comments on the draft general management plan and environmental impact statement, the public provided nearly 500 suggestions on how to improve management of the park and parkway.

Some were incorporated into the final versions of the action alternatives that are evaluated in the final environmental impact statement.

Most are more appropriate for the shorter-term management documents that will tier from this final general management plan, such as 5-year strategic plans, annual performance plans, and implementation plans. The National Park Service has compiled a complete list of these suggestions that it will consult in preparing each of these documents.

A few of the suggestions were eliminated from further study. Brief descriptions of these actions and the basis for eliminating them from consideration have been added to this section.

Other Traffic-Related Actions. Throughout the planning process, the public commented on the management of park roads more than any other topic. Many of their suggestions were incorporated into the four alternatives that are analyzed in this final general management plan. However, many other suggestions on how to manage traffic were not addressed in any of the alternatives. The most common suggestions, and the reasons they were not included, are described below.

Suggestion: The National Park Service should charge a fee for entering the park or levy a toll for using Beach Drive or the Rock Creek and Potomac Parkway to discourage non-recreational automobile traffic.

Response: Both of these approaches would be impractical because of logistical problems associated with the more than 20 road entrances to Rock Creek Park. Charging an entrance fee or a toll high enough to discourage nonrecreational automobile traffic could also discourage recreational use, which would be contrary to the purpose of the park.

Suggestion: Close Beach Drive to all private automobiles and use the road as a mass transit route for city buses.

Response: This option would duplicate mass transit services already available in the area via Metrobus and the Metro Rail Red and Green lines and would require reengineering of Beach Drive and other park roads to accommodate buses.

Suggestion: End the current weekend and holiday closures of Beach Drive and allow unrestricted use by automobiles at all times.

Response: Early in the planning process ending the current pattern of closures was identified as a possible management approach. However, initial scoping showed strong support

for continuing weekend and holiday closures. Therefore, this was not included in any of the management alternatives.

Suggestion: Extend the twice-daily lane reversals (one-way traffic) on the Rock Creek and Potomac Parkway to include Beach Drive. Variants on this idea included

- closing one lane of Beach Drive to automobiles and using it for bicycles
- reversing the one-way flow against the general flow of commuter traffic

Response: These measures were considered unsafe and technically impractical.

Suggestion: Close Beach Drive to motorized traffic overnight, from the end of the evening rush hour to the start of the next morning rush hour.

Response. Visitors are not allowed in the park after dark except in a vehicle. Therefore, this approach would effectively close large segments of the park after dark and would preclude visitor use.

Suggestion: Allow motorized traffic on portions of Beach Drive only during weekday rush hours. Close these segments to motorized traffic twice daily, during the middle of the workday and overnight. Vary the time of weekday closures seasonally or based on time of sunrise and sunset.

Response: This approach had multiple disadvantages that led to its exclusion.

It would double the burden for barrier placement and removal on the U.S. Park Police, compared to any other alternative.

It would restrict the access throughout the park that visitors with limited mobility currently have during weekday evenings and would eliminate driving for pleasure except during rush hours.

Variable opening and closing times would be confusing and difficult to implement.

Like the preceding suggestion, it would effectively close large segments of the park after dark.

Suggestion: During the summer, close segments of Beach Drive to motorized traffic on weekdays after rush hour to promote nonmotorized recreation during the long evenings.

Response: The National Park Service analyzed sunset during the summer, including the effect of daylight savings time. The analysis showed that during the longest evenings of the year, at the end of June and beginning of July, the sun sets at 8:37 P.M. Rush hour through Rock Creek Park ends about 7:00 P.M. This would provide recreationists with little more than an hour and a half to enter the park after rush hour, reach their destinations, and exit from the park to avoid being stranded in the unlit park after the dark. By the end of August, there would be only 40 minutes between the end of rush hour and sunset. This action would also have most of the detriments of the preceding suggestion. Therefore, it was not incorporated into any of the alternatives.

Suggestion: Close Beach Drive segments during different mid-day time periods than those proposed in Alternative D.

Suggestion: Implement Beach Drive closures only during the summer and leave it open throughout the winter when fewer people participate in outdoor recreation activities.

Response: The NPS' preferred alternative was modified between the draft and final versions of this general management plan to increase the level of flexibility in implementing traffic management actions.

Suggestion: Modify Alternative D – Mid-Weekday Recreational Enhancement to include mid-day closure only of the Beach Drive segment from Joyce Road to Broad Branch Road.

Response: This action, designated D-1, was investigated thoroughly following the receipt of public comments on the draft general management plan. For example, the 2004 traffic study (Parsons 2004) focused on the effects of implementing mid-day closures only on this segment of Beach Drive. However, this alternative was deemed to be premature until the traffic management approaches in Alternative A of this final general management plan have been implemented and tested for effectiveness in meeting traffic management goals.

In summary, many variations for traffic management and road closure were considered based on scoping comments. The range of traffic management alternatives addressed in this final general management plan was selected because they are technically feasible, are most responsive to public concerns, and are consistent with NPS policies and authorities.

Remove Community Gardens, the Rock Creek Horse Center, and the Rock Creek Park Golf Course. Public comments during early scoping indicated that some people wanted to see the park managed more as a natural preserve, with a substantial reduction in developed areas within the park. Therefore, in newsletter 3 (NPS 1997c), the National Park Service responded to this general direction with preliminary alternative scenarios 3 and 4. Both of these scenarios included removal of community garden sites in the park and eliminated the Rock Creek Horse Center as a public facility. Preliminary alternative scenario 4 also included removal of the Rock Creek Park Golf Course.

Once these provisions were incorporated into preliminary alternative scenarios, few people supported removal of these established uses. Public response to newsletter 3 overwhelmingly supported continuing these facilities as appropriate to the recreational purposes of the park.

The National Park Service agrees that these facilities and activities are recreational uses in the park. The golf course and the boarding stables are established concession operations under the provisions of 36 *Code of Federal Regulations*.

There is no apparent substantive public desire to discontinue these established uses. Therefore, elimination of these facilities was dropped from further consideration in the range of alternatives evaluated in detail in the general management plan.

Increase the Number of Community Gardens in the Park. Few comments were received during scoping or in response to the draft general management plan on the need to expand community gardens. Moreover, throughout each year, few if any members of the public communicate to

park staff members a perceived need for additional community gardens. Therefore, expansion in the size or number of community gardens was not included in any of the alternatives.

Construct a Continuous Paved Recreation Trail in the Rock Creek Valley. As described previously in the section entitled “Decision Points,” the planning team for this general management plan considered the installation of a separate, paved recreation trail parallel to Beach Drive through the entire length of the Rock Creek valley in the park. Such a trail was proposed a quarter century ago in a bicycle trail study for the park (NPS 1980). A recommendation to provide a paved trail through the Rock Creek Valley was included in *Paved Recreation Trails of the National Capital Region* (NPS 1990c), but this recommendation could be satisfied by building a separate trail or by closing Beach Drive and using it as a recreation trail.

Early in the general management planning effort, a more detailed field investigation was conducted of the areas of Beach Drive that do not have a paved, parallel trail. NPS investigators included landscape architects, resource specialists, and a civil engineer. Site investigations also were made by representatives of the U.S. Fish and Wildlife Service and the District of Columbia State Historic Preservation Officer.

The investigation determined that there are multiple, severe impediments to trail construction in the area between Joyce Road and Broad Branch Road. Among these are the steep topography and narrow width of the valley bottom, which would require the cutting of numerous mature trees and extensive earthwork cut-and-fill activities. These actions would have substantial adverse effects on many of the aesthetic components of the valley bottom that currently contribute to its attractiveness. Based on this concern in conjunction with constraints associated with cultural resources, environmental resources, permitting, and funding, construction of a continuous paved recreation trail in the Rock Creek valley was eliminated from consideration as a component of any of the alternatives in this general management plan.

Construct Additional Facilities for Organized Sports. Preliminary alternative scenario 2 in newsletter 3 (NPS 1997c) included developing facilities for organized sports at Military Field and, potentially, at other sites in the park. While there is considerable demand for sports facilities in the District, few members of the public who commented on the preliminary alternatives supported constructing additional sports facilities in Rock Creek Park. Many people opposed such a move as inappropriate to the purposes of the park as a natural landscape.

The Brightwood area of Rock Creek Park is currently dedicated to fields supporting organized sports. Sport facilities also are provided elsewhere in the region, including NPS sites such as Fort Reno, West Potomac Park, and Anacostia Park.

Based on these considerations, the National Park Service determined that additional facilities for organized sports are neither desired nor needed at Rock Creek Park. Construction of such facilities was eliminated from further consideration in this final general management plan.

Address Management of Canoeing and Kayaking on Rock Creek. The National Park Service received a number of comments on the draft general management plan from private citizens expressing concern because the document did not include the management of recreational use of canoes and kayaks on Rock Creek through Rock Creek Park. Similar concerns were expressed by American Whitewater, a national non-profit organization that represents river recreationists.

Boating on Rock Creek, primarily including canoeing and kayaking, is a traditional visitor activity that has been documented for at least 35 years. At one time, float permits were required, but the permit restriction was lifted in 1986. Since then, several thousand canoe and kayak trips have occurred on Rock Creek through the park. The creek is generally runnable in the immediate hours after a thundershower or for 1 to 3 days after an extended rainstorm (American Whitewater 2003).

There is an administrative record demonstrating that superintendents of Rock Creek Park have explicitly allowed boating on Rock Creek through the park for more than a quarter century. In planning meetings for this general management plan, the current superintendent, Adrienne Coleman, reaffirmed that canoeing and kayaking are, and will continue to be, allowed within the park.

During the general management planning process, no suggestions were made to alter the current management approach to whitewater recreation. Therefore, this activity would continue regardless of the management alternative that was selected. To establish this intent, canoeing and kayaking were added to the lists of appropriate activities for all of the management prescriptions that could be applied to zones that include Rock Creek.

Construct a New U.S. Park Police Substation at Brightwood. It was proposed that a new District 3 substation for the U.S. Park Police be constructed in the Brightwood area of the park near the Tennis Stadium. However, as stated in the section “Geographic Area Covered by the General Management Plan,” management of the Brightwood area was established in the *Final Environmental Impact Statement, Tennis Stadium, Rock Creek Park* (NPS 1995b) and is beyond the scope of this general management plan.

The Brightwood area is to remain unchanged because of the decisions made in the Tennis Stadium plan. While the Brightwood site is attractive for a U.S. Park Police substation from an access and engineering perspective, constructing the District 3 substation there would be perceived as adversely affecting the neighbors’ quality of life and would probably be strongly opposed by much of the public.

Improve and/or Increase Interpretive Programming. In public comments on the draft general management plan, the National Park Service received many suggestions on ways to improve or increase interpretive programming. Some of these comments included suggestions for improving the use of existing facilities, while others identified new approaches such as using the Edgewater area as a base of interpretive programming for the lower park.

All of the action alternatives in this general management plan include a commitment to improve and increase interpretive programming. This includes adding six new staff positions to improve visitor contact, education, and interpretation.

Prior to implementing any major changes in programming, the National Park Service will update the park’s interpretive plan, which will tier from this general management plan. In preparing the update, the National Park Service will consider all of the suggestions from the public related to interpretive programming that were received as comments on the draft general management plan.

Allow Bicycling off Currently Permitted Roads and Trails. Bicycles are restricted to roads, parking areas, and designated paved trails in the park. This management approach is specified in

the Rock Creek Park Compendium, section 1.5 (a)(2), and is consistent with Title 36 of the U.S. Code of Federal Regulations, Sections 1.5 and 4.30 (36 *Code of Federal Regulations* 1.5 and 4.30).

During public scoping meetings, a few members of the public recommended that mountain biking be allowed on unpaved hiking and bridle trails in Rock Creek Park. This was eliminated from consideration by the National Park Service because such use is

contrary to park and NPS management policies

inconsistent with protecting the park's natural, cultural, and aesthetic values and resources

a potential threat to the safety of visitors who use the trails for established purposes such as hiking and horseback riding

Allow Pets to Run Unleashed in the Park. NPS policy, federal regulations (36 *Code of Federal Regulations* 2.15), and park regulations (Rock Creek Park Compendium section 2.15) require all pets to be restrained on a leash or otherwise physically confined in national parks. The National Park Service reviewed requests for allowing running-at-large dogs within Rock Creek Park, but rejected this as inappropriate for the following reasons:

The activity would be in conflict with NPS policy and regulations.

Unrestrained pets constitute a threat to park resources, particularly the native wildlife species that are recognized as important by the park's establishing legislation.

Unrestrained pets could cause personal injury or annoyance to other visitors and conflicts with appropriate visitor uses and experiences.

Include Closures for Special Events in Alternatives. NPS policy, federal regulations, and park regulations provide the authority to implement selected closures for special events such as Rock Creek Park Day, Earth Day, and Bike Day. Roads and other facilities also can be closed for maintenance needs, even during rush hours. This authority will remain in effect, regardless of the management actions included in this general management plan. Therefore, there was no need to incorporate special closures into any of the alternatives.

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

This section identifies the resources and values (impact topics) that were considered in the planning process. It also identifies the criteria used to establish the relevance of each impact topic to long-term planning for the park and parkway.

Specific resources and values, called impact topics, were used to focus the planning process and the assessment of potential consequences of the alternatives. The following four criteria were used to determine major resources and values for Rock Creek Park.

Resources cited in the establishing legislation for the park or the parkway. The establishing legislation for the park and parkway is provided in appendix A. Summaries of rele-

vant elements of the legislation are provided in the sections entitled “Park History and Use Relative to Management Planning” and “Park Mission.”

Resources critical to maintaining the significance and character of the park. The significance statements in the “Park Mission” section describe the defining features of Rock Creek Park and the Rock Creek and Potomac Parkway that were used to establish the resources that are critical to maintaining their significance and character.

Resources recognized as important by laws or regulations. A list of many of the important congressional acts and executive orders that guide the management of all NPS facilities, including this park, is provided in appendix B. A summary of some of the relevant elements of these acts and orders is provided in the section entitled “Servicewide Mandates and Policies.”

Values of concern to the public during scoping for 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 that are of high interest in the park.

Table 1 shows the criteria that helped establish each impact topic as a resource or value at stake in the planning process. Brief descriptions of each impact topic relative to these criteria are provided below. More detailed descriptions of each impact topic and the effects of each of the management alternatives are described in the “Environmental Analysis” section.

TABLE 1: CRITERIA USED TO ESTABLISH EACH IMPACT TOPIC

Impact Topic	Cited in Establishing Legislation	Critical to Park Significance and Character	Recognized by Laws or Regulations	Cited During Scoping
Air quality			✓	✓
Rock Creek and its tributaries	✓	✓	✓	✓
Wetlands and floodplains			✓	✓
Deciduous forests	✓	✓	✓	✓
Protected and rare species			✓	✓
Other native wildlife	✓	✓	✓	✓
Cultural resources		✓	✓	✓
Traditional park character and visitor experience	✓	✓		✓
Public health and safety			✓	✓
Local and regional transportation				✓
Community character				✓

Natural Resources. A major reason for establishing Rock Creek Park as a national park was to protect its natural resources and its abundant natural scenery. Natural resources in Rock Creek Park are particularly valuable because the park is located within a large metropolitan area and they are remnant vestiges of the region’s natural heritage.

Air Quality – Compliance with air quality standards is mandated by the Clean Air Act. In addition, during scoping members of the public expressed concerns over threats to air quality from heavy automobile traffic in the park. Poor air quality has the potential to adversely affect biological resources, cultural resources, and visitor health and experience.

Rock Creek and Its Tributaries – The establishing congressional acts for Rock Creek Park, the Rock Creek and Potomac Parkway, and tributary additions to the park specify that Rock Creek and its tributaries are essential resources to be protected. In addition, there are many federal laws and executive orders that protect the nation’s waters.

As the park’s name suggests, Rock Creek is fundamental to the park’s character. The undeveloped creek and its tributaries represent a unique natural resource in the Washington, D.C. metropolitan area. While surrounding urbanization adversely affects water quality and quantity, the creek and its tributaries continue to be inhabited by a variety of native fish and other aquatic species. The importance of Rock Creek as a central scenic and recreational attraction in the park was reaffirmed by numerous scoping comments.

Wetlands and Floodplains – Wetlands and floodplains were included in the discussion of water resources in the “Servicewide Mandates and Policies” section. Wetlands and floodplains are regulated by legislation and executive orders because of their value as biological resources and their contributions to flood control.

In the park, wetlands are located along the Rock Creek valley floor and at seeps along the lower slopes of the valley walls and along tributaries. Some of the floodplains along Rock Creek and major tributaries support riparian vegetation. Both of these sensitive areas have unusually large numbers of plant and animal species and contribute more to the biological diversity of the park than their small sizes would suggest.

Deciduous Forests – The establishing legislation for Rock Creek Park identifies “timber . . . in [its] natural condition” as an essential resource of the park. The National Park Service interprets this in an ecological context to mean not individual trees but the interrelated plants and animals that make up the forest biotic community. Forest stands are also an essential component of the scenic quality of the park that is mentioned in the establishing legislation.

The statements of park and parkway significance include several references to the forest’s contribution to the park’s character. The forest is an essential component of the landscape and scenic qualities of the park, buffers the park from the surrounding urbanization, and provides protected habitat for wildlife and plant species. During scoping, many comments were received about the value of the forests and the need to maintain them.

Protected and Rare Species – The protection of rare species and their habitats is mandated by the Endangered Species Act and *Management Policies 2001* (NPS 2000a). Rock Creek Park provides habitat for at least one federally endangered animal, at least one rare animal, and approximately 40 native plant species that are protected by Maryland and Virginia laws. (The District of Columbia does not have laws addressing native plant species protection.)

Other Native Wildlife – The 1916 legislation establishing the National Park Service directs the service to conserve wildlife in all national parks and to provide for public enjoyment of the same while leaving them unimpaired for future generations. Similarly, the legislation for Rock Creek

Park states that the park will “provide for the preservation from injury or spoliation of all . . . animals . . . within said park, and their retention in their natural condition.”

In Rock Creek Park, native animals represent an important resource that captures the public’s attention. During scoping, many people commented on the value of seeing wildlife in the park, especially in contrast to the surrounding urban environment. White-tailed deer, the largest and most conspicuous mammal, was most frequently mentioned. Recreational birding also was identified as an important park activity during scoping.

The breeding bird census area is a 65-acre tract of forested land in the park with exceptional scientific value related to native species. Monitoring of breeding birds has occurred since 1948. The continuous record of bird populations is an important information resource for park management and also serves as an indicator of environmental health for a much larger region.

Cultural Resources. The park’s cultural resources are recognized as exceptional because they illustrate significant aspects of the historic development of the park area from prehistoric times to the present. Historic features such as the Rock Creek and Potomac Parkway, the Boulder Bridge, Fort DeRussy, historic park roads, and the Peirce Mill complex help define the significance and character of the park and are protected by multiple legislative, executive, and NPS actions. These and other cultural features were cited in scoping as contributing to the appealing ambiance of the park.

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

Traditional Park Character and Visitor Experience – The park and parkway 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 associated with protecting the park’s and parkway’s naturalness, not only for the ecological resources, but for its restorative value to people as a place of natural beauty and decompression 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. Despite contention about other management approaches, there was near unanimity that the natural character should be preserved and protected from disturbance from additional development.

People also emphasized the traditional, familiar character of the park and parkway’s recreational features and their desire to see this character maintained. While many said that park roads and trails need repair and improved maintenance, the public appeared to be mostly satisfied with the range of recreational opportunities offered by the park. Other comments emphasized

the value of the park as a gathering place for family and friends

the importance of shared experiences such as walking, picnicking, golfing, horseback riding, gardening, attending concerts, and participating in other activities that have come to be associated with the park

individual and physically challenging recreation such as biking, jogging, in-line skating, and hiking

the historic design of structures as a contributing factor to the aesthetic character of the park and the parkway

Public Health and Safety – Public health and safety is an important component of the National Environmental Policy Act, where two of the six criteria, listed in Section 101(b) involve ensuring safe, healthful surroundings and avoiding risk to health or safety. The complete text of these criteria is presented later in this general management plan under the heading “The Environmentally Preferred Alternative.”

Section 1508.27 of the Council on Environmental Quality (1978) guidelines for implementing the National Environmental Policy Act identifies several topics that must be included in any impact evaluation. One of these, listed in Section 1508.27(b)2, is “the degree to which the proposed action affects public health and safety.”

During scoping, most of the public health and safety concerns focused on traffic safety, particularly including accidents between automobiles and people participating in nonmotorized recreation activities. As a result, the draft general management plan included consideration of health and safety in the analysis of local and regional transportation. In comments on the draft general management plan, concerns about assaults and evacuation of the city during emergencies emerged as health and safety issues. As a result, public health and safety was expanded to include these additional components and was identified as a separate impact topic.

Local and Regional Transportation – Local and regional transportation was identified as an impact topic primarily because of scoping.

Some members of the public identified the value of park roads, the parkway, and paved trails as a transportation corridor. The Washington, D.C. metropolitan area has a serious traffic congestion problem, and scoping comments pointed out that park roads and paved trails are part of the regional transportation system. Other people stressed that any actions to change automobile use within the park or on the parkway would affect traffic patterns on surrounding city streets. They value the parkway and park roads because of their contribution to moving automobiles through the city.

Other people value the park roads and paved trails corridor for the opportunity to promote non-motorized and less polluting alternatives, especially bicycle use, to single-occupancy automobiles. These people want to see a reduction in automobile traffic in the park and parkway not only to improve chances for automobile-free recreation, but also as part of a larger effort to reduce dependency on personal automobile use in the region.

Community Character – Community character was identified as an impact topic primarily because of scoping. Many of those who commented during scoping described the park and parkway as a major asset to the quality of life in the metropolitan area. The scenic and recreational amenities are much appreciated. Many said that proximity and access to the park and parkway 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 or parkway management, particularly in regard to transportation management.

Impact Topics Dismissed from Further Consideration

This section describes why some impact topics that commonly are considered during the planning process were not relevant to the development of a the general management plan.

Thirteen impact topics that must be considered in any environmental impact statement prepared by the National Park Service are identified in *Director's Order #12 and Handbook: Conservation Planning, Environmental Impact Analysis, and Decision Making* (NPS 2001a). Based on the criteria summarized in Table 1, most of those topics are included in the impact topics evaluated for Rock Creek Park and the Rock Creek and Potomac Parkway.

In some cases, the mandatory impact topics were considered within other impact topics. For example, “socially or economically disadvantaged populations” (environmental justice) was considered under “Regional and Local Transportation.” “Urban quality and design of the built environment” was included under the heading “Historic Structures and Cultural Landscapes.”

Several of the mandatory impact topics were not relevant to management of the park and parkway. These topics, and justifications for not considering them further, are provided below.

Possible Conflicts between the Proposal and Land Use Plans, Policies, or Controls. Rock Creek Park and the Rock Creek and Potomac Parkway are long-time components of the Washington, D.C. physical and planning landscapes. Land use plans, policies, or controls for political entities throughout the area incorporate the presence of the park and parkway within the exiting planning framework. Although some neighboring entities may prefer that management of park roads and the parkway would not change, these entities do not have jurisdiction over park and parkway management and the existing conditions are not written into their plans, policies, or controls. Therefore, no conflicts with land use plans, policies, or controls would occur from implementation of any of the management alternatives.

Energy Requirements and Conservation Potential. Management actions considered in this general management plan could reduce the numbers of automobiles traveling on park roads and the parkway. However, the existing traffic would be diverted to other roads in the area and little change in area-wide traffic volumes, and associated energy requirements, would occur.

Traffic studies conducted for the National Park Service in 2004 showed that some of the traffic routes that involve Beach Drive are more time-consuming (and, therefore, fuel consuming), even during the rush hours, than traffic routes between the same points that avoid Beach Drive (Parsons 2004). Therefore, management actions that diverted automobile traffic from Beach Drive could slightly reduce the consumption of petroleum fuels. However, this could be offset by the slight increase in congestion during rush hours on other roads that would result from the diverted traffic. The effects of these conditions would be indistinguishable from normal consumption levels of petroleum fuels on area roads. The effects on energy requirements and conservation potential, when considered singly or in combination, would be negligible.

Some management actions could create a more “bicycle-friendly” environment in part of the city. However, there is no evidence that this condition would cause substantial numbers of citizens who currently travel in motorized vehicles to adopt bicycle use on a regular basis, and effects on energy requirements and conservation potential would be negligible.

Under any alternative, the National Park Service would continue to implement its policies of reducing costs, eliminating waste, and conserving resources by using energy-efficient and cost-effective technologies (NPS 2000a). This would include incorporating energy efficiency in design and materials into the construction and rehabilitation of park buildings. The National Park Service will continue to look for energy-saving opportunities in all aspects of park operations and to encourage the use of energy-efficient transportation modes.

Natural or Depletable Resource Requirements and Conservation Potential. Natural or depletable resources address the quality, recycling, and/or conservation of petroleum products and other natural resources. The use and conservation of petroleum products was discussed above under energy requirements and conservation potential.

The action alternatives would include construction to rehabilitate existing historic structures, and could involve new construction for the relocation of the park administrative offices and/or the Park Police District 3 substation. However, the volumes of construction materials required for these actions would be indistinguishable from the volumes of these materials used annually in the Washington, D.C. area and would have a negligible effect.

In addition to incorporating energy efficiency in design and materials into the construction and rehabilitation of buildings, the National Park Service commits to use low-impact development (LID) to minimize areas of impervious surfaces in the watershed for non-historic buildings that are constructed or remodeled. The National Park Service will work with the Government of the District of Columbia, Department of Health, to implement these and other resource conserving measures.

The National Park Service has an aggressive waste reduction and recycling program that would continue under any of the alternatives. Consistent with *Management Policies 2001* (NPS 2000a), the National Park Service would continue to look for in-house opportunities and work with partners to reduce waste and enhance the recycling and conservation of natural resources in day-to-day operations throughout the park.

Prime and Unique Agricultural Lands. Guidelines from the Council on Environmental Quality (1980) require federal agencies to assess the effects of their actions on soils classified by the Natural Resources Conservation Service (NRCS) as prime or unique farmlands. A letter from the Natural Resources Conservation Service state soil scientist for Maryland provided the following information (Natural Resources Conservation Service 1998):

There are no soils classified as unique within Rock Creek Park.

Two soil mapping units classified as prime farmland soils are within park boundaries.

Chillum silt loam on 0 to 8 percent slopes makes up much of the soil in the Rock Creek and Pinehurst Branch floodplains in the northern end of the park, is found along the tributary parallel to Joyce Road, and is located in isolated lenses in the floodplain of Rock Creek along the parkway.

Glenelg Loam on 0 to 8 percent slopes is located on seven isolated ridge tops around the park.

Neither of the prime farmland soil types within the park would be disturbed by management prescriptions proposed in any of the alternatives. They would continue to be generally protected within the park, and there would be no new impact on the regional production of food, forage, or fiber crops from any of the alternatives under consideration. Therefore, prime and unique farmland soils were dropped from further consideration as an impact topic.

Ecologically Critical Areas, Wild and Scenic Rivers, or Other Unique Natural Resources. Rock Creek Park includes a breeding bird census area, a 65-acre tract that has been surveyed regularly since 1948. This long-running study is an important contribution to the nationwide breeding bird census run by the National Audubon Society. The park also provides an island of wildlife habitat within an urban zone and serves as an important resting spot for migrating birds. Impacts on all of these resources are considered under the heading “Other Native Wildlife.” However, none of the lands covered by this general management plan have been designated as ecologically critical areas, wild and scenic rivers, or other unique natural resources. Therefore, this impact topic was not evaluated for management alternatives.

Sacred Sites. There are no Native American sacred sites within the area covered by this general management plan. Therefore, this is not a relevant impact topic for Rock Creek Park and the Rock Creek and Potomac Parkway.

Indian Trust Resources. Indian trust resources are owned by American Indians but held in trust by the United States. Requirements are included in the Secretary of the Interior’s Secretarial Order No. 3175, “Departmental Responsibilities for Indian Trust Resources” and Secretarial Order No. 3206, “American Indian Tribal Rites, Federal – Tribal Trust Responsibilities, and the Endangered Species Act.” Indian trust resources do not occur within or near Rock Creek Park or the Rock Creek and Potomac Parkway.

Connected, Cumulative, and Similar Actions

This section identifies actions that are direct or indirect consequence of the alternatives. It also identifies actions that could have an additive impact on environmental resources, regardless of who takes the actions or whether they occurred in the past, are current, or will occur in the reasonably foreseeable future.

Cooperating Agencies. This final general management plan and environmental impact statement does not have any cooperating agency involvement, as defined in the Council on Environmental Quality’s (1978) “Regulations for Implementing Procedural Provisions of the National Environmental Policy Act.” However, numerous agencies were consulted in the preparation of this document, as is described in the “Consultation and Coordination” section.

Connected and Similar Actions. Connected and similar actions for this final general management plan refer to other planning projects in the vicinity. Appendix C describes the relationship of the general management plan to other planning in the area of Rock Creek Park and the Rock Creek and Potomac Parkway. It includes other NPS planning efforts, and planning currently in force or underway by entities other than the National Park Service.

Rock Creek Park Plans – Once the Rock Creek Park general management plan has been completed, several more specific plans will be prepared to implement the general management plan. These could include, but would not be limited to

PURPOSE AND NEED FOR ACTION

a traffic calming implementation plan

a trail plan

siting studies for park administrative offices and the U.S. Park Police District 3 substation

an update of the current interpretive plan

an update to the existing natural resources management plan (NPS 1996a)

The natural resources management plan could include an invasive species control plan, erosion reduction plan, and plans to address particularly difficult issues, such as deer management. It also would include a bird management plan that would establish habitat protection and improvement objectives and practices for important bird areas. Some of these could include, but would not be limited to, the areas around the maintenance yard, stables, Rock Creek Nature Center and Planetarium, picnic groves 17 and 18, and the west ridge of the park in general.

For the fire management plan and any other plan that could result in construction, including the trail plan and facility siting studies that could lead to construction, the National Park Service would prepare accompanying National Environmental Policy Act compliance documentation. In most cases, this would consist of an environmental assessment that would tier from the general management plan's environmental impact statement. However, if major impacts were anticipated, a separate environmental impact statement would be prepared.

Coordination with Friends and Partners – Over the years, Rock Creek Park has developed cooperative relationships with numerous organizations, currently including those listed below. Some of these relationships are formalized through contracts or memoranda of understanding but most are based on common goals. The park and these organizations will continue to work together in areas of mutual interest. Some actions will involve implementing the measures included in this general management plan, but many will go beyond its scope to address natural, cultural, and recreation resources on an area- or region-wide basis.

Alice Ferguson Foundation	Friends of Peirce Mill
American University	Friends of Rose Park
Blues Alley Foundation	Garden Conservancy
Citizens Associations (30) surrounding Rock Creek Park	George Washington University
Committee of 100	Georgetown Business Improvement District
Community Gardens	Georgetown Garden Club
Council of Governments	Georgetown University
D.C. Chamber of Commerce (Heritage Tourism Office)	Georgetown Waterfront Commission
Discovery Creek Children's Museum	Harvard University-Dumbarton Oaks Garden
District of Columbia, Maryland and Virginia Public Schools	Howard University
Francis Scott Key Foundation	Junior League
Friends of Chevy Chase Circle	National Park Foundation
Friends of Ft. Bayard	People's Alliance for Rock Creek Park
Friends of Meridian Hill	Potomac Appalachian Trail Club
Friends of Montrose/Dumbarton	Rock Creek Golf Course
	Rock Creek Horse Center
	Rowing and Boating groups

State Of Maryland
Thompson's Boat Center
Washington Area Bicycle Association

Washington Tennis Foundation
Wilson Bridge Commission

Cumulative Actions. Cumulative actions are actions by the National Park Service or others that may have additive impacts on one or more of the resources of Rock Creek Park or the Rock Creek and Potomac Parkway. Evaluation of cumulative actions must consider past, current, or reasonably foreseeable future actions. The actions described below were included in the cumulative impact analyses in the "Environmental Consequences" section of this general management plan and environmental impact statement.

Past Urbanization of the Washington, D.C. Area – The Washington, D.C. metropolitan area completely surrounds Rock Creek Park, so that the park in effect is an island of natural resources within an urban zone. In the area around the park, forests and fields have been replaced by street-scapes; creeks have been routed into storm sewers, some of which receive untreated sewage in association with storm events; and archeological and historic sites were lost during construction of the city. These past actions are included to determine the effects of park management within the larger regional setting.

Continuing Urbanization of the Rock Creek Watershed – Continuing urbanization of the Rock Creek watershed will affect several of the resources of Rock Creek Park, regardless of management actions taken by the National Park Service within the park. Watershed development will be particularly important in the consideration of effects on Rock Creek, its floodplains, and aquatic life.

Altered Transportation Patterns – In addressing the cumulative effects of altering transportation patterns through the park, the National Park Service considered incremental park changes added to regional programs, policies, and objectives.

Management actions in the past continue to affect traffic in the area. For example, the management of the parkway to be one-way inbound during the morning rush hour and one-way outbound during the afternoon rush hour began in 1937. Opening of the zoo tunnel in 1966 to relieve traffic congestion in the area of the National Zoo inadvertently made the corridor consisting of Beach Drive and the Rock Creek and Potomac Parkway into an attractive route for traveling by automobile between the city center and the residential areas of northwest Washington, D.C. and Montgomery County, Maryland.

Transportation projects are occurring continuously throughout Washington, D.C. and Montgomery County as transportation departments strive to improve roadway and traffic conditions. These were considered on the whole as an activity that would be ongoing throughout the duration of the general management plan's implementation rather than as individual actions.

Area transportation plans provided indications of reasonably foreseeable actions. Several important transportation plans that were included in the analysis of alternatives include the following:

The Metropolitan Washington Council of Governments' (1998a) *Making the Vision a Reality . . . Together* outlines regional transportation policies, objectives, and strategies for the metropolitan area. The policies support an intermodal transportation system that includes rail, bus, ride sharing, bicycle, and pedestrian improvements that reduce reliance on the single-occupant automobile.

The *Transportation Plan for the District of Columbia* (District of Columbia 1997b) promotes development of a transportation system that intercepts automobile traffic at the edges of the city and reduces dependence on single-occupancy vehicles. The plan also advocates the development of bicycle paths along Beach Drive and the Rock Creek and Potomac Parkway.

Similar bicycle paths are called for in the *National Capital Region Bicycle Plan* (Metropolitan Washington Council of Governments 1995).

The District of Columbia Department of Transportation released a draft version of the *District of Columbia Bicycle Plan* in August 2004 (District of Columbia 2004f). In the document, the Department of Transportation defines plans to improve existing District of Columbia and NPS trails within Rock Creek Park and better link the bikeway system in the District of Columbia.

The Metropolitan Washington Council of Governments' (2001) Transportation Planning Board published *Priorities 2000: Metropolitan Washington Greenways*. This document establishes a regional greenway plan for the metropolitan Washington, D.C. area.

Management Plan and Environmental Assessment for Fort Circle Parks – In 2003, the National Park Service completed a management plan and environmental assessment for the ring of Civil War earthen fortifications built on the ridges surrounding Washington, D.C. (NPS 2003b). Several of these historic Civil War resources and remnants are managed by Rock Creek Park. Fort DeRussy is within the park boundaries.

Many management actions prescribed in the Fort Circle Parks plan are similar to and can be coordinated with practices at Rock Creek Park. These include controlling invasive plant species, surveying and monitoring park boundaries to prevent encroachments, eliminating illegal dumping, managing storm water, controlling erosion, and monitoring adjacent land use and zoning to protect park resources.

A new, 23-mile-long trail will be designated to link most of the fort sites and connecting green corridor. The trail primarily will be for walking but could include bicycle access as long as cultural and natural resources were sufficiently protected. The trail will use existing trail segments and city sidewalks. Within Rock Creek Park, this trail will cross Beach Drive and several park trails in an east-west direction in the vicinity of Military Road. These connections of linear recreation features will enhance opportunities for nonmotorized recreation throughout the area. The NPS planning effort for the trail will include Rock Creek Park staff and will involve extensive consultation with District of Columbia, other government, and private organizations.

Potomac Heritage National Scenic Trail – The Potomac Heritage National Scenic Trail, currently in the development process, will be a braided trail system involving multiple paths rather than a single corridor. Similar to the Fort Circle Parks trail, it will intersect with linear recreation features in Rock Creek Park. This connectivity will enhance opportunities for nonmotorized recreation throughout the area.

Chesapeake Bay Program – The Chesapeake Bay Program is a cooperative effort by approximately 1,650 area governments at the federal, state, regional, and local levels to restore and protect the Chesapeake Bay. The program began with the signing of the Chesapeake Bay Agreement in 1983. On October 29, 1993, the National Park Service signed a memorandum of understanding

with the Environmental Protection Agency and became a formal participant in the Chesapeake Bay Program. In joining the program, the National Park Service agreed to contribute to the restoration, interpretation, and conservation of the many valuable resources of Chesapeake Bay.

Subsequently, the National Park Service signed the 1994 Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay and the 1998 Federal Agencies' Chesapeake Ecosystem Unified Plan, which contains 50 specific goals and commitments by federal agencies. The Estuaries and Clean Waters Act of 2000, which includes Title II: the Chesapeake Bay Restoration Act of 2000, establishes that federal properties, and actions taken by agencies with respect to those properties, including management actions by the National Park Service in Rock Creek Park and Rock Creek and Potomac Parkway, will comply with the Chesapeake Bay Agreement, the above-listed federal agencies agreement and plan, and any subsequent agreements and plans. NPS participation is coordinated through the NPS' Chesapeake Bay Program Office.

Information on the Chesapeake Bay Program is available on the Internet at <http://www.chesapeakebay.net/>. The activities of the Chesapeake Bay Program are included as cumulative actions that are considered in the impact analysis.

Other Coordination with Agencies – The National Park Service routinely coordinates with numerous agencies at the federal, regional, district and state, and local levels under a variety of formal and informal arrangements. Some of these interactions were identified under “Servicewide Mandates and Policies.” This type of coordination is the only practical means to meet mutual goals in the complex urban setting where the park is located and will continue to shape decisions on park management throughout the implementation of this general management plan.

Fish Passage Improvements in Rock Creek – A replacement for the Woodrow Wilson Bridge, which crosses the Potomac River approximately 7 miles downstream from the mouth of Rock Creek, currently is being constructed. Mitigation for this project includes the installation of improvements in Rock Creek and its tributaries to remove barriers to fish migration. These improvements will allow fish to migrate from the mouth of the creek upstream to Needwood Lake in Montgomery County, Maryland (Madaras 2001).

Modifications are being made at eight sites in Rock Creek. Construction should be completed in 2005 (NPS, Cox 2004a).

The mitigation includes a fish bypass structure to allow fish to swim past the 8-foot-high Peirce Mill dam. This Denil fishway is located between the dam abutment and Beach Drive. Its sloped channel with baffles at regular intervals slows the velocity of the water and creates resting pools to conserve the energy of migrating fish. Its slope and length were designed based on the swimming ability of the migratory fish in Rock Creek (blueback herring, alewife, and American eel). The angle and velocity of the flow leaving the bypass will assist fish in finding the passage. According to the Chesapeake Bay Program website (<http://www.chesapeakebay.net/>), Denil fishways are probably the most common design used in the Chesapeake Bay watershed.

Milkhouse Ford was reconstructed so that it remains passable by automobiles, and all of its historic structures above the waterline were retained. The old concrete of the ford was removed and replaced with concrete of similar color and texture that was configured to provide a flow depth and velocity that allow the passage of fish. The abandoned sewerline on the upstream lip of the ford was removed.

PURPOSE AND NEED FOR ACTION

Two abandoned roadway fords in Rock Creek within the National Zoological Park have been removed. In addition, an abandoned sewerline upstream from the Boulder Bridge was removed (NPS, Cox 2004a).

Passage over four active sewerlines will be provided by installing natural-appearing pool and weir structures. Engineers examined the existing “boulder field” area of Rock Creek, which is a natural fish passage. Within this stretch, they measured flow velocities, flow depths, and sizes of openings. They then developed designs for the area immediately downstream of each sewerline that mimic the boulder field concept and provide fish with a stair-step effect. These features have been installed below a sewerline just upstream from Boulder Bridge and two sewerlines in the vicinity of Sherrill Drive and are currently being installed below the sewerline upstream from Milkhouse Ford (NPS, Cox 2004a).

Rock Creek Park Telecommunications Facilities – In 2003, Rock Creek Park completed an environmental assessment (NPS 2003d) evaluating the two cellular towers located within the park. The preferred alternative in the document and signed finding of no significant impact was to continue allowing the cellular towers within the park subject to renewal of the permit, and to implement additional mitigation (NPS 2003c).

Broad Branch Road Improvement Project – The District of Columbia’s Department of Transportation is in the design planning stages of a project to improve Broad Branch Road. Initially, the project called for realignment of the road, increases in elevation, removal of trees, and widening the roadway 2 feet (Advisory Neighborhood Commission 3F 2000). However, in response to citizens’ concerns about the original design, additional environmental elements are now being considered, which may include a proposed parallel bike path. The National Park Service is providing advisory services in the current design process. The project is expected to begin in 2005 and will proceed regardless of roadway management actions taken the National Park Service in the nearby Rock Creek Park (Kahlid 2004).