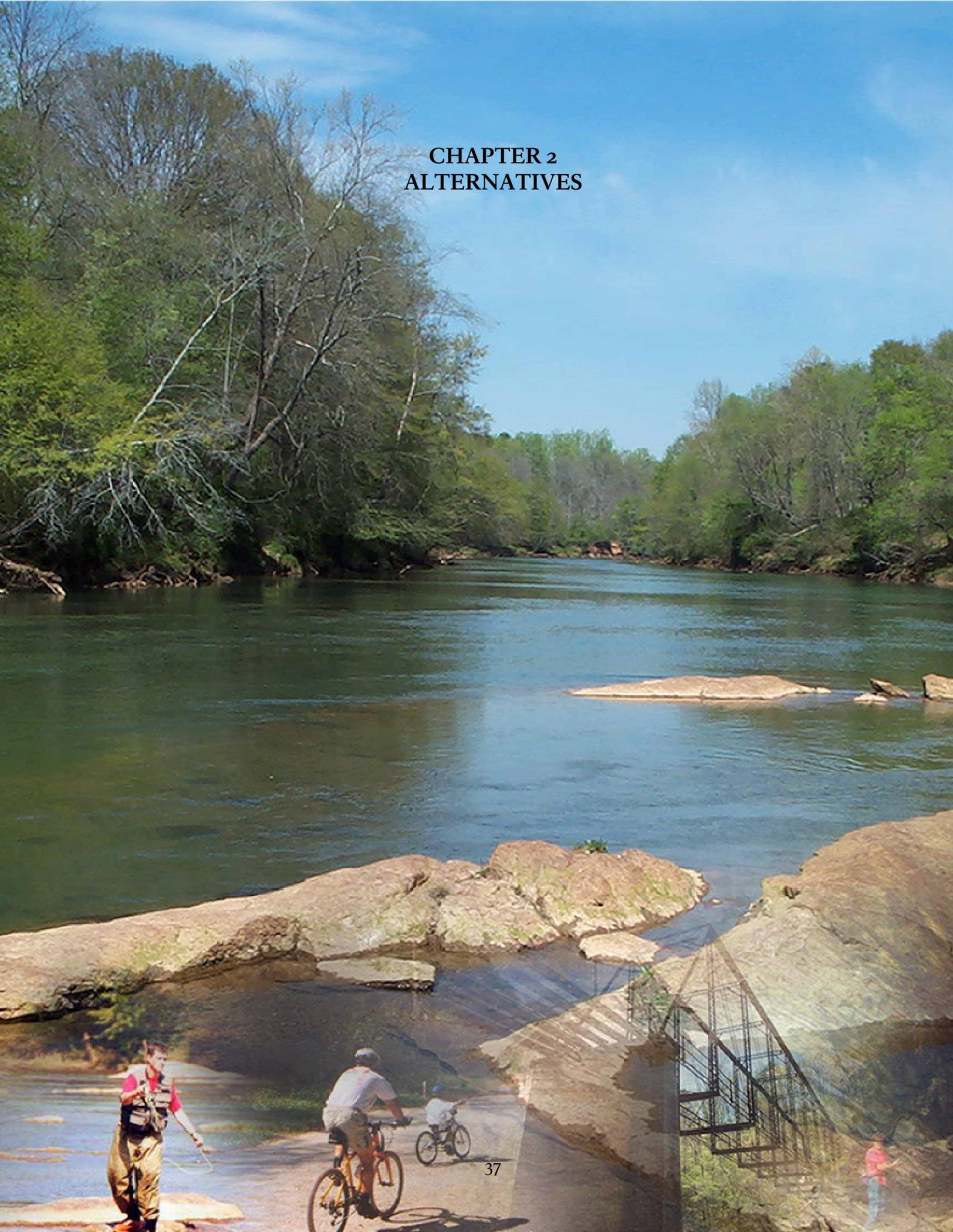


**CHAPTER 2  
ALTERNATIVES**



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## **CHAPTER 2 ALTERNATIVES**

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

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

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

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

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

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

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

### **CARRYING CAPACITY**

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

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

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

Topic	Indicator	Standard	Monitoring Exam- ples	Management Strategies
<p><b>Damage to Cultural Resources</b></p>	<ol style="list-style-type: none"> <li>1. Number of unauthorized trails leading to, through, and from site.</li> <li>2. General damage or defacement of historic structures, ruins, and exposed surface archeological sites not caused by natural forces.</li> </ol>	<ol style="list-style-type: none"> <li>1. Two unauthorized trails leading to a resource site.</li> <li>2. No artifacts, ruins and historic structures, or exposed surface archeological sites with evidence of damage or defacement.</li> </ol>	<ol style="list-style-type: none"> <li>1. Counts of unauthorized trails at a percentage of sites within each park unit.</li> <li>2. Counts of unauthorized trails at all sites within each park unit</li> <li>3. Quantify the evidence for attempts to remove or vandalize artifacts and surface occurring archeological deposits.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase educational efforts and revise visitor handouts to make people aware of how certain activities cause damage.</li> <li>2. Institute regular resource management staff monitoring patrols.</li> <li>3. Provide regular guided tours to site (requires staff presence).</li> <li>4. Build physical barriers to reduce or channel access to site from trail or public viewpoint.</li> <li>5. Increase number of high visibility ranger patrols in locales with highest percentage of new damage.</li> <li>6. Limit number of people actually within site boundaries (requires staff presence).</li> <li>7. Close site to all public use.</li> </ol>

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

Topic	Indicator	Standard	Monitoring Examples	Management Strategies
<b>Unauthorized Trails</b>	<ol style="list-style-type: none"> <li>Total length of all unauthorized trails in a park unit.</li> <li>Number of unauthorized trails branching off from designated trail system.</li> </ol>	<ol style="list-style-type: none"> <li>Unauthorized trails do not exceed 5% of total trail length in a park unit.</li> <li>Two intersections within 100 feet of designated trail.</li> </ol>	<ol style="list-style-type: none"> <li>Measure length of unauthorized trails in each park unit.</li> <li>Count number of intersections with designated trails.</li> </ol>	<ol style="list-style-type: none"> <li>Increase education.</li> <li>Clearly delineate designated trails with signs.</li> <li>Determine if trail leads to an area that should have an authorized trail.</li> <li>Increase enforcement patrols and/or block trails.</li> <li>Limit/permit activities that are creating most of the trails.</li> </ol>
<b>Visitor Experience on the River</b>	<ol style="list-style-type: none"> <li>Number of reported visitor incidents on the river.</li> <li>Number of reported visitor accidents on the river.</li> </ol>	<ol style="list-style-type: none"> <li>Three reported incidents per quarter between designated river access points.</li> <li>Zero accidents related to river use.</li> </ol>	<ol style="list-style-type: none"> <li>Count number of reported incidents or complaints.</li> <li>Count number of reported accidents.</li> </ol>	<ol style="list-style-type: none"> <li>Increase education regarding river safety and use.</li> <li>Increase number of high visibility ranger patrols.</li> </ol>
<b>Visitor Experience on Land</b>	<ol style="list-style-type: none"> <li>Number of reported visitor incidents on land.</li> <li>Number of reported visitor accidents on land.</li> </ol>	<ol style="list-style-type: none"> <li>Three reported incidents per quarter in a land unit.</li> <li>Zero accidents in a land unit.</li> </ol>	<ol style="list-style-type: none"> <li>Count number of reported incidents or complaints.</li> <li>Count number of reported accidents.</li> </ol>	<ol style="list-style-type: none"> <li>Increase education regarding trail safety and etiquette.</li> <li>Increase number of high visibility ranger patrols.</li> </ol>
<b>River Access</b>	Length of time watercraft user must wait from arrival at launch until launch is available for use.	Waiting times do not exceed 10 minutes more than 10% of the time.	Clock wait times.	<ol style="list-style-type: none"> <li>Increased management of ramps or launches by park staff.</li> <li>Construct more ramps or launches.</li> <li>Coordinate with other agencies (local, state) for ramp/launch improvements.</li> </ol>

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

Topic	Indicator	Standard	Monitoring Examples	Management Strategies
Parking	<ol style="list-style-type: none"> <li>1. Amount of time (duration) parking lots are full.</li> <li>2. Number of times (frequency) parking lots are full.</li> </ol>	<ol style="list-style-type: none"> <li>1. A parking lot is full five hours a week.</li> <li>2. A parking lot is full twice a week.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clock amount of time parking lot is full.</li> <li>2. Count number of times a parking lot is full.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increased management of parking lots by park staff.</li> <li>2. Expand or re-design parking lots to accommodate more vehicles.</li> <li>3. Construct more parking lots.</li> <li>4. Pursue shared off-site parking.</li> </ol>

## POTENTIAL MANAGEMENT PRESCRIPTIONS

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

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

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

- Desired visitor experience
- Desired natural and cultural resource conditions

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

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

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

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

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

The prescriptions emphasize desired conditions and visitor experiences for natural resources, cultural resources, recreation areas, visitor facilities, and administration and operations areas. The management prescriptions were applied to specific areas of the park called zones. The following is a summary of each zone developed during the completion of this general management planning effort.

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

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

#### **Visitor Experience**

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

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

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

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

Table 3. Management Prescriptions – Alternatives E & F

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

Table 3. Management Prescriptions – Alternatives E & F

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

N/A: Not Applicable

### **Resource Condition or Character**

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

### **Appropriate Kinds of Activities or Facilities**

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

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

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

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

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

### **Visitor Experience**

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

### **Resource Condition or Character**

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

Any trails or other facilities would harmonize with the natural environment. The sights and sounds of people would be clearly evident.

### **Appropriate Kinds of Activities or Facilities**

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

### **NATURAL ZONE**

#### **(ALTERNATIVES B, C, D, E AND F, WITH DIFFERENCES NOTED)**

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

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

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

### **Visitor Experience**

In the park's natural zone, opportunities for closeness to nature, tranquility, and the application of outdoor skills would be common. The level of encounters with other visitors and staff would be low. Visitors would need an average degree of outdoor skills and would employ a moderate variety of these types of skills during their stay in the park. This zone would feel farther away from comforts and conveniences than the developed zone. Visitors would be able to have a large variety of outdoor experiences.

### **Resource Condition or Character**

A moderate level of management would be provided for resource protection and visitor safety in the natural zone. National Park Service tolerance for resource degradation due to visitor use in this zone would be very low. Habitats would be restored and maintained in as natural a condition as possible.

Subtle onsite controls and restrictions could be present, such as trail markers or restrictions on off-trail use. The area would be predominantly natural, and the sights and sounds of people would be infrequent.

### **Appropriate Kinds of Activities or Facilities**

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

### **RIVER SOLITUDE ZONE (ALTERNATIVES B AND C ONLY)**

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

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

### **Visitor Experience**

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

### **Resource Condition or Character**

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

## **Appropriate Kinds of Activities or Facilities**

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

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

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

### **Visitor Experience**

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

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

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

### **Resource Condition or Character**

This zone would require a high degree of management to protect visitors and resources because of the potentially high numbers of users in the vicinity of identified and highly sensitive cultural resources. The natural community could be altered to the degree necessary to restore or maintain the character of identified cultural resources, and there would be a low tolerance for resource degradation.

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

### **Appropriate Kinds of Activities or Facilities**

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

### **HISTORIC RESOURCE ZONE (ALTERNATIVES E AND F ONLY)**

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

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

### **RUSTIC ZONE (ALTERNATIVES E AND F ONLY)**

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

### **Visitor Experience**

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

### **Resource Condition or Character**

A moderate level of management would be provided for resource protection and visitor safety in the rustic zone. National Park Service tolerance for resource degradation due to visitor use in this zone would be low. Habitats would be restored and maintained in as natural a condition as possible. Subtle

onsite controls and restrictions could be present, such as trail markers or restrictions on off-trail use. The area would be predominantly natural, and the sights and sounds of people would be infrequent.

### **Appropriate Kinds of Activities or Facilities**

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

## **RIVER ZONE (ALTERNATIVES E AND F ONLY)**

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

### **Visitor Experience**

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

### **Resource Condition or Character**

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

### **Appropriate Kinds of Activities or Facilities**

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

## FORMULATION OF ALTERNATIVES

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

Alternative A: Continue Current Management or No Action Alternative

Alternative B: Focus on Solitude Alternative

Alternative C: Centralized Access Alternative

Alternative D: Expanded Use Alternative

Alternative E

Alternative F: Preferred Alternative

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

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

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

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

The organized comments were reviewed by the National Park Service planning team, then further sorted into the following categories per the requirements of National Park Service planning guidelines: (1) things that cannot be done because they are inconsistent with existing laws or National Park Service policies; (2) actions that must be done because they are mandated by existing laws, regulations, policies, or mandates; (3) interests or concerns that have been raised that are appropriate to consider in a general management plan; and (4) actions that are more appropriately addressed by other types of plans, such as an implementation plan.

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

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

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

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

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

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

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

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

All alternatives (A through F) are analyzed in this Supplemental Draft document.

The formalized description of the management alternatives as developed and adopted during the National Park Service planning process is presented in the paragraphs that follow. Each management alternative takes into consideration National Park Service mandates as well as laws and policies, and provides for appropriate levels of protection of the resources in accordance with these laws and policies. The planning team followed this premise during the development of each alternative.

## **VISITATION, LAND ACQUISITION, AND FACILITIES**

Current annual visitation at Chattahoochee River National Recreation Area is approximately 2.5 million visitors. This visitation is confined to the river and the acreage currently owned by the National Park Service. The park has the authority to acquire land within its boundary and the General Management Plan establishes management zoning for areas within the authorized boundary that are

not now owned by National Park Service should funding become available to acquire land from willing sellers.

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

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

Orrs Ferry – unpaved trails

Settles Bridge – restroom, unpaved trails

McGinnis Ferry – primitive trails, interpretive kiosk

Suwanee Creek – primitive trails

Abbots Bridge (northern section) – unpaved trails

Holcomb Bridge – parking, unpaved trails

Johnson Ferry North (upper section) – unpaved trails

Hyde Farm – trails

Island Ford (western section) – primitive trails

## **PARTNERING**

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

## **ALTERNATIVE A: CONTINUE CURRENT MANAGEMENT OR NO ACTION ALTERNATIVE**

National Environmental Policy Act guidelines require an assessment of the impacts of Alternative A, which is defined as continuing the current park management practices into the future. Current

management practices, policies, or park programs— such as maintenance, law enforcement, and operational practices – would continue to be implemented with no major changes. Limited construction and continued maintenance would consist of repair and maintenance of roads, boat ramps, trails, parking lots, and buildings. Current resources management programming would remain unchanged from the present level. Such programming includes preserving historic ruins, mills, archaeological resources, and wetlands; removing invasive species; river bank preservation; and water quality monitoring.

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

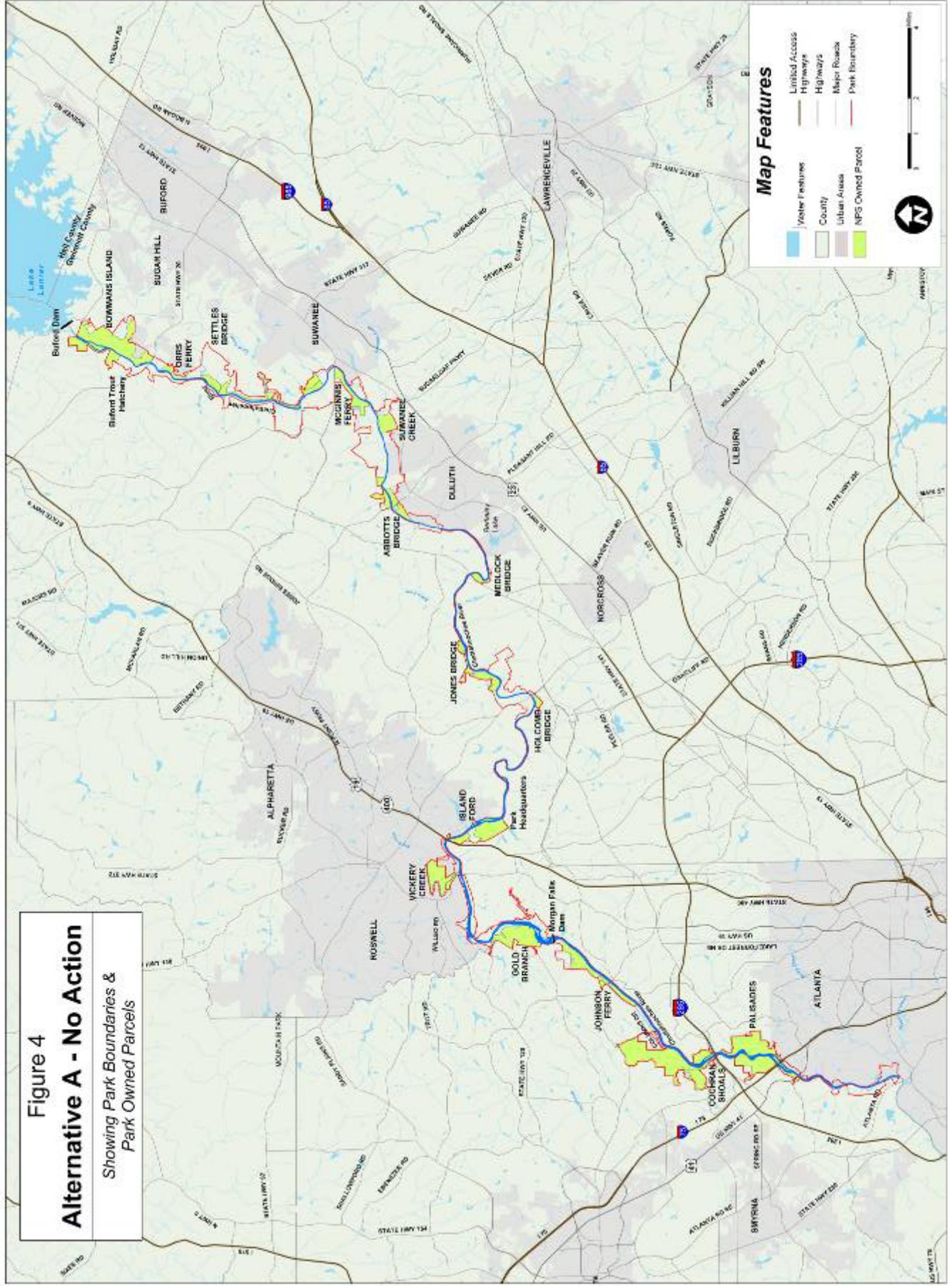
Visitors would have a wide variety of experiences in the park, such as hiking, fishing, and boating. The goal would be to protect resources through regulatory compliance and National Park Service policies.

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

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

## **ALTERNATIVE B: FOCUS ON SOLITUDE ALTERNATIVE**

Under the Focus on Solitude Alternative, hereafter referred to as Alternative B, management programs would be implemented that would minimize development in the park and maximize the opportunity for visitors to experience solitude in natural settings. This approach would involve reducing or minimizing recreational sites and facilities within the newly acquired areas of the park, but would allow continued use of the existing facilities in the original named units to adhere to present practices. Some areas subject to heavy use would be allowed to continue in this manner, with the option to improve conditions through various means; for example, by changing visitor use patterns to mitigate potentially adverse impacts on natural and cultural resources. Newly acquired areas (from willing



sellers, assuming funding is available) would be managed to provide maximum resource protection and solitude for visitors. It is also assumed (based on historical trends that may or may not continue into the future) that any new visitor access facilities, on newly acquired lands or previously undeveloped park lands, would result in an overall increase in park visitation. The focus on solitude in the newly acquired areas would redirect visitation initiatives to having an experience in a relatively natural area, create sanctuary locations along the river, and insulate visitors from the urban conditions that surround the park.

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

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

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

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

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

In this alternative, visitors would receive a quality experience in the wide variety of environments available in the park, with an emphasis on environmental education. The visitors experience would be highly facilitated through learning. Targeted facilities within existing developed areas would be

restored to a more natural condition. For example, parking lots and buildings would be removed in select areas.

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

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

### **ALTERNATIVE C: CENTRALIZED ACCESS**

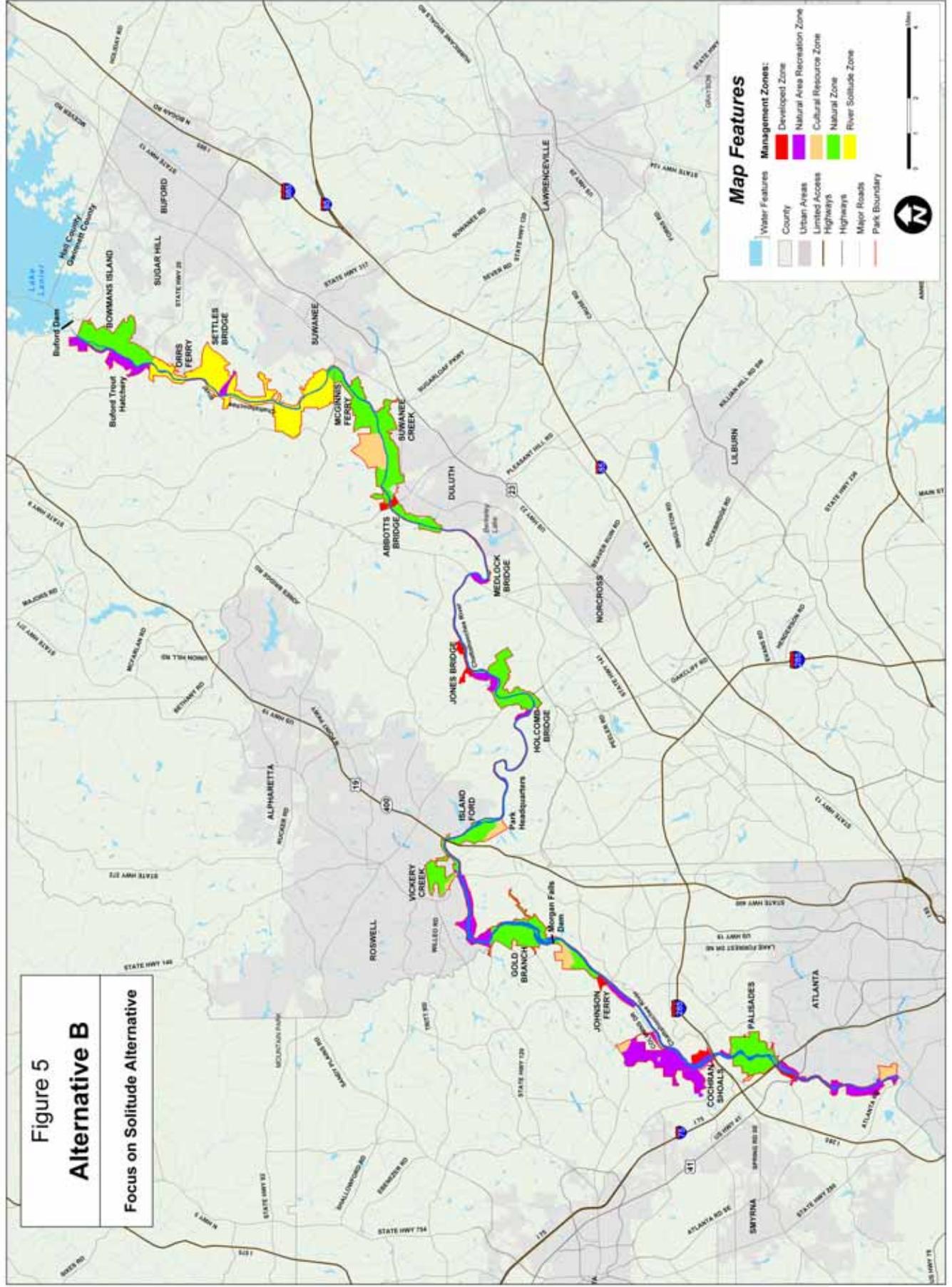
The Centralized Access Alternative, hereafter referred to as Alternative C, provides for a management system where visitors would be drawn toward a system of hubs in which administrative, commercial, and interpretive facilities are located. Hubs, at a minimum, would provide visitor information, rest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

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

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

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

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



would encourage National Park Service supervision, education, monitoring, and enforcement where park use is greatest.

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

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

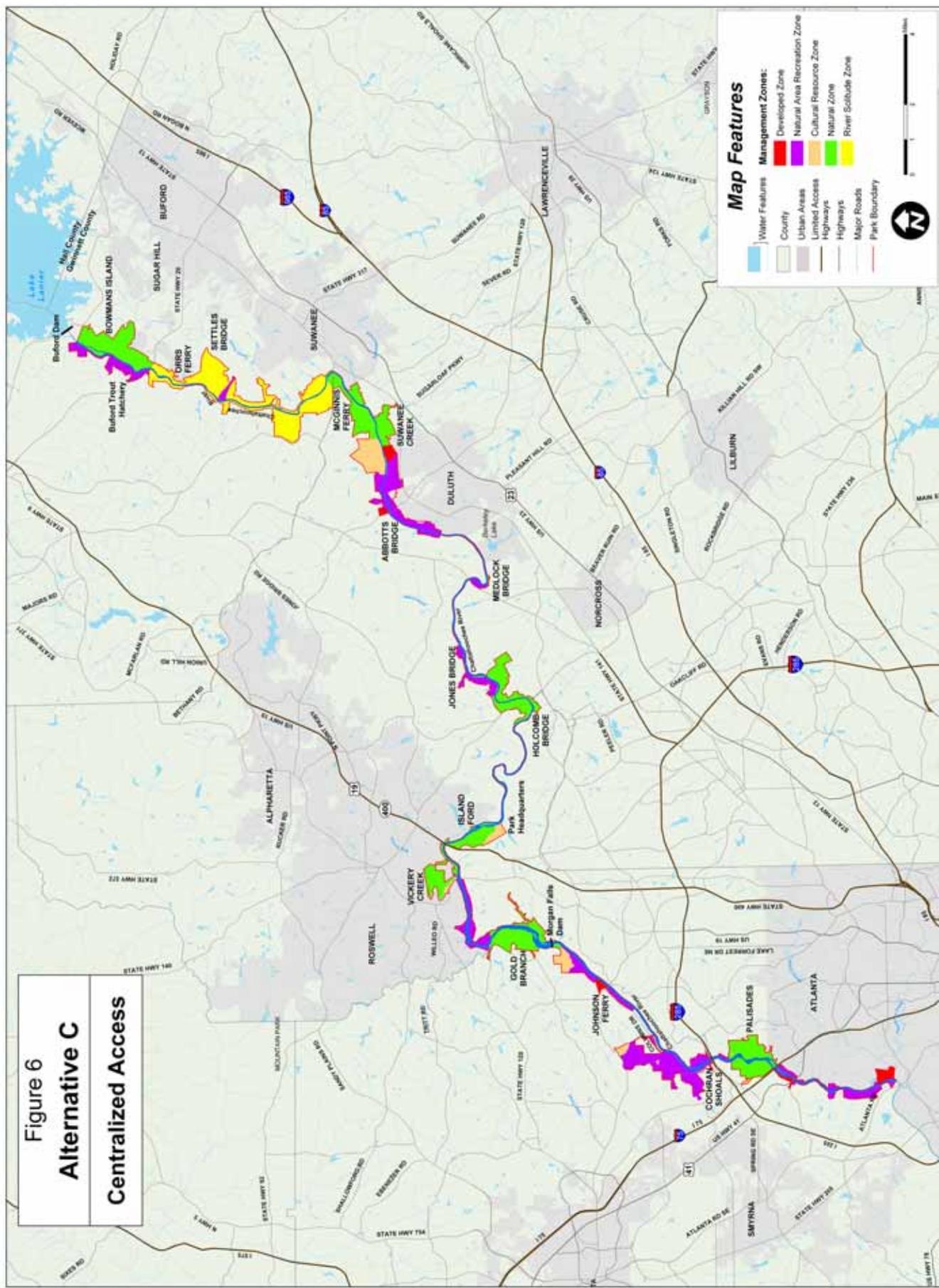
A special feature of this alternative is that it would define the use of motorized vessels (gasoline-driven motors) as an appropriate use in the upper portion of Bull Sluice Lake, located in the vicinity of the City of Roswell. Under this alternative, use of motorized vessels would be allowed from Highway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

The use of motorized vessels would not be permitted in Bull Sluice Lake below River Mile 315, which demarcates the northern end of the area currently defined as the Gold Branch Unit. This is a several-hundred acre area that remains in a relatively naturally forested state. The lake in this area is also characterized by extensive freshwater emergent wetlands that provide an unusual non-motorized boating opportunity for visitors in non-motorized vessels. This alternative would allow continued use of the upper part of the lake for motorized vessels, while the lower part of the lake in the vicinity of the Gold Branch Unit would be zoned natural zone where motorized vessels would not be appropriate. The distribution of zones in Alternative C is shown in Figure 6. The zones applied to Alternative C include the natural area recreation zone, cultural resource zone, natural zone, river solitude zone, and developed zone.

## **ALTERNATIVE D: EXPANDED USE**

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

In the metropolitan Atlanta region, parks are at a premium. Expanding use of the park to meet the resultant demand is a viable alternate that could be achieved within the limits imposed by the various laws, regulations, policies, and mandates of the National Park Service. According to National Park Service-sponsored surveys, typical visitors to the park are young, single males, business-oriented, generally white, and suburban. Access to the park could be expanded in the future for all visitors,



including families, and visitors from business parks and neighborhoods as this linear park is located adjacent to the most densely developed neighborhoods and business communities of the metropolitan area. Alternative D would also provide trail linkages to city- and county-funded and supervised parks.

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

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

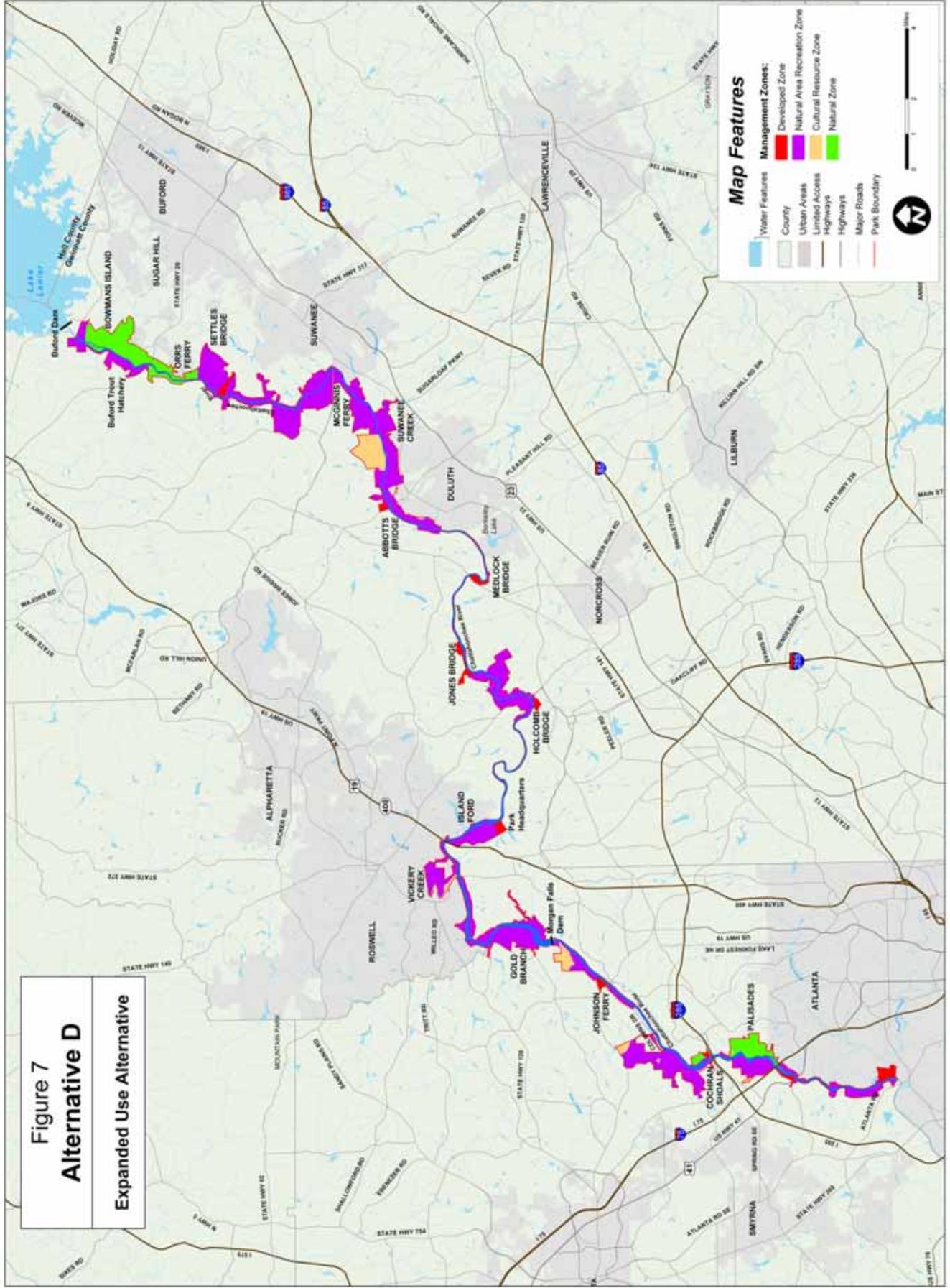
Facilities for the park would be necessarily distributed throughout the 48 miles, based on availability of resources and local community support. The park plan would emphasize expanded citizen involvement and enforcement of access restrictions. A greater and more diverse population of residents would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

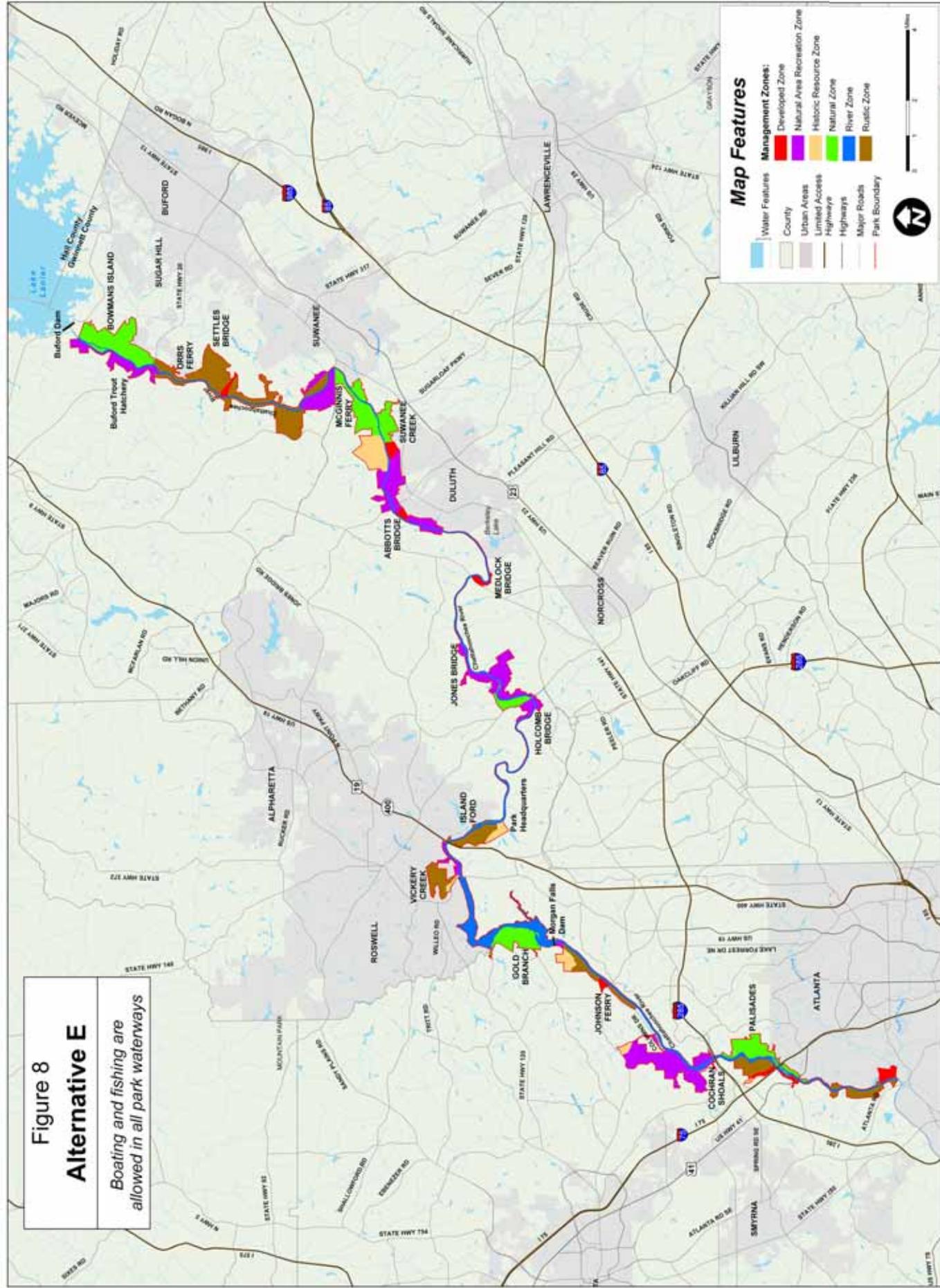
The distribution of zones under Alternative D is depicted in Figure 7. The zones applied to Alternative D include the natural area recreation zone, cultural resource zone, natural zone, and developed zone.

## **ALTERNATIVE E**

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

The majority of the park would be managed in its natural state, with access provided primarily via the developed zones or other existing parking areas. Levels of visitor use within the developed zones





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

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

#### **ALTERNATIVE F: PREFERRED ALTERNATIVE**

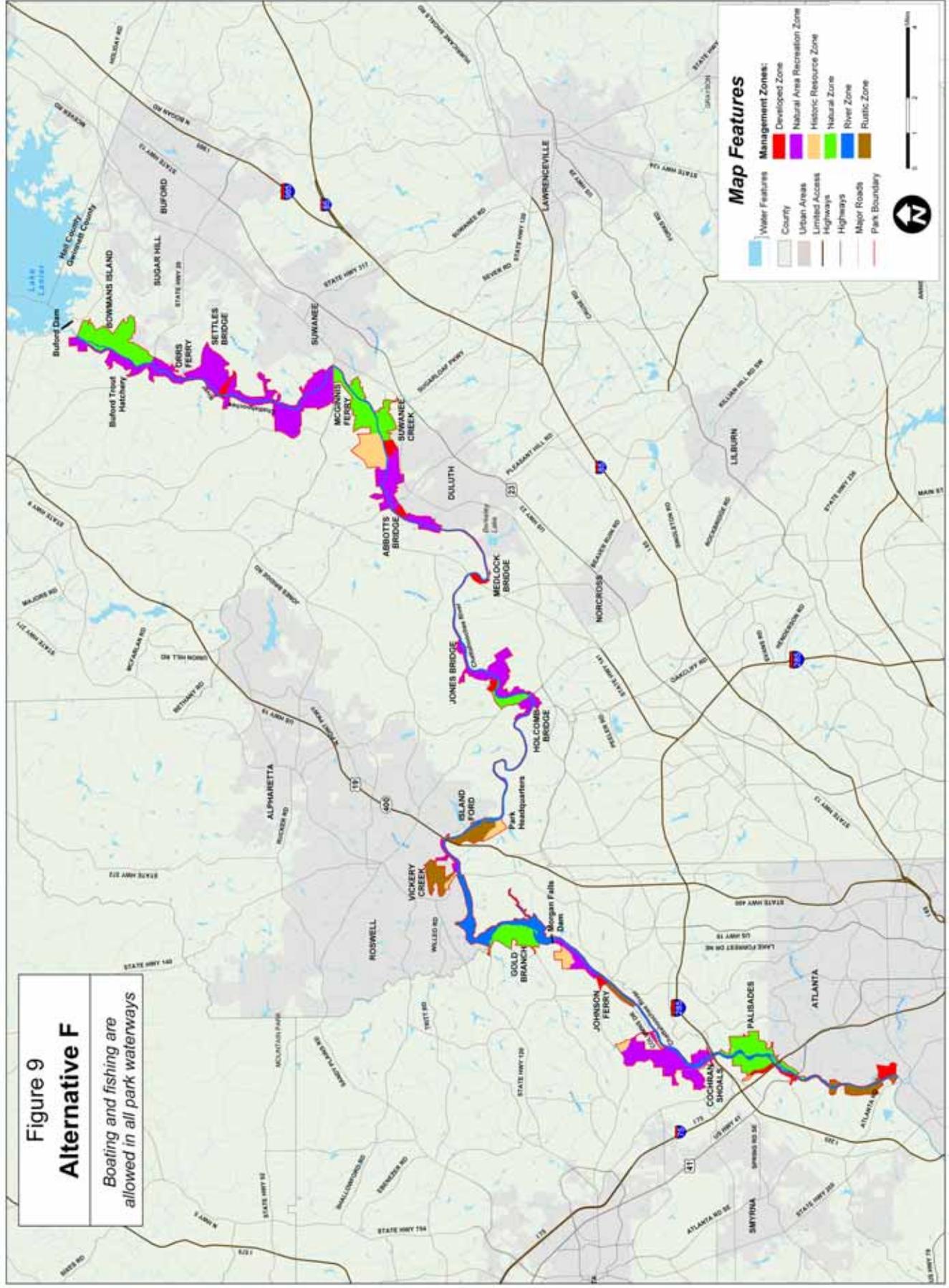
Alternative F, like Alternative E, was developed by extracting some features of both Alternatives C and D and by creating new zones and management prescriptions (described previously) that responded to public criticisms of the May 2004 Draft. In general, Alternative F provides more opportunities throughout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

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

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

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

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



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

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

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

## COMPARATIVE COST ANALYSIS

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

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

model was used based upon general design and construction assumptions. The accepted industry range of Class C and D estimates is -30 percent to +50 percent. Therefore, a \$1,000,000 estimate has an actual range of between \$700,000 and \$1,500,000.

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

### **Range of Annual Costs**

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

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

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

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

**Table 4. Cost Summary for Each Alternative**

	<b>Alternative A: No Action</b>	<b>Alternative B: Focus on Solitude</b>	<b>Alternative C: Centralized Access</b>	<b>Alternative D: Expanded Use</b>	<b>Alternative E</b>	<b>Alternative F</b>
Range of Annual Costs (Includes personnel, maintenance, and operations) FY06 Operations Costs (\$2,837,000)	\$3,462,500 - \$3,482,500 8 additional FTEs	\$3,462,500 - \$3,622,500 8 – 10 additional FTEs	\$4,324,600 - \$4,484,600 18 – 20 additional FTEs	\$4,633,600 - \$4,793,600 20 – 22 additional FTEs	\$4,621,600 - \$4,781,600 20 – 22 additional FTEs	\$4,599,600 - \$4,759,600 20 – 22 additional FTEs
Range of Initial One-Time Costs (Includes construction, rehabilitation, general improvements).	\$3.8 – \$4.9 million Projects include: <ul style="list-style-type: none"> <li>Improve existing park facilities (restrooms, picnic areas, picnic areas, trails, parking areas, river access facilities);</li> <li>Cultural resource stabilization / rehabilitation</li> </ul>	\$5.5- \$7.2 million Projects include: <ul style="list-style-type: none"> <li>Improve existing park facilities (restrooms, picnic areas, trails, parking areas, river access facilities); remove facilities as appropriate</li> <li>Cultural resource stabilization / rehabilitation</li> <li>Develop administrative offices separate from the historic Island Ford lodge that serves as a visitor center</li> </ul>	\$20.4 - \$26.5 million Projects include: <ul style="list-style-type: none"> <li>Centralized trailhead access at three hubs</li> <li>Education / visitor contact station at four locations within developed zones</li> <li>Improvement / addition of park facilities (restrooms, picnic areas, trails, parking areas, river access facilities)</li> <li>Cultural resource stabilization / rehabilitation</li> <li>Construct a new visitor center</li> </ul>	\$22.1 - \$28.8 million Projects include: <ul style="list-style-type: none"> <li>Education / visitor contact station at three locations within developed zones</li> <li>Expand facilities / services throughout park corridor</li> <li>Cultural resource stabilization / rehabilitation</li> <li>Construct a new visitor center</li> </ul>	\$20.6 - \$26.8 million Projects include: <ul style="list-style-type: none"> <li>Education / visitor contact station at four locations within developed zones</li> <li>Expand facilities / services throughout park corridor</li> <li>Cultural resource stabilization / rehabilitation</li> <li>Construct a new visitor center</li> </ul>	\$20.6 - \$26.7 million Projects include: <ul style="list-style-type: none"> <li>Education / visitor contact station at four locations within developed zones</li> <li>Expand facilities / services throughout park corridor</li> <li>Cultural resource stabilization / rehabilitation</li> <li>Construct a new visitor center</li> </ul>
Total Life-Cycle Costs over the Life of the Plan (Includes total maintenance, operations, personnel, and capital costs over 20 years, expressed in present worth)	\$40.5 - \$41.8 million	\$42.2 - \$45.5 million	\$66.8 - \$74.6 million	\$71.8 - \$80.2 million	\$70.2 - \$78.0 million	\$69.9 - \$77.7 million
<p>Additional Assumptions:</p> <ol style="list-style-type: none"> <li>The base year for all estimates is 2006 with the exception of the estimate for the new visitor center, which is a 2007 estimate.</li> <li>The initial one-time construction costs are Class "C" estimates, developed into net and gross construction costs and inclusive of all design and supplemental services. At this level of planning, there are many unknown factors and a contingency of 30% was added to the total cost to create the higher range of estimates.</li> <li>Annual operating costs are inclusive of personnel, equipment, vehicles, materials and supplies, utilities, and other services.</li> <li>Life-cycle costs reflect the present worth of all expenditures of a 20-year period at a discount rate of 7 percent.</li> <li>A cost cannot be estimated at this time for natural resource restoration, which includes actions to address invasive exotic species, streambank restoration, and wetlands restoration. These costs cannot be quantified due to site-specific details that are not available for a Class "C" evaluation.</li> </ol>						

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

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

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

### One-Time Costs

The range of initial one-time costs including construction, rehabilitation, and general improvements planned are outlined on Table 4 for each alternative. Alternative D would require the highest range of initial one-time costs (\$22.1 to \$28.8 million) due to expanded access throughout the park and the dispersed services required. Alternatives E and F have similar initial one-time costs, ranging from \$20.6 to \$26.8 million for each alternative to provide additional visitor education center and interpretive services and expanded park facilities/services throughout the park corridor. The range of initial one-time costs for Alternative C includes centralizing services at 3 hubs and improving other park facilities, for an estimated \$20.4 to \$26.5 million. The range of initial one-time costs for Alternatives B and A is estimated at \$5.5 to \$7.2 and \$3.8 to \$4.9 million, respectively. The differences are primarily attributed to the level of costs required to maintain, restore, or improve park facilities. Alternatives C, D, E and F include the costs for building and operating a new visitor center. Although some visitor services are provided at park headquarters at Island Ford, there is no visitor center under current conditions (Alternative A) or one proposed under Alternative B.

### Total Life-Cycle Costs

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

**Chattahoochee River National Recreation Area Fee Program**

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

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

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

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

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

**Table 6. Projected Fee Revenue, 2007 to 2012**

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

## **MITIGATION MEASURES COMMON TO ALL ACTION ALTERNATIVES**

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

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

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

Construction zones would be identified and fenced with temporary fencing or a similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required. All protection measures would be clearly stated in construction specifications, and workers would be instructed to avoid areas beyond the fencing. Measures to control dust and erosion during construction could include the following: watering dry soils; using silt fences and sedimentation controls; stabilizing soils during and after construction with specially designed fabrics, certified straw, or other materials; covering haul trucks; and revegetating disturbed areas with native species as soon as possible after construction, with measure taken to avoid introduction of invasive species.

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

Following completion of construction activities, all areas of disturbed soils and vegetation would be regraded and revegetated as soon as possible. Natural topographic features would be restored to the extent possible using excavated soils from other park projects, and native species would be used in all revegetation efforts. Restoration efforts would be maximized by using salvaged topsoil and native

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

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

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

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

vegetation and by monitoring revegetation success for several growing seasons as appropriate. Undesirable species would be monitored and control strategies initiated if needed. For all action alternatives, mitigation actions would occur prior to construction to minimize immediate and long-term impacts to rare, threatened, and endangered species. Surveys would be conducted for such species as warranted. Facilities would be sited and designed so as to avoid adverse effects to such species whenever possible. If avoidance is infeasible, adverse effects would be minimized and compensated for, as appropriate, and in consultation with appropriate resource agencies.

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

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

## SELECTING THE PREFERRED ALTERNATIVE

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

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

resources. On the other hand, we may have relevant facts that show that one alternative would disturb five known archeological sites, while the other alternative would disturb only one. This alternative, then, would be more advantageous since it provides natural resource protection (equal to the other alternative) and also provides the greatest advantage for cultural resources.

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

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

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

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

## ENVIRONMENTALLY PREFERRED ALTERNATIVE

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

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
2. Ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings.

3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
4. Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choices.
5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

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

1. Alternative B would best protect the environment by limiting the level and intensity of use of the built environment. The amount of acreage in developed zones and natural area recreation zones would be less than other alternatives. In addition, the river solitude zone would be provided and greater focus would be placed on the restoration of natural resources, with a lower potential for new facilities. All other alternatives would fulfill this criterion to a lesser degree through protection of known natural and cultural resources located in the park.
2. Each of the alternatives would meet criterion 2 by providing visitors with safe, healthful, productive, esthetically and culturally pleasing surroundings. Under Alternative A, there would be increased challenges to meet and maintain such conditions, however because staffing and funding levels would not be expected to change dramatically. For example, the diversity of educational opportunities would continue to be limited, and the park's ability to respond to the ever-increasing demand to address compliance issues with regard to natural and cultural resource protection would continue to be a challenge. Alternatives E and F would allow more diverse types of use than the other alternatives, increased staffing, as well as increased potential for river access and boating and other types of access throughout the park, thereby creating increased opportunities to enjoy more of the park. Therefore, Alternatives E and F would better serve criterion 2.
3. Overall, Alternatives E and F would allow for the widest range of beneficial uses of the environment and to observe and appreciate resources with a minimum of inadvertent or unintentional damage. In comparison between Alternatives E and F, Alternative E would have more acreage zoned as rustic zone, compared to Alternative F, thereby allowing for less of a hardened landscape, less acreage zoned where facility development is appropriate, and less of a facilitated experience. In addition, the opportunities for the built environment are lower in Alternative E than F, with Alternative F having a higher percentage of acreage zoned developed zone and natural area recreation zone and, for these reasons, it is estimated that there would be less inadvertent or unintentional damage under Alternative E than F. Alternative F, however, provides increased access for a greater variety of park visitors than Alternative E.

Based on public input on action Alternatives B and C, restricting the type of boat use (motorized versus nonmotorized) in the river solitude zone would be too limiting for many visitors. Alternative D provides for expanding and distributing access throughout the park, including

newly acquired parcels, thereby providing the widest opportunity for increased and diverse visitor experiences. Compared to other alternatives, the emphasis would be more on social experience than solitude. New facilities would be developed or existing facilities would be refurbished, and connectivity to existing neighborhoods would be optimized. However, Alternative D would be more dependent on the successful development of public/private partnerships than would other action alternatives and there would be a higher potential for inadvertent or unintentional damage to natural and cultural resources compared to all other alternatives.

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

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

4. Each of the alternatives preserve important historical, cultural and natural aspects of our national heritage and maintain, wherever possible an environment which supports diversity and variety of choice. In terms of access to areas that may allow greater choice in the fulfillment of this experience, Alternatives E and F offer a greater variety of recreational opportunities to explore the park through diverse means and accessibility than Alternatives A, B, C and D. Alternatives B, C and D limit the type of river access and use while Alternatives E and F provide additional choice in type of use and access while also providing additional opportunities for interpretive experiences and education.
5. Alternatives D, E and F provide additional opportunities for use of existing and new facilities along the corridor, compared to Alternatives A, B, and C. Facilities would be centralized in Alternative C. Alternative D provides the greatest degree of flexibility for locating facilities, and the greatest potential for related adverse effects. Each of the action alternatives provide equal opportunity for commercial services to operate in the future, however, Alternatives E and F provide more opportunities for river services due to fewer river use restrictions in place without the river solitude zone. (A commercial services plan would also be prepared in the future). Alternatives E and F balance resource use and visitor conditions, given the distribution of zones for each alternative, and river access and type of river use are the same for both alternatives (i.e. boating and fishing are appropriate in all park waterways). Opportunities for sharing park resources are similar under both Alternatives E and F, with differences described under criterion 3.
6. Alternative B would best meet this criterion, as it would improve renewable resource conditions for wildlife and vegetation. All other alternatives would maintain existing conditions or result in localized reductions in the quality of renewable resources through construction and subsequent alteration or loss of habitat. Where new facilities are constructed, sustainable design principles would be used where applicable. None of the alternatives proposes a long-term change in use of depletable resources; therefore, no discernable difference exists between the alternatives for this factor.

Some specific actions under Alternative B may achieve similar, or in some cases greater, levels of protection for certain cultural and natural resources than under Alternatives E and F. Yet, based on potential resource and visitor impacts and on proposed mitigation for impacts to natural and cultural resources, Alternative E best meets the six criteria as defined above. Whereas Alternative F integrates

resource protection with greater opportunities for an appropriate range of visitor use, Alternative E, however, provides an advantage for the protection of cultural and natural resources while concurrently attaining the widest range of beneficial uses of the environment without degradation or other undesirable and unintended consequences.

## **SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

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

**Table 8. Summary of Impacts of the Alternatives**

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

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

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

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

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

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

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

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

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

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

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

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

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

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