



# White-tailed Deer Management Plan

## ENVIRONMENTAL ASSESSMENT

*Public Scoping Meetings 2015*

*You're invited!*  
*Your participation will help shape this plan.*

The National Park Service (NPS) is requesting your input in developing a White-tailed Deer Management Plan and Environmental Assessment (plan/EA) for Chesapeake and Ohio Canal (C&O Canal) and Harpers Ferry National Historical Parks (NHP). This plan/EA is being developed for both parks because they face similar issues relating to the high densities of deer within their boundaries and the effects that deer are having on forests and cultural landscapes. Your participation is vital to the planning process. There are a number of ways to be involved, including attending one of the public scoping meetings or submitting electronic or written comments (see the last page of this newsletter for more information about how to submit comments).

## PUBLIC SCOPING MEETINGS

Scoping is the first step to involve the public in the planning process. Scoping includes holding meetings and providing opportunities for the public to comment so their concerns are identified early in the plan/EA process and the analysis is focused on important issues. Because the plan/EA will analyze many ecological, cultural, and social issues, your participation is encouraged and needed.

Each meeting will be an open house format that will begin with a short introduction. NPS staff will be on hand to visit with you, answer questions, and solicit your input. Attendees may also submit comments online, on written forms available at the meeting, or by mail as described in this newsletter. Directions to the meetings can be found on the project's website, <http://parkplanning.nps.gov/NHPdeermanagement>.

### PUBLIC SCOPING MEETING TIMES & LOCATIONS

*Tuesday, February 24, 2015*

6:00 pm–8:00 pm  
Upper Classroom  
Mather Training Center  
Mather Place  
Harpers Ferry, West Virginia  
25425

*Wednesday, February 25, 2015*

6:00 pm–8:00 pm  
Headquarters, C&O Canal NHP  
1850 Dual Highway  
Hagerstown, MD  
21740

*Thursday, February 26, 2015*

6:00 pm–8:00 pm  
Brooke Hall and Great Falls Room  
Rockwood Manor  
11001 MacArthur Blvd.  
Potomac, MD  
20854

# PROTECTING NATURAL & CULTURAL LANDSCAPES THROUGH WHITE-TAILED DEER MANAGEMENT

The National Park Service is preparing a White-tailed Deer Management Plan and EA for C&O Canal and Harpers Ferry NHPs. This plan/EA will analyze environmental impacts of several alternatives for managing white-tailed deer (*Odocoileus virginianus*) to reduce impacts on native vegetation, forest regeneration, and the cultural landscapes of the parks. The National Environmental Policy Act (NEPA), along with NPS policy and related regulations, will guide the plan/EA.

## LANDSCAPES AND DEER MANAGEMENT

Within eastern national park units, landscapes have been managed to allow for the preservation and rehabilitation of natural, scenic, and historic lands, resulting in a landscape that provides excellent habitat for white-tailed deer. Because deer harvest has not traditionally been a component of management activities in the majority of park units, including the two parks in this plan/EA, the population of deer has greatly increased over the years. Scientists have established that high deer numbers can have negative effects on plant and other animal species.

Although ideal deer density will change with the landscape composition, researchers with the US Forest Service have estimated that a healthy deer density in Maryland's forests is approximately 20 deer per square mile (Horsley et al. 2003). NPS biologists agree that a deer density of about 20 per square mile is a sustainable density that allows for adequate forest regeneration; however, monitoring results show that this density has been substantially exceeded in both parks for many years.

The parks have monitored deer density since 1998—C&O Canal NHP has focused on the Goldmine Tract in Great Falls, Harpers Ferry NHP has monitored all parts of the park, although they have focused on Maryland Heights. The parks have also assessed other related parameters such as herd health, vegetation condition, and forest regeneration. Deer density at the parks has varied from year to year, but remains consistently high. Deer densities (in deer per square mile) have ranged from 60 to 141 at the Goldmine Tract at C&O Canal NHP and from 69 to 152 in Maryland Heights at Harpers Ferry NHP.

The parks also conduct occasional opportunistic sampling for chronic wasting disease (CWD)—a transmissible neurological disease of deer that produces small lesions in brains of infected animals—from deer found as road kill or that died naturally. CWD has been found in deer approximately 2 miles from C&O Canal NHP and 45 miles from Harpers Ferry NHP.



Cornfield at Chic Farm



Seedlings and saplings are both young trees. **Seedlings** are very young trees that are greater than 1.5 centimeters (6 inches) tall and less than 1 centimeter diameter at breast height (4.5 feet above the ground).

**Saplings** are young trees that are between 1 centimeter and 10 centimeters diameter at breast height.



Bolivar Heights



Vegetation monitoring plot



Multiple deer browsing in the early morning

## VEGETATION IMPACTS AND PARK MONITORING

Browsing of vegetation by white-tailed deer has greatly impacted the species composition and density of the parks' forests, limiting the establishment and growth of many native trees such as those in the ash, maple, and oak families. To understand the effects of deer browse on other vegetation, random plots were placed in the parks in 2006. Each plot contained a variety of woody and non-woody vegetation, and was sampled once every four years. Data provided by these plots are used to calculate forest regeneration information. Pawpaw (*Asimina triloba*) is abundant in both parks due in part to excessive deer browsing of other vegetation, and outcompetes other tree species. The high density of pawpaw with few other woody species correlates to high deer density.

Excessive browse in these parks needs to be controlled for the success of ash, maple, oak, and other native vegetation. In parks where deer management has occurred, seedling densities have risen significantly.

The success of forest regeneration can be assessed using a quantitative measurement of forest abundance, height, and geographic distribution of seedlings and calculation of a seedling "stocking rate" that indicates if forest regeneration is sufficient. A park is considered to have sufficient forest regeneration if 67 percent of its vegetation plots are adequately stocked with native tree species. C&O Canal and Harpers Ferry NHPs both have less than 20 percent of their vegetation plots stocked adequately, and hence, do not have sufficient forest regeneration.

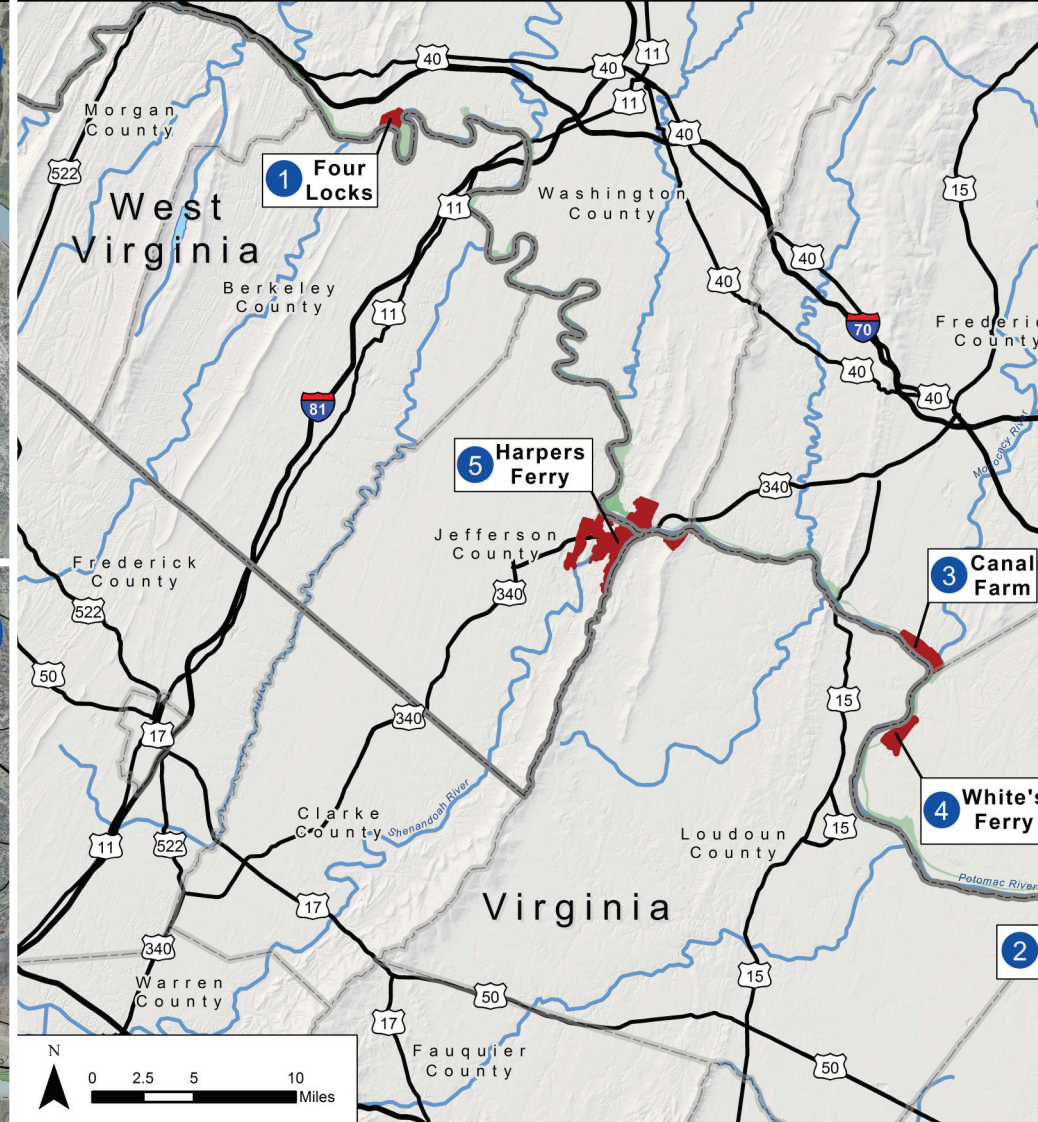
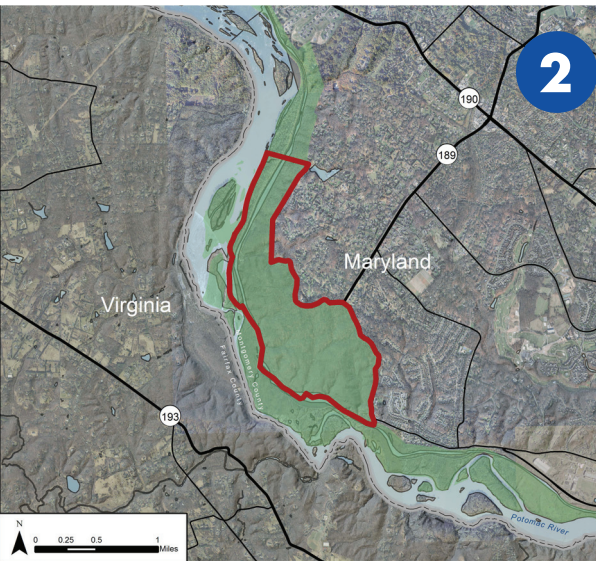
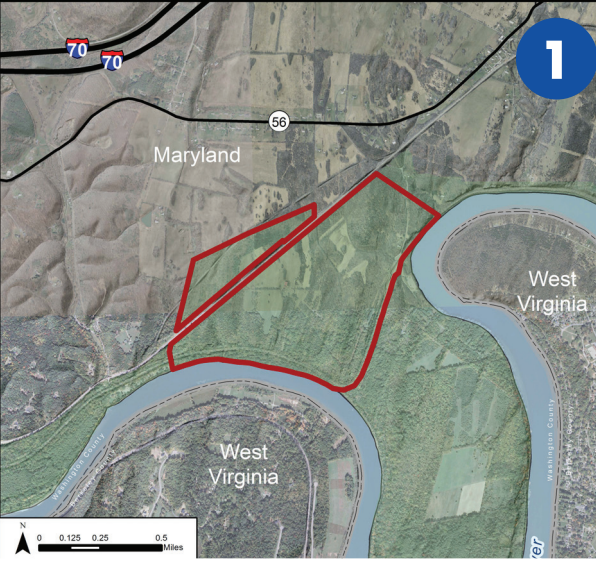
## PURPOSE OF AND NEED FOR ACTION

The purpose of the plan/EA is to develop a white-tailed deer management strategy that supports long-term protection, preservation, and restoration of native vegetation and other natural and cultural resources and landscapes in C&O Canal and Harpers Ferry NHPs.

A plan is needed because:

- An increasing number of deer in the parks has resulted in adverse effects on the natural distribution, abundance, and diversity of plant species in the two parks.
- Browsing and other damage to native seedlings, saplings, and understory vegetation by deer in the parks has prevented successful forest regeneration and restoration, and resulted in unacceptable changes to forest structure and composition.
- Attainment of the parks' cultural landscape preservation and restoration goals and mandates are compromised by the high density of deer in the parks.
- Opportunities exist to improve coordination with other nearby jurisdictional entities and other stakeholders currently implementing deer management actions.
- Chronic Wasting Disease has been identified in deer near the parks and represents an imminent threat to resources in the parks. There are opportunities to evaluate and plan responses to threats from CWD over the long term.





## CURRENTLY UNDER CONSIDERATION

Preliminary draft alternatives for managing deer at the parks are being considered for detailed analysis by the National Park Service. Any alternative selected must address the project purpose and need and will be evaluated for its potential impacts on the environment and park resources and values. Upon conclusion of the decision-making process, the alternative that is selected will become the white-tailed deer management plan for the parks and will guide future actions. The following draft preliminary action alternatives are under consideration.

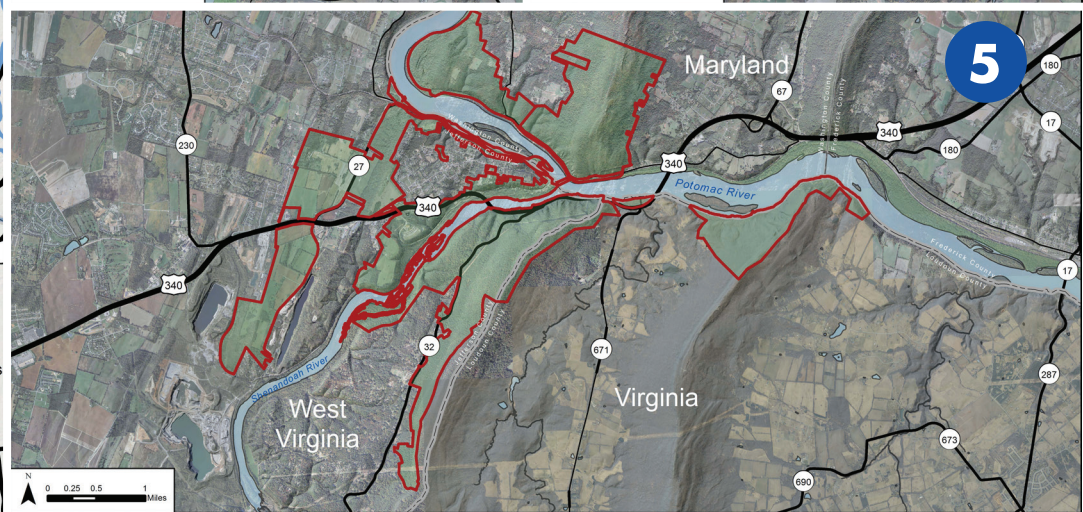
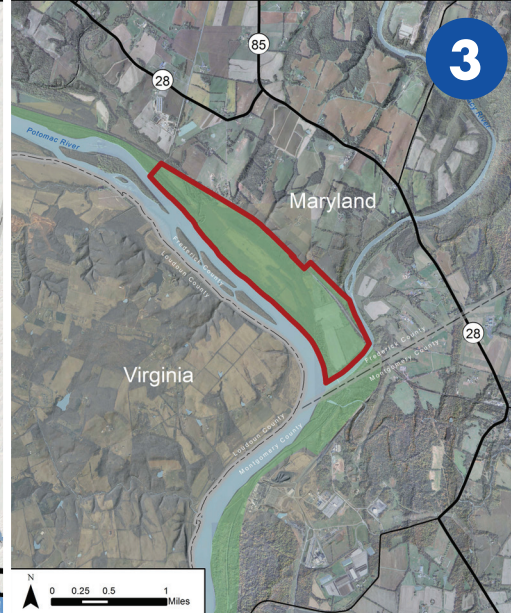
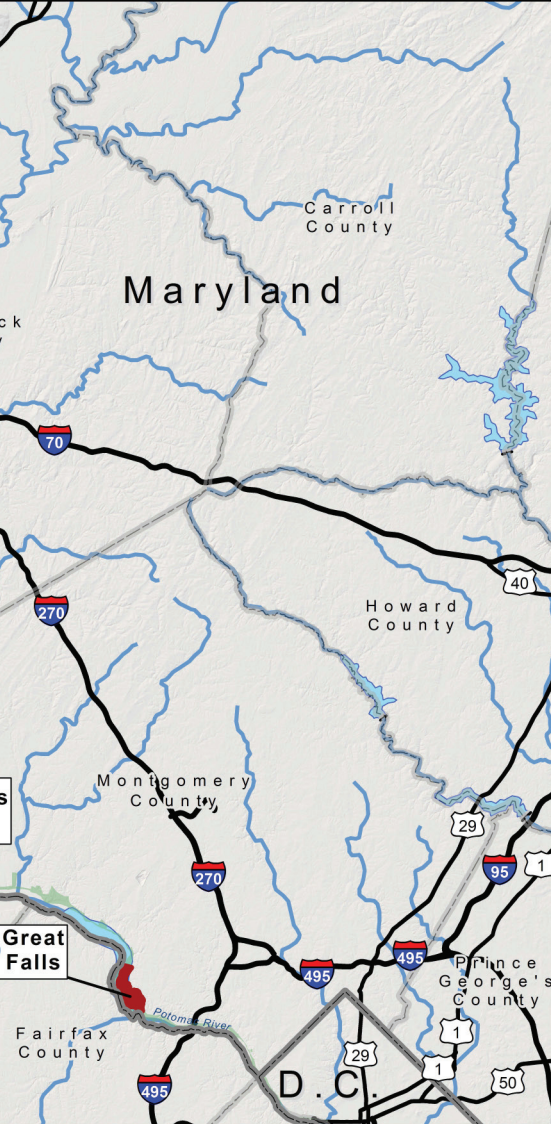
## ALTERNATIVE A: NO-ACTION (CONTINUATION OF CURRENT MANAGEMENT)

NEPA requires that a no-action alternative be analyzed. This alternative describes existing management and policies and establishes a baseline. Existing management activities at both parks include monitoring deer density and relative numbers; monitoring vegetation; and limited use of deer repellants to protect small landscaped areas.

## ALTERNATIVE B: NONLETHAL DEER MANAGEMENT

Alternative B would include all actions described under alternative A and may also include the use of: reproductive control agents to reduce deer density to a point at which vegetation can recover; small scale fencing and large scale exclosures to protect gardens, restoration areas, or agricultural landscapes; repellents for short-term situations or over growing seasons; and aversive conditioning in selected areas or at specific times. Reproductive control agents would need to meet NPS criteria for use of such agents.





## ALTERNATIVE C: LETHAL DEER MANAGEMENT

Alternative C would include all actions described under alternative A and may also include: controlled harvest programs to reduce deer population to an acceptable range through the use of sharpshooting (firearms and/or archery) by park staff or contractors and limited capture and euthanasia only when sharpshooting would not be feasible due to safety concerns.

## ALTERNATIVE D: COMBINATION OF LETHAL AND NONLETHAL DEER MANAGEMENT

Alternative D would include all actions described under alternative A with a primary focus of incorporating a combination of lethal and nonlethal deer management actions from alternatives B and C to address high deer density. Lethal actions (including sharpshooting, with very limited capture/ euthanasia if necessary) would be taken initially to reduce the deer herd numbers quickly. Population maintenance could be conducted via nonsurgical reproductive control methods if these are available and meet NPS criteria or by sharpshooting.

## RESPONSE TO CHRONIC WASTING DISEASE

All action alternatives would include long-term management responses to occurrences of CWD. When CWD is detected within 5 miles of either park, park staff would work with state wildlife professional to determine if lethal removal of deer should occur within the park to substantially reduce the deer population density, given that high densities support greater rates of disease transmission, and have been positively correlated with prevalence of CWD. At C&O Canal NHP, actions would be taken in the park within a certain radius of the CWD occurrence, because the park is long and linear. That distance will be determined after the scoping process is complete and would be coordinated with the state to ensure actions were consistent with their.



## OPTIONS PRELIMINARILY DISMISSED FROM FURTHER ANALYSIS

Several other options were considered by the planning team, but were preliminarily dismissed from further analysis for the reasons listed in parentheses after each option. Public comment on these issues is also welcome. These include:

- Capture and relocation (there are disease concerns with CWD, issues with permits and quarantine, and there is a high rate of mortality of relocated deer due to stress)
- Surgical sterilization of does (very expensive and possibly a high mortality rate of deer)
- Fencing entire park(s) (this option would be very difficult to implement around the parks, because they are too fragmented or large; this option is maintenance intensive; fencing parks is counter to cultural landscape goals)
- Displacement (driving deer onto private property) and hunting (this method would prevent data collection; if the deer have CWD, then driving them off the park would not meet the purpose and need of the CWD plan; there may not be a viable method or place to drive them)
- Reintroduction/augmentation of predators such as coyotes, bears, wolves, and mountain lions as management tool (there is no evidence that coyotes or other predators would effectively manage the deer population; introduction or augmentation of predators may introduce additional issues given suburban development and population problems with predators)
- Managed hunt/public hunt (hunting is not sanctioned by Congress per NPS policies/regulations at either park)



Bolivar Heights





Harpers Ferry



Evidence of buck rub



Monocacy Aqueduct

## PRELIMINARY ISSUES AND IMPACT TOPICS

Issues are topics/concerns that have been raised based on current conditions or on situations that could occur from implementing any of the proposed alternatives. With respect to this deer management plan/EA, the following preliminary issues have been identified:

### VEGETATION

- There is evidence that deer overabundance has affected forest regeneration at these parks, and there is a need to promote forest regeneration and restore the abundance, distribution, structure, and composition of native plant communities by reducing excessive deer impacts.

### WILDLIFE AND HABITAT

- NPS Management Policies 2006 directs the parks to protect all park resources. Therefore, there is a mandate to maintain a viable white-tailed deer population within the parks so that all park resources are protected. The current overabundance of white-tailed deer within the parks is affecting habitat within the parks, and there are indications there could be of possible effects on other wildlife over the long term.
- Chronic Wasting Disease, a transmissible neurological disease of deer, has been identified in white-tailed deer proximate to the parks, so early detection, and reduction of the probability of spread of CWD is a concern for both parks.

### CULTURAL RESOURCES

- It is important to protect the integrity and character of the parks' cultural landscapes, including the spatial patterns of open and forested land, contributing historic views, and the agricultural landscape.
- Deer overabundance could affect the long-term maintenance of cultural landscapes. Deer browse greatly reduces crop yield, impacting the farmers' decision on which crops to plant as well as the parks' ability to recruit agricultural program participants. Because the damage caused by white-tailed deer could affect crop yield, decisions about which crops are planted, or interest in participation in the parks' agricultural lease programs.

### VISITOR USE AND EXPERIENCE

- Public awareness and understanding of NPS resource and deer management issues, policies, and mandates can be improved.
- Through this process, the parks can help increase public understanding of the deer management process and address public concerns about high deer population densities.

## IMPACT TOPICS UNDER CONSIDERATION IN THE PLAN/EA

Based on this list of issues and other anticipated impacts, the following preliminary list of impact topics is under consideration for analysis in the plan/EA:

- Vegetation (including consideration of invasive species)
- White-tailed deer
- Other wildlife and wildlife habitat
- Special status species
- Cultural landscapes
- Socioeconomics
- Public and employee health and safety
- Park management and operations



## HOW TO COMMENT

There are several ways to provide input on the plan/EA:

- Attend a public meeting.
- Submit comments electronically at:  
<http://parkplanning.nps.gov/NHPdeermanagement>.
- Submit written comments at your park's visitor center or by mail to the following central address for this project:

National Park Service  
C & O Canal and Harpers Ferry NHP Deer Plan/EA  
c/o Michelle Carter  
C & O Canal National Historical Park  
1850 Dual Highway, Suite 100, Hagerstown, MD  
21740-6620

The comment period will be open for 45 days, from February 2, 2015, to March 20, 2015.

*Please include your full name and address with the comments, so we may add you to our mailing list for future notices about this process. Because this plan/EA will address two parks, be sure to note if your comments apply to a specific park.*

*Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.*

## THE NEPA PROCESS & WHERE WE ARE

February 2015	Public scoping begins; public scoping meetings held during the week of February 23, 2015
March 2015	Public scoping period concludes  The National Park Service reviews public scoping comments and gathers data
Spring / Summer 2015	The National Park Service develop alternatives, analyzes impacts, and writes the plan/EA
Fall 2015 / Winter 2016	Publish plan/EA for public review
Spring 2016	The National Park Service reviews public comments and makes decisions
Summer 2016	NEPA process complete, and plan can be implemented



National Park Service  
U.S. Department of the Interior

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