

Oxon Cove Park
National Capital Parks - East
Washington, DC, Maryland

US Department of the Interior
National Park Service



OXON COVE MULTI-USE BIKER TRAIL

ENVIRONMENTAL ASSESSMENT



SEPTEMBER 2016

PROJECT SUMMARY

INTRODUCTION

National Capital Parks – East, an administrative unit of the National Park Service (NPS), in cooperation with the District Department of Transportation (DDOT), proposes to construct a multi-use hiker-biker trail through the District of Columbia and Maryland sections of Oxon Cove Park (the park). Oxon Cove Park encompasses 512 acres and includes the historic Oxon Hill Farm (289 acres) and is one of 13 parks managed within the National Capital Parks – East administrative unit. Most of the park is located in Prince George’s County, Maryland, with some overlap into Washington, DC (the District).

The proposed section of trail is located north of Oxon Cove in the southwest quadrant of the District and extends into Maryland. This section of trail would serve to link together other sections of the Oxon Cove Park, as well as other District and Maryland trail systems.

This document demonstrates compliance with the National Environmental Policy Act (NEPA) of 1969, as amended.

PURPOSE OF AND NEED FOR THE ACTION

The purpose of the project is to provide a connection between the Oxon Hill Farm bike trail and Shepherd Parkway and to ongoing projects within the Forest Heights’ community and the District Department of Transportation.

Action is needed at this time because of the current lack of connections and recreational facilities in Oxon Cove Park. As a public waterfront property within Washington, DC, the park offers broad opportunities for improving public recreation. This portion of the park has no existing trails or visitor facilities. The National Park Service recognizes the potential that Oxon Cove Park offers for improved recreation facilities, and the proposed trail would highlight the park’s streams, wetlands, and forests along the cove, providing visitors the opportunity to view wildlife in each of these habitats.

Action also is needed to help achieve goals under the NPS program *A Call to Action: Preparing for Second Century of Stewardship and Engagement*. Specifically, actions 4 and 5 aim to

- improve urban residents’ awareness of and access to outdoor and cultural experiences close to home by promoting national parks in urban areas and ensuring safe and enjoyable physical connections from parks to a variety of sustainable transportation options
- enhance the connection of densely populated, diverse communities to parks, greenways, trails, and waterways to improve close to home recreation and natural resources conservation

OVERVIEW OF THE ALTERNATIVES

Two alternatives are addressed in this environmental assessment (EA):

- alternative 1: no-action alternative
- alternative 2: construct multi-use hiker-biker trail (preferred alternative)

HOW TO COMMENT

Agencies and the public are encouraged to review and comment on the contents of this environmental assessment from September 9, 2016 through October 12, 2016. We invite you to comment on this environmental assessment, and you may do so by one of two methods. The preferred method of providing comments is on the park's planning website: <http://parkplanning.nps.gov/oxcohikerbiker/>. You may also submit written comments to the following address:

Gopaul Noojibail, Superintendent
National Capital Parks – East
Attn: Oxon Cove Hiker-Biker Trail EA
1900 Anacostia Park, SE
Washington, DC 20020

Please submit your comments by October 12, 2016.

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CHAPTER 1: PURPOSE AND NEED

INTRODUCTION

National Capital Parks – East, an administrative unit of the National Park Service (NPS), in cooperation with the District Department of Transportation (DDOT), proposes to construct a multi-use hiker-biker trail through the District of Columbia and Maryland sections of Oxon Cove Park (the park). Oxon Cove Park encompasses 512 acres and includes the historic Oxon Hill Farm (289 acres) and is one of 13 parks managed within the National Capital Parks – East administrative unit. Most of the park is located in Prince George’s County, Maryland, with some overlap into Washington, DC (the District).

The proposed section of trail is north of Oxon Cove in the southwest quadrant of the District and extends into Maryland. This section would serve to link together other sections of Oxon Cove Park, as well as other District and Maryland tie-ins. Figure 1 provides a vicinity map of the project area.

This environmental assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, and implementing regulations, 40 Code of Federal Regulations (CFR) Parts 1500–1508, Director’s Order 12 and the handbook, *Conservation Planning, Environmental Impact Analysis, and Decision-making*. An environmental assessment analyzes the proposed action and alternatives and their impacts on the environment.

PURPOSE OF THE ACTION

The purpose of the project is to provide a connection between the Oxon Hill Farm bike trail and Shepherd Parkway and to ongoing projects within the Forest Heights’ community and the District Department of Transportation.

NEED FOR THE ACTION

Action is needed at this time because of the current lack of connections and recreational facilities in Oxon Cove Park. As a public waterfront property within the District, Oxon Cove Park offers broad opportunities for improving public recreation. This portion of the park has no existing trails or visitor facilities, and the National Park Service recognizes the potential that the park offers for improved recreation facilities. The proposed trail would highlight the park’s streams, wetlands, and forests along the cove, providing visitors the opportunity to view wildlife in each of these habitats.

Action is also needed to help achieve goals under the NPS program *A Call to Action: Preparing for Second Century of Stewardship and Engagement*. Specifically, actions 4 and 5 aim to

- improve urban residents’ awareness of and access to outdoor and cultural experiences close to home by promoting national parks in urban areas and ensuring safe and enjoyable physical connections from parks to a variety of sustainable transportation options
- enhance the connection of densely populated, diverse communities to parks, greenways, trails, and waterways to improve close to home recreation and natural resources conservation

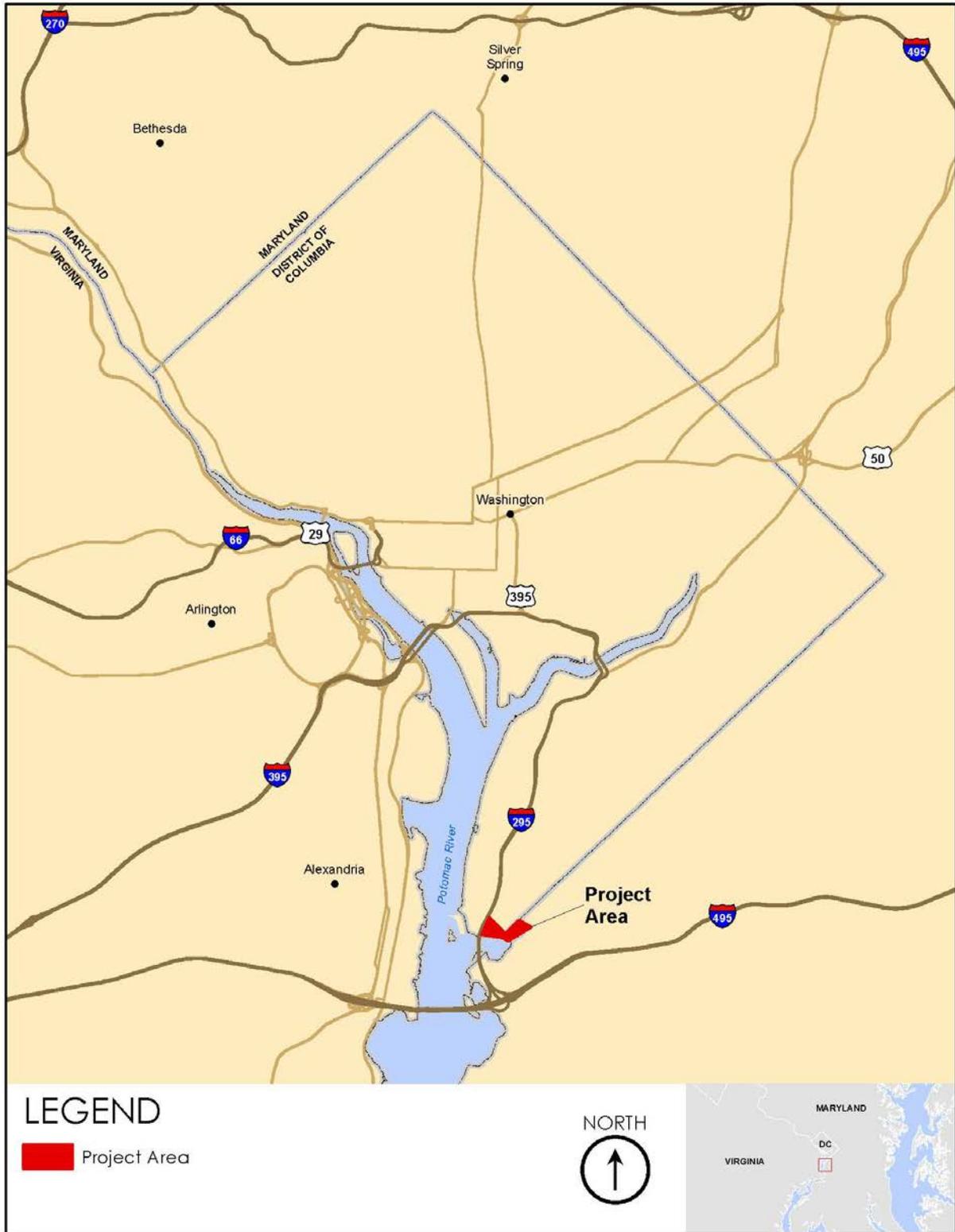


FIGURE 1. PROJECT VICINITY

BACKGROUND

Oxon Cove Park straddles the boundary between the District and Maryland. There is an existing paved bicycle trail in the park that links the District with Oxon Hill, Maryland, the Woodrow Wilson Bridge (Virginia), and other points south. However, the adjacent 72 acres of Oxon Cove Park (US Reservation 421) located on riverfront have no trails or other visitor facilities. Figure 2 provides the park boundary for Oxon Cove Park and Oxon Hill Farm.

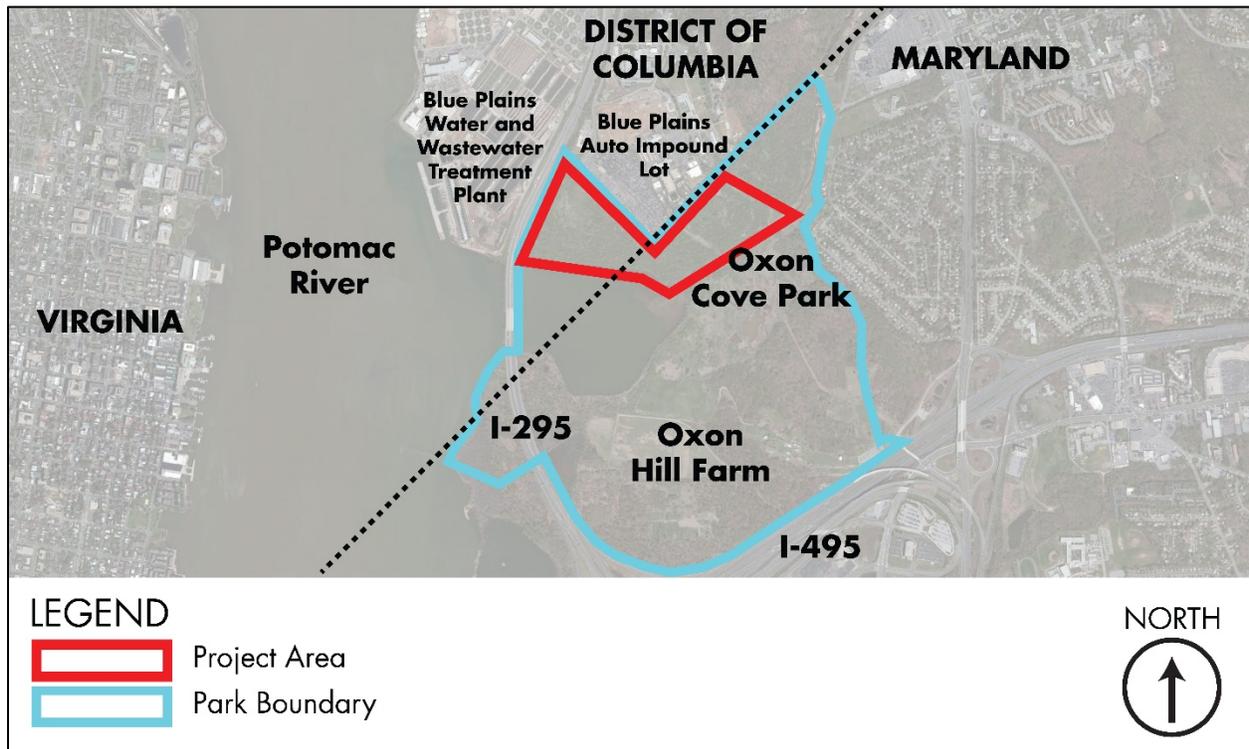


FIGURE 2: PROJECT AREA

From the 1960s through the 1970s, nearly 150 acres of Oxon Cove Park, including the project area, were part of an unregulated landfill. The project area was topped with composted sludge material (the process of mixing sewage sludge with sources of carbon, such as sawdust, straw, or wood chips) from the nearby Blue Plains Wastewater Treatment Facility and planted with trees. Since that time, this highly disturbed site has been managed as a natural area and reclaimed by vegetation.

The District community, led by the Oxon Run Citizens Alliance (ORCA) and the Ward 8 Council member's office have expressed a strong desire for access to Oxon Cove and the Potomac River for river viewing, fishing, boating, and other recreational activities—all of which are currently unavailable in Ward 8. Moreover, the District Department of Transportation is also working with Oxon Run and the park to explore new hiker-biker trail sections and connections. Similarly, the adjacent Town of Forest Heights worked with the park on another nearby park trail tie-in in Maryland.

As waterfront property on Oxon Cove and the Potomac River, the District portion of Oxon Cove Park offers broad opportunities for improving public recreation by developing appropriate cove and river access, new trails, environmental study areas, wildlife and river viewing features, and similar elements. Its location, resources, and history also make it ideal as a destination for several new initiatives such as the Potomac Heritage National Scenic Trail, the Chesapeake Gateways, and Star-Spangled Banner Trail. Increasingly, park staff has recognized its tremendous potential for improved recreational facilities.

PURPOSE AND SIGNIFICANCE OF THE PARK

PURPOSE

Oxon Cove Park serves to preserve and interpret historic, agrarian, and natural landscapes along the Potomac River shoreline, while also preserving forests and contributing to the protection of the water quality of the Potomac River. In addition, it provides access for public enjoyment to the recreational opportunities as part of a comprehensive system of parks, parkways, and recreational areas in and around the nation's capital.

SIGNIFICANCE

Park significance statements define the resource and values that are most important to National Capital Parks – East. The statements provide the basis for placing greater management emphasis on those resources and values that contribute directly to the park's purpose. The following significance statement has been identified for Oxon Cove Park.

- Within an intensively developed urban area, the park preserves several distinct natural habitats, a diverse array of wildlife, and scenic views along the Potomac River, while also connecting a number of recreational and natural corridors in and around the nation's capital.
- Much of the historic landscape in the park is intact, reflecting the rural character of the 19th and 20th century settlement and traditional agricultural use at the site, and providing an opportunity to educate visitors and residents about this period in southern Maryland's history.
- From the Mount Welby farmhouse, the DeButts family witnessed the burning of Washington, DC, during the War of 1812. Mary DeButts' first-hand account of the event provides an important perspective on the effects of the war on families from a female civilian.
- From the 1890s through the 1960s, the central historic core of the site was managed by St. Elizabeth's Hospital as one of the first agricultural complexes to be used for the therapeutic treatment of the mentally ill.

SCOPING

NEPA regulations require an "early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action." To determine the scope of issues to be analyzed in depth in this plan, the National Park Service conducted internal meetings with park staff and solicited public comments.

On October 15, 2014, NPS staff held an internal meeting via conference call to identify key issues and potential impact topics and discuss alternatives. The National Park Service initiated public scoping for this environmental assessment by issuing a public scoping notice on February 23, 2015. The scoping notice was posted to the NPS' Planning, Environment, and Public Comment (PEPC) website.

The public scoping comment period was open from February 23, 2015, to April 23, 2015. During this time, the National Park Service requested comments on the project via the NPS' PEPC website at <http://parkplanning.nps.gov/oxcohikerbiker/> or by sending written comments to the park.

During the comment period, three correspondences were received by mail or through the PEPC system. Two comments were received from individuals, and one comment was received from a federal government agency. All three commenters expressed support for the project.

ISSUES AND IMPACT TOPICS

Issues describe problems or concerns associated with current impacts from environmental conditions or current operations, as well as problems that may arise from the implementation of any of the alternatives. Park staff identified potential issues associated with repair and connectivity improvements during internal scoping. The issues and concerns identified during scoping were grouped into impact topics that are discussed in “Chapter 3: Affected Environment” and analyzed in “Chapter 4: Environmental Consequences.”

IMPACT TOPICS ANALYZED IN THIS ENVIRONMENTAL ASSESSMENT

SOILS

The proposed trail could have direct impacts on contaminated soils from ground-disturbing activities during construction. As a result, this resource area is addressed as an impact topic in this environmental assessment.

VEGETATION

Actions directly related to the proposed trail would require clearing or trimming of vegetation and tree removal; however, the amount of vegetation clearing would be limited to the extent possible. No existing rare or unusual vegetation occurs in the project area. As a result of potential impacts on vegetation, this resource area is addressed as an impact topic in this environmental assessment.

WILDLIFE AND WILDLIFE HABITAT

The project area is in an urban setting. As a result, wildlife in the project area is limited to adapted urban species, such as squirrels and songbirds. Construction-related activities may temporarily displace wildlife from the area, and the presence of visitors in an area not currently used could impact wildlife and wildlife habitat. Therefore, this resource area is addressed as an impact topic in this environmental assessment.

VISITOR USE AND EXPERIENCE INCLUDING SAFETY

The trail would result in impacts on visitor use and experience by expanding areas available for visitor use and providing a connection between existing and future trails in the region. The proposed trail is expected to improve access, increase use, and change the visitor experience in the park; therefore, this impact topic is analyzed in the environmental assessment.

Additionally, portions of the proposed trail would be located on top of a previously unregulated, capped landfill. While any portion of the trail that would traverse the landfill would be constructed by means that would preclude disturbing the landfill cap, safety issues should be reviewed to avoid creating exposure to contaminated soils. Therefore, safety is analyzed as part of visitor use and experience.

IMPACT TOPICS DISMISSED FROM FURTHER ANALYSIS

The following impact topics were eliminated from further analysis in this environmental assessment. A brief rationale for dismissal is provided for each topic. Potential impacts on these resources would be none or negligible, localized, and most likely immeasurable.

HYDROLOGY AND WATER QUALITY

Construction of the proposed trail could impact stormwater runoff patterns; however, impacts are expected to be negligible because only a minimal amount of impervious surface would be constructed. The trail would be required to comply with federal and local stormwater requirements, including section 438 of the Energy and Independence Security Act of 2007 (EISA). Section 438 requires that all federal developments that exceed 5,000 square feet of development maintain or restore pre-development hydrology, specifically through retaining rainfall on-site through infiltration, evaporation/transpiration, and reuse to the same extent that occurred prior to development. Design examples include bioretention, porous pavements, and vegetated swales.

Similarly, the District Department of Environment (DDOE) stormwater requirements require the retention of stormwater volume on-site with a variety of stormwater management practices using similar design techniques. Under DDOE stormwater requirements, major substantial improvement activities must retain the volume of stormwater runoff from a 0.8-inch storm event. A major substantial improvement activity includes land disturbing of 5,000 square feet or greater, similar to EISA requirements. Previous District regulations focused on the removal of pollutants from stormwater runoff; however, in 2013, revisions to the regulation changed the focus to volume retention. As discussed above, stormwater retention volume can be managed through various runoff prevention measures (smaller amounts of impervious surface), runoff reduction (infiltration or water reuse), and runoff treatment (soil filter systems or use of permeable pavement). Prior to construction, the National Park Service would complete a stormwater management plan that demonstrates the computations, designs, potential impacts, and best management practices that are proposed to manage the stormwater runoff, as well as the maintenance and construction schedules for DDOE approval.

Similarly, Maryland Department of the Environment regulations require a General Permit for Construction Activity. The permit includes an erosion and sediment control plan prepared and implemented in accordance with Maryland Erosion and Sediment Control Guidelines for State and Federal Projects.

The entire project area is located on top of a landfill; however, the layer of fill above the landfill cap is approximately 10 feet deep. While any soil disturbance and digging would be kept to a minimum, no digging would exceed approximately 3 feet, and it would not pierce the landfill cap, ensuring no potential seepage that could impact water quality.

WETLANDS

According to the National Wetland Inventory Alexandria quadrangle map, there is a small area identified as wetlands on the southern edge of the Oxon Cove Park landfill along the shore of Oxon Cove. However, this area is beyond the area of the subject property being considered for trail development. Historical topographic maps indicate some former drainage channels or wetlands were once present on-site but have been filled. The DDOE wetland maps do not identify any wetlands in the vicinity of the proposed trail alignment. In October 2014, the NPS planning team walked the site and confirmed there are no wetlands in the project area, outside of the riparian areas along the Potomac River.

The observation deck associated with the proposed trail could potentially impact wetlands; however, less than 0.1 acre of disturbance could occur as a result of the footings from the observation deck. Impacts on wetlands would be expected to be negligible; therefore, wetlands were dismissed as an impact topic. A Wetlands Statement of Findings is not required because construction of an observation point for the purpose of enjoyment of the wetland and interpretation, with less than 0.1 acre of disturbance is an excepted action under Procedural Manual 77-1: *Wetland Protection* (NPS 2012).

AIR QUALITY

The 1963 Clean Air Act, as amended (42 United States Code [USC] 7401 et seq.), requires federal land managers to protect air quality in national parks. The project site is located in the Washington Metropolitan Area marginal nonattainment zone for ozone and moderate nonattainment for particulate matter (2.5 microns or less). During trail construction, dust and vehicle emissions related to construction activities and transport of construction materials and personnel may temporarily affect local air quality. Air drainage would rapidly dissipate hydrocarbons, nitrogen oxide, and sulfur dioxide emissions because air stagnation is uncommon at the project site. Overall, there would be a slight and temporary degradation of local air quality as a result of dust generated from construction activities, but these effects would be localized and negligible. The proposed project would not affect the park's current level of air quality; therefore, this impact topic was dismissed from further analysis.

GEOLOGY AND GEOLOGIC HAZARDS

The proposed trail construction would not impact any unique geological resources, and no geologic hazards have been identified in the project area. This impact topic was therefore dismissed from further analysis.

FLOODPLAINS

The proposed trail is not within the 100-year floodplain, as defined by the Federal Emergency Management Agency (FEMA 1987, 2015). A portion of the project area directly adjacent to the Potomac River is within the floodplain; however, the trail would not be constructed in this location. The observation deck would be constructed within the floodplain but would not be expected to impede or alter the existing floodplain for the Potomac River and is considered an excepted action, so a Statement of Findings is not required. Impacts on floodplains would not occur; therefore, this topic was dismissed from further analysis.

RARE, THREATENED, AND ENDANGERED SPECIES

On May 4, 2015, the US Fish and Wildlife Service (USFWS) listed the northern long-eared bat (*Myotis septentrionalis*) as a threatened species. The northern long-eared bat has the potential to exist in the project area. As a result of multiple ongoing projects within the NPS National Capital Region at the time of listing, on June 19, 2015, the National Park Service sent a consultation letter to the US Fish and Wildlife regarding seven projects, including the Oxon Cove Trail Environmental Assessment. On August 5, 2015, the US Fish and Wildlife Service replied and stated that given the isolated urban setting and negative survey results in the surrounding area, no time of year restrictions were required for tree removal in the project area. The section 7 consultation letter concludes that the project was not likely to adversely affect the northern long-eared bat. Agency consultation is provided in appendix B.

VISUAL RESOURCES (AESTHETICS AND VIEWSHEDS)

The proposed trail would be visible only on the trail itself and therefore would not affect viewsheds. The observation deck would be visible from the river, but would not alter the existing viewshed. Visual resources would not be impacted as a result of the proposed action; therefore, this impact topic was dismissed from consideration.

CULTURAL RESOURCES

The National Historic Preservation Act (NHPA) (16 USC 470 et seq.), National Environmental Policy Act, Organic Act, the NPS *Management Policies 2006* (NPS 2006), Director's Order 12: *Conservation Planning, Environmental Impact Analysis and Decision-making* (NPS 2001), and Director's Order 28: *Cultural Resources Management Guideline* (NPS 1998) require the consideration of impacts on any cultural resources that might be affected. The National Historic Preservation Act, in particular, requires the consideration of impacts on cultural resources either listed in, or eligible to be listed in, the National Register of Historic Places (national register). Cultural resources include archeological resources, cultural landscapes, historic structures and districts, ethnographic resources, and museum collections (prehistoric and historic objects, artifacts, works of art, archival documents, and natural history specimens). There would be no impacts on cultural landscapes, historic structures and districts, ethnographic resources, or museum collections because these resources do not exist within the project area.

Archeological Resources

Ground-disturbing activities during construction of the proposed trail could impact archeological resources located along the trail. To determine the presence or absence of archeological resources, a Phase 1A archeological investigation was completed in October 2015. Records research and a site visit confirmed that the entire project area is landfill, with 10 feet of fill soil on top of the landfill cap in the vicinity of the proposed trail alignment. The Phase 1A report concludes that the construction associated with the trail would not impact archeological sites; however, deeply buried archeological sites may exist in the project area, and the National Park Service should be aware of this fact if any possible future projects involve deep excavation. For the proposed action, given the depth of the fill and the limited grading that would occur, this impact topic was dismissed from consideration.

If archeological resources are discovered during construction, the National Park Service would halt all work in the immediate vicinity of the discovery until the resources can be identified and documented, and an appropriate mitigation strategy developed. If necessary, NPS staff would consult with the District of Columbia Historic Preservation Office and/or the NPS regional archeologist to ensure that the protection of resources is addressed. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, the National Park Service would follow provisions outlined in the Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990.

SOCIOECONOMICS

The National Environmental Policy Act requires an analysis of impacts on the human environment, which includes economic, social, and demographic elements in the affected area. Trail construction associated with the proposed action may bring a short-term need for additional personnel at the site, but this addition would be minimal and would not affect the surrounding community's overall population, income, and employment base. The proposed action would not appreciably impact local businesses or other agencies. Implementation of the proposed action could provide a beneficial impact to the economies of nearby areas (e.g., minimal increases in employment opportunities for the construction workforce and revenues for local businesses and government generated from construction activities and workers). Any increase, however, would be negligible. Therefore, socioeconomics was dismissed as an impact topic.

ENVIRONMENTAL JUSTICE

On February 11, 1994, President Clinton issued Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." This order directs agencies to address environmental and human health conditions in minority and low-income communities to avoid

the disproportionate placement of any adverse effects from federal policies and actions on these populations. Local residents include low-income populations; however, these populations would not be particularly or disproportionately affected by activities associated with the trail construction. As a result, this impact topic was dismissed from further analysis in this environmental assessment.

CLIMATE CHANGE

Climate change refers to any significant changes in average climatic conditions (such as mean temperature, precipitation, or wind) or variability (such as seasonality and storm frequency) lasting for an extended period (decades or longer). Recent reports by the US Climate Change Science Program, the National Academy of Sciences, and the United Nations Intergovernmental Panel on Climate Change provide evidence that climate change is occurring as a result of rising greenhouse gas emissions and could accelerate in the coming decades.

While climate change is a global phenomenon, it manifests differently depending on regional and local factors. General changes that are expected to occur in the future as a result of climate change include hotter, drier summers; warmer winters, warmer ocean water; higher ocean levels; more severe wildfires; degraded air quality; more heavy downpours and flooding; and increased drought. Climate change is a far-reaching, long-term issue that could affect the park and its resources, visitors, and management. Although some effects of climate change are considered known or likely to occur, many potential impacts are unknown. Much depends on the rate at which the temperature would continue to rise and whether global emissions of greenhouse gases can be reduced or mitigated. Climate change science is a rapidly advancing field and new information is being collected and released continually.

Construction activities associated with implementation of the proposed action would contribute to increased greenhouse gases emissions, but such emissions would be short term, ending with the cessation of construction, and it is not possible to meaningfully link the greenhouse gases emissions of such individual project actions to quantitative effects on regional or global climatic patterns. Any effects on climate change would not be discernible at a regional scale. Therefore, this impact topic was dismissed from further evaluation.

SUSTAINABILITY AND ENERGY CONSERVATION POTENTIAL

The trail repairs and improvements would not affect sustainability or conservation measures. Therefore, this impact topic was dismissed from further evaluation.

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CHAPTER 2: ALTERNATIVES

The National Environmental Policy Act requires federal agencies to explore a range of reasonable alternatives aimed at addressing the purpose and need of the proposed action. The alternatives under consideration must include the no-action alternative as prescribed by the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR Part 1502.14).

The alternatives analyzed in this document, in accordance with the National Environmental Policy Act, are based on preliminary design and the result of internal scoping and public scoping. The alternatives described in this section meet the overall purpose of and need for the proposed action. Alternatives that were considered but were not technically feasible, did not meet the purpose and need of the project, created unnecessary or excessive adverse impacts on cultural or natural resources, and/or conflicted with the overall management of the park or its resources were dismissed from further analysis and are also described in this section.

The National Park Service explored and objectively evaluated two alternatives in this environmental assessment:

- Alternative 1: No-action alternative
- Alternative 2: Construct a multi-use hiker-biker trail (preferred alternative)

ALTERNATIVE 1: NO ACTION

Under the no-action alternative, the National Park Service would not construct a new trail or make any enhancements to existing bicycle and pedestrian facilities. Visitors would continue to use the Oxon Hill Farm Trail to access the river and the trail around the historic farm, but no other routes would be available to visitors to access Oxon Cove Park. The National Park Service currently does not actively manage the project area, other than ongoing cleanup activities related to the landfill. No action would mean that the National Park Service would continue to operate Oxon Cove Park and implement minor improvements as part of its normal maintenance and safety operations.

ALTERNATIVE 2: CONSTRUCT MULTI-USE HIKER-BIKER TRAIL (PREFERRED ALTERNATIVE)

Alternative 2 would include construction of a multi-use trail option that would be suitable for use by bicyclists, commuters, hikers, and joggers. The proposed asphalt trail would extend south from the existing gravel lot located at the end of Shepherd Parkway SW, adjacent to the District of Columbia Water and Sewer Authority and the Blue Plains auto impound lot. Figure 3 displays the proposed trail alignment and location of associated facilities, including an observation deck, bench, and bike rack.

An existing chain-link fence would be removed, and a gravel lot and trailhead entrance sign would be placed at the beginning of the trail. The proposed asphalt trail would be approximately 4,900 feet long, or just under 1 mile, and would extend toward Oxon Creek along the edge of the project area along the water and join the existing hiker-biker trail on the Maryland portion of the park. The asphalt trail would be 10 feet wide with an additional 2 feet on each side for an aggregate topsoil shoulder. The project area is located approximately 35 feet above the waterway in this location, allowing for a view down to the water and across to the Potomac River.

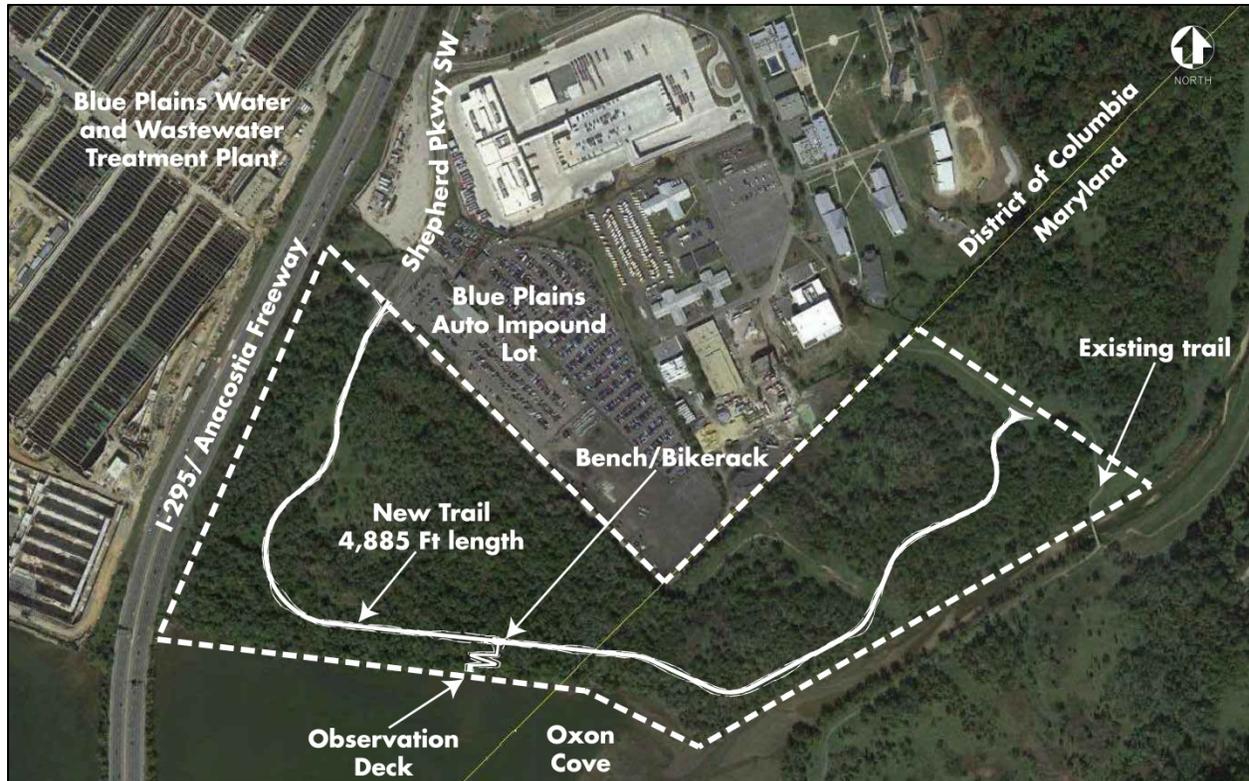


FIGURE 3: ALTERNATIVE 2 TRAIL ALIGNMENT AND ASSOCIATED FACILITIES

At approximately the midpoint of the trail, there would be additional visitor amenities serving an observation deck. In this location, there would be interpretive signs, a bench area, and a bike rack. There would be a 370-foot-long elevated wooden ramp that traverses the steep decline down to the water and a 20-foot by 20-foot observation deck above the water.

The construction for the trail would require the removal of approximately 250 trees, most of which are young, invasive species. As part of the initial site design, a tree survey was completed for a 60-foot right-of-way along the proposed alignment. The preliminary design for the trail avoids mature, native trees where possible while providing scenic vistas along the cove. The project is located on top of a capped landfill, so minimal grading and soil disturbance would occur during trail construction to avoid disturbing the landfill cap. To comply with trail design standards, approximately 780 cubic yards of soil would be excavated. Because potential exists for soil contamination within the project area associated with the landfill, any excavated soil would be containerized, analyzed, and disposed of following proper disposal procedures. Approximately 2,280 cubic yards of clean fill would be brought on-site and used during construction. As noted previously, the landfill cap is located beneath approximately 10 feet of fill. Therefore, for tree removal, trees would be cut, and a stump grinder would be used to eliminate organic material beneath the trail to a depth of no greater than 5 feet to avoid disturbing the landfill cap. The total limit of disturbance would be approximately 3 acres. The limit of disturbance includes the footprint of the trail, including the shoulders and graded area.

MITIGATION MEASURES FOR THE PROPOSED ACTION

The National Park Service places strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. To help ensure the protection of natural and cultural resources and the quality of the visitor experience, the following protection measures would be implemented as part of the

proposed action. The National Park Service would implement an appropriate level of monitoring throughout the construction process to help ensure that protection measures are being properly implemented and achieving their intended results.

GENERAL CONSIDERATIONS

- Construction fencing would be installed to clearly delineate the project disturbance limits prior to commencement of work by the contractor.
- All protection measures would be clearly stated in the construction specifications, and workers would be instructed to avoid conducting activities beyond the construction zone, as defined by the road or construction zone fencing. Construction staging areas would use existing paved areas, as feasible.
- New asphalt would be produced at locations outside of Oxon Cove Park. No overnight storage of this material would be permitted within park boundaries.
- All equipment on the project would be maintained in a clean and well-functioning state to avoid or minimize contamination from automotive fluids and to ensure that noise controls are properly functioning. All equipment would be checked daily.
- Prior to construction, a hazardous spill plan would be submitted, stating what actions would be taken in case of a spill to minimize any adverse impacts. This plan would also incorporate preventive measures to be implemented, such as the placement of construction staging areas and refueling facilities, storage and handling of hazardous materials, and notification procedures for a spill. A spill kit would be available, and workers trained to use it would be available to clean up spills.

SOILS

- An erosion and sediment control plan would be prepared and implemented, consistent with the District Soil Erosion and Sediment Control Program and Maryland's Erosion Control Law and 2011 Standards and Specifications for Soil Erosion and Sediment Control. An approved District soil erosion and sediment control permit would be obtained. Erosion and sediment control and stormwater management plans would be submitted to the Prince George's County Soil Conservation District for review and approval.
- Disturbed earth and soil exposed to rainfall would be minimized.
- Any excavated soil would be containerized, analyzed, and disposed of in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) ID for Oxon Cove.
- Erosion containment controls, such as silt fencing and sediment traps, would be used to contain sediment on-site.
- Prior to any construction, the National Park Service would approve the limit of disturbance. NPS staff and the construction manager would flag trees permitted for removal.

VEGETATION

- Tree removal would be minimized whenever possible. Preliminary trail design was routed to avoid mature trees, where possible. Unhealthy or invasive trees were designated for removal wherever feasible.

- The National Park Service would approve vegetation-clearing limits in writing prior to construction, and trees permitted to be removed would be flagged. No tree clearing would take place during the nesting bird season (April 1–August 31). If feasible, construction would be limited from November 1 through March 1 to avoid impacts on turtles.

WILDLIFE AND WILDLIFE HABITAT

- Vegetation clearing would be conducted outside the breeding season for birds (typically April through August), and/or trees with occupied bird nests would not be removed.

VISITOR USE AND EXPERIENCE, INCLUDING SAFETY

- All construction activities would be conducted during daylight hours to avoid noise impacts to park neighbors.
- Construction fencing would be placed at the intersections of the construction area and anywhere else visible to visitors to discourage visitors from entering the construction site.
- The National Park Service would approve a safety plan would be in writing prior to construction.

ALTERNATIVES CONSIDERED BUT DISMISSED

CEQ regulations for implementing the National Environmental Policy Act require federal agencies to explore and objectively evaluate all reasonable alternatives and to briefly discuss the rationale for eliminating any alternatives that were not considered in detail. One additional site design option was under consideration, which included two trails through the site: one along the waterway and a second located interior to the site. During the site visit, NPS staff focused on an alignment that would (1) minimize tree removal, thereby reducing potential impacts, and (2) be located closer to the river to provide a better visitor experience and better meet the purpose and need of the project for improved visitor facilities. A second trail spur would result in additional tree clearing in a denser area of the project area and would disturb more potentially contaminated soil, so it was dismissed from consideration as a result of its increased impact on natural resources.

THE ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The National Park Service is required to identify the environmentally preferable alternative in its NEPA documents for public review and comment. The National Park Service, in accordance with the Department of the Interior NEPA regulations (43 CFR Part 46) and CEQ's Forty Questions, defines the environmentally preferable alternative (or alternatives) as the alternative that best promotes the national environmental policy expressed in the National Environmental Policy Act (section 101[b]) (516 DM 4.10). The CEQ's Forty Questions (42 CFR Part 46.30) (Q6a) further clarifies the identification of the environmentally preferable alternative as, "the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources."

After completing the environmental analysis, the National Park Service identified alternative 1, the no-action alternative, as the environmentally preferable alternative. Alternative 1 would not result in any construction or tree removal, soil disturbance, or impacts on wildlife or threatened or endangered species.

SUMMARY OF ENVIRONMENTAL IMPACTS

Table 1 provides a summary of environmental consequences for each resource area analyzed in “Chapter 4: Environmental Consequences.” Alternatives are determined to have beneficial or adverse impacts for each area of analysis, and adverse impacts are rated as negligible, minor, moderate, or major. Impacts are also assessed as to whether they are short term (duration of construction) or long term (greater than the duration of construction). Threshold definitions for each topic are listed in chapter 4.

TABLE 1. SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Resource Area	Alternative 1: No Action	Alternative 2: Construct Multi-Use Hiker-Biker Trail
Soils	Implementation of the no-action alternative would not result in impacts on soils in the project area because there would be no soil disturbance or construction activity.	Construction under alternative 2 would disturb soils as a result of clearing, grubbing, and other construction activities. Additionally, soil compaction would result from trail construction. Soil disturbance would be minimized to the extent practical because of known soil contamination in the project area. Implementation of alternative 2 would result in short-term, negligible to minor, adverse impacts and long-term, minor, adverse impacts on soils.
Vegetation	Implementation of the no-action alternative would not result in impacts on vegetation in the project area because there would be no tree cutting or construction activity.	Construction of a trail under alternative 2 would result in long-term, moderate, adverse impacts on vegetation as a result of the clearing and removal of approximately 250 trees from currently undisturbed areas.
Wildlife and wildlife habitat	Under the no-action alternative, wildlife disturbance from current visitor use of trails would continue, resulting in long-term, negligible, adverse impacts on wildlife and wildlife habitat.	Construction under alternative 2 would result in short-term, negligible to minor, adverse impacts on wildlife during the construction period and long-term, minor, adverse impacts during the operation of the trail from increased visitor accessibility.
Visitor use and experience, including safety	Implementation of the no-action alternative would result in long-term, negligible, adverse impacts on visitor use, experience, and safety from the continued lack of pedestrian and bicycle facilities and the lack of direct access to the cove.	Implementation of alternative 2 would result in short-term, negligible to minor, adverse impacts on visitor use, experience, and safety as a result of construction activities. In addition, alternative 2 would have long-term, primarily beneficial, impacts on visitor use, experience, and safety from improved visitor access and regional connectivity to existing bicycle and pedestrian trails.

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CHAPTER 3: AFFECTED ENVIRONMENT

This chapter of the environmental assessment describes the existing environmental conditions in the areas potentially affected by the alternatives evaluated. This section describes the following resource areas: soils; vegetation; wildlife and wildlife habitat; cultural resources; and visitor use and experience, including safety. Potential impacts are discussed in “Chapter 4: Environmental Consequences” following the same order.

SOILS

Soils are classified by a complex taxonomy that includes soil associations, series, and phases. Soil associations represent the largest and most general classification. A soil association is a landscape that has a distinctive proportional pattern of soils and is named for the major soil types that it represents. It normally consists of one or more major soil series and at least one minor soil series. A soil series is a collection of soils that have major layers similar in thickness, arrangement, and other important characteristics but may differ in surface layer texture. Each soil series is named for a town or other geographic feature near the location where the series was first observed and mapped. Soil phases are more detailed classifications that differentiate soils of the same series based on characteristics that affect the use of the soils, such as the texture of the surface soil, slope, or stoniness (USDA 1999).

The project site is in the Coastal Plain geologic province approximately 6 miles southeast of the fall line marking the boundary between the Piedmont and Coastal Plain provinces (USDA 1976) and is a former District of Columbia landfill. The District used both sides of the cove, to the north and east, to dump municipal waste and incinerator ash. Between 1937 and 1965, the northern and eastern portions of the cove were modified using dredge spoils from the Anacostia River. It is likely that these fill materials contained dredged spoil from sand and gravel operations occurring within the Potomac River Channel and Oxon Cove, as well as soil and construction materials from the Interstate (I)-295 roadwork during 1957 to 1963. The site was subsequently used by the District to landfill sludge from the nearby Blue Plains Wastewater Treatment Plant, including incinerator ash, raw refuse, miscellaneous construction debris, and other materials. This practice continued from October 1969 to late 1970, when the landfill was shut down and capped.

Major fieldwork for this US Department of Agriculture (USDA) soil survey was conducted from 1974 to 1975, when the site was already a closed landfill. The soil survey consequently shows that the part of the site within the District was underlain by U11C Udorthents, deep, with 0% to 20% slopes. Udorthents consist of very heterogeneous, earthy fill materials that have been placed on poorly drained to somewhat excessively drained soils on terraces and floodplains. The proposed trail alignment would be located primarily in the areas with Udorthents soils. Beneath the fill is alluvium, described as layers of silt, sand, and clay and below that, undifferentiated clays of the lower Patapsco formation and the Arundel clay belonging to the Potomac group of the Cretaceous Age (MACTEC 2009). Based on a site visit in October 2014, soil erosion and compaction do not appear to be issues on the site.

This area now consists of unknown original soil, refuse disposal, and imported fill material. Due to its previous use as an unregulated landfill, multiple soil samples have previously been collected for various reports, Environmental Site Assessments (ESA), and Site Investigations for Oxon Cove Park from 1980 through 2009. Findings from these various reports were evaluated and summarized in the 2009 Oxon Cove Site Phase I ESA and are summarized below (MACTEC 2009).

Subsurface “soils” sampled at the site are generally landfill materials or possibly, in some cases, landfill cap materials. Depressions were noted on top of the east landfill, which indicate settling of the landfill wastes. This settling increases infiltration into the land and can lead to breaches in the cap, thereby

exposing wastes. At least one spring was noted at the north end of the east landfill, near the bridge across Oxon Run (MACTEC 2009).

In September 2000, the site was sampled at 12 locations using a Geoprobe. Thirteen surface soil and 14 subsurface soil samples were collected to assess the types of fill and cover material in the former landfill and were analyzed for metals and total recoverable petroleum hydrocarbons-diesel range organics. Two subsurface soil samples were analyzed for polychlorinated biphenyls (PCBs). In the subsurface samples, arsenic, copper, and iron were elevated, while lead exceeded the US Environmental Protection Agency (USEPA) action level (400 milligrams per kilogram ([mg/kg]) in three samples. Trace amounts of PCBs were found in most of the surface samples. A Preliminary Assessment/Site Inspection noted potential contaminants of concern include: PCBs, polycyclic aromatic hydrocarbons, and several metals (arsenic, iron, and lead) (NPS 2002).

VEGETATION

Mid-successional mulberry forest association dominates the forested areas in the project area. The NPS Resource Management database identified more than 40 different kinds of tree, grass, vine, and herb species in the project area. Common species include: rat-tail fescue (*Vulpia myuros*), dooryard blue violet (*Viola sororia*), New York fern (*Thelypteris noveboracensis*), starry campion (*Silene stellata*), mad-dog skullcap (*Scutellaria lateriflora*), Appalachian arrowhead (*Sagittaria australis*), swamp-rose (*Rosa palustris*), small flowered crowfoot (*Ranunculus abortivus*), cursed crowfoot (*Ranunculus sceleratus*), heart-leaved plantain (*Plantago cordata*), arrow-arum or tuckahoe (*Peltandra virginica*), purple passionflower (*Passiflora incarnata*), sensitive fern (*Onoclea sensibilis*), spatterdock lily (*Nuphar advena*), big-seed scorpion grass (*Myosotis macrosperma*), Indian pipe (*Monotropa uniflora*), partridgeberry (*Mitchella repens*), climbing hempweed (*Mikania scandens*), hairy lettuce (*Lactuca hirsuta*), path rush (*Juncus tenuis*), buttercup pennywort (*Hydrocotyle ranunculoides*), Carolina crane's-bill (*Geranium carolinianum*), pumpkin ash (*Fraxinus profunda*), strawberry-bush (*Euonymus americanus*), hay-scented fern (*Dennstaedtia punctilobula*), short-spurred corydalis (*Corydalis flavula*), erect or tussock sedge (*Carex stricta*), glomerate sedge (*Carex aggregata*), Pennsylvania bittercress (*Cardamine pensylvanica*), foxtail-millet (*Setaria italica*), Kentucky coffee-tree (*Gymnocladus dioica*), weeping love grass (*Eragrostis curvula*), red-rooted galingale (*Cyperus erythrorhizos*), false nutsedge (*Cyperus strigosus*), fescue sedge (*Carex brevior*), and Carolina foxtail (*Alopecurus carolinianus*).

A tree survey was conducted in early 2015 as part of the preliminary trail design. All trees within a 60-foot right-of-way in the vicinity of the proposed trail alignment were inventoried and a total of 1,436 trees were documented. The project area is dominated by oak (*Quercus alba*) and silver maple (*Acer saccharinum*) trees, mostly sized between 4- and 10-inch-diameter at breast height. There are pockets of additional tree varieties, including birch (*Betula nigra*), dogwood (*Cornus florida*), locust (*Robinia pseudoacacia*), gum (*Liquidambar styraciflua*), poplar (*Liriodendron tulipifera*), sumac, hawthorne (*Crataegus sp.*), cherry (*Prunus sp.*), pear (*Pyrus communis*), sycamore (*Platanus occidentalis*), beech, and ash (Louis Berger 2015). Invasive species, including poison ivy (*Toxicodendron radicans*), bush honeysuckle (*Lonicera sp.*), and white mulberry (*Morus alba*) dominate most of the shrub and herbaceous layers of these areas.

WILDLIFE AND WILDLIFE HABITAT

Although most of the adjacent area along the Potomac River has been developed, Oxon Cove Park represents a natural enclave in this heavily urban environment. The park covers more than 100 acres of land, and despite the loss of forest cover and other natural features over the last century, it still consists predominantly of green space. The park includes several habitat types that support a diverse variety of

plant and wildlife species and provide a unique and diverse natural environment in an otherwise urban area.

WILDLIFE

The National Capital Parks – East has documented 55 bird, 6 butterfly, 23 fish, 7 reptile, 8 amphibian, and 7 mammal species as either residents in or migrants passing through Oxon Cove Park. Local predators include red foxes (*Vulpes vulpes*), raccoons (*Procyon lotor*), ospreys (*Pandion haliaetus*), red-tailed hawks (*Buteo jamaicensis*), and transitory bald eagles (*Haliaeetus leucocephalus*). Other species include white-tail deer (*Odocoileus virginiana*), eastern cottontail rabbit (*Sylvilagus floridanus*), and various species of butterflies, dragonflies, snakes, turtles, migratory songbirds, and waterfowl. Past field investigations have identified evidence of the following species:

- Various species of amphibians, including spotted salamander (*Ambystoma maculatum*), green frog (*Notophthalmus viridescens*), and spring peeper (*Pseudacris crucifer*)
- Snapping turtle (*Chelydra serpentina*)
- Eastern-tailed blue butterfly (*Everes comyntas*) in upland fields
- Mammals, including red fox in forested uplands and beaver (*Castor canadensis*)
- Red-winged blackbird (*Agelaius phoeniceus*)
- Egret species (*Egretta thula*) and (*Ardea alba*) in open water of the cove
- Bobwhite quail (*Colinus virginianus*) and great horned owl (*Bubo virginianus*) in maintained fields
- Ospreys (*Pandion haliaetus*) and red-tailed hawks (*Buteo jamaicensis*) in the Potomac River riparian buffer
- American bald eagle (*Haliaeetus leucocephalus*) and great blue heron (*Ardea herodias*) flying over the Potomac River and cove
- Canada goose (*Branta canadensis*), mallard duck (*Anas platyrhynchos*), wood duck (*Aix sponsa*), and killdeer (*Charadrius vociferus*) along the banks of the Potomac River and cove
- Wild turkey (*Meleagris gallopavo*) in upland forests
- Swamp sparrow (*Melospiza georgiana*), Kentucky warbler (*Oporornis formosus*), and yellowthroat warbler (*Dendroica dominica*) in developed areas of the park

WILDLIFE HABITAT

The proposed trail alignment would extend through several different habitat types in the park. Portions of the cove floodplain, particularly in areas along the mouth of the cove and Oxon Run Delta, are heavily forested, providing a natural riparian buffer that protects the river from erosion, filters stormwater runoff, and provides habitat for a number of species. In certain habitats, invasive vegetation species such as white and paper mulberry threaten to compromise the native plants and wildlife of the park.

After several site visits, NPS staff noted that trees do not appear to thrive on top of the landfill cap fill. Many of the tree roots are exposed and there are numerous downed trees, indicating they cannot penetrate the soil and remain sturdy. The habitat types in the project area are listed below:

- *Upland forests*: the trail alignment would extend through areas of upland forest
- *Meadows*: there are managed meadows in the park, particularly along the portions of the existing Oxon Hill Farm Trail, as well as unmanaged meadow near the proposed entrance of the trail

VISITOR USE AND EXPERIENCE, INCLUDING SAFETY

VISITOR USE AND EXPERIENCE

Oxon Cove Park, where the project area is located, is part of the National Capital Parks – East management area and extends from the District into Maryland. National Capital Parks – East supports approximately 1.3 million recreational visitors per year (NPS 2015a). Although the project area currently receives no visitors because of its inaccessibility and lack of amenities, Oxon Cove Park is a popular destination for families and individuals. Between 2011 and 2014, Oxon Cove Park received about 25,000 to 50,000 visitors per year (NPS 2015b).

Oxon Cove Park comprises approximately 500 acres of forested areas, fields, and several historic resources. The park area extends above the banks of Oxon Cove to its confluence with Oxon Cove Creek and through a portion of the District/Maryland boundary line. Directly adjacent to the project area on the southern side of Oxon Cove is Oxon Hill Farm. Oxon Hill Farm is a living farm museum that includes several historic farm structures and an array of farm animals (figure 4). The farm offers numerous educational and visitor programs enabling visitors to learn about historic farm uses and to view the animals close up. Picnic areas provide visitors a place for rest and respite on the farm. Also located on the Oxon Hill Farm property is the historic Mount Welby House, offering exhibits on the history of the property and its inhabitants and open to visitors on weekends.

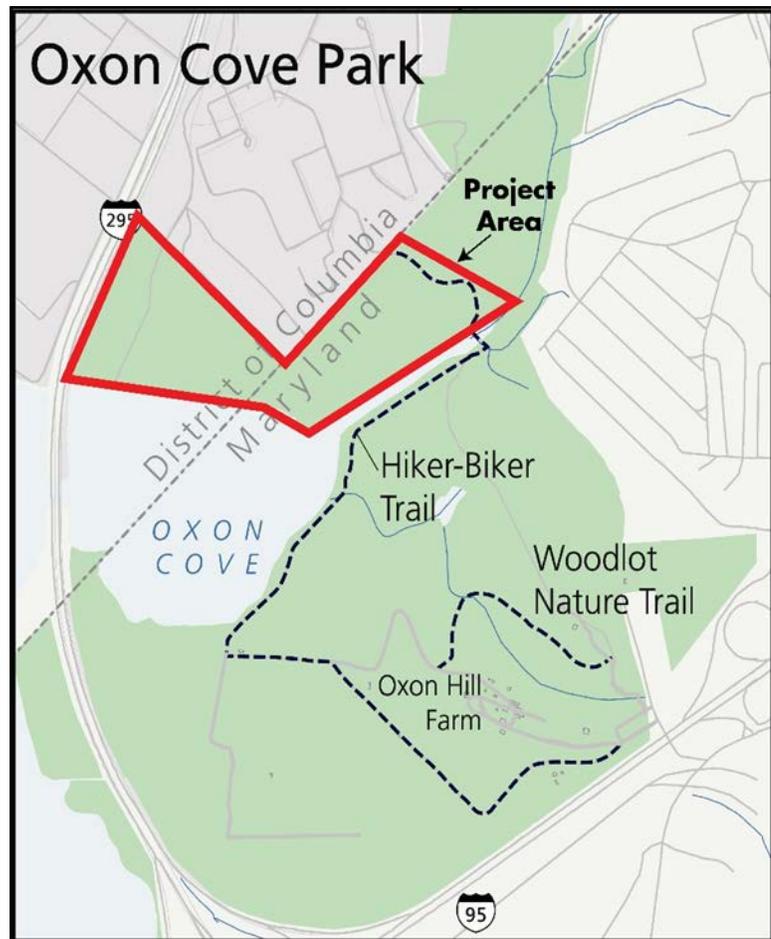


FIGURE 4: EXISTING TRAILS AT OXON COVE PARK AND OXON HILL FARM

Source: NPS 2015c

The park currently has two trails: the Hiker-Biker Trail and the Woodlot Trail (see figure 4). The Hiker-Biker Trail runs along Oxon Cove and is a 1.6-mile-long paved surface trail open to both pedestrians and bicyclists. The Woodlot Trail is a 0.3-mile-long trail running through a heavily forested area and open to pedestrians only.

Activities at Oxon Cove Park and Oxon Hill Farm include educational and historic programs, hiking, biking, walking, jogging, picnicking, bird-watching, and fishing (which is regulated by the District).

Oxon Cove Park, including Oxon Hill Farm and the trails, are open daily from 8:00 a.m. to 4:30 p.m. Admission and all activities are free.

VISITOR SAFETY

The National Park Service is committed to providing high-quality opportunities for visitors and employees to enjoy parks in a safe and healthy environment. Furthermore, the National Park Service strives to protect human life and provide for injury-free visits. Safety applies to both park visitors and park employees.

The project area was generally created by filling the former northern Oxon Cove shoreline with unknown fill materials between 1937 and 1965. The fill materials likely included soils from the Blue Plains Wastewater Treatment Plant, dredged spoil material from sand and gravel operations occurring within the Potomac River channel and Oxon Cove, and soil and construction materials from the construction of I-295 (MACTEC 2009).

Although the project area is currently vacant, the site was formerly used by the District to landfill sludge from the Blue Plains Wastewater Treatment Plan. The landfill operated from October 1969 to late 1970, when it was shut down and capped. Over the course of its operation, approximately 1.5 million tons of raw refuse and 275,000 tons of incinerator ash were reportedly landfilled at the site. Evidence from later site investigations revealed that waste material was most likely placed directly on pre-existing land surface without any stripping or grading. Investigations also show that soils on the site include a mix of fill material, construction and demolition material, decomposed organics (sludge), cinder blocks, pieces of glass, plastics, and metal pieces (MACTEC 2009).

In 1980, Landfill Gas Testing Programs at Oxon Cove landfill were installed by Johns Hopkins University. However, the testing programs were never made operational because of a lack of funding, and the methane testing probes remain in place. A September 2000 Geoprobe investigation revealed elevated levels of arsenic, copper, and iron and lead levels that exceeded USEPA Action Level (400 mg/kg). Since then, several other site investigations and assessments have been performed to document and inspect site conditions for various projects (MACTEC 2009). The 2009 Oxon Cove Site Phase II ESA also reviewed a 1998 ESA/Site Investigation Report for Oxon Cove Park. This investigation included five groundwater monitoring wells, nine soil boring/methane gas probes, and six test pits at the Oxon Cove site (MACTEC 2009). The Phase II sampling confirmed the 2000 investigation findings that industry screening levels in the soil were exceeded for arsenic, cadmium, lead, and benzo(a)pyrene, likely associated with the site's prior use as a landfill (MACTEC 2009). Groundwater samples slightly exceeded regulatory criteria; however, the criteria are based on tapwater standards, and the groundwater onsite is not proposed to be used as a drinking water source (MACTEC 2009). A Preliminary Assessment/Site Investigation of Oxon Cove Landfill in February 2002 determined that "it is unlikely that anyone is impacted adversely from direct contact with surface soils or from dust blowing on them" (NPS 2002).

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CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

This “Environmental Consequences” chapter analyzes both beneficial and adverse impacts that would result from implementing either of the alternatives considered in this environmental assessment. This chapter also includes definitions of impact thresholds (e.g., negligible, minor, moderate, and major), methods used to analyze impacts, and the analysis methods used for determining cumulative impacts. As required by the CEQ regulations implementing the National Environmental Policy Act, a summary of the environmental consequences for each alternative is provided in table 1, which can be found in “Chapter 2: Alternatives.” The impact topics presented in this chapter, and the organization of the topics, correspond to the resource discussions contained in “Chapter 3: Affected Environment.”

GENERAL METHODOLOGY FOR ESTABLISHING IMPACT THRESHOLDS AND MEASURING EFFECTS BY RESOURCE

The following elements were used in the general approach for establishing impact thresholds and measuring the effects of the alternatives on each resource category:

- General analysis methods as described in guiding regulations, including the context and duration of environmental effects
- Basic assumptions used to formulate the specific methods used in the analysis
- Thresholds used to define the level of impact resulting from each alternative
- Methods used to evaluate the cumulative impacts of each alternative in combination with unrelated factors or actions affecting park resources
- Methods and thresholds used to determine whether impairment of specific resources would occur under any alternative

These elements are described in the following sections.

GENERAL ANALYSIS METHODS

The analysis of impacts follows CEQ guidelines and Director’s Order 12 (NPS 2001) procedures and incorporates the best available information applicable to the region and setting, the resources being evaluated, and the actions being considered in the alternatives. For each impact topic addressed in this chapter, the applicable analysis methods are discussed, including assumptions and impact intensity thresholds.

The geographic study area (or area of analysis) for this assessment is the project area outlined in figure 2. The area of analysis may extend beyond the park’s boundaries for some cumulative impact assessments. The specific area of analysis for each impact topic is defined at the beginning of each topic discussion.

IMPACT THRESHOLDS

Determining impact thresholds is a key component in applying the NPS *Management Policies 2006* (NPS 2006) and Director’s Order (NPS 2001). These thresholds provide the reader with an idea of the intensity of a given impact on a specific topic. The impact threshold is determined primarily by comparing the effect on a relevant standard based on applicable or relevant/appropriate regulations or guidance, scientific literature and research, or best professional judgment. Because definitions of intensity vary by impact topic, intensity definitions are provided separately for each impact topic analyzed in this document. Intensity definitions are provided throughout the analysis for negligible, minor, moderate, and

major impacts. In all cases, the impact thresholds are defined for adverse impacts. Beneficial impacts are addressed qualitatively.

The potential impacts of both alternatives are described in terms of type (beneficial or adverse); context; duration (short or long term); and intensity (negligible, minor, moderate, or major). Definitions of these descriptors are provided below.

Beneficial: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.

Adverse: A change that declines, degrades, and/or moves the resource away from a desired condition or detracts from its appearance or condition.

Context: The affected environment within which an impact would occur, such as local, park wide, regional, global, affected interests, society as whole, or any combination of these. Context is variable and depends on the circumstances involved with each impact topic. As such, the impact analysis determines the context, not vice versa.

Duration: Short-term impacts would occur during the implementation of the alternative (i.e., for the action alternative, during all phases of trail construction); long-term impacts would extend beyond implementation of the alternative. The duration would be the same for all impact topics with the exception of archeology. For archeology, the duration is provided within that section.

Intensity: Because definitions of impact intensity (negligible, minor, moderate, or major) vary by impact topic, intensity definitions are provided separately for each impact topic analyzed.

CUMULATIVE IMPACTS ANALYSIS METHOD

The CEQ regulations to implement the National Environmental Policy Act require the assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR Part 1508.7). As stated in the CEQ handbook, *Considering Cumulative Effects under the National Environmental Policy Act* (CEQ 1997), cumulative impacts must be analyzed in terms of the specific resource, ecosystem, or human community being affected and should focus on effects that are truly meaningful. Cumulative impacts are considered for both alternatives, including the no action alternative.

Cumulative impacts are determined by combining the impacts of the alternative being considered with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects and plans at Oxon Cove Park and National Capital Parks – East and, if applicable, the surrounding area. Table 2 summarizes the actions that could affect the various resources at the park, along with the plans and policies of both the park and surrounding jurisdictions, which were discussed in “Chapter 1: Purpose and Need.” Additional explanation for most of these actions is provided in the narrative below.

The analysis of cumulative impacts was accomplished using four steps:

- **Step 1, Identify Resources Affected** – Fully identify resources affected by either of the alternatives, including the resources addressed as impact topics in chapters 3 and 4 of this document.
- **Step 2, Set Boundaries** – Identify an appropriate spatial and temporal boundary for each resource. The temporal boundaries selected were approximately three years in the past (all other past actions would be reflected in the descriptions included in the “Affected Environment” chapter),

and reasonably foreseeable actions up to about five years in the future. The spatial boundary or study area for each impact topic is listed under each topic.

- **Step 3, Identify Cumulative Action Scenario** – Determine which past, present, and reasonably foreseeable future actions to include with each resource. These are listed in table 4 and described below.
- **Step 4, Cumulative Impact Analysis** – Summarize impacts of these other actions (x) plus impacts of the proposed action (y), to arrive at the total cumulative impact (z). This analysis is included for each resource in this chapter.

The following past, present, and reasonably foreseeable future actions at National Capital Parks – East or in the surrounding area have been identified as having the potential to affect the resources evaluated in this environmental assessment:

- **South Capitol Street bike trail (future).** The South Capitol Street Trail Project will extend the Anacostia Riverwalk Trail into the southernmost areas of the District of Columbia, filling a bicycle and pedestrian travel void for local communities, employment centers, and the regional trail network. While currently in the preliminary design stage, the project is envisioned to consist of a 10-foot-wide bicycle and pedestrian trail stretching 3.8 miles from the South Capitol Street and Firth Sterling Avenue SE intersection, southward along South Capitol Street/Overlook Avenue to Laboratory Road, and eastward under the I-295 overpass to Shepherd Parkway.
- **Combined Sewer Overflows (CSO) (ongoing).** In accordance with USEPA guidelines, the District is implementing a plan to reduce combined sewer overflows to achieve zero overflows and improve that water quality of the Anacostia River. To accomplish this plan, the District is undergoing a complete sewer separation to eliminate combined sewers. This process involves construction, including trenching, adjacent to the project area.
- **CERCLA response actions at Oxon Cove Park Landfill (ongoing and future).** The park will be completing a remedial investigation to determine the full nature and extent of contamination at the site, which will help determine the appropriate remediation measures. The investigation will examine soil, groundwater, sediment, and surface water.

TABLE 2. CUMULATIVE IMPACTS ANALYSIS SUMMARY

Impact Topic	Study Area	Past Actions	Present Actions	Future Actions
Soils	Project area of Oxon Cove Park and the immediate vicinity	None	CSO project	CERCLA response actions, South Capitol Street Bike Trail
Vegetation	Project area of Oxon Cove Park and the immediate vicinity	None	CSO project	CERCLA response actions
Wildlife and wildlife habitat	Project area of Oxon Cove Park and the immediate vicinity	None	None	CERCLA response actions
Visitor use and experience, including safety	Project area of Oxon Cove Park and the immediate vicinity	None	CSO project	CERCLA response actions, South Capitol Street Bike Trail

SOILS

METHODOLOGY AND ASSUMPTIONS

Potential impacts were assessed based on the extent of disturbance to soils, including natural, undisturbed soils; the potential for soil erosion resulting from disturbance; and limitations associated with the soils. Analyses of possible impacts on soils were based on review of existing literature and maps, information provided by the National Park Service and other agencies, and professional judgment.

STUDY AREA

The geographic study area for impacts on soils is contained within the boundaries of the proposed trail as well as associated areas that would be used for construction staging areas for equipment and supplies. It is expected that construction activities would not occur outside these areas. The study area for cumulative analysis includes the project area.

IMPACT THRESHOLDS

Analyses of the potential intensity of impacts on soils were derived from available information on Oxon Cove and the professional judgment of park staff. The following thresholds were used to determine the magnitude of impacts on soils:

Negligible: The action would result in a change to soils, but the change would be so small that it would not be of any measurable or perceptible consequence.

Minor: The action would result in a change to soils, but the change would be small and localized and of little consequence. Mitigation would be needed to offset adverse impacts, would be relatively simple to implement, and would likely be successful.

Moderate: The action could result in a change to soils, and the change would be measurable and of consequence. Mitigation measures would be necessary to offset adverse impacts and would likely be successful.

Major: The action would result in a noticeable change to soils, and the change would be measurable and would result in a severely adverse impact. Mitigation measures to offset adverse impacts would be needed and would be extensive, and their success would not be guaranteed.

IMPACTS OF ALTERNATIVE 1: NO ACTION

Analysis

Under the no-action alternative, Oxon Cove multi-use hiker-biker trail would not be constructed, and the use of the existing trails would result in no modification to the soils in the project area at Oxon Cove Park. The only cove access in the project area is the Oxon Hill Farm Trail, which is an existing, well-defined footpath located along the Oxon Cove Park Farm and Oxon Creek. Otherwise, the majority of the project area in the park is not easily accessible to visitors. There is no evidence of social trails or soil erosion in the project area. There would be no grading or excavation of soils or removal of vegetation as a result of this alternative. Visitors would continue to use the existing Oxon Hill Farm Trail, and the majority of the cove along the project area would remain inaccessible to visitors. Implementation of the no-action alternative would result in no impacts on soils.

Cumulative Impacts

Because no impacts are projected under the no-action alternative, no cumulative impacts would occur.

Conclusion

The implementation of the no-action alternative would not result in impacts on soils in the project area because there would be no soil disturbance or construction activity. There would be no cumulative impacts.

IMPACTS OF ALTERNATIVE 2: CONSTRUCT MULTI-USE HIKER-BIKER TRAIL

Analysis

Under alternative 2, approximately a mile long multi-use trail would be constructed in the project area. The trail would consist of a 10-foot-wide asphalt path with 2 feet of buffer aggregate topsoil shoulder on either side to help absorb any runoff generated from the path. The trail alignment would include an elevated wooden path down to an observation deck along the water, as well as a bench and bike rack, with interpretive signs.

Soil removal would be limited as much as possible during construction, and any excavated soil, estimated to be approximately 780 cubic yards, would be containerized, analyzed, and disposed of following proper disposal procedures. Clean fill (estimated to be approximately 2,280 cubic yards) would be used where fill is required. In contaminated areas not requiring grading, the trail would be elevated using 1 to 2 feet of imported fill material placed on existing grade. It is anticipated that tree removal would leave the stump in place, and the trail would be constructed on top of the existing grade to the extent feasible. A stump grinder would be used to grind the stumps down in place with minimal ground disturbance. There may be soil compaction with the use of heavy equipment in the area, and a temporary decline in soil productivity would be expected in disturbed areas. Soil productivity would be completely eliminated for those areas within the footprint of the new trail (less than 2 acres), resulting in long-term, minor, adverse impacts. The construction of the trail in these sections would have localized short- and long-term, minor, adverse impacts on soils in the project area.

Short-term, minor, adverse impacts on soils would be mitigated through the use of best management practices to prevent and control soil erosion and sedimentation during the construction of the trail. Construction activities would also adhere to an approved erosion and sediment control plan. Areas damaged outside the proposed trail would be actively reseeded, and mitigation measures would be implemented to stabilize the soil, repair compaction, and/or improve soil productivity.

In addition, alternative 2 would include the construction of an elevated wooden ramp and observation deck over Oxon Cove. Adverse impacts on soils from the construction of the deck would be localized, short and long term, and negligible.

Cumulative Impacts

Projects that could affect soils include ongoing and future projects in the vicinity of the project area such as any CERCLA activities at the Oxon Cove Park Landfill, the CSO project, and the South Capitol Street bike trail. Construction projects would likely require some soil disturbance, including localized erosion and compaction, but would include mitigation to reduce soil loss and erosion. Any CERCLA-related activities at the Oxon Cove Park Landfill would result in short-term, minor, adverse impacts on soils from soil disturbance, but soils in this area have been previously disturbed. There would likely be long-term, beneficial impacts on soils from the removal of contaminated soils. Impacts on soils from these cumulative actions would result in short- and long-term, minor, adverse impacts as well as long-term, beneficial impacts. When combined with the localized short- and long-term, negligible to minor, adverse impacts of alternative 2, cumulative impacts on soils would be long-term, minor, and adverse, with alternative 2 having a slight adverse contribution.

Conclusion

Constructing the Oxon Cove multi-use hiker-biker trail under alternative 2 would involve the disturbance of soils from clearing, grubbing, and other construction activities, as well as soil compaction from trail construction. Soil disturbance would be minimized to the extent practical because of soil contamination in the project area. Implementation of alternative 2 would result in short-term, negligible to minor, adverse impacts and long-term, minor, adverse impacts on soils. Cumulative impacts on the soils in the cumulative study area would be long-term, minor, and adverse, as well as beneficial with alternative 2 having a slight contribution to adverse impacts.

VEGETATION

METHODOLOGY AND ASSUMPTIONS

Available information on vegetation and vegetation communities present at Oxon Cove Park was compiled and reviewed. During preliminary design, a tree survey was completed for a 60-foot right-of-way through the project area where the proposed trail alignment could occur. Predictions about short- and long-term project impacts on vegetation were based on general characteristics and proposed actions affecting vegetated areas associated with the alternatives.

STUDY AREA

The geographic study area for vegetation includes the project area for the proposed actions at Oxon Cove Park. Trail construction activities would not occur outside this area. The study area for cumulative analysis is the project area and the surrounding vicinity.

IMPACT THRESHOLDS

The following thresholds were used to determine the magnitude of impacts on vegetation:

Negligible: Some individual native plants could be affected as a result of the alternative, but measurable or perceptible changes in plant community size, integrity, or continuity would not occur. The impacts would be on a small scale.

Minor: The alternative would affect some individual native plants and would also affect a relatively minor portion of that species' population. The viability of the plant community would not be affected, and the community, if left alone, would recover. Mitigation could be needed to offset adverse impacts, would be relatively simple to implement, and would likely be successful.

Moderate: The alternative would affect some individual native plants and a relatively large area in the native plant community that would be readily measurable in terms of abundance, distribution, quantity, or quality. Mitigation needed to offset adverse impacts could be extensive and would likely be successful.

Major: The alternative would have a considerable effect on native plant communities that would be readily apparent, and would substantially change vegetation community types over a large area inside and outside the park. Mitigation measures to offset the adverse impacts would be required, the measures required would be extensive, and the success of these mitigation measures would not be guaranteed.

IMPACTS OF ALTERNATIVE 1: NO ACTION

Analysis

Under the no-action alternative, the proposed trail would not be constructed. Visitors would continue to have limited and discontinuous bicycle and pedestrian access between the riverfront and adjacent communities. Natural vegetation in the project area would remain undisturbed by human activities. While there may be the occasional incident of inadvertent damage (e.g., trampling, walking on exposed roots) or intentional vandalism to individual plants and trees along Oxon Cove, there is no existing evidence of social trails in the project area further damaging vegetation. There would be no impacts on vegetation under the no-action alternative.

Cumulative Impacts

Because no impacts are projected under the no-action alternative, no cumulative impacts would occur.

Conclusion

Implementation of the no-action alternative would not result in impacts on vegetation in the project area because there would be no tree cutting or construction activity. There would be no cumulative impacts.

IMPACTS OF ALTERNATIVE 2: CONSTRUCT MULTI-USE HIKER-BIKER TRAIL

Analysis

The construction of the trail would remove the existing vegetation and trees within the footprint of the trail. In areas of natural vegetation or areas maintained as meadow, the upper layer of existing vegetation, including grasses, shrubs, and trees, would be removed and replaced with an asphalt or gravel stone-dust base. Trees to be removed would include those located in the proposed footprint of the trail and/or trees with their critical root zone within the footprint of the trail. The siting of the Oxon Cove multi-use hiker-biker trail would avoid highly desirable native trees to the extent possible. The preliminary trail design was routed to avoid healthy native trees; instead, unhealthy or invasive tree species were slated for removal wherever feasible. Based on preliminary trail design, approximately 250 trees would be removed during construction of the trail. The species of trees designated for removal include dogwood, oak, cherry, hawthorne, birch, maple, poplar, beech, sumac, pear, and ash. The majority of the trees have a diameter at breast height ranging from 4 to 10 inches. A small number of trees to be removed have a diameter at breast height between 12 and 30 inches. Because of the amount of natural vegetation that would be removed in currently undisturbed areas under alternative 2, the impacts on vegetation would be long-term, moderate, and adverse.

All construction equipment would remain within the ultimate footprint of the trail's limit of disturbance for construction, limiting the potential vegetation impacts in the project area.

Construction of the trail would likely impact only a small number of individual plants and would not impact any populations of species. These changes would not result in substantial impacts on the vegetation of Oxon Cove, the Potomac River, or the surrounding area. Once the construction is complete, adjacent areas within the limit of disturbance would be reseeded or replanted with native species.

Hazardous trees and vegetation would be removed or trimmed back prior to construction to allow vehicles and workers to access the project site. Construction staging areas would be expected to be restricted to existing parking or paved areas adjacent to the project site along the end of Shepherd Parkway SW. Construction of the trail in areas maintained as natural vegetation would have long-term, moderate, adverse impacts on vegetation from the loss of vegetation within the footprint of the trail.

Cumulative Impacts

Projects that could affect vegetation include ongoing and future projects in the vicinity of the project area such as any CERCLA activities at the Oxon Cove Park landfill, the CSO project, and the South Capitol Street bike trail. Construction projects would likely require some vegetation removal, including clearing and tree removal for the South Capitol Street bike trail or to replace the sewer system. Any CERCLA-related activities at the Oxon Cove Park landfill could potentially benefit vegetation from the removal of contaminated soil in the landfill area.

Impacts on vegetation from cumulative actions would result in short- and long-term, minor, adverse impacts as well as long-term, beneficial impacts. When combined with the long-term, moderate, adverse impacts of alternative 2, cumulative impacts on soils would be long-term, moderate, and adverse, with alternative 2 having a noticeable adverse contribution.

Conclusion

Construction of a trail under alternative 2 would result in long-term, moderate, adverse impacts on vegetation as a result of the clearing and removal of approximately 250 trees that would be cleared from currently undisturbed areas. Mitigation measures would include the removal of unhealthy or invasive tree species where feasible and the retention highly desirable native trees. Cumulative impacts on vegetation would be long-term, moderate, and adverse, with alternative 2 having a noticeable contribution to adverse impacts.

WILDLIFE AND WILDLIFE HABITAT

METHODOLOGY AND ASSUMPTIONS

Information on wildlife species present in the study area was based on a review of existing information on the area and consideration of common wildlife species likely to occur in the park. The analysis of potential impacts on wildlife was based on the potential for species to use the proposed project site or to be affected by project activities or the loss of habitat associated with the construction or operation of the new trail.

STUDY AREA

The geographic study area for wildlife and wildlife habitat includes the project area for the proposed actions at Oxon Cove Park. Trail construction activities would not occur outside this area. The study area for cumulative analysis would be the same.

IMPACT THRESHOLDS

The following thresholds were used to determine the magnitude of impacts on wildlife and wildlife habitat:

Negligible: There would be no observable or measurable impacts on native species, their habitats, or the natural processes sustaining them. Impacts would be well within natural fluctuations.

Minor: Impacts would be detectable, but they would not be expected to be outside the natural range of variability of native species' populations, their habitats, or the natural processes sustaining them. Mitigation measures, if needed to offset adverse impacts, would be slight and successful.

Moderate: Readily detectable impacts outside the range of natural variability would occur on native animal populations, their habitats, or the natural processes sustaining them. The change would be measurable in terms of population abundance, distribution, quantity, or quality, and would occur over

a relatively large area. Mitigation needed to offset adverse impacts could be extensive, but would likely be successful.

Major: Readily apparent impacts outside the range of natural variability would occur on native animal populations, their habitats, or the natural processes sustaining them. The change would be measurable in terms of population viability and could involve the displacement or loss of a wildlife or aquatic life population or assemblage. Mitigation measures to offset the adverse impacts would be required and would be extensive, and the success of these mitigation measures would not be guaranteed.

IMPACTS OF ALTERNATIVE 1: NO ACTION

Analysis

Under the no-action alternative, current conditions and management of Oxon Cove Park would remain unchanged.

Currently, there is very little riverfront access in the project area, only from an existing bike trail along the opposite side of the cove originating at Oxon Hill Farm. Other than Oxon Hill Farm and the associated trails, the majority of the project area and the park would remain relatively inaccessible to visitors. Impacts on wildlife and wildlife habitat would be associated with current visitor use on the existing trails in the park.

Under the no-action alternative, terrestrial wildlife in the project area would continue to be impacted by the occasional noise and human activity associated with the current limited visitor access and use at the site. Adverse impacts would be long-term and negligible because the terrestrial wildlife that inhabits the park has become accustomed to the occasional visitors. In the event that wildlife is disturbed and flees the immediate area, there is sufficient adjacent habitat for wildlife species to inhabit. In addition, the existing trails in the park would remain well defined, encouraging visitors from wandering off the trail and into the adjacent forested, meadow, or wetland and marsh areas that provide additional separation of park visitors and wildlife. Adverse impacts on wildlife and the wildlife habitats in the project area in Oxon Cove Park under the no-action alternative would be long-term and negligible.

Cumulative Impacts

Present and reasonably foreseeable future projects within the vicinity of the project area that could impact wildlife and wildlife habitat include CERCLA response actions at the Oxon Cove landfill site. These actions would continue to clean up and remove hazardous materials left over from the previous landfill use at the site. The removal of hazardous materials would result in long-term benefits for wildlife and wildlife habitat. When combined with the long-term, negligible, adverse impacts of the no-action alternative, cumulative impacts on wildlife and wildlife habitat would be long-term, negligible, adverse and beneficial, with the no-action alternative having a slight adverse contribution.

Conclusion

Under the no-action alternative, wildlife disturbance from current visitor use of trails would continue. These visitor activities would have long-term, negligible, adverse impacts on wildlife and wildlife habitat. Cumulative impacts on wildlife and wildlife habitat would be long-term, negligible, adverse and beneficial, with the no-action alternative having a slight adverse contribution.

IMPACTS OF ALTERNATIVE 2: CONSTRUCT MULTI-USE HIKER-BIKER TRAIL

Analysis

Implementation of alternative 2 would construct the Oxon Cove multi-use hiker-biker trail throughout Oxon Cove Park, running to and along the cove-front. Activities associated with the trail construction

would likely displace those species that currently use the areas where the proposed construction would occur. This displacement would result from the increased human activity and noise associated with construction vehicles on-site. In addition, mortality or injury of some smaller, less mobile species could occur as a result of construction activities. However, adverse impacts on terrestrial wildlife would be considered short-term and minor because of the relatively small area being affected compared to all of Oxon Cove Park, and because there are other areas adjacent to the construction sites where displaced individuals could move that would provide adequate habitat.

In addition, the loss or displacement of individuals of a non-threatened or endangered species would not jeopardize the viability of the populations in and adjacent to the park. These minor, adverse impacts on terrestrial wildlife would be short-term because they would occur only during the construction period. Following construction activities, it is expected that any displaced species would likely return to the area.

All construction equipment would remain within the ultimate footprint of the trail. Construction of the proposed trail through areas that are currently undisturbed natural wildlife habitat would result in the loss of those habitats. However, long-term, adverse impacts on terrestrial wildlife habitat would be minor because of the relatively small area being affected compared to Oxon Cove Park as a whole and because of the limited clearing of large trees.

In sections where the trail would be located on existing cleared corridors, such as the small parcel of land that was cleared by the Potomac Electric Power Company to install power lines, negligible, adverse impacts on wildlife and wildlife habitat would be expected. It is expected that the few birds and small mammals that can be found on this cleared site would be temporarily displaced from areas in or immediately surrounding construction areas. Once trail construction is complete, native shrub and tree species would be planted where possible to provide habitat. It is expected that some of the displaced species, particularly birds, would return and use the open areas adjacent to the developed areas once construction is complete. Impacts from the construction of the trail in developed areas would be short-term, negligible, and adverse.

Cumulative Impacts

Impacts from cumulative actions under alternative 2 would be similar to those described for the no-action alternative, resulting in long-term, beneficial impacts on wildlife and wildlife habitat. When combined with the short-term and long-term, negligible to minor, adverse impacts of alternative 2, cumulative impacts on wildlife and wildlife habitat would be long-term, negligible to minor, adverse and long-term, beneficial with alternative 2 having a noticeable adverse contribution.

Conclusion

Construction of the Oxon Cove multi-use hiker-biker trail under alternative 2 would result in short-term, negligible to minor, adverse impacts on wildlife during the construction period and long-term, minor, adverse impacts during the operation of the trail as a result of increased visitor accessibility. Following construction activities, it is expected that any displaced species would likely return to the area.

Construction of the proposed trail through areas that are currently undisturbed natural wildlife habitat would result in the loss of those habitats; however, impacts would be minor because of the relatively small area being affected compared to Oxon Cove Park as a whole. Cumulative impacts on wildlife and wildlife habitat would be long-term, negligible to minor, adverse and long-term, beneficial with alternative 2 having a noticeable adverse contribution.

VISITOR USE AND EXPERIENCE, INCLUDING SAFETY

METHODOLOGY AND ASSUMPTIONS

The purpose of this impact analysis is to assess the effects of the alternatives on visitor use and experience at Oxon Cove Park. To determine impacts, the current uses at the park were considered, and the potential effects of the construction of the trail on visitor use and experience were analyzed. The types of visitor experience and use/visitation that occur in Oxon Cove Park and that might be affected by the proposed actions, as well as noise experienced by visitors, were considered.

STUDY AREA

The study area for visitor use and experience is the boundary for the project area. The boundary includes Oxon Cove Park from just south of the Metropolitan Police Department impound lot, east of the I-295 highway, and north of Oxon Hill Farm Park. The study area for cumulative impacts analysis encompasses Oxon Cove Park and surrounding properties.

IMPACT THRESHOLDS

The following thresholds were defined for visitor use and experience:

Negligible: Visitors would likely be unaware of impacts associated with implementation of the alternative. Visitor use and/or experience would not noticeably change, and there would be no change in any defined indicators of visitor satisfaction or behavior.

Minor: Changes in visitor use and/or experience would be slight and detectable, but would not appreciably limit critical characteristics of the visitor experience. Visitor satisfaction would remain stable. If mitigation were needed, it would be relatively simple and likely be successful.

Moderate: A few critical characteristics of the desired visitor experience would change, and/or the number of participants engaging in a specified activity would be altered. Some visitors who desire their continued use and enjoyment of the activity/visitor experience might pursue their choices in other available local or regional areas. Visitor satisfaction would begin to decline. Mitigation measures would probably be necessary and would likely be successful.

Major: Multiple critical characteristics of the desired visitor experience would change, and/or the number of participants engaging in an activity would be greatly reduced. Visitors who desire continued use and enjoyment of the activity/visitor experience would be required to pursue their choices in other available local or regional areas. Visitor satisfaction would markedly decline. Extensive mitigation measures would be needed, and success would not be guaranteed.

IMPACTS OF ALTERNATIVE 1: NO ACTION

Analysis

The no-action alternative represents the continuation of current conditions in the project area, with limited and discontinuous bicycle and pedestrian access between the cove and adjacent communities. Under the no-action alternative, the Oxon Cove multi-use hiker-biker trail would not be constructed resulting in a continued lack of connection from the District side of the park to Oxon Hill Farm Trail. There would be little to no visitor use within the project area. There would be no separate facilities for bicyclists and pedestrians, and visitors would continue to cross the Oxon Hill Farm Trail and bike into DC Village, resulting in no increased visitor use to the project area. The no-action alternative would result in long-term, negligible, adverse impacts on visitor use and experience.

When visitors reach the end of Oxon Hill Farm Trail, they would be forced onto the existing road network without any formal trail or designated lane, presenting a potential visitor safety issue. The no-action alternative would result in long-term, negligible, adverse impacts on visitor safety.

Cumulative Impacts

Present and reasonably foreseeable future actions within the nearby vicinity of the project area, including the addition of the South Capitol Street bike trail, the CSO project, and the CERCLA response actions, would contribute cumulatively to visitor use and experience and visitor safety by creating new visitor use opportunities, improving water quality, and removing/cleaning up hazardous substances. The South Capitol Street bike trail would extend the Anacostia Riverwalk Trail 3.8 miles south towards the project area, providing vital connections for commuters and new visitor use opportunities resulting in long-term, beneficial impacts on visitor use and experience.

The District is implementing a plan to reduce combined sewer overflows to achieve zero overflows, which would result in improved water quality for area residents and visitors. The CERCLA response actions would continue to clean up hazardous materials related to the previous operation of the Oxon Cove Landfill. Both of these actions would result in long-term, beneficial impacts on visitor use, experience, and safety. When combined with the long-term, negligible, adverse impacts of the no-action alternative, cumulative impacts on visitor use, experience, and safety would be long-term and beneficial, with the no-action alternative having a slight adverse contribution.

Conclusion

Implementation of the no-action alternative would result in long-term, negligible, adverse impacts on visitor use, experience, and safety from the continued lack of pedestrian and bicycle facilities and the lack of direct access to the cove-front. Combined with other projects in the study area, there would be long-term, beneficial, cumulative impacts on visitor use, experience, and safety, with the no-action alternative having a slight adverse contribution.

IMPACTS OF ALTERNATIVE 2: CONSTRUCT MULTI-USE HIKER-BIKER TRAIL

Analysis

Under alternative 2, the Oxon Cove multi-use hiker-biker trail would be constructed throughout Oxon Cove Park, running to and along the cove-front. During the construction period, there could be noise from construction equipment and lack of access as a result of construction-related closures, which may disrupt visitor experience. Construction activities associated with alternative 2 would add noise pollution from heavy machinery and localized air pollution from the operation of construction vehicles, which may impact some user groups (i.e., bird-watchers) more than others. A portion of the existing Oxon Hill Farm Trail would be closed during construction. Construction in other areas of the project area would be located close to the cove-front and urban corridor; therefore, impacts from noise would be less noticeable. Construction activities would have short-term, minor, adverse impacts on visitor use and experience.

Construction of the multi-use hiker-biker trail and amenities would allow for continuous access from the end of Oxon Hill Farm Trail to the project area. Visitors would be able to access the cove-front where previously no public access was available.

Construction of the trail alignment would provide visitors with a continuous trail along the cove and across the park into Oxon Hill Farm Park, improving the visitor experience, as well as improving the connection between the northern and southern sides of the cove. The construction of an observation deck, bench area, bike racks, and ramp would provide visitors the opportunity to view the water and encourage outdoor and water activities such as fishing and bird watching. As a result of the completion of the trail, there would be an increased volume of pedestrians and bicyclists in an area of the park where use is

currently limited. Overall, there would be a long-term, beneficial impact on visitor use and experience from the trail and amenities.

Implementation of alternative 2 would result in short-term, minor, adverse impacts on visitor safety during the construction period. However, construction workers and employees would follow an approved health and safety plan that would incorporate all applicable regulations. Barriers and signs would be used around the construction site to divert visitors from potentially dangerous situations. In addition, public announcements would be made on the park website and in the media to alert the public to the construction schedule and locations. Therefore, short-term impacts would be mitigated to negligible and adverse.

As noted in the 2002 Preliminary Assessment/Site Investigation, it is unlikely that visitors would be adversely impacted from direct contact with surface soils or from blowing dust (NPS 2002). In areas of potential soil contamination, the trail would be elevated from grade and constructed on 1 to 2 feet of fill material to avoid disturbance of soils to the extent possible. All excavated soils would be containerized, analyzed, and disposed of properly. With this mitigation, the trail would not impact visitor safety.

Cumulative Impacts

Present and ongoing cumulative actions would be similar to those described for the no-action alternative, resulting in long-term, beneficial impacts on visitor use, experience, and safety. When combined with the short-term, negligible to minor, adverse and long-term, beneficial impacts from alternative 2, cumulative impacts on visitor use, experience, and safety would be short-term, negligible to minor, adverse and long-term, beneficial.

Conclusion

Implementation of alternative 2 would result in short-term, negligible to minor, adverse impacts on visitor use, experience, and safety as a result of construction activities. In addition, alternative 2 would have long-term, primarily beneficial impacts on visitor use, experience, and safety from improved visitor access and regional connectivity to existing bicycle and pedestrian trails. Cumulative impacts on visitor use, experience, and safety would be short-term, negligible to minor, adverse and long-term and beneficial.

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CHAPTER 5: CONSULTATION AND COORDINATION

Coordination with state and federal agencies was conducted during the NEPA process to identify issues and/or concerns related to natural and cultural resources in Oxon Cove Park.

All consultations with the DC Historic Preservation Officer, as mandated in section 106 of the National Historic Preservation Act, are occurring as part of the development of this environmental assessment. An initial assessment of effect was sent to the DC Historic Preservation Officer with this environmental assessment. Consultation is on-going.

On May 4, 2015, the US Fish and Wildlife Service listed the northern long-eared bat (*Myotis septentrionalis*) as a threatened species. The northern long-eared bat has the potential to exist in the project area. Due to multiple ongoing projects within the NPS National Capital Region area at the time of listing, on June 19, 2015, the National Park Service sent a consultation letter, in accordance with section 7 of the Endangered Species Act of 1973, to the US Fish and Wildlife regarding seven projects, including the Oxon Cove Trail Environmental Assessment. On August 5, 2015, the US Fish and Wildlife Service replied and stated that given the isolated urban setting and negative survey results in the surrounding area, no time of year restrictions were required for tree removal in the project area. The section 7 consultation letter concluded that the project was not likely to adversely affect the northern long-eared bat. Agency consultation is provided in appendix B.

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CHAPTER 7: GLOSSARY AND ACRONYMS

GLOSSARY OF TERMS

Affected environment – The existing environment to be affected by a proposed action and alternatives.

Consultation – The act of seeking and considering the opinions and recommendations of appropriate parties about undertakings that might affect properties on the national register. Appropriate parties ordinarily include the State Historic Preservation Officer and Advisory Council on Historic Preservation. Consultation is very formal and procedurally oriented. Correct procedures are promulgated in 36 CFR Part 800.

Council on Environmental Quality (CEQ) – Established by Congress within the Executive Office of the President with passage of the National Environmental Policy Act. The Council on Environmental Quality coordinates federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives.

Cultural landscape – A geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.

Cultural resources – Historic districts, sites, buildings, objects, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or any other reason.

Enabling legislation – NPS legislation setting forth the legal parameters by which each park may operate.

Environmental assessment (EA) – An environmental analysis prepared pursuant to the National Environmental Policy Act to determine whether a federal action would significantly affect the environment and thus require a more detailed environmental impact statement.

Ethnographic resource – A site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it.

Executive Order – Official proclamation issued by the President that may set forth policy or direction or establish specific duties in connection with the execution of federal laws and programs.

Historic district – A geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, landscapes, structures, or objects, united by past events or aesthetically by plan or physical developments. A district may also be composed of individual elements separated geographically but linked by association or history.

Museum object – Assemblage of archeological objects, objects, works of art, historic documents, and/or natural history specimens collected according to a rational scheme and maintained so they can be preserved, studied, and interpreted for public benefit. Museum objects normally are kept in park museums, although they may also be maintained in archeological and historic preservation centers.

National Environmental Policy Act of 1969 (42 USC 4321–4347) (NEPA) – The act as amended articulates the federal law that mandates protecting the quality of the human environment. It requires federal agencies to systematically assess the environmental impacts of their proposed activities, programs, and projects including the no action alternative of not pursuing the proposed action. The act requires agencies to consider alternative ways of accomplishing their missions in ways which are less damaging to the environment.

NPS Organic Act of 1916 – Enacted in 1916, this act commits the National Park Service to making informed decisions that perpetuate the conservation and protection of park resources unimpaired for the benefit and enjoyment of future generations.

Planning, Environment, and Public Comment (PEPC) – The NPS website for public involvement. This site provides access to current plans, environmental impact analyses, and related documents on public review. Users of the site can submit comments for documents available for public review.

Scoping – Scoping, as part of National Environmental Policy Act, requires examining a proposed action and its possible impacts; establishing the depth of environmental analysis needed; determining analysis procedures, data needed, and task assignments. The public is encouraged to participate and submit comments on proposed projects during the scoping period.

ACRONYMS

CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CSO	combined sewer overflow
DDOE	District Department of Environment
DDOT	District Department of Transportation
District	Washington, DC
EA	environmental assessment
EISA	Energy Independence and Security Act
ESA	environmental site assessment
I	Interstate
mg/kg	milligrams per kilogram
national register	National Register of Historic Places
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
ORCA	Oxon Run Citizens Alliance
PCBs	polychlorinated biphenyls
PEPC	Planning, Environment, and Public Comment
USC	United States Code
USDA	US Department of Agriculture
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service

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CHAPTER 8: REFERENCES

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Louis Berger

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APPENDIX A

RELATIONSHIP TO LAWS, EXECUTIVE ORDERS, POLICIES, AND OTHER PLANS

The National Park Service is governed by laws, regulations, and management plans before, during, and following any management action considered under any NEPA analysis. The following are those that are applicable to the proposed action.

APPLICABLE STATE AND FEDERAL LAWS

National Environmental Policy Act, 1969, as Amended

The National Environmental Policy Act was passed by Congress in 1969 and took effect on January 1, 1970. This legislation established the country's environmental policies, including the goal of achieving productive harmony between human beings and the physical environment for present and future generations. It provided the tools to implement these goals by requiring that every federal agency prepare an in-depth study of the impacts of "major Federal actions significantly affecting the quality of the human environment" and alternatives to those actions and required that each agency make that information an integral part of its decisions. The Act also requires that agencies make a diligent effort to involve the interested members of the public before they make decisions that affect the environment.

The National Environmental Policy Act is implemented through Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500–1508) (CEQ 1978). The National Park Service has in turn adopted procedures to comply with the act and the CEQ regulations, as found in Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* (NPS 2001), and its accompanying handbook.

National Park Service Organic Act of 1916

By enacting the NPS Organic Act of 1916, Congress directed the US Department of Interior and the National Park Service to manage units "to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (16 USC 1). Despite this mandate, the Organic Act and its amendments afford the NPS latitude when making resource decisions that balance resource preservation and visitor recreation.

Because conservation remains predominant, the National Park Service seeks to avoid or to minimize adverse impacts on park resources and values. However, the National Park Service has discretion to allow impacts on park resources and values when necessary and appropriate to fulfill the purposes of a park (NPS 2006). While some actions and activities cause impacts, the National Park Service cannot allow an adverse impact that would constitute impairment of the affected resources and values (NPS 2006). The Organic Act prohibits actions that permanently impair park resources unless a law directly and specifically allows for the acts (16 USC 1a-1). An action constitutes an impairment when its impacts "...harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values" (NPS 2006). To determine impairment, the National Park Service must evaluate "...the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts" (NPS 2006).

National Historic Preservation Act of 1966, as Amended through 2000 (16 USC 470)

The National Historic Preservation Act of 1966, as amended through 2004, protects buildings, sites, districts, structures, and objects that have significant scientific, historic, or cultural value. The Act established affirmative responsibilities of federal agencies to preserve historic and prehistoric resources. Effects on properties that are listed in or eligible for the national register must be taken into account in planning and operations. Any property that may qualify for listing in the national register must not be inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate. Section 106 requires of the NHPA federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. The historic preservation review process mandated by section 106 is outlined in regulations issued by the Advisory Council on Historic Preservation. Revised regulations (Protection of Historic Properties [36 CFR Part 800]) became effective January 11, 2001.

National Parks Omnibus Management Act of 1998

The National Parks Omnibus Management Act (16 USC 5901 et seq.) underscores the National Environmental Policy Act and is fundamental to NPS park management decisions. Both acts provide direction for articulating and connecting the ultimate resource management decision to the analysis of impacts, using appropriate technical and scientific information. Both also recognize that such data may not be readily available and provide options for resource impact analysis should this be the case.

The National Parks Omnibus Management Act directs the National Park Service to obtain scientific and technical information for analysis. The NPS handbook for Director's Order 12 states, "if such information cannot be obtained due to excessive cost or technical impossibility, the proposed alternative for decision will be modified to eliminate the action causing the unknown or uncertain impact or other alternatives will be selected" (NPS 2001).

Redwood National Park Act of 1978, As Amended

All national park system units are to be managed and protected as parks, whether established as a recreation area, historic site, or any other designation. The Redwood National Park Act states that the National Park Service must conduct its actions in a manner that would ensure no "...derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directed and specifically provided by Congress."

Soil Erosion and Sedimentation Control Amendment Act of 1994 (DC Laws 10-166)

An erosion and sediment control plan would be prepared and implemented in accordance with the District of Columbia's Soil Erosion and Sediment Control Handbook, which lays out standards and specifications for sediment and erosion control (DDOE 2003). These guidelines also include direction on stream construction. The sediment and erosion control plan would include resource protection measures that conform to these standards and specifications, and would be submitted to the District Department of the Environment for approval.

Maryland's Erosion and Sediment Control Guidelines

An erosion and sediment control plan would be prepared and implemented in accordance with Maryland Erosion and Sediment Control Guidelines for State and Federal Projects (MDE 2004). The plan would include resource protection measures that conform to Maryland Standards and Specifications for Erosion and Sediment Control (MDE 1994) and would be submitted to the Maryland Department of the Environment, Water Management Administration for approval. Coverage under Maryland's General Permit for Construction Activity would be obtained by submitting a Notice of Intent to the Maryland Department of the Environment.

Chesapeake Bay Total Maximum Daily Load

On December 29, 2010, the US Environmental Protection Agency established the Chesapeake Bay Total Maximum Daily Load. The total maximum daily load is a historic and comprehensive plan to restore clean water in the Chesapeake Bay and the region's streams, creeks, and rivers. Multiple elements are in place to ensure pollution control measure are in place by 2025. One of those elements includes the Watershed Implementation Plans, which are a roadmap for how the Bay jurisdictions, including the District and Maryland, will achieve the Chesapeake Bay Total Maximum Daily Load allocations.

2013 Rule on Stormwater Management Soil Erosion and Sediment Control

In 2013, the District Department of the Environment released the new stormwater and erosion control rule as well as the 2013 Stormwater Management Guidebook for new stormwater management performance requirements in the District. The rule and guidebook are designed to significantly reduce stormwater pollution flowing into the Anacostia and Potomac Rivers, Rock Creek, and other District water bodies by better capturing rainwater into the soil. The rule and guidebook improve equity in how the burden of stormwater management is allocated, provide flexible compliance options, and create a financial incentive for the voluntary installation of stormwater retrofits.

Energy Independence and Security Act Section 438

The Energy Independence and Security Act (EISA), Section 438, requires federal agencies to reduce stormwater runoff from federal development and redevelopment projects to protect water resources. Compliance can include use of a variety of stormwater management practices including reducing impervious surfaces and using vegetative practices, porous pavements, cisterns, and green roofs. EISA 438 compliance would be completed by NPS staff if alternative 2 is selected.

National Capital Planning Act (66 Stat. 781)

In 1952, the National Capital Planning Act established the National Capital Planning Commission, which functions as the federal government's central planning and development agency in the National Capital Region. The commission prepares the Comprehensive Plan for the National Capital Region and the five-year federal Capital Improvements Program and also reviews plans and programs proposed by federal, state, regional, and local jurisdictions and agencies.

CapitalSpace Plan

CapitalSpace is a partnership of the National Capital Planning Commission, National Park Service, and District of Columbia to develop shared strategies for working together on parks and open space throughout the District. The final CapitalSpace Plan was adopted on April 1, 2010, with goals to improve parks and open space in the District and to create healthy and sustainable neighborhoods (CapitalSpace 2010).

EXECUTIVE ORDERS AND DIRECTOR'S ORDERS

Executive Order 13508, "Chesapeake Bay Protection and Restoration"

This executive order developed a Federal Leadership Committee to develop recommendations for how to restore and protect the nation's largest estuary and its watershed. Part of these recommendations include how the US Department of the Interior, including the National Park Service, can expand public access to the Bay, expand environmental research, monitoring and observation, and develop focused and coordinated habitat and research activities that protect and restore living resources and water quality.

Executive Order 136090, “Federal Flood Risk Management Standard”

This executive order establishes a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input. The new federal flood risk standard requires all future federal investments in and affecting floodplains to meeting the level of resilience as established by the standard.

Director’s Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-making and Handbook

Director’s Order 12 and its accompanying handbook (NPS 2001) lay the groundwork for how the National Park Service complies with the National Environmental Policy Act. Director’s Order 12 and the handbook set forth a planning process for incorporating scientific and technical information and establishing a solid administrative record for NPS projects.

Director’s Order 12 requires that impacts to park resources be analyzed in terms of their context, duration, and intensity. It is crucial for the public and decision makers to understand the implications of those impacts in the short and long term, cumulatively, and within context, based on understanding and interpretation by resource professionals and specialists. Director’s Order 12 also requires that an analysis of impairment to park resources and values be made as part of the NEPA document.

Natural Resource Management Reference Manual 77

The purpose of this document is to provide guidance to park managers for all planned and ongoing natural resource management activities. Managers must follow all federal laws, regulations, and policies. This document provides the guidance for park management to design, implement, and evaluate a comprehensive natural resource management program (NPS 2004).

National Park Service Management Policies 2006

NPS *Management Policies 2006* (NPS 2006) is the basic NPS-wide policy document, adherence to which is mandatory unless specifically waived or modified by the NPS Director or certain departmental officials, including the US Secretary of the Interior. Actions under this environmental assessment are in part guided by these management policies. Sections that are particularly relevant to this project are as follows.

Section 8.2.5.1, Visitor Safety

The National Park Service strives to protect human life and provide for injury-free visits. As a result, the National Park Service will apply national safety codes and standards to prevent injuries or recognizable threats to visitor safety and will reduce or remove known hazards. Examples of visitor safeguards include the installation of artificial lighting or paved walking surfaces (NPS 2006).

Section 9.2.2 Trails and Walks

Trails and walks provide the only means of access into many areas within parks. These facilities will be planned and developed as integral parts of each park’s transportation system and incorporate principles of universal design. Trails and walks will serve as management tools to help control the distribution and intensity of use. All trails and walks will be carefully situated, designed, and managed to reduce conflicts with automobiles and incompatible uses; allow for a satisfying park experience; allow accessibility by the greatest number of people and protect park resources (NPS 2006).

NATIONAL PARK SERVICE PLANS AND POLICIES***Final Rule: Vehicles and Traffic Safety – Bicycles***

This rule amends the previous regulations for designating bicycle routes and managing bicycle use within park units throughout the national park system. It authorizes park superintendents to open existing trails to bicycle use within park units under specific conditions, in accordance with appropriate plans and in compliance with applicable law. It also retains the current requirement for a special regulation to authorize construction of new trails for bicycle use outside developed areas.

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APPENDIX B

AGENCY CONSULTATION

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ATTACHMENT
NCR Parks ESA Section 7 Consultations--Bundled
Northern Long-eared Bat—Threatened

Parks of the National Capital Region (NCR) are bundling the projects together for the U.S. Fish and Wildlife Service (FWS) convenience for informal Section 7 consultations on the threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). We are submitting seven summaries with maps showing action areas for ongoing planning and compliance projects. Please let us know if more information is needed to understand these projects. We are requesting FWS concurrence on these seven projects that will follow the identified conservation measures and so are not likely to adversely affect the northern long-eared bat or its habitat when implemented.

NLEB Life Cycle and Habitat Needs

NLEBs typically occupy their summer habitat from mid-May through mid-August each year and the species may arrive or leave some time before or after this active period. Females have pups between 1 June and 31 July. Parks will not clear maternity colony summer habitat during the summer maternity season to avoid direct effects to females (pregnant, lactating, and post-lactating) and juveniles (non-volant and volant).

NLEB home ranges, consisting of maternity, foraging, roosting, and commuting habitat, typically occur within three miles of a documented capture record or a positive identification of NLEB from properly deployed acoustic devices, or within 1.5 miles of a known suitable roost tree. NCR parks will use the bat inventory data from Gates and Johnson (2005) for NLEB locations unless more recent data is available. These data were provided to FWS on 20 February 2015 and GIS layers on 7 April 2015.

Suitable NLEB roosts are trees (live, dying, dead, or snag) with a diameter at breast height (dbh) of 3 inches or greater that exhibits any of the following characteristics: exfoliating bark, crevices, cavity, or cracks. Isolated trees are considered suitable habitat when they exhibit the characteristics of a suitable roost tree and are less than 1,000 feet from the next nearest suitable roost tree within a woodlot or wooded fencerow.

Conservation Measures to Protect NLEB

Parks will avoid killing or injuring NLEB during tree clearing activities.

1. Park projects that clear trees greater than 3 inches dbh will:
 - Follow time of year restriction (1 June-31 July) when tree clearing is prohibited;
 - Be a distance of 1/4 mile or more from
 - A known hibernaculum;
 - Maternity roost trees
 - Regular roost trees if creating clear cuts (i.e., removing all trees in an area larger than 1 acre).
2. Park project that remove 1 acre or more of trees greater than 3 inches dbh will only be done from November to March, winter season.

NCR Projects Summarized:

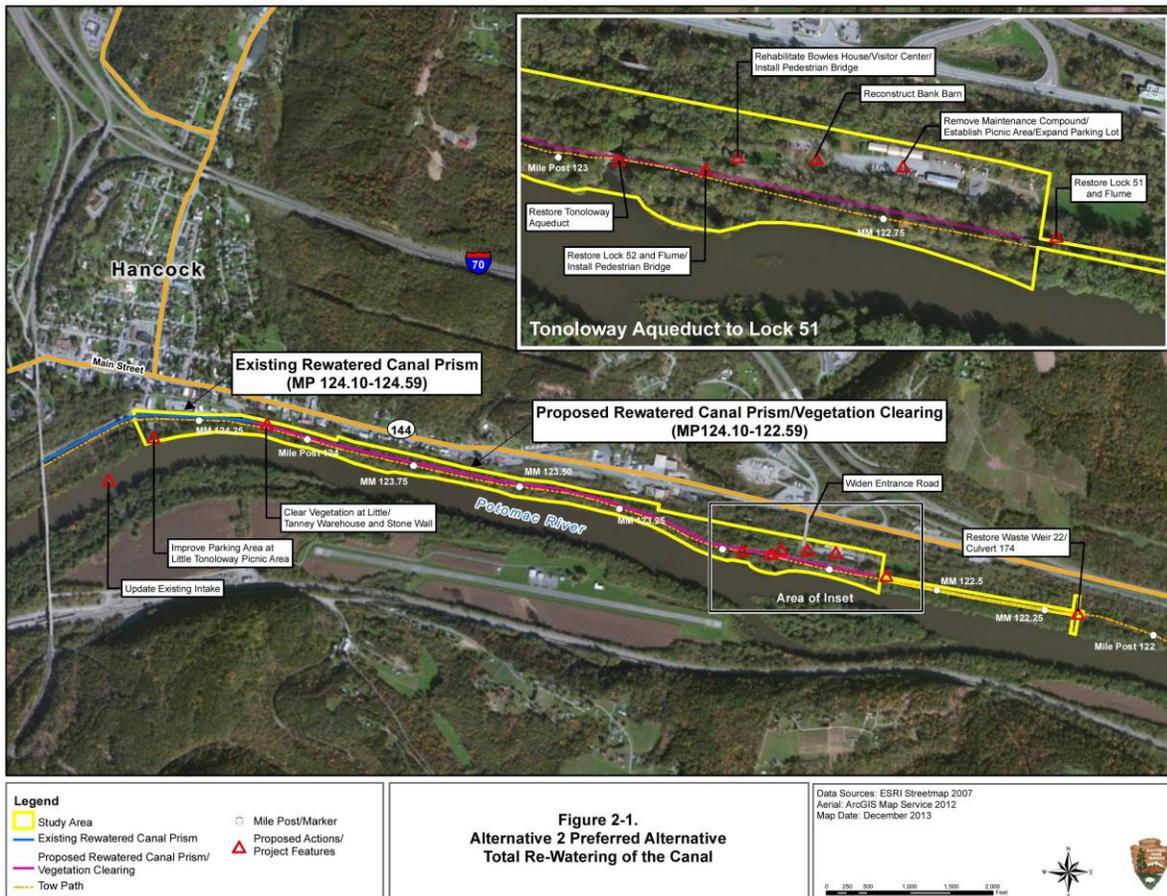
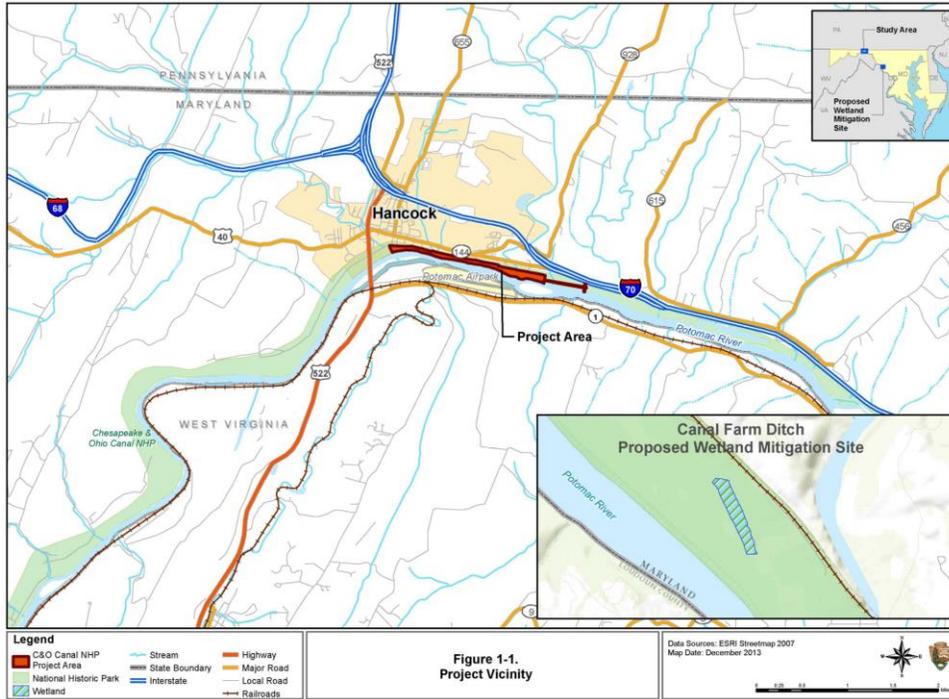
- 1. C&O Canal NHP (CHOH) Hancock Rewatering EA MP122.12 to 124.59**
- 2. CHOH WSSC Water Intake EA Mile Marker 17**
- 3. CHOH--Extension of the Western Maryland Rail Trail between Pearre, Washington County, Maryland and Paw Paw, Morgan County, West Virginia implementation**
- 4. George Washington Memorial Park (GWMP) Potomac Yards Metro EIS**
- 5. GWMP Fort Hunt EA**
- 6. NACE (National Capital Parks-East) Oxon Cove Multi-Use Biker Trail EA**
- 7. Rock Creek Park (ROCR) Multi-Use Trail FONSI**

1. C&O Canal NHP (CHOH) Hancock Rewatering EA MP122.12 to 124.59

Page 29 of Gates and Johnson 2005 final report for NCR bat inventory indicates that they acoustically recorded northern long-eared bat (NLEB) surveys at Mile Marker 122 which is where Hancock Rewatering Canal begins and extends to Mile Marker 125. This is a potential home range for NLEB. Home ranges can extend in 3 miles circle around a roost tree. The authors stated that bat activity is higher in riparian forests typically compared to upland forests. Therefore, it is reasonable to believe that the northern long-eared bat may use CHOH riparian forest for maternity colonies.

Preferred Alternative 2 is removing over 2,000 trees. The total affected area is 2.5 acres. A planting of young trees is on 10 A in a different area. The canal has become vegetated since abandonment in 1924. Within the canal there are understory trees and shrubs as well as numerous mature canopy species (that vary from 75-200' tall and are 18-36" diameter at breast height (dbh)) such as box elder, ash trees, American elm, and maples species that would be removed by this project. The majority (60%) of these trees have a diameter at breast height (DBH) of less than 4 inches (10 cm), 39% were greater than 4 inches, and less than 1% were greater than 11 inches (30cm) dbh

Page 3 indicates that Preconstruction Surveys will be conducted. The whole site needs to be surveyed for NLEB using approved Indiana bat survey protocols.

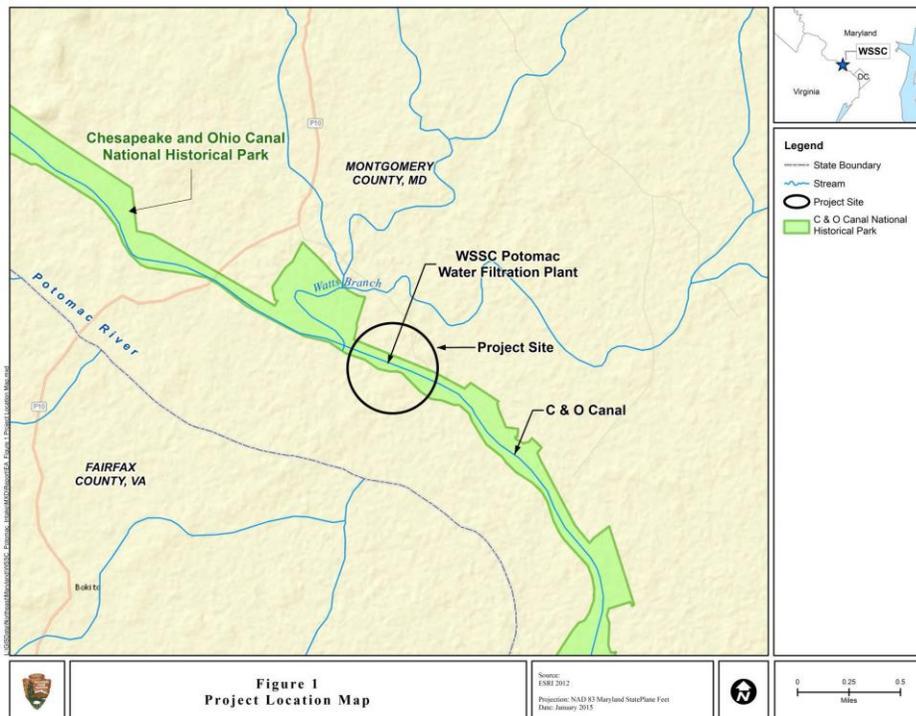


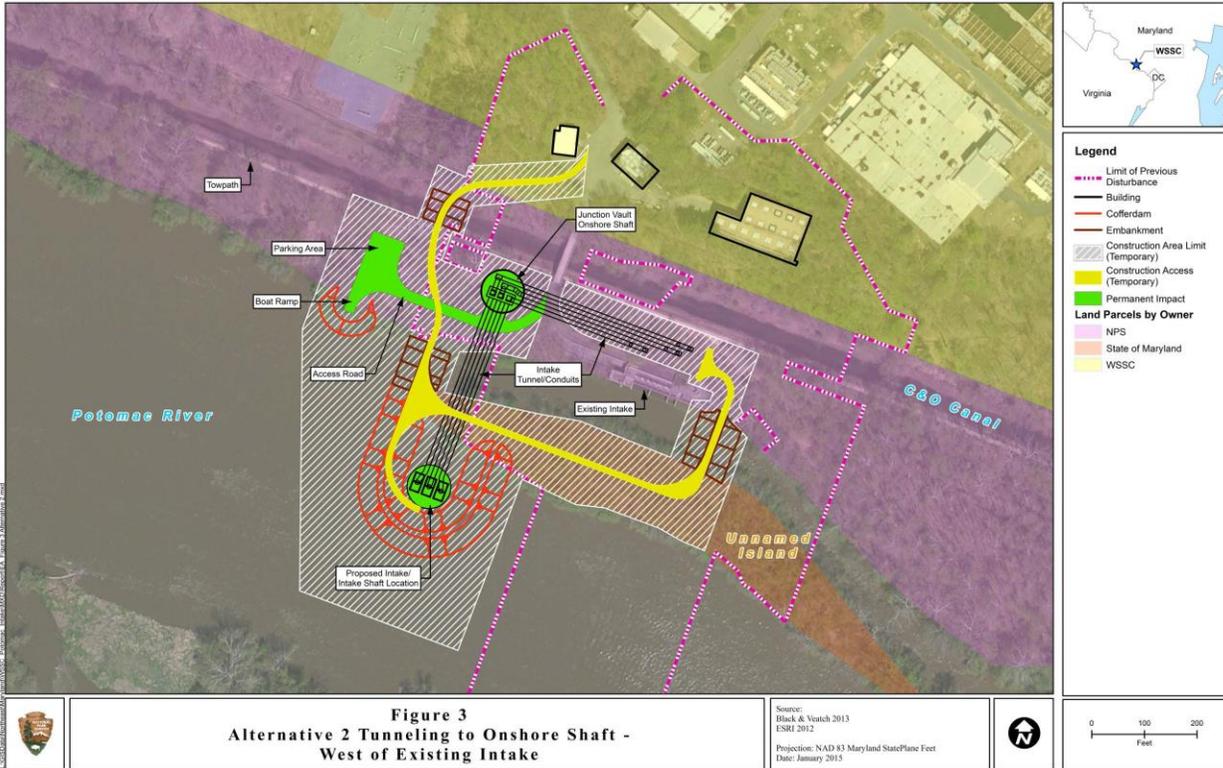
2. CHOH WSSC Water Intake EA Mile Marker 17

This project's Preferred Alternative 2 will remove **4.8 acres of trees** in riparian forest along Potomac River (Figure 1), which is 4 miles upriver from an acoustical detection by Gates and Johnson (2005) on the Virginia side of the Potomac, and 8 miles downriver from an acoustical detection on the Maryland side.

Approximately 2,250 total trees and 963 shrubs will be needed for reforestation following construction of features and staging areas of this project (Figure 3 Tunneling and Figure 3 Reforestation). Despite revegetation, the mature deciduous woodland would not be restored at the end of the plan in 15 years.

Trees in the action area have a dominant canopy species of box elder (*Acer negundo*). Other deciduous trees observed as co-dominant or subdominant included red maple (*Acer rubrum*), sycamore (*Platanus occidentalis*), black walnut (*Juglans nigra*), slippery elm (*Ulmus rubra*), river birch (*Betula nigra*), silver maple (*Acer saccharinum*), black locust (*Robinia pseudoacacia*), and pin oak (*Quercus palustris*). The canopy trees were approximately 2 to 8 inches in diameter at breast height (dbh) and approximately 50 to 75 feet tall. West of the existing intake are some very large specimen trees of sycamore and tulip poplar (*Liriodendron tulipifera*) scattered throughout the site.





3. CHOH--Extension of the Western Maryland Rail Trail between Pearre, Washington County, Maryland and Paw Paw, Morgan County, West Virginia implementation

Preferred Alternative C will cut down 9,384 trees within the limits of disturbance to create the trail 8 feet wide (Figure 1). Of these trees, 3,615 trees are greater than 6 inches dbh. MM 135-152

A multiuse trail surface will be constructed on the railroad bed of the former Western Maryland Railway corridor. To prepare the railroad bed, vegetation and debris will be removed within the trail cross section and the existing ballast will be graded and compacted. The railroad bed will be paved with asphalt to a width of 8 to 10 feet with 2-foot gravel shoulders. The trail surface will be suitable to accommodate a variety of nonmotorized activities.

The length of trail construction under the Selected Alternative equals 8.1 miles, of which (1) 7.2 miles will be constructed between Pearre, Maryland and the Stickpile Tunnel, and (2) 0.9 miles of trail construction will occur between the Western Maryland Railway bridge over the C&O Canal and Potomac River Bridge #5.

The three abandoned railroad tunnels on CHOH are known hibernacula for NLEB (Figure 2) and will not be disturbed by Railtrail construction. The selected alternative will bypass Indigo Tunnel and will avoid trail construction at Kessler and Stickpile Tunnels in an effort to protect sensitive bat habitat. Stickpile and Kessler Tunnels will have bat friendly gates installed during Summer 2015. The distance from the Railtrail terminus to the east portal of the Stickpile Tunnel would be approximately 825 feet. In addition, per the request of the U.S. Fish and Wildlife Service, the installation of an effective barrier at the north end of Potomac River Bridge #5, on the Maryland shore, would minimize the potential for human access of the Kessler Tunnel.

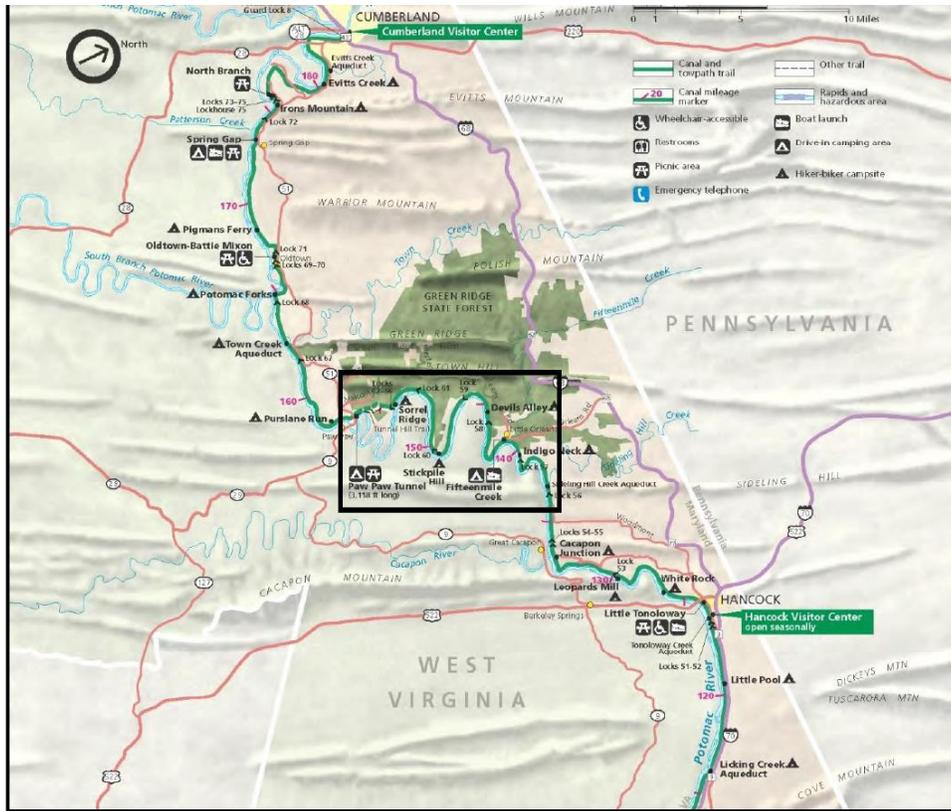


Figure 1. Location of the proposed extension of the WMRT in the C&O Canal NHP.

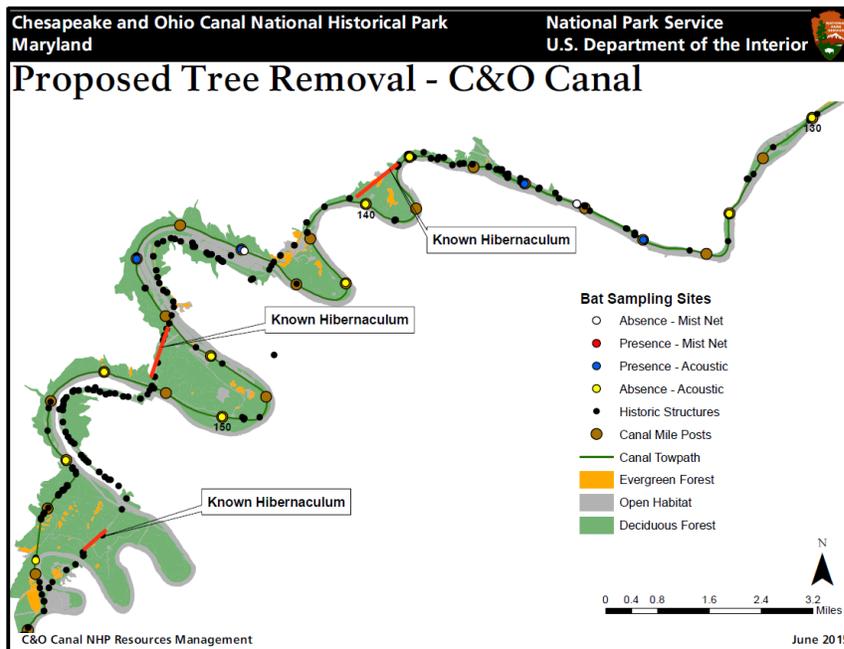


Figure 2. Location of hibernacula and types of forest habitat

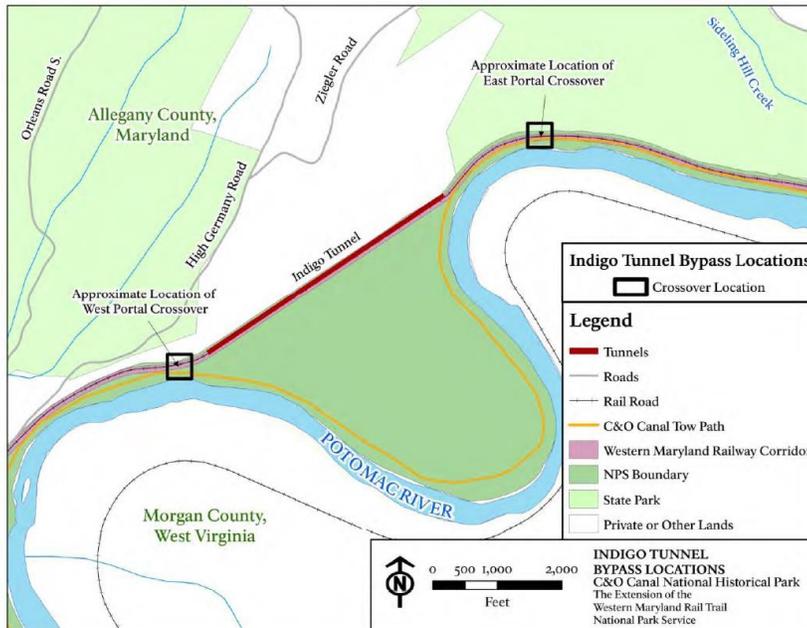


Figure 8: Indigo Tunnel crossover locations.

4. George Washington Memorial Park (GWMP) Potomac Yards Metro EIS

Intact forest provides potential NLEB habitat; NLEB was found in 2003-2004 up at Great Falls Park, VA, which is 20 miles north. The closest NLEB capture was in Rock Creek Park, which is 11 miles over the Potomac River in DC. We have no records currently of NLEB being found closer to the project area.

This project is proposed to improve local and regional transit accessibility to and from the Potomac Yard area adjacent to the U.S. Route 1 corridor for current and future residents, employees, and businesses (Figures 1 and 1.1). There are four build alternatives (Figure 2.7).

Build Alternative D **removes 3.54 acres of trees** (Figures 2-18, 2-19). Build Alternative D is located west of the CSXT railroad tracks near the existing Potomac Yard Shopping Center. The alternative would require elevated tracks starting north of Four Mile Run, crossing over the CSXT tracks into Potomac Yard, and then crossing over the CSXT tracks again to reconnect to the existing Metrorail line behind Potomac Greens. 1.43 acres would be permanently ceded to WMATA. **75 trees** would be removed from GWMP and on Mt Vernon Memorial Highway. The areas of Mt Vernon Memorial Highway and GWMP property to be cleared of vegetation include trees that are **20 to 70 years old** of various species such as mulberry (*Morus alba*), sycamore (*Platanus* spp.), and American elm (*Ulmus americana*), and pin oak (*Quercus palustris*) (Figure 3-88).

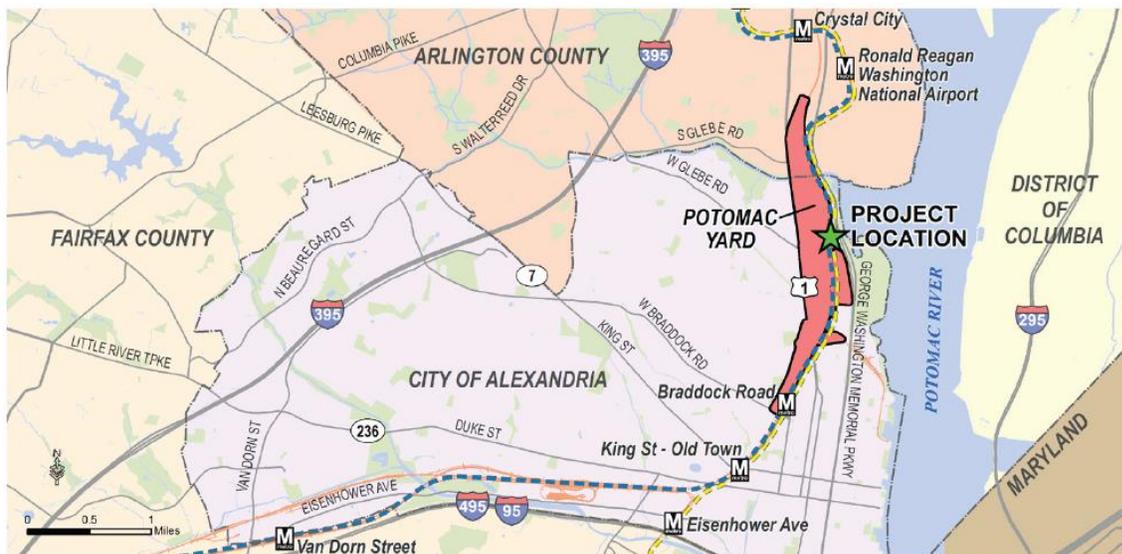


Figure 1. Location of Potomac Yard and Project

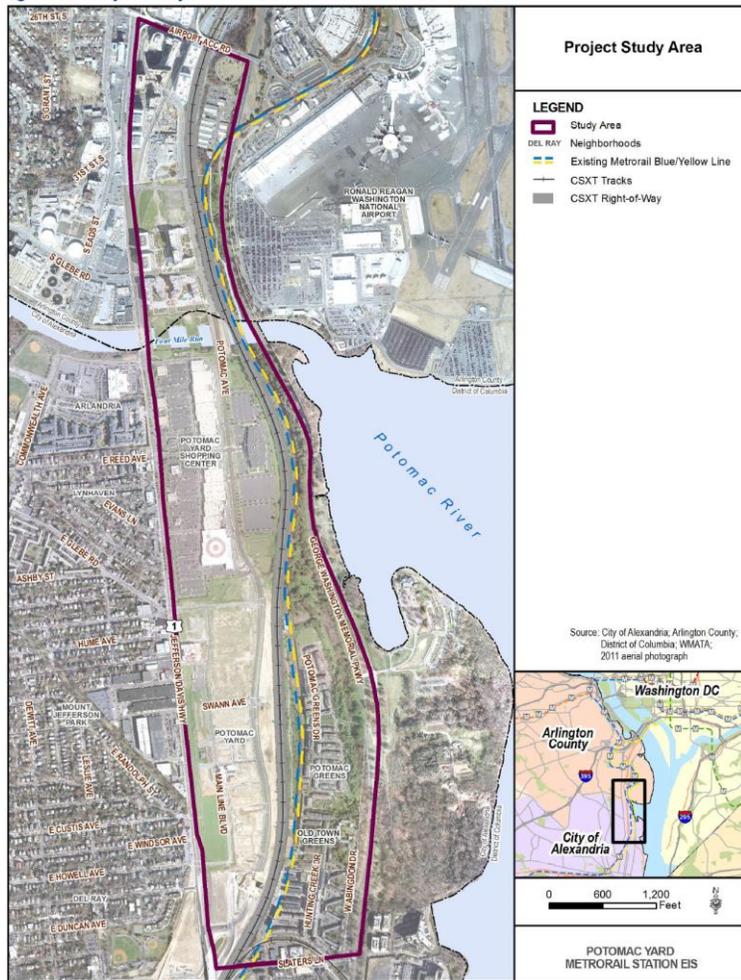


Figure 1.1. Project Area

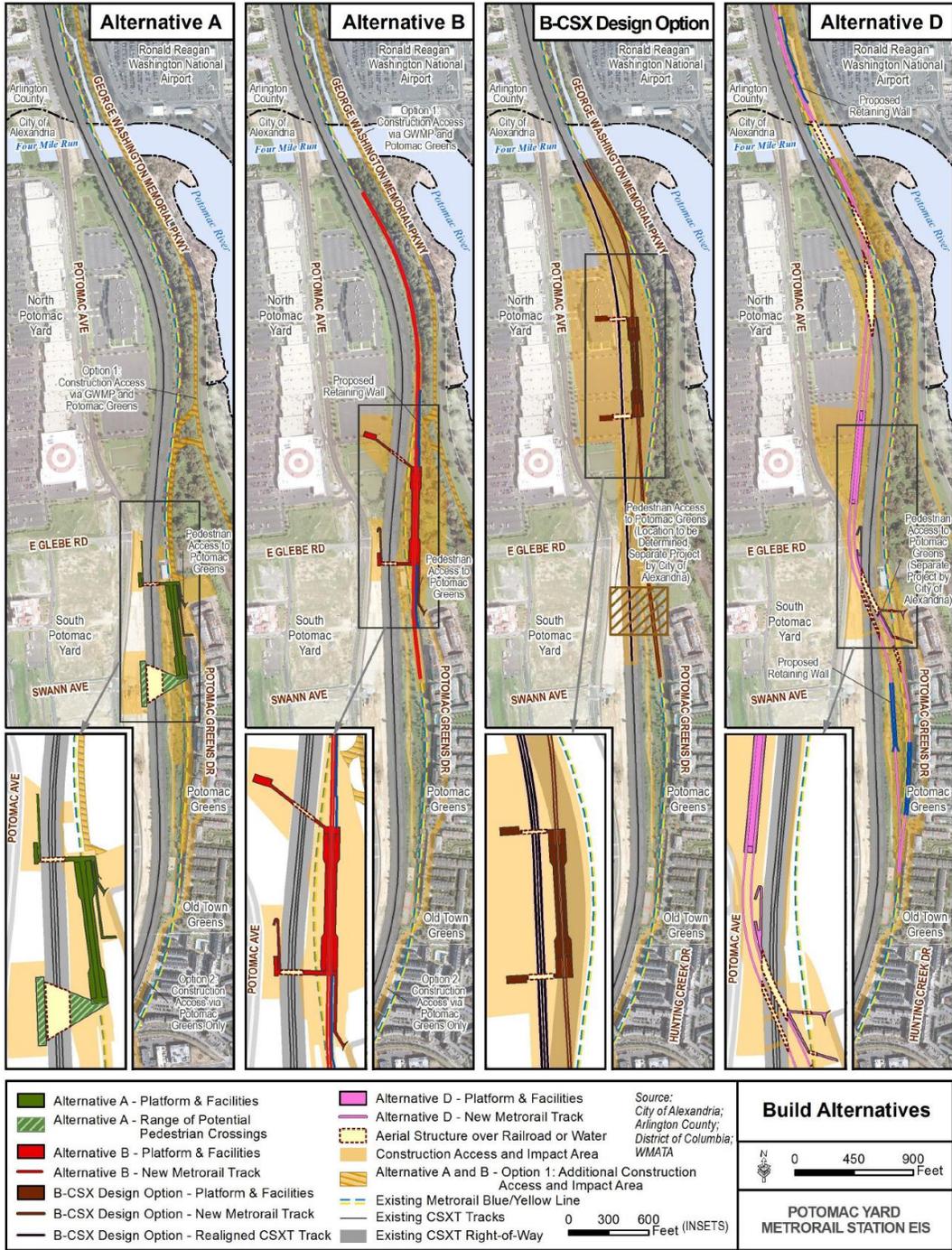


Figure 2.7. Build Alternatives

Figure 2-18: Build Alternative D Plan View (1 of 2)

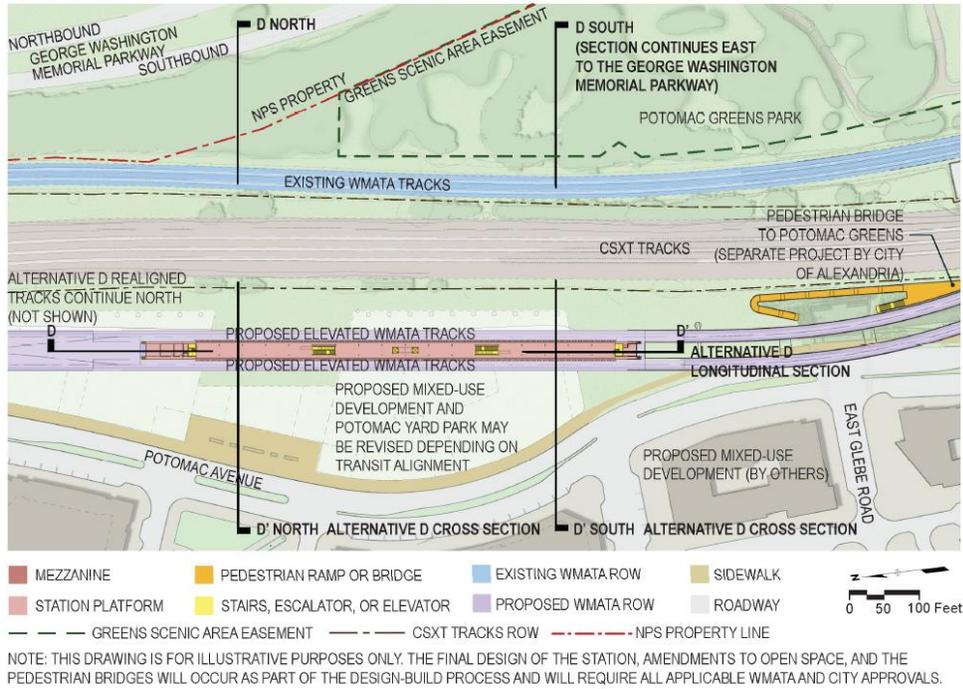


Figure 2-19: Build Alternative D Plan View (2 of 2)

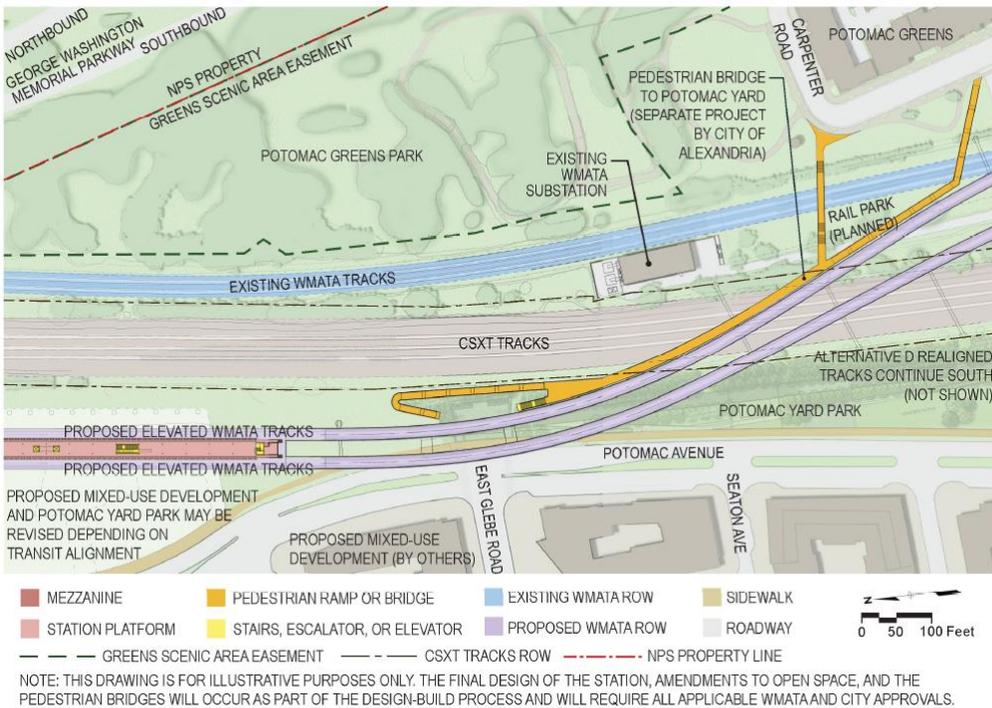
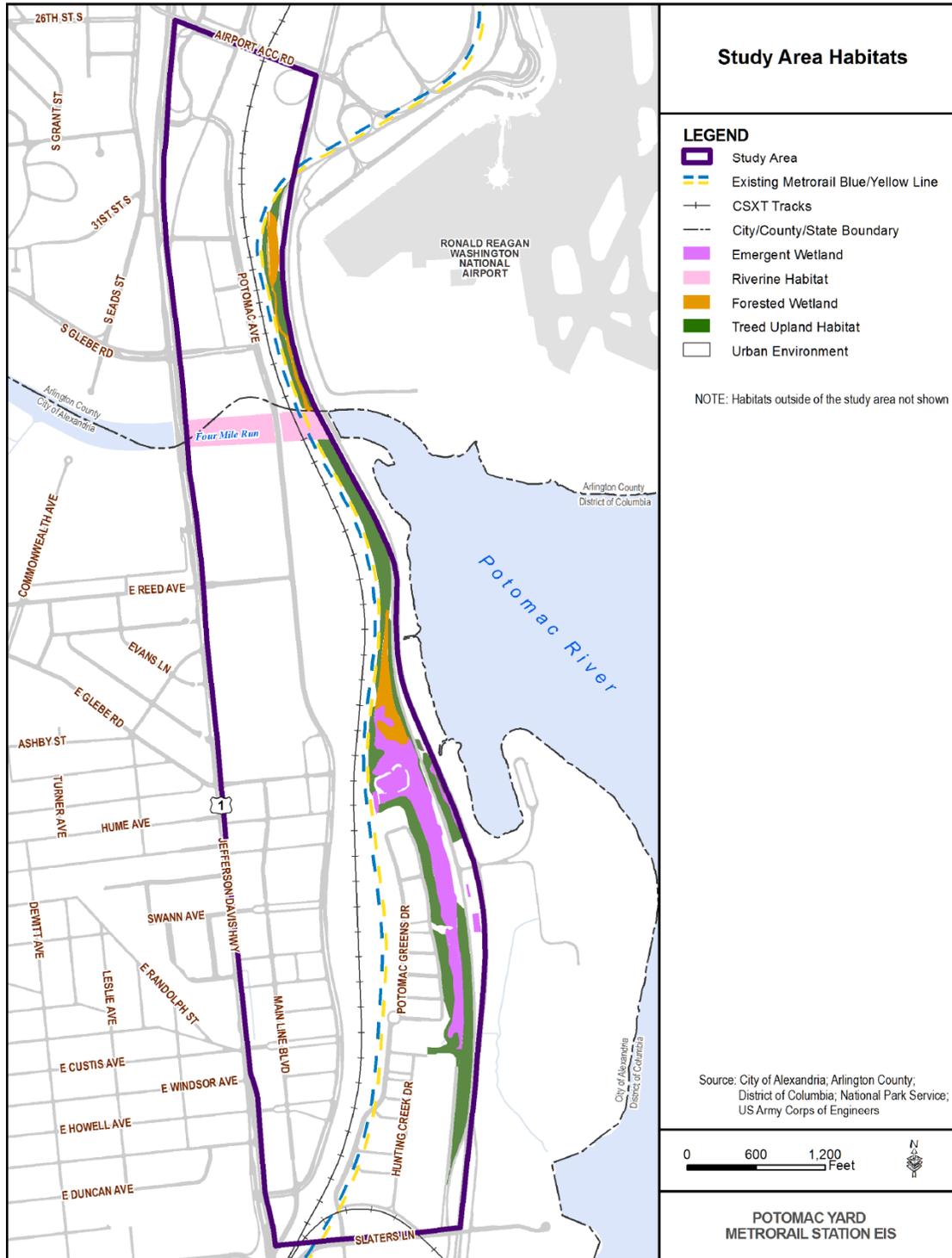


Figure 3-88: Study Area Habitats



5. GWMP Fort Hunt

Trees will be cleared along the historic line of sight from Battery Robinson to Potomac River, approximately 600 ft (182 m) long. Approximately 23 trees will be removed, covering 5,500 ft², which is 0.01 acre. The park circular road will be realigned along about 1,969 ft (600 m). Approximately 350 trees greater than 6 inches dbh will be removed. This will be less than 1 acre of trees removed.

Intact forest provides potential NLEB habitat; NLEB was found in 2003-2004 up at Great Falls Park, VA, which is 30 miles north. The closest NLEB capture was in Rock Creek Park, which is 22 miles over the Potomac River in DC. We have no records currently of NLEB being found closer to the project area.

Page 180-183 in Gates and Johnson (2005) show locations of mistnets and acoustical recordings. Three other bats species were found, but not NLEB. The three batteries have not been surveyed for bats. It is not known if they are used as hibernacula.



Figure 1. Existing Conditions

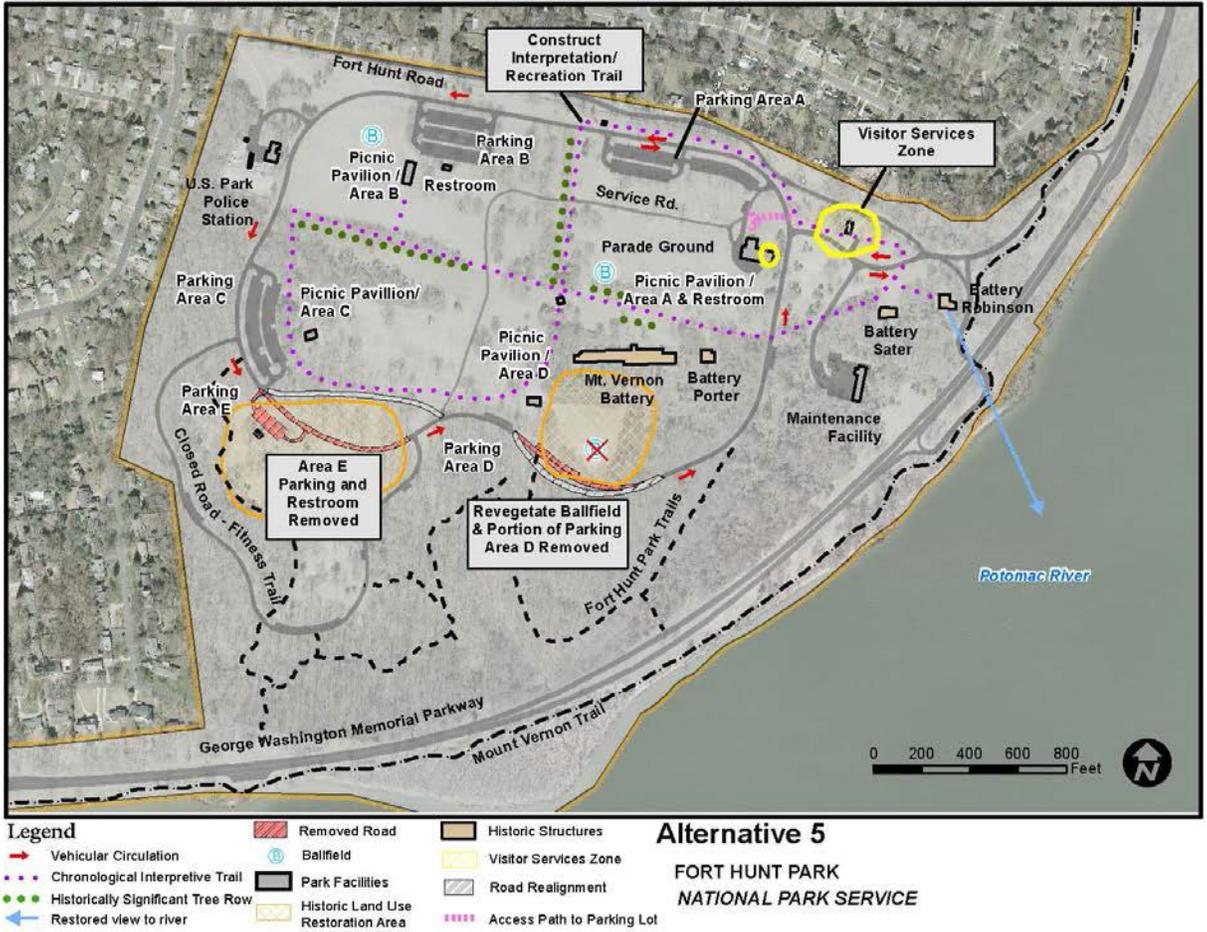


Figure 2. Alternative 5 Action Area

6. NACE (National Capital Parks-East) Oxon Cove Multi-Use Biker Trail EA

The preferred Alternative 2 will create a new asphalt trail 4,900 ft (1,494 m) long and 12 ft (3.7 m) wide through deciduous forest in Oxon Cove Park, National Capital Parks-East (NACE) (Figure 1). Oxon Cove Run is 35 ft (10.7 m) south of the middle of the action area where a 370 ft (112.8 m) elevated wooden ramp will zigzag down the steep incline and terminate at a 20 ft-by-20 ft (6.1 m by 6.1 m) observation deck above the water (Figure 3).

Approximate 300 trees will be removed; total limits of disturbance is approximately 3 acres (1.2 ha). The dominant trees are white oak and silver maple sized between 4 inches (10.2 cm) and 10 inches (25.4 cm) diameter at breast height (dbh). There is a small unspecified amount of trees that have 12 inches (30.5 cm) to 30 inches (76.2 cm) dbh.

At Oxon Cove, Gates and Johnson had 13 acoustic recording stations and did not record NLEB at any of the sites. NLEB was recorded twice in Fort Dupont, which is 8 miles (12.9 km) north. We have no records of NLEB being found closer.



FIGURE 1: PROJECT VICINITY

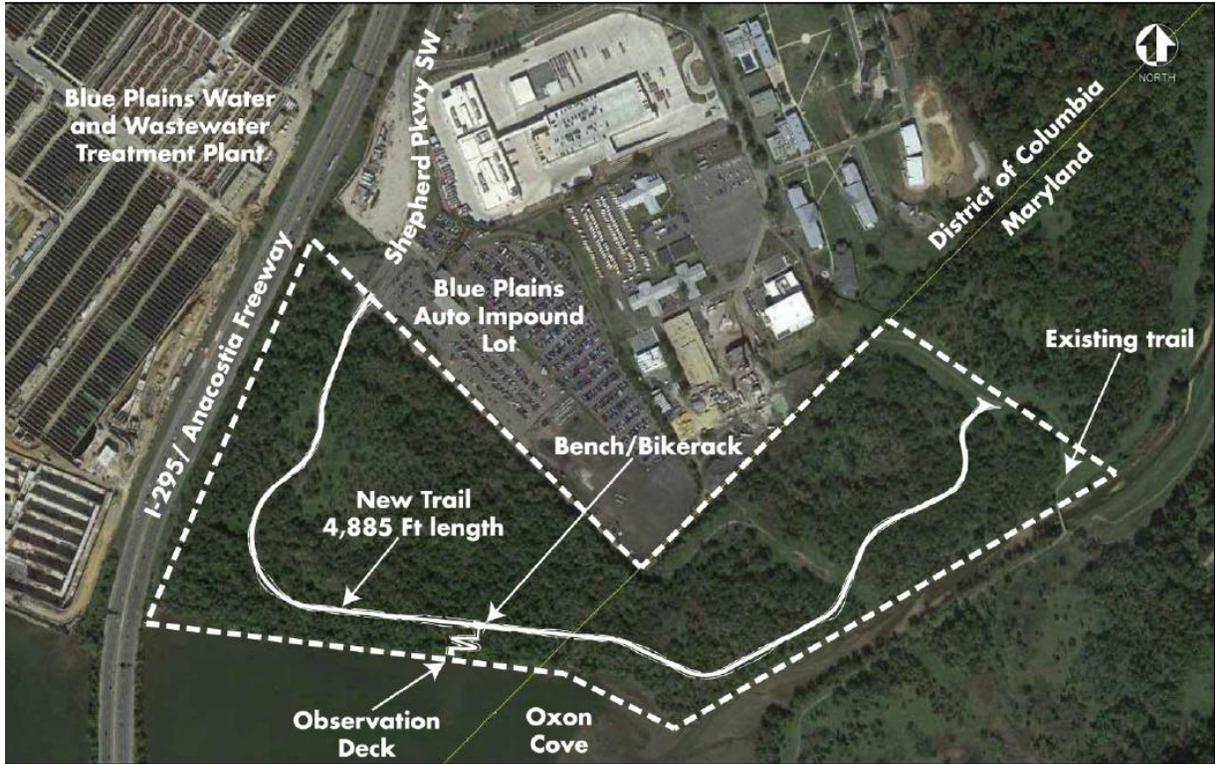


FIGURE 3: ALTERNATIVE 2 TRAIL ALIGNMENT AND ASSOCIATED FEATURES

6. ROCR Rock Creek Multi-Use Trail FONSI

Week of 1 June, 2 NLEB were captured via mist net at Ross Drive Bridge by District of Columbia Department of the Environment (DDOE). The project area starts 0.9 miles (1.4 km) south of this site. Previously, breeding NLEB were found along Rock Creek in 2003 and 2004; good forest summer habitat.

Trail Resurfacing and Widening selected Alternative 3 (described on pages 25-33 of the EA). In addition, Peirce Mill Trail Spur Option B: Eight-Foot Paved Trail Spur (described on page 33 of the EA), and Rose Park Trail Option B: Six-Foot Resurfaced Trail (described on page 34), were the selected options that would be implemented in conjunction with the selected alternative for the Rock Creek Multi-Use Trail Rehabilitation Project. **See Figure 12 (Project Area) and Figure 2 (Alternative 3).**

Preferred Alternative 3 will remove a total of **121 large trees** in excess or equal to 24 inches dbh (Figure 2). A total of **61 large trees** (-+24 inches dbh) were surveyed within the approximate limits of disturbance of the proposed actions. Based on the field investigation, there were **60 trees** outside of the approximate limits of disturbance that could potentially be impacted by the proposed actions. For each of these trees, 30 percent or more of the CRZ is within the approximate limits of disturbance.

Under Alternative 3, the Rock Creek Park multi-use trail would be resurfaced and widened to a minimum six foot width and a maximum 10-foot width, depending on environmental and physical constraints.

- Out of approximately 5.2 miles of trail resurfacing under Alternative 3, 2.6 miles would be 10 feet in width.
- A short segment from just north of Piney Branch Parkway to the National Zoo entrance would be eight feet in width.
- Sections ranging from four to six feet wide would be located for a short segment along Piney Branch Parkway, through the Beach Drive tunnel, and along the connections to P Street, NW.
- Minor trail realignments would improve sight distance and approaches to transitions in trail width.
- The unpaved social trail connecting the Rock Creek Park multi-use trail to the Piney Branch Parkway trail would be resurfaced to an eight-foot width.
- The Piney Branch Parkway trail would be resurfaced to a varying six-foot to eight-foot width, also depending on physical and environmental constraints.

Vegetation protection measures would be detailed in the design phase of the project and may include, but would not be limited to:

- Evaluation of large trees and development of a Tree Save Plan by an arborist or licensed tree expert;
- Installation of tree protection fencing, root pruning for trees whose critical root zones (CRZs) lie within the existing trail alignment or proposed construction area; and staging construction equipment to avoid damage to park vegetation.

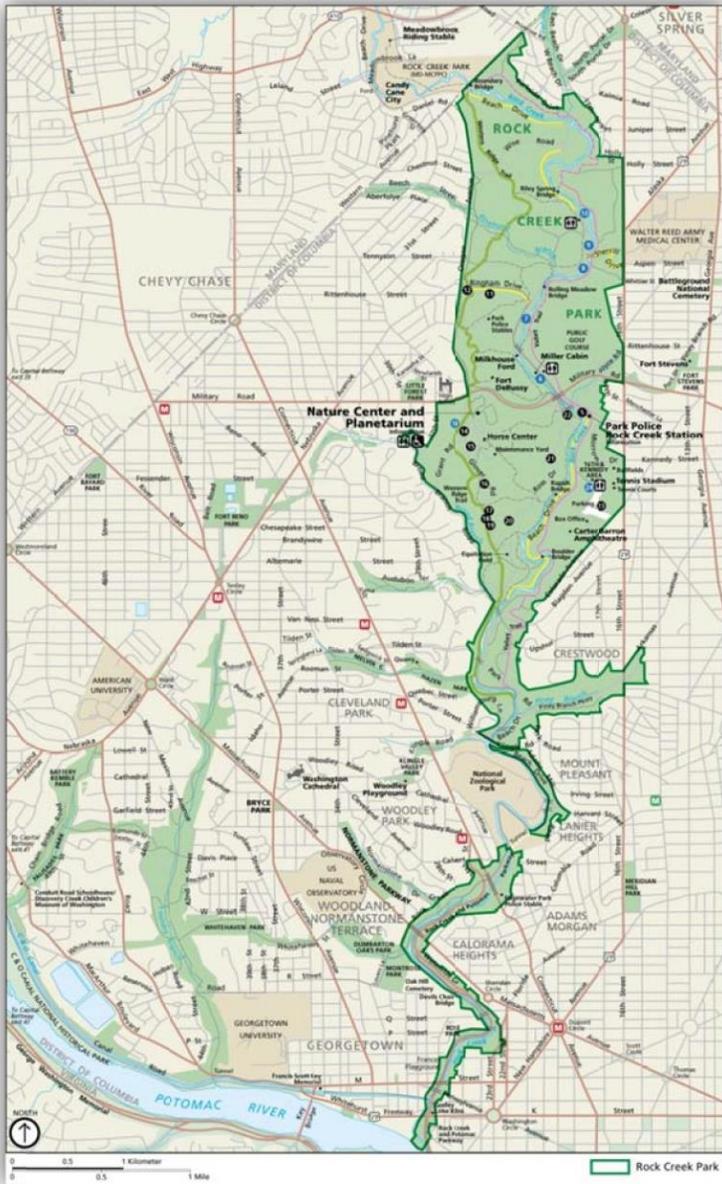


Figure 1 Project Area



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
<http://www.fws.gov/chesapeakebay>



August 5, 2015

Diane Pavek, PhD.
Research and T&E Coordinator
Natural Resources & Science, National Capital Region
4598 MacArthur Blvd, NW
Washington, DC 20007

Re: "Not likely to adversely affect" determination for northern long-eared bat and Indiana bat for the seven projects to be conducted in the National Capital Region

Dear Ms. Pavek:

The U.S. Fish and Wildlife Service (Service) has reviewed the information that you sent to us with a letter dated June 19, 2015 pertaining to seven projects that are planned for various locations within the National Capital Region. We have reviewed these projects and the proposed conservation measures you have described for potential impacts to the northern long-eared bat (*Myotis septentrionalis*), a federally listed threatened species. Additionally, we have reviewed these projects for any adverse effects to the Indiana bat (*Myotis sodalis*), a federally endangered species which may occur on a few sites. The comments provided below are in accordance with Section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

We received your information describing the following seven projects and note that you have already proposed to conduct clearing in the winter for all projects. This commitment to winter clearing will avoid impacts to these species, and we would recommend *not clearing forest between April 15 and August 30* for some of the projects described below. In our assessment of the impacts of these projects, we considered the landscape setting, proximity to survey records of the species, and size of the project. Where needed, we have provided the appropriate time of year restriction for clearing in order to avoid adverse effects to these species:

- 1) **C & O Canal National Historical Park (CHOH) Hancock Rewatering** EA MP122.12 to 124.59; (2.5 acres). Given the commitment that clearing will *not* occur between April 15 and August 30, we conclude the project is not likely to adversely affect these species of bats.
- 2) **CHOH – Water Intake EA – Mile Marker 17**; (4.8 acres). Given the commitment that clearing will *not* occur between April 15 and August 30, we conclude the project is not likely to adversely affect these species of bats.



- 3) **CHOH Extension of the Western Maryland Rail Trail** between Pearre, Washington County, MD and Paw Paw, Morgan County, WV; (11.78 acres along 8.1 miles of trail). Given the commitment that clearing will *not* occur between April 15 and August 30, we conclude the project is not likely to adversely affect these species of bats.
- 4) **George Washington Memorial Park (GWMP) Potomac Yards Metro**; (3.54 acres). No time of year restriction for forest clearing is needed at this site given the isolated urban setting and negative survey results in the surrounding area. We conclude the project is not likely to adversely affect these species of bats.
- 5) **GWMP Fort Hunt**; (less than 1 acre). No time of year restriction for forest clearing is needed at this site given the isolated urban setting and negative survey results in the surrounding area. We conclude the project is not likely to adversely affect these species of bats.
- 6) **National Capital Parks East (NACE) Oxon Cove Multi-Use Biker Trail**; (1 to 3 acres). No time of year restriction for forest clearing is needed at this site given the isolated urban setting and negative survey results in the surrounding area. We conclude the project is not likely to adversely affect these species of bats.
- 7) **Rock Creek (ROCR) Multi-Use Trail Resurfacing and Widening**; (less than 1 acre). Given the commitment that clearing will *not* occur between April 15 and August 30, we conclude the project is not likely to adversely affect these species of bats.

Based on our analysis and your commitment to the conservation measures of clearing outside the active season, we conclude that these seven projects are not likely to adversely affect the northern long-eared bat or the Indiana bat.

We appreciate the opportunity to provide information relevant to threatened and endangered fish and wildlife resources. If you have any questions or concerns regarding this letter, please contact Cherry Keller of my Endangered Species staff at (410) 573-4532 or by email at cherry_keller@fws.gov.

Sincerely,



Genevieve LaRouche
Supervisor



As the nation’s principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic places, and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

September 2016

United States Department of the Interior – National Park Service