Comments on the GWM Parkway and Mount Vernon Trail Construction, January 16, 2023

From the Friends of Dyke Marsh, www.fodm.org

The Friends of Dyke Marsh, a nonprofit, conservation organization founded in 1976, offers the following comments on the proposed construction for the George Washington Memorial Parkway and Mount Vernon Trail, as announced by NPS on December 6, 2022. Thank you for extending the comment period to January 18, 2023.

Our primary focus is on the 2.5 miles of the trail in the Dyke Marsh Wildlife Preserve. We believe that consistent with NPS's mission, the National Park Service (NPS) should prioritize the preservation and restoration of our finite natural resources. The National Park Service is not the "National Recreation Service."

Value of the Trail

The NPS multi-use trail enables people to observe and learn about nature; conduct surveys, studies and citizen science; control invasive plants; and get exercise. Walking, running and bicycling can reduce pollution and noise, if substituted for motorized vehicles.

Conduct a Bicyclists' Speed Study

One rationale NPS and others cite for "trail improvements" is to "improve safety." Our observations are that many bicyclists travel the trail at unsafe speeds which conflicts with and discourages use by many walkers, especially families, parents with strollers, runners, FODM surveyors, citizen scientists and nature walk participants. It is disconcerting and at times dangerous to have walks, surveys, invasive plant and pumpkin ash tree work at Hog Island Gut, bridges 23 and 24, for example, because of speeding cyclists.

Recommendation: Conduct a bicyclists' speed study as you did for the South GWM Parkway and make the results public before completing your design and starting any construction.

Respect Congress's Intent for Dyke Marsh

The 1959 law, Public Law 86-41, that added the Dyke Marsh Wildlife Preserve to the national park system states that Congress did so "so that fish and wildlife development and their preservation as wetland wildlife habitat shall be paramount."

Recommendation: Ensure that any changes are consistent with Congress's directive and do not expand impervious surfaces or other structures.

Respect the Historic Designation

In 1928, Congress authorized the construction of the Mount Vernon Memorial Parkway to honor the bicentennial of George Washington's birth. It is on the National Register of Historic Places.

The designers intended it to be a slow-speed road, an array of units combining the natural, historic and recreational sites with over 7,000 acres of parkland along its 40 miles. The landscape design emphasizes scenic vistas and integrates the road with the undulating terrain following natural contours, highlights natural areas, forested and grassy areas and has minimal signs and lights.

Recommendation: Ensure that all construction and associated projects, both the construction process and the end results, are consistent with Congress's intent, the planners' original vision and the parkway's historic designation.

Avoid Adverse Impacts to Dyke Marsh; Dyke Marsh Faces Numerous Threats

Increasing impervious surfaces would further degrade water quality. ". . . the pollutant load delivered by stormwater runoff to receiving waters increases in proportion to impervious cover." – Center for Watershed Protection (https://owl.cwp.org/mdocs-posts/impacts-of-impervious-cover-on-aquatic-systems-2003/)

Area water quality is already degraded. Based on 2019 county data, 88 percent of Fairfax County's streams are in fair to very poor condition. "This indicates that many of our streams are significantly impaired and lack biological diversity." (https://www.fairfaxcounty.gov/publicworks/stormwater/stream-quality-assessment-program)

> Hunting Creek's water quality rating is "very poor. . . some of the lowest scores of the entire coastal plain system in Fairfax County. The high level of impervious area and the limited stormwater controls implemented when this watershed was initially developed are likely contributing to poor habitat quality." (Fairfax County's Cameron Run, Belle Haven Watershed Study)
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> Alexandria's combined sewer overflow system sends raw sewage into the river during some heavy storms.
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> The Potomac River's health worsened for the first time in a decade, according to the latest Potomac Conservancy report card analyzing 2020 conditions, when the river got a grade of B-, declining from a B in 2018. It is greatly improved from its 2011 grade of D, but Conservancy experts say the recovery is plateauing.
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> Polluted runoff is the only growing source of pollution to the Potomac River and Chesapeake Bay (http://www.potomacreportcard.org/, www.cbf.org).

Increasing impervious surfaces can adversely impact wildlife. For example, if more than 30 percent of an area within 250 meters of the spotted salamander (*Ambystoma maculatum*

salamander's breeding pool is impervious, salamanders are less likely to breed. (Clifton Institute, https://cliftoninstitute.org/research/#declining)

Pavement can be a crossing for wildlife like snakes, salamanders, skinks, squirrels, otters and other wildlife and put them at risk of injury and death.

With climate change, storms are becoming more frequent and more intense (https://sites.nationalacademies.org/BasedOnScience/climate-change-global-warming-is-contributing-to-extreme-weather-events/index.htm). This will exacerbate and increase stormwater runoff and pollution.

In December 2022, Chesapeake Bay Watershed scored a D+, unchanged from 2021 (State of the Bay, 2022, https://www.cbf.org/about-the-bay/state-of-the-bay-report/index.html).

In 1940, the Dyke Marsh wetland was around 180 acres. It is estimated today to be around 60 acres. Around 54 percent of the marsh was removed by dredging (https://pubs.er.usgs.gov/publication/70188509). Erosion has further reduced wetland acreage. The impact of the breakwater and sills is unknown since NPS is apparently not monitoring erosion or sedimentation or other factors.

The preserve is losing over 1,000 pumpkin ash trees (*Fraxinus profunda*) because of the invasive emerald ash borer (*Agrilus planipennis*) (NPS staff estimate).

Oak trees are in unprecedented decline in the region (https://chesapeakebaymagazine.com/oak-trees-dying-at-record-rates-in-bay-region/). Much of the region's biodiversity has been destroyed or impaired.

Historically, Dyke Marsh was the only nesting area of the marsh wren (*Cistothorus palustris*) in the upper Potomac River tidal zone. No active breeders have been confirmed since 2015. (FODM annual surveys)

Invasive plants are rampant and destructive of native habitat and minimally support native wildlife. Around 20 percent of the parkway's plants are not native, according to NPS biologists. Further disturbance is likely to introduce more invasive plants.

Trash is widespread. Trash despoils habitat and can harm wildlife. More human activity typically brings more trash. On January 16, 2023, FODM volunteers collected 70 bags of trash weighing 446 pounds.

NPS and the public should acknowledge that parts of the trail are most likely in a floodplain and therefore the trail will be flooded at times. Wetlands and floodplains are nature's "sponges."

Trail Work and Expansion Would Put Trees Especially at Risk; Avoid More Harm

Hundreds of mature, native trees are within one to two feet of the trail. Those trees contribute to the historic character of the parkway as Congress intended. Root upheaval is normal for trees as they grow and age.

More pavement can prevent sufficient infiltration of water to support trees.

No NPS National Capital Area (NCA) park has adequate tree regeneration levels. Since monitoring begin in 2006, no NCA park has had more than 30 percent of their plots with adequate forest regeneration. (https://www.nps.gov/articles/000/forest-regeneration-2021.htm?utm_medium=email&utm_source=govdelivery)

Potomac River forested shoreline buffers earned an F grade in the Potomac Conservancy's 2020 report card. (https://potomacreportcard.org/habitat/)

Under the Chesapeake Bay program, to which the federal government is a signatory, a key approach to reducing polluted stormwater runoff is to preserve and plant more trees.

Trees stem stormwater runoff, sequester carbon, provide habitat and improve air quality. Streamside forest buffers filter nutrients and sediment, reduce pollution, capture and store carbon, improve air quality, stabilize stream banks, reduce flooding and provide shade.

Heavy construction equipment can compact the soil and damage root systems and bark which can eventually kill trees.

Recommendations:

Complete and fund the NPS/NCR forest regeneration plan before completing the trail design, awarding contracts, beginning construction and destroying more trees and native vegetation.

Do not compact soil, run over roots or damage bark with heavy equipment during construction. Do not destroy or impair any trees or their root systems. If trees are destroyed or adversely impacted, replace those trees two to one and monitor them for three years. Acknowledge that young saplings do not provide the same ecological services as mature trees.

Do not destroy or adversely impact the at-risk 18 pumpkin ash trees for which the Friends of Dyke Marsh are funding treatments to save.

If any impervious surfaces are expanded, avoid tree roots and other damage, mitigate habitat impacts, especially native plants and retain or treat stormwater runoff. Prepare and fund plans to prevent further stormwater runoff from any current and expanded impervious surfaces.

NPS Could Help Reverse Declines

NPS planning and projects should avoid accelerating species and biodiversity declines and could help address many downward trends, especially by helping restore habitat and not expanding current development and impervious surfaces:

The Dyke Marsh Restoration and Long-Term Management Plan, Final Environmental Impact Statement, 2014 (https://parkplanning.nps.gov/document.cfm?documentID=61945), lists six "species of special concern: Least bittern, swamp sparrow, Davis' sedge, river bulrush, rough avens and giant bur-reed. Therefore, Dyke Marsh has at least three Virginia critically imperiled or imperiled plants and at least two bird species that are "extremely rare and critically imperiled" for breeding occurrences and "very rare and imperiled" for non-breeding occurrences, according to Virginia's classifications.

Virginia's Wildlife Action Plan reports that there are 883 species critically imperiled or in decline. "Habitat loss is the single greatest challenge impacting these species," the plan states (https://dwr.virginia.gov/wildlife/wildlife-action-plan/).

Nationally, National Park Service scientists are trying to conserve approximately 600 endangered and threatened species across the National Park System in more than 200 park sites. (National Parks Conservation Association and https://www.nationalparkstraveler.org/2023/01/national-parks-are-vital-recovering-threatened-and-endangered-species

Across North America, bird populations have declined by three billion birds since 1970, a 29 percent decline (National Audubon Society). The 2015 Virginia State Wildlife Action Plan identified 80 species of birds in Virginia as Species of Greatest Conservation Need.

Two-thirds of North American birds are at risk of extinction because of global temperature rise. ("Survival by Degrees," National Audubon Society)

The world has seen a nearly 70 percent average decline in wildlife populations since 1970 (World Wildlife Fund Living Planet Report, 2020)

Five hundred species are likely to become extinct over the next two decades. Extinctions caused by humans and the loss of biodiversity is accelerating. (2020 study by Dr. Gerardo Ceballos, Paul Ehrlich and Peter Raven, Proceedings of the National Academy of Science)

The world has lost more than one-quarter of its land-dwelling insects in the last 30 years, which some call an "insect apocalypse." (Science May 2020)

Two in five of the world's plant species are at risk of extinction. (State of the World's Plants and Fungi 2020, Kew Royal Botanic Gardens)

Know the Unknown

Many of the natural resources in Dyke Marsh are unknown since a complete biological inventory is not available.

Around two million species of plants and animals are known to science, but the total number of species on Earth is around 10 million, which means we have not yet identified half or more of the plant and animal species in the world. – The late Dr. Edwin O. Wilson (https://news.berkeley.edu/2019/10/03/naturalist-e-o-wilson-on-the-fight-to-save-half-the-planet-for-wildlife/)

". . . there are hundreds of species of mammals worldwide that have yet to be identified." Bryan Carstens, Ohio State University. "Only an estimated 1% to 10% of Earth's species have been formally described by researchers." (National Science Foundation, Research News, April 25, 2022)

Examples of "New" Natural Resources Identified in Dyke Marsh and on the Parkway

Several beetle species new to science were discovered in Dyke Marsh. A study is underway to identify several new beetle species possibly new to the GWM Parkway.

In the past 17 years, National Park Service biologist Brent Steury and others, including FODM, have documented over 6,500 species of plants and wildlife on the parkway (Fall 2021, *National Parks* magazine). Nicholas Brulliard wrote, "So far, Steury and his collaborators have discovered dozens of species previously unknown to the world, including 37 springtails (tiny six-legged arthropods), perhaps 30 roundworms, 13 mites, eight moths, eight flies, seven beetles, one sawfly, one small crustacean and one millipede."

In 2021, two nearby bird sightings set records: on August 28, a buff-breasted sandpiper in the Hunting Creek mudflats, bird number 294 for the parkway; the first ever sightings of roseate spoonbills in Dyke Marsh in July and August, bird species number 293 for the parkway.

Ed Eder, past FODM president, documented three new insect species, one new to the preserve and two also new to the parkway: the long-tailed skipper butterfly (*Urbanus proteus*); the sunflower maggot fly, *Tephritidae*, the peacock flies; and a northern pearly-eye butterfly (*Lethe anthedon*).

Recommendations:

Prepare a complete biological inventory in all seasons of all life forms present in the project area and adjacent areas before completing the design, awarding contracts, beginning construction and destroying more trees and native vegetation.

Keep Staging for Construction Work Out of the Preserve

Staging for construction can require large acreage, including impervious surfaces, be very disruptive and introduce many human disturbances. Pavement prohibits natural infiltration of water and generates more polluted runoff.

Recommendations:

Do not locate the staging area for construction in the Dyke Marsh Wildlife Preserve, in any of its habitats. Do not expand pavement or other impervious surfaces.

Conduct a complete biological inventory of the natural resources present before disturbing and destroying habitat with staging or other activities or construction.

Ensure that Parkway and Trail Construction Is Consistent with the National Park Service's Mission

NPS Mission -- "The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world." (www.nps.gov)

From the Organic Act of 1916 -- To "conserve the scenery and the natural and historic objects and the 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."

From Dick Kempthorne, Secretary, U. S. Department of Interior, June 19, 2006 proclamation-- "When there is a conflict between conserving resources unimpaired for future generations and the use of those resources, conservation will be predominant."