

January 19, 2022

NAB-Regulatory@usace.army.mil

U.S. Army Corps of Engineers, Baltimore District
Regulatory Branch (CENAB-OPR)
2 Hopkins Plaza
Baltimore, MD 21201

[Re: The protection of Waters of the U.S., C&O Canal National Historical Park, and Plummers Island from adverse impacts of MDOT's proposed Alternative 9 - Phase 1 South]

Dear USACE Baltimore District Regulatory Branch,

We have serious concerns regarding the adverse impacts to Waters of the U.S., C&O Canal National Historical Park, and Plummers Island if MDOT's proposed Alternative 9 - Phase 1 South for widening the American Legion Bridge is constructed as planned. We are also very much concerned that environmental impacts are not adequately addressed in the DEIS/SEIS, that viable, less destructive alternatives were not properly analyzed and considered, and that Alternative 9 - Phase 1 South is not the Least Environmentally Damaging Practicable Alternative (LEDPA). In fact, it is perhaps the most environmentally destructive of alternatives to federally owned lands and waterways east of the bridge.



Fig. 1. Globally rare Potomac River Bedrock Terrace Hardpan Forest (CEGL006209) at Plummers Island, C&O Canal National Historical Park, Montgomery County, Maryland. The American Legion Bridge looms in the background at the head of the island. Photo by R.H. Simmons.

Plummers Island is a unique 12.2-acre natural area within the Potomac River Gorge, C&O Canal National Historical Park, Montgomery County, Maryland. It is widely known as “The Most Thoroughly Studied Island in North America” (NPS sign on Plummers Island). Its natural history has been a subject of more than 400 scientific papers. More than 4,000 species have been documented there, by over 40,000 collections housed in the National Museum of Natural History, Smithsonian Institution. Numerous rare plant and animal species, and four globally rare plant communities are documented there. Alluvial habitats with overland, non-tidal flooding regimes and diverse, specialized vegetation comprise much of the island (Figs. 2 and 3).



Fig. 2. Rock ridge straight across the channel from the shadow of the American Legion Bridge at the 9 ft. flood stage (NOAA Little Falls Gauging Station). Photo by R.J. Soreng, March 2, 2021.

In the DEIS and SEIS, alternatives were mainly considered for which best suited the transportation goals of the project, with required analyses of environmental impacts not presented or poorly discussed. (https://oplanesmd.com/wp-content/uploads/2021/11/l495l270MLS_SDEISUpdatedSection4f.pdf). For example, Alternative 9 as the presumed LEDPA is not justified and the number and type of environmental impacts are not discussed. In fact, no specific discussion of the LEDPA relative to any of the alternatives could be found in the document.

Alternative 9 - Phase 1 South is preferred by MDOT as purportedly the most cost effective of alternatives, but it is the most destructive to Plummers Island and adjacent lands and waterways - largely owing to the physical expansion of the bridge eastward onto the island and the construction of enormous caissons and footers in the existing channel that follows the interior edge of island.

Significant adverse impacts to Plummers Island and adjacent lands and waterways resulting from Alternative 9 include (but are not limited to):

- The taking of several acres of the head of the island (western and northwestern end) by the installation of enormous concrete footers and caissons, resulting in a permanent loss of land, wildlife habitat, wetlands, and functional floodplain.
- The destruction of the north-south section of the bedrock channel (WOTUS) adjacent to the bridge through the installation of enormous concrete footers and caissons directly in the channel, as well as the total and permanent eclipse of sunlight resulting from the bridge deck extending entirely across the channel.
- Adverse impacts to aquatic wildlife as a result of permanent alterations to the channel.
- The destruction of an imprecisely quantified area (by MDOT) of bedrock vernal wetlands (WOTUS) under the proposed new deck and caissons of the bridge.
- The destruction of a high-quality, low forested ridge of bedrock outcrops and rare flora, such as one of two extant stations on the island for the state-rare Leatherwood (*Dirca palustris*); G4/S2 T. (Simmons et al. 2020)
- The installation of caissons and footers in the channel and on the island will intensify the strength of flood flows eastward, resulting in accelerated stream bank and floodplain erosion on the southwest part of the island, as well as the destruction of several natural communities and habitats in this area. Sediment loads from this disturbance will also impact the channel and island.
- Caissons in the channel will trap logs and other debris, resulting in semi-permanent log jams in the channel and a seriously degraded waterway.
- Placing such an embankment or structure across an active floodplain and channel will effectively interrupt flood flows and force more water to the east against the cut bank, hastening the undermining of the floodplain and forested slope there.
- An embankment in the form of caissons at this location will likely also create an eddy during high water that intensifies erosion upstream of the bridge.
- Sedimentation is a vital part of the energy cycle in these ecologically important riparian areas. Caissons or other continuous impediments constructed across this section of the floodplain and channel will disrupt this process, likely causing: 1) the structures to be regularly inundated by alluvium during even minor floods; 2) frequent flood risk to upland areas of the island owing to the removal of the rock ridge that currently protects such areas; and 3) the riparian areas downstream to be robbed of their natural sediment supply, which adversely disrupts the nutrient/energy cycle of these areas and eventually cause deflation of the riparian landscape.
- Six flood-dependent natural communities, some globally rare, will be negatively impacted, including Piedmont / Central Appalachian Sand Bar / River Shore (Tall Herbs Type): (USNVC: C EGL006481); global and state rare Potomac Gorge Riverside Outcrop Barren (Potomac Gorge Type): (USNVC: C EGL006491); Piedmont / Central Appalachian Sycamore - River Birch Scour Woodland: (USNVC: C EGL003896); Floodplain Terrace Forest: (USNVC: C EGL002014); Piedmont / Central Appalachian Silver Maple Forest: (USNVC: C EGL006217); and globally rare Mid-Atlantic High Terrace Hardwood Floodplain Forest: (USNVC: C EGL006459). (Simmons et al. 2016)

- Three upland natural communities near the channel will also be adversely impacted, including the permanent deflection of solar exposure to light-demanding flora and habitats, because of hardscape encroachment across the channel onto the island: Coastal Plain / Outer Piedmont Basic Mesic Forest: (USNVC: CEGLO06055); Central Appalachian Rich Red Oak - Sugar Maple Forest: (USNVC: CEGLO08517); and the globally rare Potomac River Bedrock Terrace Hardpan Forest: (USNVC: CEGLO06209). (Simmons et al. 2016)
- The physical extent of the bridge decking will overtop the head of Plummers Island by 100 ft. or more, robbing vegetation and wildlife under the bridge of sunlight.
- Because of the proposed placement of the caissons in the channel and island, resulting in severely restricting water flow into the channel, the extensive, flood-dependent, state-rare Piedmont / Central Appalachian Rich Floodplain Forest: (USNVC: CEGLO04073) along the channel on the mainland and island will be starved of their natural sediment supply, disrupting the nutrient/energy cycle and causing deflation of the riparian landscape.
- Bridge footings and caissons will likely create a pressure shadow in their lee that accelerate the deposition of sediment on the point bar and floodplain immediately downstream or change the form or composition. In this case, highly detrimental deposition and flood scouring is expected, especially in the form of smothering logs and debris deposits overtop vegetation, wildlife, and habitats on the island.



Fig. 3. Old-age Piedmont / Central Appalachian Silver Maple Forest: (USNVC: CEGLO06217) along the rocky bedrock channel at Plummers Island, Montgomery County, Maryland. Photo by R.H. Simmons.

Under CWA Section 404(b)(1) Guidelines Alternatives Requirements, a permit cannot be issued in circumstances where a less environmentally damaging practicable alternative for the project exists. The

environmental impacts that would result from Alternative 9 - Phase 1 South are significant, not minor. The project will severely impact national parklands, wetlands, and waterways.

WBFC (as a Consulting Party) formally submitted comments on the DEIS, SDEIS, and Section 106 on November 30, 2021, when comments on the SEIS were due. We also met with MDOT on several occasions to discuss our many issues, including those specifically involving hydrology and flooding.

Until recently, engineering designs were not well enough along for anyone to comment on, specifically to evaluate effects of the bridge caissons and pier emplacements, including the reduction of the channel and leveling of the rock ridge at the head of the island. The bridge design plan and placements were only made apparent in screen shares at the November 29, 2021, MDOT meeting. We did include some comments to that effect, but we needed more than 1 day to adequately evaluate the consequences.

We respectfully request that USACE not grant any permits for the Preferred Alternative, Alternative 9 - Phase 1 South, thereby requiring the Applicant to redesign its plans and submit a pre-construction request that provides a proper analyses and rationale of the LEDPA and alternatives, a thorough assessment of the myriad of irreplaceable natural resources affected by the proposed alternative, and required protections for all of the WOTUS currently threatened by the project. The NEPA evaluation needs to be thorough and uncompromising in protecting this special place.

We also request that the above information be placed in the administrative record, courtesy copied to the Project Manager who received the PJD, and furthermore to request that the 15-day resource agency review be re-coordinated to include this new information.

Thank you for your consideration of this important matter.

Sincerely,

Robert J. Soreng, President, Washington Biologists' Field Club (WBFC) and Smithsonian Institution
scientist

<https://wbfc.science/>

Roderick H. Simmons, environmental scientist, WBFC

CC:

National Park Service, C&O Canal National Historical Park
Environmental Protection Agency
U.S. Fish and Wildlife Service
Federal Highway Administration
Maryland Dept. of the Environment
Maryland Dept. of Natural Resources
National Parks Conservation Association