Supplemental Draft Environmental Impact Statement and Updated Draft Section 4(f) Evaluation

APPENDIX H

BALD EAGLE AND PEREGRINE FALCON COMMENTS

From:	Clark, Trevor
To:	Maddy Sigrist
Cc:	Koppie, Craig; Li, Ray
Subject:	I-495/I-270 Managed Lanes Study bald eagle and peregrine falcon comments
Date:	Wednesday, May 13, 2020 11:45:09 AM

Hi Maddy,

This is in response to your request for information about bald eagle (*Haliatuus leucocephalus*) nests locations in Maryland that may be located near the action area of the I-495 & I-270 Managed Lanes Study. We also address your concerns regarding protection measures for peregrine falcons (*Falco peregrinus*) during improvements to the I-495 American Legion Bridge which is also part of this same Study. The Service offers these comments under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) and Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq*.).

Bald eagle

Bald eagle nest surveys were annually conducted by Maryland DNR but ended with the last comprehensive efforts in 2004. Recently, the Maryland Bird Conservation Partnership established a Bald Eagle Nest Monitoring Program with the support of volunteers to monitor nests and collect information (<https://marylandbirds.org/bald-eagle-nest-monitoring>). These data are entered into an electronic database and used by the U.S. Fish and Wildlife Service's Chesapeake Bay Field Office (Service) to make determinations on project impacts that may impact eagle nests. A recent database search resulted in no bald eagle nests within the I-495 & I-270 Managed Lanes Study corridor study boundary. The closest nests were found in Prince George's County near the I-495/ Woodrow Wilson Memorial Bridge, and one at the Washington DC-Maryland border, over eight miles away. Bald Eagle populations are expanding in the Chesapeake Bay region. It is possible that additional nest pairs may utilize natural habitat patches of highway right-of-ways in coming years. We recommend that Maryland State Highway Administration (MD SHA) contact the Service when construction is starting to confirm that the situation has not changed.

Peregrine falcon

Peregrine falcons began nesting at the American Legion Bridge in 2007 (USFWS. C. Koppie, 2007 MD Peregrine Falcon Annual Nest Survey). When MD SHA initiated a contract for bridge painting and maintenance it became apparent that nesting attempts would be unsuccessful. Soon after, MD SHA formed a partnership with the Service and Maryland Department of Natural Resources to protect and promote more favorable conditions for nesting falcons on the Bridge. Through this partnership MD SHA constructed and installed a nest box platform to ensure long term protection for nesting peregrine falcons on the bridge. The falcon pair has been successfully using the nest box for 12 consecutive years (USFWS. Koppie, C.A, 2019 MD Peregrine Falcon Nest Survey).

The upcoming project for improvements to lanes of the American Legion Bridge will most likely disturb the resident peregrine falcons. For this reason the Service is recommending

that the MD SHA remove the existing peregrine falcon nest box just prior to nesting season when construction is scheduled to begin. The pair will likely attempt to find a new nest location on the bridge which may or may not be successful. The Service expects disruption for one or more nesting seasons, due to long term construction activities. Once construction activities are mostly complete near the former nest site, we recommend that the partnership reinstall the nest box.

If you have any questions or concerns regarding this email, please contact Craig Koppie at (410) 573-4534 or by email at Craig_Koppie@fws.gov; or Trevor Clark at (410) 573-4527 or by email at Trevor_ Clark@fws.gov.

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APPENDIX H

WOOD TURTLE HABITAT ASSESSMENT AND SURVEY REPORT - VIRGINIA

Wood Turtle Habitat Assessment and Survey Report - Virginia

(ESS Log # 40764)

May 14, 2021

U.S. Department of Transportation
Federal Highway Administration

and

MDOT MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

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1 INTRODUCTION

The Federal Highway Administration (FHWA), as the Lead Federal Agency, and the Maryland Department of Transportation State Highway Administration (MDOT SHA), as the Local Project Sponsor, are preparing an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) for the I-495 & I-270 Managed Lanes Study (MLS). The purpose of the MLS is to develop a travel demand management solution that addresses congestion and improves trip reliability on I-495 and I-270 within the Study limits **(Figure 1-1)** and enhances existing and planned multi-modal mobility and connectivity. Efforts have been made throughout the planning process to avoid and minimize impacts to rare, threatened, and endangered species to the greatest extent practicable, while still achieving the goals of the MLS.

During coordination with the Virginia Department of Environmental Quality (DEQ) in October 2020 regarding its review of the Draft EIS, the DEQ requested that a habitat evaluation of streams in the Virginia portion of the MLS Corridor Limits of Disturbance be conducted for wood turtle (*Glyptemys insculpta*). Wood turtle is a state-threatened species in Virginia, and is known to occur in Turkey Run, a waterbody located east of the project limits of disturbance. The evaluation was to include an assessment of potential upland and aquatic habitats, the results of which will be reported to Virginia Department of Wildlife Resources (DWR). Correspondence related to this study request is provided in **Appendix A**.

Figure 1-1: MLS Study Corridors

2 METHODS

SURVEY LIMITS

The wood turtle study was limited to the Virginia portion of the MLS Corridor Study Boundary. The wood turtle survey area included all property in Virginia within the extent of the MLS DEIS Build Alternatives limits of disturbance (LOD). Wood Turtle Survey Area limits are depicted in **Appendix B**, **Figure 2-1.**

HABITAT ASSESSMENT

The wood turtle is a species that inhabits both aquatic and terrestrial environments. Wood turtle habitat is characterized by a combination of suitable environmental components, including such features as cold perennially-flowing streams, riparian woodlands, scrubby wetlands, open meadows, and sandy or gravelly areas that can be used for nesting. A key feature is the presence of a flowing watercourse of adequate width and depth (typically mid-sized streams 10 feet to 65 feet wide, Jones et. al 2018) that does not freeze completely during the winter. Wood turtles hibernate in such streams, as well as using them during the mating season. Within-stream structure is important for providing cover, basking sites, overwintering areas, and stability during high-flow periods. Common structural features within streams include large root masses of adjacent mature trees, logjams, and accumulated woody debris. Additional key terrestrial habitat features include the presence of potential nesting substrate within a reasonable distance (usually up to 300 feet, Jones et. al 2018) from the watercourse. For the purposes of this report, the terms "watercourse", "stream", "aquatic habitat" and "waterbody" may be used interchangeably.

Wetland and waterbody delineations previously conducted by VDOT had identified 8 watercourses and one wetland within the wood turtle survey area. The habitat assessment portion of this study focused initially on determining the suitability of these watercourses to potentially support wood turtles, together with an evaluation of the surrounding terrestrial land cover. The habitat assessment survey was conducted by two MDOT SHA biologists on February 3, 2021.

The lead biologist conducting the survey is a Certified Wildlife Biologist with 25+ years' experience that has entailed numerous studies on various turtle species, including wood turtles. Her resume is included in **Appendix C** of this report.

Exclusions and Exceptions

Watercourse 22SS was located on private property and not accessible during the study to evaluate on foot, therefore observations were made from a nearby roadside.

Dead Run, a watercourse depicted in Figure 2-1 on the easternmost edge of the survey area, will not be impacted by the project. This segment of roadway improvements is limited to pavement markings and signage and will not entail earth disturbance or waterway encroachment. Therefore, Dead Run was not included within the wood turtle habitat survey.

PRESENCE-ABSENCE SURVEY

During the active season (generally, mid-April through late October) wood turtles wander throughout multiple types of habitats and therefore presence-absence surveys conducted during that timeframe would need to cover more expansive areas and utilize a variety of survey techniques to be effective. During the inactive season (generally, late October through late March/early April), wood turtles are restricted to their hibernation streams and therefore searches can be limited to these aquatic areas. November to April is the VDWR recommended presence-absence survey window for wood turtles (WSSI 2020).

Streams within the MLS DEIS Build Alternatives LODs that were identified as potential wood turtle habitat were searched opportunistically during the habitat survey in February and were re-visited a second time on March 17, 2021. Equipment to facilitate observation of turtles included a walking stick used to probe substrates and polarized sunglasses. Two biologists walked slowly upstream and downstream, visually scanning the streambed and searching within pools, under woody debris, beneath undercut banks, and within crevices made by overhanging rocks or tree roots. The search methods employed generally followed typical, standardized procedures for wood turtle surveys (e.g. Brown et al, 2017) combined with the DWR recommended survey season. Based upon the observations of field conditions, discussed further below, two visits were deemed to be sufficient to draw conclusions for this study.

3 RESULTS

Table 1 below lists the delineated water features within the wood turtle survey area, which were evaluated for suitability as wood turtle habitat. Further discussion on each stream and its adjoining land areas follows. Identified features are depicted on the Wood Turtle Survey Area map (**Figure 2-1**) in **Appendix B**. Photographs of the streams and adjoining habitats evaluated and searched within the wood turtle survey area are provided in **Appendix D**.

Table 1 – Summary of Evaluated Watercourses

Watercourse ID	Description	Survey Date(s)	Potential Habitat Conclusion	Wood Turtle Use Conclusion
22UU (tributary to Potomac)	Intermittent stream	2/3/2021	Not potential habitat	N/A
22MM (Potomac River)	Perennial river	2/3/2021	Unlikely habitat	No turtles observed
22VV (tributary to Potomac)	Ephemeral drainage	2/3/2021	Not potential habitat	N/A
22WW/22XX (tributary to Potomac)	Intermittent stream	2/3/2021	Not potential habitat	N/A
22SS (tributary to Potomac)	Perennial stream surrounded by upland forest	2/3/2021	Marginal potential habitat	Unlikely within limits of disturbance
22AAA (tributary to Potomac)	Perennial stream surrounded by upland forest	2/3/2021 and 3/17/2021	Marginal Potential Habitat	No turtles observed
22ZZ (tributary to Potomac)	Perennial stream adjoining PFO (22BBB)	2/3/2021 and 3/17/2021	Marginal Potential Habitat	No turtles observed

22UU. This intermittent stream had water flowing about 6 inches deep at the time of the field visit. The stream channel was approximately 8 feet wide at the toe of bank. Streambed consisted of cobble and gravel substrate with debris. The stream has steeply eroded banks and no connection to the floodplain. Intermittent streams will not support overwintering habitat due to the need for year-round flow and minimal freezing. The surrounding forest does not have a mosaic of wooded and scrub-shrub wetlands with clearings preferred by wood turtles. This stream and its adjacent forested uplands are not potential wood turtle habitat.

22MM. Wood turtles generally do not prefer large river systems, however literature indicates tributaries to "lower Potomac" in Fairfax County did historically support wood turtles and some sandy edges may have been used for nesting (Akre 2002, Akre & Ernst 2006, both as cited in Jones & Willey, 2018). The edge of the Potomac River in the study area has some suitable structural elements such as sand-bars (nesting) and overhanging rocks/pools. The in-water river's edge was searched and probed for turtles during the February field visit and no wood turtles were observed, although visibility was excellent. The main channel of the river within the Project Study Area is not connected to a suitable wood turtle stream or diverse riparian habitat (with both woodlands and openings). Therefore, this section of river is not likely to support wood turtles.

22VV. This feature has ephemeral drainage without distinct bed/banks and lacks water or flow. This drainage feature and its adjacent forested uplands are not potential wood turtle habitat.

22WW/22XX. This feature is an intermittent stream with bedrock outcroppings. There is gravel substrate within the streambed. The channel is approximately 3-feet wide and 1-inch deep, with some good structural elements including pools, bank and rock overhangs, and woody debris. However, this stream is very small and without year-round flow, and therefore would not be expected to support overwintering wood turtles. The surrounding habitat is predominantly upland forest and no potential nesting habitat was observed in the vicinity. This area is not potential wood turtle habitat.

22AAA. This perennial stream has good flow, is 6-18 inches in depth, and is 10-feet wide at the base of the streambank. The streambed substrate consists of bedrock, gravel, cobble, and silt. Instream structure includes overhanging roots and undercut banks, which could offer potential overwintering elements. A search for wood turtles was conducted within the channel during the February investigation and no wood turtles were identified. This stream is a bit small for width/depth to support adequate overwintering, basking or foraging and it is isolated within the interchange. The adjoining habitat is upland beech forest habitat and suitable nesting areas were not observed in the vicinity, which may be a limiting factor. This site has been identified as marginal potential habitat because it is hydrologically-connected (via culverts) to other marginal potential streams (see below).

During the March 17 survey, there was very shallow water (less than 6 inches deep) with minimal flow. No wood turtles were observed.

22SS. This stream is only accessible through private property, therefore it was observed from a public roadway (Live Oak Drive), approximately 180 feet away. The stream appears to be 10-12 feet wide with perennial flow, approximately 6-12 inches deep, with a cobble and gravel substrate. There is

sedimentation immediately downstream of the culvert and undercut banks that indicate erosion. The channel has some sinuosity. The surrounding land use is upland forest, and no potential nesting areas were observed. Per delineation mapping, this stream connects to a palustrine forested (PFO) wetland downstream, outside the proposed impact area (LOD). The portion of the stream within the wood turtle survey area seems too filled-in with sediment to be of over-wintering use to wood turtles. This perennial stream hydrologically-connects to another marginally-suitable site (22AAA upstream). Downstream (but well outside of LOD) may be potential habitat, because the stream connects with an adjacent PFO, and eventually drains into the Potomac River, which may have sandbar nest habitat. Based on the visual assessment of the stream reach within the study area, Feature 22SS is unlikely to support wood turtles due to substantial sedimentation.

22ZZ. This perennial stream is approximately 3 feet wide, with water flowing at 3 inches to 12 inches deep and with a gravel and silt substrate comprising the streambed. There are generally steep banks that are mostly disconnected from the adjoining PFO wetland (22BBB). This stream has marginally potential habitat, because although it is not as wide as would be ideal wood turtle habitat, it does have suitable flow with instream structure and pools and an adjoining PFO wetland habitat. Potential nesting appears limited, but there is a nearby transmission line and roadway embankment that may contain sandy or gravelly elements. The channel was searched for wood turtles in February and none were observed. During the March 17 survey, the water was very shallow, just a couple of inches in depth. No wood turtles were observed.

4 CONCLUSIONS

Of the eight watercourses located within the wood turtle survey area, six were determined to be unsuitable habitat together with the adjoining terrestrial areas. Two watercourses were found to be marginally-suitable habitat and were searched for wood turtles on two occasions during the overwintering season. During the second survey in March 2021, the watercourses were found to have minimal water depth and the suitability was deemed even less ideal than when assessed in February 2021. No wood turtles were found to inhabit the wood turtle survey area. It is unlikely that the MLS project will adversely impact the wood turtle.

5 REFERENCES

Akre, T. S. B. 2002. Growth, maturity, and reproduction of the Wood Turtle, *Clemmys insculpta* (LeConte 1830) in Virginia. Dissertation, George Mason University, Fairfax, Virginia, USA. (as cited in Jones and Willey, 2018).

Akre, T. S. B., and C. H. Ernst. 2006. Population dynamics, habitat use, and home range of the wood turtle, *Glyptemys (=Clemmys) insculpta*, in Virginia. Unpublished report submitted to the Virginia Department of Game and Inland Fisheries. 273 pp. (as cited in Jones and Willey, 2018)

Brown, D.J., M.M. Cochrane, and R.A. Moen. 2017. Survey and Analysis Design for Wood Turtle Population Monitoring. The Journal of Wildlife Management 10 pp. https://doi.org/10.1002/jwmg.21249.

Jones, Mike & Liz Willey (eds). Ecology & Conservation of the Wood Turtle. Appendix VII to: Jones, M.T., H.P. Roberts, and L.L. Willey. 2018. Conservation Plan for the Wood Turtle in the Northeastern United States. Report to the Massachusetts Division of Fisheries & Wildlife and the U.S. Fish & Wildlife Service. 259 pp

Wetland Studies and Solutions, Inc. (WSSI), 2020. Field Notes, Vol. 28, No. 12. September 30, 2020. Endangered and Threatened Species Alert: Survey Window for the State-Threatened Wood Turtle Opens Soon. https://www.wetlands.com/vol28no12-wood-turtle-alert

APPENDIX A:
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY CORRESPONDENCE

COMMONWEALTH of VIRGINIA

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October 1, 2020

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RE: Draft Environmental Impact Statement and Draft Section 4(f) Evaluation, I-495 & I-270 Managed Lanes Study, Federal Highway Administration, Fairfax County (DEQ 20-103F)

Dear Ms. Choplin:

The Commonwealth of Virginia has completed its review of the above-referenced document. The Department of Environmental Quality is responsible for coordinating Virginia's review of federal environmental documents submitted under the National Environmental Policy Act (NEPA) and responding to appropriate federal officials on behalf of the Commonwealth. DEQ is also responsible for coordinating Virginia's review of federal consistency documents submitted pursuant to the Coastal Zone Management Act (CZMA) and providing the state's response. This is in response to the June 2020 Draft Environment Impact Statement (DEIS) (received July 9, 2020) for the above-referenced project. The focus of this response to the 0.4-mile portion of the project in Virginia. The following agencies and locality participated in the review of this proposal:

Department of Environmental Quality
Department of Wildlife Resources
Department of Conservation and Recreation
Marine Resources Commission
Department of Health
Department of Historic Resources
Department of Transportation
Fairfax County

In addition, the Northern Virginia Regional Commission was invited to comment on the proposal.

PROJECT DESCRIPTION

The Federal Highway Administration (FHWA), as the Lead Federal Agency, and Maryland Department of Transportation State Highway Administration (MDOT-SHA), as the Local Project Sponsor, have prepared a Draft Environmental Impact Statement (DEIS) under the National Environmental Policy Act (NEPA) for the I-495 and I-270 Managed Lanes Study (Study). The Study is the first element of the broader I-495 and I-270 Public-Private Partnership (P3) Program. The Study considers alternatives to address roadway congestion within the 48-mile Study area from I-495 south of the George Washington Memorial Parkway in Fairfax County, Virginia, including improvements to the American Legion Bridge over the Potomac River, to west of Maryland (MD) Route 5, and along I-270 from I-495 to north of I-370, including the East and West I-270 Spurs. I-495 and I-270 in Maryland are the two most heavily traveled freeways in Maryland, each with an Average Annual Daily Traffic (AADT) volume up to 260,000 vehicles per day in 2018. The purpose of Study is to develop a travel demand management solution that addresses congestion, improves trip reliability, and enhances existing and planned multimodal mobility and connectivity. The DEIS provides a comparative analysis between the No Build Alternative and six Build Alternatives;

- Alternative 1: No Build.
- Alternative 8: Two-Lane, Express Toll Lane (ETL) managed Lanes Network on I-495 and One-ETL and One-Lane High Occupancy Vehicle (HOV) Managed Lane on I-270.
- Alternative 9: Two-Lane, High Occupancy Toll (HOT) Managed Lanes Network on both I-495 & I-270.
- Alternative 9 Modified (9M): Two-Lane, HOT Managed Lanes Network on west and east side of I-495 and on I-270; One-Lane HOT Managed Lane on top side of I-495.
- Alternative 10: Two-Lane, ETL Managed Lanes Network on I-495 & I-270 plus One-Lane HOV Managed Lane on I-270 only.
- Alternative 13B: Two-Lane, HOT Managed Lanes Network on I-495; HOT Managed, Reversible Lane Network on I-270.
- Alternative 13C: Two-Lane, ETL Managed Lanes Network on I-495, ETL Managed, Reversible Lane Network and One-Lane HOV Managed Lane on I-270.

The Preferred Alternative will be identified in the Final Environmental Impact Statement (FEIS) which will focus on any additional analysis and refinements of the data and will respond to substantive comments received on the DEIS.

ENVIRONMENTAL IMPACTS AND MITIGATION

1. Surface Waters and Wetlands. According to the DEIS (page 4-88), within Virginia, the corridor study boundary crosses the Middle Potomac watersheds, comprised of the Bull Neck Run, Scotts Run, Dead Run, Turkey Run, and Pimmit Run subwatersheds. All

Build Alternatives would affect surface waters, surface water quality, and watershed characteristics in the corridor study boundary due to direct and indirect impacts to ephemeral, intermittent, and perennial stream channels and increases in impervious surface in their watersheds. Impacts associated with the use of the road after construction are mainly based on the potential for contamination of surface waters by runoff and from new impervious roadway surfaces.

On August 12, 2020, DEQ notified MDOT-SHA that is was unable to determine the extent of jurisdictional waters that would be impacted in Virginia. Supplemental information provided by MDOT-SHA on September 18, 2020, indicate that the Build Alternatives in Virginia have identical impacts. The Build Alternatives would impact a total of 0.05 acres of wetland and 3,349 linear feet of stream in Virginia. The mitigation requirement for each Build Alternative would be 0.10 acres of wetland mitigation and 729 linear feet of riverine mitigation in the Middle Potomac-Catoctin watershed. Mitigation will be met by purchasing bank credits. Bank credit purchases will be described in the Final Compensatory Mitigation Plan (CMP) to be prepared in support of the Final Environmental Impact Statement.

1(a) Agency Jurisdiction.

(i) Department of Environmental Quality

The State Water Control Board promulgates Virginia's water regulations covering a variety of permits to include the Virginia Pollutant Discharge Elimination System Permit regulating point source discharges to surface waters, Virginia Pollution Abatement Permit regulating sewage sludge, storage and land application of biosolids, industrial wastes (sludge and wastewater), municipal wastewater, and animal wastes, the Surface and Groundwater Withdrawal Permit, and the Virginia Water Protection (VWP) Permit regulating impacts to streams, wetlands, and other surface waters. The VWP permit is a state permit which governs wetlands, surface water, and surface water withdrawals and impoundments. It also serves as §401 certification of the federal Clean Water Act §404 permits for dredge and fill activities in waters of the U.S. The VWP Permit Program is under the Office of Wetlands and Stream Protection, within the DEQ Division of Water Permitting. In addition to central office staff that review and issue VWP permits for transportation and water withdrawal projects, the six DEQ regional offices perform permit application reviews and issue permits for the covered activities:

- Clean Water Act, §401;
- Section 404(b)(i) Guidelines Mitigation Memorandum of Agreement (2/90);
- State Water Control Law, Virginia Code section 62.1-44.15:20 *et seq*.; and
- State Water Control *Regulations*, 9 VAC 25-210-10.

(ii) Virginia Marine Resources Commission

The Virginia Marine Resources Commission (VMRC) regulates encroachments in, on or

over state-owned subaqueous beds as well as tidal wetlands pursuant to Virginia Code §28.2-1200 through 1400. For nontidal waterways, VMRC states that it has been the policy of the Habitat Management Division to exert jurisdiction only over the beds of perennial streams where the upstream drainage area is 5 square miles or greater. The beds of such waterways are considered public below the ordinary high water line.

1(b) Agency Findings.

(i) Virginia Department of Environmental Quality

The VWP Permit program at the DEQ Office of Wetlands and Stream Protection (OWSP) finds that the Build Alternatives may require either VWP Individual Permit or General Permit coverage.

(ii) Virginia Marine Resources Commission

VMRC has no comments on the proposal.

1(c) Requirements. FHWA must submit a Joint Permit Application (JPA) in accordance with form instructions for further evaluation and final permit need determination by DEQ. FHWA must coordinate with DEQ-OWSP prior to the implementation of the preferred alternative. The JPA should be submitted to VMRC which serves as the clearinghouse for review by DEQ, VMRC, local wetlands board and the U.S. Army Corps of Engineers (Corps).

1(d) Recommendations. DEQ offers the following recommendations:

1. Wetland and stream impacts should be avoided and minimized to the maximum extent practicable.
2. If the scope of the project changes, additional review will be necessary by one or more offices in the Commonwealth's Secretariat of Natural Resources and/or the Corps.
3. At a minimum, any required compensation for impacts to State Waters, including the compensation for permanent conversion of forested wetlands to emergent wetlands, should be in accordance with all applicable state regulations and laws. Consider mitigating impacts to forested or converted wetlands by establishing new forested wetlands within the impacted watershed.
4. Any temporary impacts to surface waters associated with this project should be restored to pre-existing conditions.
5. No activity may substantially disrupt the movement of aquatic life indigenous to the water body, including those species, which normally migrate through the area, unless the primary purpose of the activity is to impound water. Culverts placed in streams must be installed to maintain low flow conditions. No activity may cause more than minimal adverse effect on navigation.

Pages 5-12 of letter removed from this appendix, not relevant to this report

and threatened species of plants and insects. Under a Memorandum of Agreement established between VDACS and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species.

7(b) Agency Findings.

(i) Potomac Gorge Conservation Site

According to the information currently in DCR files, the Potomac Gorge Conservation Site is located within the Study in Virginia. The Potomac Gorge Conservation Site has been given a biodiversity significance ranking of B1, which represents a site of outstanding significance. The natural heritage resources of concern at this site are:

Maianthemum stellatum	Starry Solomon's-plume	G5/S1S2/NL/NL
Phacelia covillei	Coville's phacelia	G3/S1/NL/NL
Gomphus fraternus	Midland Clubtail	G5/S2/NL/NL
Boechera dentata	Short's rock cress	G5/S1/NL/NL
Silene nivea	Snowy Campion	G4?/S1/NL/NL
Central Appalachian/Piedmont Low-Elevation Rich Boulderfield Forest		G3G4/S2S3/NL/NL
Coastal Plain/Outer Piedmont Basic Mesic Forest		G4?/ S3/NL/NL

See DCR-DNH comments attached for more detailed information on these resources.

(ii) Additional Listed Species

DCR-DNH finds the following listed species have been historically documented within the Virginia portion of the Study:

Tall Thistle	*Cirsium altissimum*	G5/S1/NL/NL
Wild cucumber	*Echinocystis lobate*	G5/SH/NL/NL
Smartweed Dodder	*Cuscuta polygonorum*	G5/S1/NL/NL
Northern rattlesnake-master	*Eryngium yuccifolium var. yuccifolium*	G5T5/S2/NL/NL
One-sided shinleaf	*Orthilia secunda*	G5/SH/NL/NL
Pizzini's Amphipod	*Stygobromus pizzinii*	G3G4/S1S2/NL/NL

Furthermore, DCR biologists find that there is potential for the Northern Virginia Well amphipod (*Stygobromus phreaticus,* G1/S1/SOC/NL) and other *Stygobromus* amphipod species to occur within the Study area.

(iii) Ecological Cores

DCR-DNH finds that the proposed project will fragment an Ecological Core C4 as identified in the Virginia Natural Landscape Assessment, one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection.

Ecological Cores are areas of unfragmented natural cover with at least 100 acres of interior that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Cores also provide benefits in terms of open space, recreation, water quality (including drinking water protection and erosion prevention), and air quality (including carbon sequestration and oxygen production), along with the many associated economic benefits of these functions. The cores are ranked from C1 to C5 (C5 being the least ecologically relevant) using many prioritization criteria, such as the proportions of sensitive habitats of natural heritage resources they contain. See detailed DCR-DNH comments attached for additional information.

(iv) State-listed Plant and Insect Species

DCR-DNH finds that the activity will not affect any documented state-listed plants or insects at the site.

(v) State Natural Area Preserves

DCR files do not indicate the presence of any State Natural Area Preserves under the agency's jurisdiction in the project vicinity.

(vi) Rare, Threatened and Endangered Plant Species Surveys

DCR received the summary of rare, threatened and endangered (RTE) plant species surveys conducted to date in the Potomac River Gorge area by MDOT-SHA. DCR looks forward to reviewing the full report on the survey findings and further coordination per the DEIS (page 4-116), to minimize impacts to natural heritage resources.

7(c) Recommendations.

(i) Avoidance of Natural Heritage Resources

DCR recommends avoidance of documented occurrences of natural heritage resources by limiting the project footprint as much as possible, including along the steep bluff on the eastern side in Virginia.

(ii) Natural Heritage Resources Inventory

Due to the potential of the Study area in Virginia to support additional populations of natural heritage resources that are not included in a RTE plant survey, DCR recommends an inventory for these resources within areas proposed for disturbance including stormwater management ponds and equipment staging areas. With the survey results DCR can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources. DCR-DNH biologists are qualified and available to conduct inventories for rare, threatened, and endangered species.

(iii) Ecological Cores

Minimizing fragmentation is a key mitigation measure that will preserve the natural patterns and connectivity of habitats that are key components of biodiversity. DCR-DNH recommends efforts to minimize edge in remaining fragments, retain natural corridors that allow movement between fragments and designing the intervening landscape to minimize its hostility to native wildlife (natural cover versus lawns).

(iv) Natural Heritage Resources Database Update

Contact DCR-DNH to secure updated information on natural heritage resources if the scope of the project changes or six months pass before the project is implemented, since new and updated information is continually added to the Biotics Data System.

8. Wildlife Resources and Protected Species. According to the DEIS (page 4-110), the Virginia Department of Agriculture and Consumer Services (VDACS), Virginia Department of Game and Inland Fisheries, and DCR cooperate in the protection of Virginia's state- and federally-listed threatened and endangered species. Threatened and endangered wildlife species are protected under the Virginia Endangered Species Act of 1972 (Chapter 5 Wildlife and Fish Laws; Va. Code Ann., § 29.1-563 through 570).

8(a) Agency Jurisdiction. The Virginia Department of Wildlife Resources (DWR) (formerly the Department of Game and Inland Fisheries), as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state- or federally-listed endangered or threatened species, but excluding listed insects (Virginia Code, Title 29.1). DWR is a consulting agency under the U.S. Fish and Wildlife Coordination Act (16 U.S. Code §661 *et seq*.) and provides environmental analysis of projects or permit applications coordinated through DEQ and several other state and federal agencies. DWR determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce or compensate for those impacts. For more information, see the DWR website at *www.dwr.virginia.gov*.

8(b) Agency Findings. DWR documents the state-listed endangered Little brown bat

and Tri-colored bat, and the state-listed threatened Wood turtle from the project area. Turkey Run, a tributary of the Potomac River that is located to the east of this project site and crosses George Washington Memorial Parkway, has been designated a Threatened and Endangered Species Water due to the presence the Wood turtle. In addition, the Potomac River has been designated a Confirmed Anadromous Fish Use Area.

8(c) Recommendations.

(i) Little Brown Bat and Tri-Colored Bat

DWR recommends that the Final EIS consider potential impacts upon these species. In addition, FHWA should adhere to a time-of-year restriction on tree removal and timbering from April 1 through October 31 in areas of suitable roosting habitat (forest) or that such areas be assessed or surveyed for roosting sites. The assessments should be provided to DWR for further review.

(ii) Wood Turtle

DWR recommends that the Final EIS address the potential presence of the Wood turtle and its habitat within the project area. In addition, DWR recommends the following for the protection of the Wood turtle:

- Adhere to a time-of-year restriction for instream work from October 1 through March 31 of any year.
- Adhere to a time of year restriction from April 1 through September 30 of any year for work in uplands within 900 feet of a stream.
- Preserve at least 300 feet of undisturbed naturally vegetated buffer along the stream.

Additional information on the Wood Turtle may be found online on the DWR website.

DWR recommends that a formal habitat assessment be performed by a qualified biologist which clearly depicts, via narrative and photographic description, all stream and upland habitats along the tributary to Stony Run. The habitat assessment should be made available to DWR for review. Upon review, DWR will make final comments regarding protection of the Wood turtle associated with this project.

DWR recommends that, prior to construction, contractors should be made aware of the possibility of encountering Wood turtle on site and become familiar with its appearance, status and life history. Attached is an appropriate information sheet/field observation form for distribution to contractors. If Wood turtles are encountered and are in jeopardy during construction, remove them from immediate harm. If there is staff on site with an appropriate Threatened and Endangered Species Scientific Collection Permit, relocate

encountered Wood turtles to suitable habitat, preferably within the nearest perennial stream. Relocations should be reported to DWR.

(iii) Potomac River

DWR recommends the implementation of the following measures for proposed instream work.

- Adhere to a time-of-year restriction from February 15 through June 30 of any year.
- Conduct instream activities during low or no-flow conditions.
- Use non-erodible cofferdams or turbidity curtains to isolate the construction area.
- Block no more than 50% of the streamflow at any given time (minimal overlap of construction footprint notwithstanding).
- Stockpile excavated material in a manner that prevents reentry into the stream.
- Restore original streambed and streambank contours.
- Revegetate barren areas with native vegetation.
- Implement strict erosion and sediment control measures.
- Designed and perform instream work in a manner that minimizes impacts upon natural streamflow and movement of resident aquatic species.
- Use a dam and pump-around for as limited a time as possible and return water to the stream free of sediment and excess turbidity.
- Use matting made from natural/organic materials such as coir fiber, jute, and/or burlap to minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting.
- Install concrete (e.g. Tremie method, grout bags, and poured concrete) “in the dry,” allowing all concrete to harden and cure prior to contact with open water to minimize harm to the aquatic environment and organisms.
- Construct stream crossings via clear-span bridges due to the future maintenance costs associated with culverts and the loss of riparian and aquatic habitat. If this is not possible, countersink culverts below the streambed at least 6 inches or use bottomless culverts to allow passage of aquatic organisms.
- Install floodplain culverts to carry bankfull discharges.

(iv) General Protection of Wildlife Resources

DGIF offers the following recommendations to minimize overall impacts to wildlife and natural resources from the construction of linear road projects.

- Avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable.
- Maintain naturally vegetated buffers of at least 100 feet in width around wetlands and on both sides of perennial and intermittent streams, where practicable.
- Conduct significant tree removal and ground clearing activities outside of the

Pages 18-22 of letter removed from this appendix; not relevant to report

- Performance of ecological resource surveys for each of these stream corridors, the Scotts Run Nature Preserve, and the George Washington Memorial Parkway.
- Assessment of the environmental services and the economic, social, and health benefits of the urban forest that would be lost due to the clearing associated with this project, as well as compensation for these impacts.
- Reforestation of all disturbed areas with commitments to compensation, soil rebuilding, and the restoration of native plant communities.
- Integration of invasives control throughout the project area.
- Clarification of the current status of and expectations regarding noise mitigation, to include potential barrier locations and design details.

For additional information regarding the county's comments, contact Fairfax DPD, Joseph Gorney at (703) 324-1380 or joseph.gorney@fairfaxcounty.gov.

15. Pollution Prevention. DEQ advocates that principles of pollution prevention and sustainability be used in all construction projects as well as in facility operations. Effective siting, planning, and on-site BMPs will help to ensure that environmental impacts are minimized. However, pollution prevention and sustainability techniques also include decisions related to construction materials, design, and operational procedures that will facilitate the reduction of wastes at the source.

15(a) Recommendations. We have several pollution prevention recommendations that may be helpful in the construction and operation of this project:

- Consider development of an effective Environmental Management System (EMS). An effective EMS will ensure that the proposed facility is committed to minimizing its environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and it recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program (VEEP). VEEP provides recognition, annual permit fee discounts, and the possibility for alternative compliance methods.
- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level, and amount of packaging should be considered and can be specified in purchasing contracts.
- Consider contractors' commitment to the environment (such as an EMS) when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals.
- Integrate pollution prevention techniques into the facility maintenance and operation. Maintenance facilities should be designed with sufficient and suitable space to allow for effective inventory control and preventative maintenance.

DEQ's Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques and EMS. For more information, contact

DEQ's Office of Pollution Prevention, Meghann Quinn at (804) 698-4021 or meghann.quinn@deq.virginia.gov.

REGULATORY AND COORDINATION NEEDS

1. Surface Waters and Wetlands. Surface water and wetland impacts associated with the Preferred Alternative may require VWP Permit authorization from DEQ pursuant to Virginia Code §62.1-44.15:20. A Joint Permit Application may be obtained from and submitted to the VMRC which serves as a clearinghouse for the joint permitting process involving the VMRC, DEQ, Corps, and local wetlands boards. For additional information and coordination, contact DEQ-OWSP, Michelle Henicheck at (804) 698-4007 or michelle.henicheck@deq.virginia.gov.

2. Erosion and Sediment Control and Stormwater Management.

2(a) Erosion and Sediment Control and Stormwater Management. Construction in Virginia must comply with the Virginia Erosion and Sediment Control Law (Virginia Code § 62.1-44.15:61) and *Regulations* (9 VAC 25-840-30 *et seq*.) and Stormwater Management Law (Virginia Code § 62.1-44.15:31) and *Regulations* (9 VAC 25-870-210 *et seq*.) as administered by DEQ. Activities that disturb 2,500 square feet or more in CBPAs would be regulated by *VESCL&R* and *VSWML&R*. Erosion and sediment control, and stormwater management requirements should be coordinated with DEQ-NRO, Kelly Vanover at (804) 837-1073 or kelly.vanover@deq.virginia.gov.

2(b) General Permit for Stormwater Discharges from Construction Activities (VAR10). For land-disturbing activities of equal to or greater than one acre, the applicant is required to apply for registration coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-880-1 *et seq.*). Specific questions regarding the Stormwater Management Program requirements should be directed to DEQ-NRO, Kelly Vanover at (804) 837-1073 or kelly.vanover@deq.virginia.gov.

3. Chesapeake Bay Preservation Areas. Construction must comply with the requirements of the Bay Act (Virginia Code §§ 62.1-44.15:67 through 62.1-44.15:78) and *Regulations* (9 VAC 25-830-10 *et seq*.) as administered by DEQ. The construction, installation, operation, and maintenance of public roads in RPA are conditionally exempt under 9 VAC-25-830-150.B.1 of the *Regulations*. For additional information and coordination, contact the DEQ-OWLGAP, Daniel Moore at (804) 698-4520 or daniel.moore@deq.virginia.gov.

4. Air Quality Regulations. The Proposed Alternatives are subject to air regulations administered by DEQ. The following sections of the Code of Virginia and Virginia Administrative Code are applicable:

- asphalt paving operations (9 VAC 5-45-780 *et seq*.);

- fugitive dust and emissions control (9 VAC 5-50-60 *et seq*.); and
- open burning restrictions (9 VAC 5-130).

Contact Fairfax County fire officials for information on any local requirements pertaining to open burning. For more information and coordination contact DEQ-NRO, Justin Wilkinson at (703) 583-3820 or justin.wilkinson@deq.virginia.gov.

5. Solid and Hazardous Wastes. All solid waste, hazardous waste, and hazardous materials must be managed in accordance with all applicable federal, state, and local environmental regulations. For additional information concerning location and availability of suitable waste management facilities in the project area or if free product, discolored soils, or other evidence of contaminated soils are encountered, contact DEQ-NRO, Richard Doucette at (703) 583-3813 or richard.doucette@deq.virginia.gov.

5(a) Asbestos-Containing Material. The owner or operator of a demolition activity, prior to the commencement of the activity, is responsible to thoroughly inspect affected structures for the presence of asbestos, including Category I and Category II nonfriable asbestos containing material (ACM). Upon classification as friable or non-friable, all waste ACM shall be disposed of in accordance with the Virginia Solid Waste Management Regulations (9 VAC 20-80-640), and transported in accordance with the Virginia regulations governing Transportation of Hazardous Materials (9 VAC 20-110-10 et seq.). Contact the DEQ-NRO, Richard Doucette at (703) 583-3813 or richard.doucette@deq.virginia.gov and the Department of Labor and Industry, Doug Wiggins (540) 562-3580 ext. 131 for additional information.

5(b) Lead-Based Paint. Construction must comply with the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) regulations, and with the Virginia Lead-Based Paint Activities Rules and Regulations. For additional information regarding these requirements contact the Department of Professional and Occupational Regulation at (804) 367-8500.

5(c) Petroleum Contamination. In accordance with Virginia Code §§ 62.1-44.34.8 through 9 and 9 VAC 25-580-10 *et seq*., site activities involving excavation or disturbance of petroleum contaminated soils and or groundwater must be reported to DEQ-NRO, Randy Chapman at (703) 583-3816 or randy.chapman@deq.virginia.gov.

5(d) Petroleum Storage Tank Compliance and Inspection. The installation and use of an AST of greater than 660 gallons for temporary fuel storage of more than 120 days must comply with the requirements in 9 VAC 25-91-10 *et seq*. Contact DEQ-NRO, Riaz Syed at (703) 583-3915 or riaz.syed@deq.virginia.gov.

6. Natural Heritage Resources.

6(a) Natural Heritage Resources Inventory. Contact Natural Heritage Chief Biologist, Anne Chazal at (804) 786-9014 or anne.chazal@dcr.virginia.gov, to discuss conducting

a natural heritage resources survey within areas proposed for disturbance, including stormwater management ponds and equipment staging areas. With the survey results DCR can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

6(b) Ecological Cores. Additional information on minimizing the deleterious effects of fragmentation of the ecological core may be obtained by contacting DCR-DNH, Rene Hypes at (804) 371-2708 or rene.hypes@dcr.virginia.gov.

6(c) Natural Heritage Resources Update. Contact DCR-DNH, Rene Hypes at (804) 371-2708 or rene.hypes@dcr.virginia.gov, to secure updated information on natural heritage resources if the scope of the project changes and/or six months pass before the project is implemented, since new and updated information is continually added to the Biotics Data System.

7. Wildlife Resources and Protected Species.

7(a) Wood Turtle. Contact DWR's Herpetologist, John (J.D.) Kleopfer at (804) 829-6703 or john.kleopfer@dwr.virginia.gov to further discuss a formal habitat assessment at all stream and upland habitats along the tributary to Stony Run. The habitat assessment should reference ESSLog#40764 and be made available to DWR for review. In addition, Wood Turtle relocations should be reported to DWR, J.D. Kleopfer, and Wood Turtle observation forms should be faxed to (804) 829-6788.

7(b) General Protection of Wildlife Resources. Contact DWR, Amy Ewing at (804) 367-2211 or amy.ewing@dwr.virginia.gov for the development of project-specific measures to minimize project impacts upon wildlife resources.

8. Historic and Archaeological Resources. The FHWA must continue to consult with DHR under Section 106 NHPA. For additional information and coordination, contact DHR, Marc Holma at (804) 482-6090 or marc.holma@dhr.virginia.gov.

9. Recreational Resources. Under § 6(f) (3) of the Land and Water Conservation Fund Act, no property acquired or developed with assistance under LWCFA shall be converted to other than public outdoor recreation uses without the approval of the Secretary of the Interior. This also includes coordination with DCR-DPRR to confirm that the project will not impact Scotts Run Nature Preserve. Contact DCR-DPRR, Kristal McKelvey at or kristal.mckelvey@dcr.virginia.gov, for further information and coordination.

10. Floodplain Management. The Preferred Alternative must be implemented in compliance with Fairfax County's local floodplain ordinance. Local floodplain administrator contact information may be found on DCR's Local Floodplain Management Directory.

11. Federal Consistency under the CZMA. Pursuant to the Coastal Zone Management Act (CZMA) of 1972, as amended, FHWA is required to determine the consistency of its activities affecting Virginia's coastal resources or coastal uses with the Virginia Coastal Zone Management (CZM) Program (see section 307(c)(1) of the *Act* and 15 CFR Part 930, Subpart C, section 930.34). This involves an analysis of the activities in light of the enforceable policies of the Virginia CZM Program, and the submission of a consistency determination reflecting that analysis and committing the FHWA to comply with the enforceable policies. In addition, we encourage FHWA to consider the Advisory Policies of the Virginia CZM Program. Section 930.39 gives content requirements for the consistency determination, or you may also find guidance in DEQ's Federal Consistency Information Package on the agency's website.

Thank you for the opportunity to review the Draft Environmental Impact Statement for the I-495 & I-270 Managed Lanes Study in Fairfax County. Detailed comments of reviewing agencies are attached for your review. Please contact me at (804) 698-4204 or John Fisher at (804) 698-4339 for clarification of these comments.

Sincerely,

Bettina Rayfield, Program Manager
Environmental Impact Review and Long-Range Priorities

Enclosures

Ec: Amy Ewing, DWR
Robbie Rhur, DCR
Arleen Warren, VDH
Mark Eversole, VMRC
Roger Kirchen, DHR
Heather Williams, VDOT
Denise James, Fairfax County
Robert Lazaro, NVRC

Commonwealth of Virginia

Fisher, John <john.fisher@deq.virginia.gov>

ESSLog# 40764_20-103F_ManagedLanesStudy_DWR_AME20200812

1 message

Ewing, Amy <amy.ewing@dwr.virginia.gov> Wed, Aug 12, 2020 at 11:25 AM
To: John Fisher <john.fisher@deq.virginia.gov>
Cc: John Kleopfer <john.kleopfer@dwr.virginia.gov>, Richard Reynolds <rick.reynolds@dwr.virginia.gov>

John,
We have reviewed the Virginia portion of the subject project that proposes upgrades to miles of interstate in Northern Virginia and Maryland. We document state Endangered Little Brown Bats and state Endangered Tri-colored Bats from the project area. We recommend that he EIS consider potential impacts upon these species. We typically recommend adherence to a time of year restriction on tree removal and timbering from April 1 through October 31 in areas of suitable roosting habitat (forest) or that such areas be assessed or surveyed for roosting sites and that such assessments be provided to us for further review.

We also document state Threatened Wood Turtles from the project area. Turkey Run, a tributary of the Potomac River that is located to the east of this project site and crosses George Washington Memorial Parkway has been designated a Threatened and Endangered Species Water due to the presence of this species. We recommend that EIS address the potential presence of Wood Turtles and their habitats within the project area. Our typical recommendations for the protection of Wood Turtles and their habitats associated with construction activities are the following. If presence is determined, these and/or other measures may be recommended:

Standard recommendations for protection of Wood Turtles associated with construction activities:
We recommend that all instream work adhere to a time of year restriction from October 1 through March 31 of any year. We recommend that any work in uplands within 900 ft of the stream adhere to a time of year restriction from April 1 through September 30 of any year. In addition, we recommend preservation of an at least 300-ft undisturbed naturally vegetated buffer along the stream.

Habitat Assessment (formal): The habitat assessment should be performed by a qualified biologist and should clearly depict, via narrative and photographic description, all stream and upland habitats along the tributary to Stony Run located on site. This habitat assessment should be made available to Amy Ewing in DWR's Headquarters office in Henrico and John (JD) Kleopfer in DWR's Charles City office for review. The habitat assessment and associated correspondence should reference the five-digit ESSLog# in the subject line of this email. Upon review of the habitat assessment, we will make final comments regarding protection of Wood Turtles associated with this project.

Education of contractors: We recommend that prior to the commencement of work all contractors associated with work at this site be made aware of the possibility of encountering Wood Turtles on site and become familiar with their appearance, status and life history. An appropriate information sheet / field observation form to distribute to contractors and employees is attached. If any Wood Turtles are encountered and are in jeopardy during the development or construction of this project, remove them from immediate harm and call DWR's Herpetologist, John (J.D.) Kleopfer at 804-829-6703. If staff on site hold an appropriate Threatened and Endangered Species Scientific Collection Permit, this staff member may relocate Wood Turtles out of harm's way and into suitable habitat, preferably within the nearest perennial stream. Any relocations should be reported to J.D. Kleopfer and the wood turtle observation form should be completed and faxed to JD at 804-829-6788.

Further information about wood turtles can be found online at: https://www.DWR.virginia.gov/wildlife/information/wood-turtle/

The Potomac River has been designated a Confirmed Anadromous Fish Use Area. If instream work in this river is necessary, we recommend that such work adhere to a time of year restriction from February 15 through June 30 of any year.

We recommend conducting any in-stream activities during low or no-flow conditions, using non-erodible cofferdams or turbidity curtains to isolate the construction area, blocking no more than 50% of the streamflow at any given time (minimal overlap of construction footprint notwithstanding), stockpiling excavated material in a manner that prevents reentry into the stream, restoring original streambed and streambank contours, revegetating barren areas with native vegetation, and implementing strict erosion and sediment control measures. We recommend that instream work be designed and performed in a manner that minimizes impacts upon natural streamflow and movement of resident aquatic species. If a dam and pump-around must be used, we recommend it be used for as limited a time as possible and that water returned to the stream be free of sediment and excess turbidity. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, we recommend use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap. To minimize harm to the aquatic environment and its residents resulting from use of the Tremie method to install concrete, installation of grout bags, and traditional pouring of concrete, we recommend that such activities occur only in the dry, allowing all concrete to harden and cure prior to contact with open water. Due to future maintenance costs associated with culverts, and the loss of riparian and aquatic habitat, we prefer stream crossings to be constructed via clear-span bridges. However, if this is not possible, we recommend countersinking any culverts below the streambed at least 6 inches, or the use of bottomless culverts, to allow passage of aquatic organisms. We also recommend the installation of floodplain culverts to carry bankfull discharges.

To minimize the adverse impacts of linear utility/road project development on wildlife resources, we offer the following general recommendations: avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable; maintain naturally vegetated buffers of at least 100 feet in width around wetlands and on both sides of perennial and intermittent streams, where practicable; conduct significant tree removal and ground clearing activities outside of the primary songbird nesting season of March 15 through August 15; and, implement and maintain appropriate erosion and sediment controls throughout project construction and site restoration. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, we recommend use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap. We understand that adherence to these general recommendations may be infeasible in some situations. We are happy to work with the applicant to develop project-specific measures as necessary to minimize project impacts upon the Commonwealth's wildlife resources.

This project is located within 2 miles of a documented occurrence of a state or federal threatened or endangered plant or insect species and/or other Natural Heritage coordination species. Therefore, we recommend coordination with VDCR-DNH regarding protection of these resources.

Thanks, Amy

Amy Martin Ewing
Environmental Services Biologist
Manager, Wildlife Information
P 804.367.2211
Virginia Department of Wildlife Resources
CONSERVE. CONNECT. PROTECT.
A 7870 Villa Park Drive, P.O. Box 90778, Henrico, VA 23228
www.VirginiaWildlife.gov

2 attachments

WOTU_INfoSheet_DWR20200805.pdf
629K

WOTU_FieldObsForm_20200805.pdf
1146K

Wood Turtle: *Glyptemys insculpta*
State Threatened

Field Observation Form

August 5, 2020

Note: The Wood Turtle is a protected species in Virginia. It is unlawful to harm, collect, possess and/or disturb these animals without a permit. Wood Turtles found within a project area uplands during construction should be moved out of immediate harm's way. Only appropriately permitting staff may move Wood Turtles to locations out of the project area, within the same watershed, approximately ¼ to ½ mile downstream of their original location. To apply for a permit please contact Shirl Dressler at 804-367-6913. **If you encounter a Wood Turtle, please provide the information requested below and mail or FAX this form to:**

Virginia Department of Wildlife Resources
Attn: John Kleopfer
3801 J.T. Memorial Highway
Charles City, Virginia 23030
FAX 804-829-6788

If possible, send digital photos to: John.Kleopfer@dwr.virginia.gov

Distribution: Wood Turtles are found primarily in the northeastern United States and parts of southeastern Canada, reaching the southern limit of its range in northern Virginia. In Virginia, it has been documented in Warren, Rockingham, Shenandoah, Frederick, Loudoun, Fairfax, Clark, and Page counties.

Species Description: Wood Turtles are a semi-aquatic turtle usually found in or near streams, but not in ponds, reservoirs, or lakes. The shell length of an adult Wood Turtle can reach 9 inches. The plastron (bottom-half of the shell) is NOT hinged and the carapace (top-half of the shell) is flattened. The legs and tail are usually reddish to orange in color. Females are sometimes less colorful.

Wood Turtles may be confused with Eastern Box Turtles (*Terrapene carolina carolina*). Eastern Box Turtles are mainly terrestrial and only seldom are found in water. Eastern Box Turtles have a high domed shell with a hinged plastron which allows for it to completely enclose itself. The shell length of an adult Eastern Box Turtle is rarely over 5 inches. See the following page for images and detailed descriptions of Wood Turtles and Eastern Box Turtles.

Your name: _____

TE Collection Permit#, if applicable: _____

Your address: _____

Your phone number (optional): _____

Location of observation (GPS coordinates, nearest stream): _____

_____

Comments: _____

_____

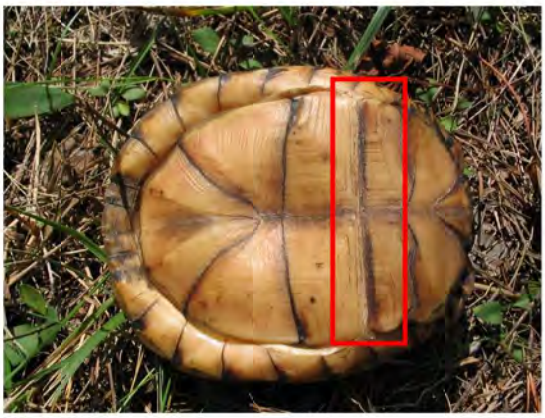
WOOD TURTLE

Note the sculptured scales of the top of shell (carapace).

Bottom view (plastron) of a male Wood Turtle. The concave plastron is characteristic of a male. Note the distinct black markings and brightly colored legs and tail.

EASTERN BOX TURTLE

Note the high domed shell and lack of sculptured scales. Males usually have an orange or yellowish face and are more brightly colored than females.



Note the hinged plastron and no markings. The concave plastron is also characteristic of male box turtles.

The plastron of Eastern Box Turtles will often turn black.

Unlike Wood Turtles, Eastern Box Turtles can completely enclose themselves within their shell.

Wood Turtle: *Glyptemys insculpta*
State Threatened

Note the sculptured scales of the top of shell (carapace).


Bottom view (plastron) of a male Wood Turtle. The concaved plastron is characteristic of a male.

Wood turtles are medium-sized (6-9" adult shell length) semi-terrestrial turtles found in streams or in riparian uplands on norther/northwestern Virginia. Their dull brown upper shell is very rough, and each section of the shell reflects growth rings that form an irregular pyramid. There is great variation in this trait, however, and the upper shell of older turtles may appear smooth. The bottom shell is yellow with black marginal blotches. Wood turtles have a black head, and dark brown extremities with characteristic yellow to burnt-orange skin patches on the neck and leg sockets.

Wood Turtles overwinter instream in deep pools with sandy bottoms and under submerged roots, branches, or logs. During warmer months, they wander the uplands mate-seeking, nesting, and foraging. In Virginia, females typically lay clutches of 7-14 eggs. Hatchlings typically emerge from June through August.

The wood turtle eats both animal and plant food items, including berries, herbs, algae, moss, fungi, grass, insects, mollusks, earthworms, dead fish, tadpoles, newborn mice and other turtles' eggs. It will forage on the ground, in the water, in herbaceous vegetation, and on logs.

If you have any questions concerning Wood Turtles, please contact John Kleopfer, Virginia Department of Wildlife Resources, at 804-829-6703 or John.Kleopfer@dwr.virginia.gov.

The Wood Turtle is a protected species in Virginia.
It is unlawful to HARM, COLLECT, OR POSSESS THESE TURTLES unless one is permitted to do so.

To apply for a permit please contact Shirl Dressler at 804-367-6913.

APPENDIX B:
WOOD TURTLE SURVEY AREA MAP

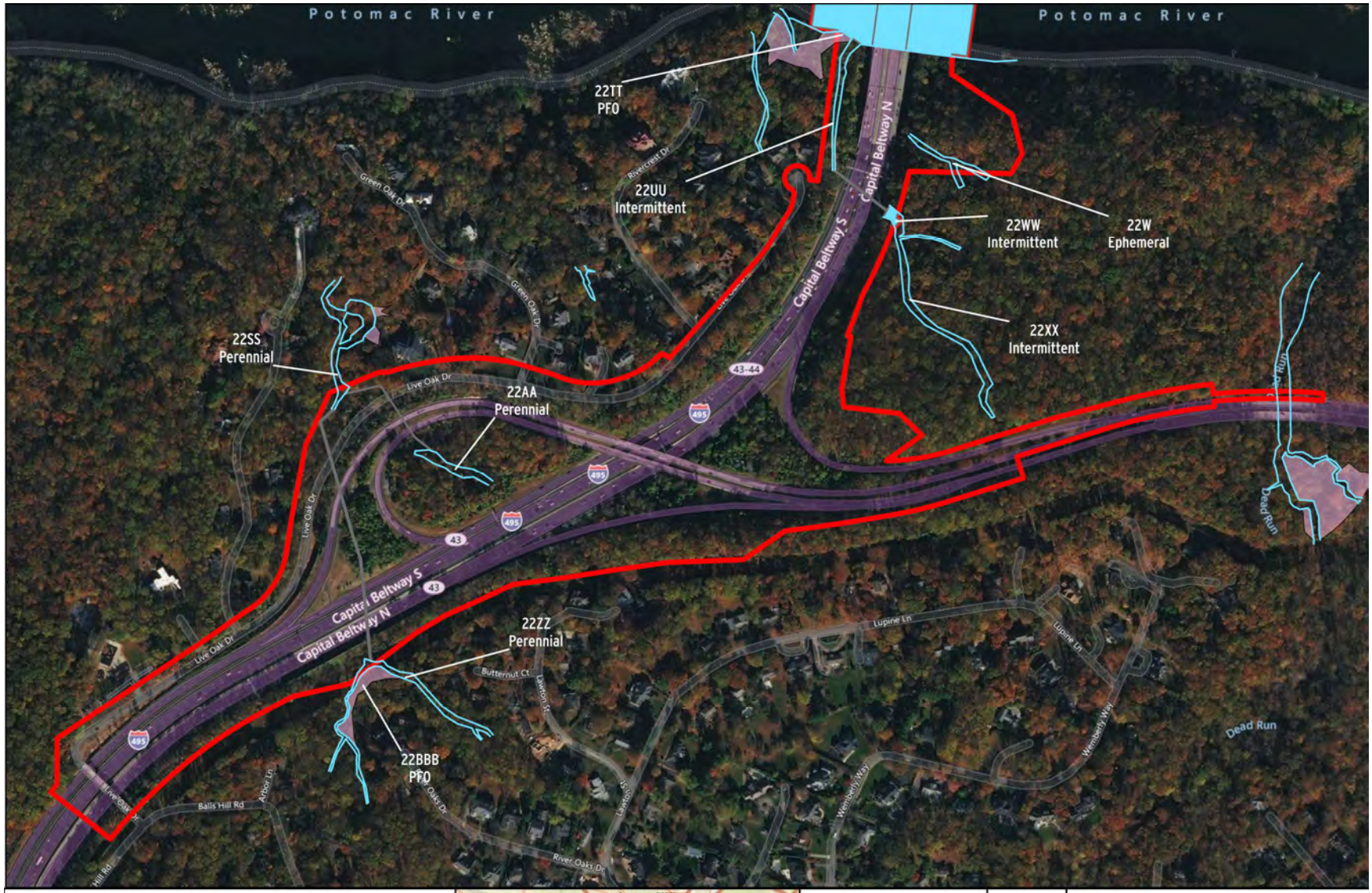
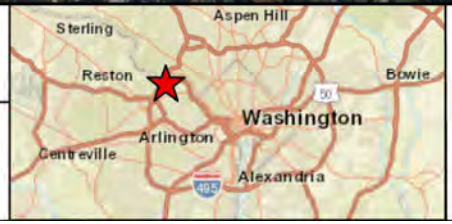


Figure 2-1: Wood Turtle Survey Area

I-495 & I-270 Managed Lanes Study



Legend
- Limits of Disturbance
- Wetlands
- Streams
- Streams

N

0 200 400 800 US Feet

270 495 MANAGED LANES STUDY

APPENDIX C:
LEAD BIOLOGIST RESUME

DEBORAH POPPEL
SENIOR ENVIRONMENTAL SCIENTIST

YEARS OF EXPERIENCE: 29

EDUCATION: BS / Entomology & Applied Ecology / University of Delaware / 1991
MS/Applied Ecology & Conservation Biology/Frostburg State University/1997

AREAS OF EXPERTISE: Wetlands and Watercourses Permitting, Threatened & Endangered Species, NEPA, Project Management

CERTIFICATION: Certified Wildlife Biologist (CWB®)- The Wildlife Society
PA Fish and Boat Commission- Recognized, Qualified Eastern Redbelly Turtle Surveyor

Deborah Poppel is a Certified Wildlife Biologist with 29 years of professional experience, 24 of which have been as an environmental consultant. Ms. Poppel specializes in assisting clients with compliance under the Endangered Species Act, National Environmental Policy Act, and wetlands/water regulations. Her areas of expertise include management of multi-disciplinary environmental projects, particularly for linear projects such as natural gas pipelines, electric transmission lines & surface transportation. She is adept at assessing specific environmental permit needs and collaborating with regulatory agencies on efficient and timely project authorizations. Ms. Poppel is experienced with conducting wetland delineations, habitat assessments for species of concern, stream and wetland mitigation site selection, preparing/reviewing/editing technical reports, and engaging in agency consultations. In her career she has served as a project manager, department manager (natural resources), and technical practice group leader (protected species).

- **Senior Biologist/Rare Species Consultation and Subcontractor Coordination, PennEast Pipeline, UGI- Pennsylvania.** Coordinator for federal and state rare, threatened and endangered species surveys/consultations for new 100+ mile natural gas pipeline**.** Species of concern included bog turtle, Indiana bat, Northern long-eared bat, eastern small footed bat, Allegheny woodrat, timber rattlesnake, northern flying squirrel, and northeastern bulrush. Prepared impact assessment portion of draft applicant-prepared Biological Assessment submitted to USFWS under Section 7 of ESA.

- **Broomall Lake Dam Removal, Media, PA.** Project entailed trapping, netting, capture, and relocation of redbelly turtles and other turtles from a pond prior to a dewatering and dam removal project for the Pennsylvania Department of Environmental Protection.

- **Woodlyn Crossing, Langhorne, PA.** Project entailed trapping, netting, capture, and relocation of redbelly turtles and other turtles, herpetofauna, and fish from 2 ponds prior to a dewatering/dredging and restoration project for a homeowners association.

- **Pleasant Hill Fish Hatchery, Philadelphia PA.** Project entailed the restoration of a fish hatchery site at a public park in Northeast Philadelphia. As Qualified Redbelly Turtle Biologist, I supervised and assisted two other biologists with the netting, capture, and relocation of all fish, turtles, frogs and other aquatic life from 4 ponds during dewatering. One state endangered redbelly turtle was collected and safely removed to another pond at the park site. Numerous other turtles, frogs and fish were also relocated under the auspices of my PFBC scientific collection permit and threatened and endangered species permit.

- **Task Manager, Terrestrial Studies- Conowingo Dam and Muddy Run Reservoir FERC Relicensing, Harford County, MD and York County, PA, Exelon.** Assisted with the FERC relicensing of the Conowingo Hydroelectric Power and Muddy Run Reservoir projects. Coordinated with state and federal agencies related to technical studies and provided management

and study oversight for bald eagle, osprey, black-crown night heron, bog turtle, and green snake surveys. Conducted Phase I habitat assessments for bog turtle and prepared management plan for bog turtle that was located in project area.

- **Project Biologist, SR 0032 Sect BRC, River Road over Delaware Canal, New Hope, Bucks County, PA, PennDOT District 6.** As a qualified eastern redbelly turtle surveyor, conducted pre-construction nesting surveys and nestling/hibernation emergence surveys for redbelly turtles at site of bridge replacement. Provided oversight for habitat protection fencing installation. Prepared compliance report for PennDOT and PFBC.

- **Project Biologist, S.R. 1017, Sect. -1B, Bridgeton Hill Road over Delaware Canal, Bucks County, PA, PennDOT District 6.** As a qualified eastern redbelly turtle surveyor, conducted habitat assessment and presence/absence surveys (visual and nesting) for this species in vicinity of proposed bridge replacement project. Conducted preconstruction surveys during dewatering activities. Prepared compliance report for PennDOT and PFBC.

- **SR 422 Section SRB, PennDOT District 6-0, Montgomery County, PA:** Project biologist; as a qualified eastern redbelly turtle surveyor conducted habitat assessments, coordination with PFBC, and developed a habitat mitigation plan for impacts to redbelly turtle related to replacement of bridge over Schuylkill River.

- **SR 0078 Sect 12M, Interstate 78 Wetland Mitigation Project, PennDOT District 5-0, Berks County, PA:** Project biologist; conducted redbelly turtle surveys, coordinated with District EM on PFBC consultation, and assisted with responses to comments on JPA and CEE. Developed measures associated with turtle habitat for wetland mitigation site.

- **Langan Engineering, Site Redevelopment, Bucks County, PA**. Conducted habitat assessment, nesting surveys, visual encounter surveys, and trapping surveys for Pennsylvania-endangered red-bellied turtle. Surveys were conducted on the former U.S. Steel property in Falls Township, PA. A variety of aquatic traps including hoop and basking traps were used, collecting several painted turtles but no red-bellied turtles.

- **Multiple Clients (Duke, Williams, Conectiv, Phila Suburban, PECO, Columbia Gas, Toll Bros, Tennessee Gas), Bog Turtle Studies, PA, NJ, MD, DE**. As USFWS-recognized, qualified bog turtle surveyor, conducted habitat assessments and presence-absence surveys for this federally-listed species in Pennsylvania, New Jersey, Delaware and Maryland for numerous clients/industries including natural gas, electric transmission, residential developments and golf courses. Identified new, previously undocumented locations of bog turtles in Chester County, PA. Participated in agency coordination meetings and consultations regarding minimizing project impacts on bog turtle habitats.

- **Delaware Department of Transportation, Delaware.** For the Delaware Department of Transportation new U.S. Route 301 project, conducted presence/absence surveys for bog turtle at three wetlands. Also conducted trapping surveys for bog turtles at two wetlands using drift fences and funnel traps. Supervised teams of biologists who assisted with both types of surveys.

- **Williams Gas Pipeline, Trenton-Woodbury Lateral, Burlington County, New Jersey.** Conducted visual and trapping surveys for federally-threatened bog turtle for Trenton-Woodbury Lateral in Burlington County, NJ. Provided environmental training to construction managers and environmental inspectors regarding compliance with threatened and endangered species regulations, specifically regarding the bog turtle and state-listed wood turtle. Conducted pre-construction surveys at wetland and creeks of concern for the turtles.

- **Property Development Services, Residential Development, Jackson Township, New Jersey (Pinelands).** Project Manager for northern pine snake studies (surveys, trapping) in the Pine Barrens region of New Jersey, subject to jurisdiction of Pinelands Commission. Developed survey methodology, obtained scientific collector's permit, provided oversight and field assistance for trapping surveys, and prepared final survey report. Part of scientific round-table committee for the development of standard survey protocols for threatened and endangered snakes in the Pinelands.

- **Department of the Army, Endangered Species Management Plan, Picatinny Arsenal, New Jersey.** Conducted surveys for bog turtles within 5-acre wetland on grounds of Picattiny Arsenal (Morris County, New Jersey). Results incorporated into endangered species management plan for bog turtles. Prepared other core elements of Picatinny Arsenal's "Endangered Species Management Plan for the Bog Turtle". Reviewed and assisted with preparation of final document approved by agencies.

- **CJS Investments, Residential Development, Sussex County, NJ**. Conducted surveys for bog turtles on a 70-acre site in Sussex County, NJ. Found state-endangered wood turtles mating within stream. Suitable habitat for bog turtle. Assisted client with consultations with USFWS and NJ Division of Fish and Wildlife regarding the required buffer width (transition area) around the wetlands on the site.

- **Federal Bureau of Prisons, Prison Expansion, Victorville, California**. Conducted USFWS protocol-level surveys for desert tortoise and burrowing owl at proposed federal correctional facility expansion site in Mojave Desert region. Prepared biological resources report for agency review. Managed the creation of artificial owl burrows as mitigation. Coordinated and led interagency meeting to facilitate approval of development project and mitigation plan.

- **USDA NRCS/ Maryland DNR/ Frostburg State University, Bog Turtle Research, Harford County, Maryland.** Surveyed for and marked 50 bog turtles at three sites in Harford County, Maryland. Determined turtle habitat use and movements with radio-telemetry. Characterized vegetation, soils, and hydrology of the wetlands they inhabit. Co-wrote grant proposal and preliminary report. Coordinated telemetry equipment acquisition. Helped install and sample groundwater-monitoring well. Interacted with private landowners, state and federal agency personnel on a regular basis.

- **Masters Research, Diversity of Herpetofauna among three forest community types in Dorchester County, Maryland.** Involved drift fence/funnel trap surveys of reptiles and amphibians in coastal Maryland.

- **Conservancy of Southwest Florida, Sea Turtle Surveys, Naples, Florida. Sea Turtle Conservation Intern .** Patrolled beaches of Key Island, day and night, for sea turtles throughout the nesting season. Responsibilities included tagging nesting turtles, taking measurements, building enclosures to protect nests in-situ from raccoon predation, occasional nest relocation, and distinguishing false crawls from nests. Trained in turtle and crawl/nest identification by Florida DEP. Compiled data for submission to Florida DEP's Index Beach Nesting Survey. Responded to calls from residents on Naples beaches regarding false crawls, nests, and hatchling rescue. Monitored nests throughout hatching season and was sole intern responsible for nest excavation following hatching, compilation of hatching data, and stranded hatchling releases. Wrote year-end report, including recommendations for improvements to management techniques.

Publications

Morrow, J.L., J.H. Howard, S.A. Smith, and D.K. Poppel. 2001. "Habitat Selection and Habitat Use by the Bog Turtle in Maryland". Journal of Herpetology, Vol. 35, No. 4, pp. 545-552.

J.L. Morrow, J.H. Howard, S.A. Smith, and D.K. Poppel. 2001. "Home Range and Movements of the Bog Turtle (Clemmys muhlenbergii) in Maryland". Journal of Herpetology, Vol. 35, No. 1, pp. 68-73

Chronology

1998-2000: Louis Berger & Associates, Inc.

2000-2008: ENSR

2008-2009: AECOM

2009-2014: URS

2014-2019: AECOM

Feb 2019-Present: RK&K

Specialized Training

40-Hour OSHA/HAZWOPER

APPENDIX D:
PHOTOGRAPHIC DOCUMENTATION

Photo 1. 22UU Downstream (Feb. 3, 2021)

Photo 2. 22UU Upstream (Feb. 3, 2021)

Photo 3. 22MM (Potomac River) upstream (Feb. 3, 2021)

Photo 4. 22MM (Potomac River) downstream (Feb. 3, 2021)

Photo 5. 22TT (PFO) and sandbar adjoining Potomac River (Feb. 3, 2021)

Photo 6. Floodplain of Potomac River under existing bridge (Feb. 3, 2021)

Photo 7. 22VV (ephemeral)- looking downstream (Feb. 3, 2021)

Photo 8. 22WW upstream (Feb. 3, 2021)

Photo 9. 22WW downstream (Feb. 3, 2021)

Photo 10. 22AAA downstream (Feb. 3, 2021)

Photo 11. 22AAA upstream (Feb. 3, 2021)

Photo 12. 22AAA instream structure (Feb. 3, 2021)

Photo 13. 22SS downstream (Feb. 3, 2021)

Photo 14. 22ZZ (Feb. 3, 2021)

Photo 15. 22ZZ (Feb. 3, 2021)

Photo 16. 22ZZ and PFO (Feb. 3, 2021)

Photo 17. 22ZZ and PFO (Feb. 3, 2021)

Photo 18. 22AAA in-stream survey (March 17, 2021)

Photo 19. 22AAA view upstream (March 17, 2021)

Photo 20. 22ZZ (March 17, 2021)

Photo 21. 22ZZ in-stream survey (March 17, 2021)

Photo 22. 22ZZ (March 17, 2021)

Photo 23. 22ZZ (March 17, 2021)

Photo 19. 22ZZ and adjoining PFO (March 17, 2021)