Matthew S. Wells *Director*



Andrew W. Smith Chief Deputy Director

COMMONWEALTH of VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION

Frank N. Stovall Deputy Director for Operations

Darryl Glover Deputy Director for Dam Safety, Floodplain Management and Soil and Water Conservation

Laura Ellis Deputy Director for Administration and Finance

May 26, 2023

Beth Christensen USFS- Eastern Divide Ranger District 110 Southpark Drive Blacksburg, VA 24060

Re: Bland County Water System Improvements Project

Dear Ms. Christensen:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the Crab Orchard Creek Stream Conservation Unit is located within the project site. Stream Conservation Units (SCUs) identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are also given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The Crab Orchard Creek SCU has been given a biodiversity ranking of B4, which represents a site of moderate significance. The natural heritage resource associated with this site is:

Lasmigona holstonia

Tennessee heelsplitter

G3/S1/NL/LE

The Tennessee heelsplitter, a rare freshwater mussel species, occurs in the Ohio and Tennessee River drainages (NatureServe, 2009). In Virginia, there are records from the Powell, Clinch, Holston, and New River drainages. This is a mussel of smaller streams, or side-channels and sloughs of larger streams. It is found in fine particulate substrates (sand and mud) at shallow water depths (NatureServe, 2009). Please note that the Tennessee heelsplitter is currently listed as endangered by the Virginia Department of Game and Inland Fisheries (VDGIF).

Considered good indicators of the health of aquatic ecosystems, freshwater mussels are dependent on good water quality, good physical habitat conditions, and an environment that will support populations of host fish species (Williams et al., 1993). Because mussels are sedentary organisms, they are sensitive to water quality degradation related to increased sedimentation and pollution. They are also sensitive to habitat destruction through dam construction, channelization and dredging, and the invasion of exotic mollusk species.

To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. Due to the legal status of the Tennessee heelsplitter DCR recommends coordination with Virginia's regulatory authority for the management and protection of this species, the VDWR to

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ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570). Furthermore, DCR recommends the development and implementation of an emergency spill plan and the utilization of industry best management practices for hydrostatic testing and dewatering.

The Crab Orchard Lake Forest Conservation Site is also within the project area and has been given a biodiversity significance ranking of B4, which represents a site of moderate significance. The natural heritage resource of concern at this site is:

Myotis lucifugus Little brown myotis G3/S1S3/NL/LE

The Little brown bat is a small brown insect eating bat, which uses a wide range of habitats including caves and human-made structures (NatureServe, 2015). Since 2008 there has been a significant decline in population numbers (greater than 90%) for the bat species due to white nose syndrome. The Little brown bat was state listed as "endangered" on April 1, 2016, by the Virginia Department of Wildlife Resources (VDWR).

There is also potential for the tri-colored bat (*Perimyotis subflavus*, G3G4/S1S3/PE/LE) and Northern long-eared Myotis (*Myotis septentrionalis*, G2G3/S1S3/LE/LT) to occur within the project area. Therefore, due to the legal status of the Little brown bat and the tri-colored bat DCR recommends coordination with the VDWR, Virginia's regulatory authority for the management and protection of these species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570). Due to the legal status of the Northern long-eared bat DCR recommends coordination with the USFWS and the VDWR to ensure compliance with protected species legislation.

Additionally, the southern end of this project has also intersected the karst bedrock screening layer. Encountering undocumented caves, sinkholes or other sensitive karst features in this area is possible. During every phase of the project, DCR recommends stabilization of the soil around the site. Minimizing surface disturbance, strict use of E&S control measures appropriate for the location and adherence to best management practices appropriate for karst will help to reduce any potential impact to the karst, groundwater and surface water resources as well as any associated fauna and flora.

If karst features such as sinkholes, caves, disappearing streams, and large springs are encountered during the project, please coordinate with Wil Orndorff (540-230-5960, <u>Wil.Orndorff@dcr.virginia.gov</u>) the Virginia DCR, Division of Natural Heritage Karst Protection Coordinator, to document and minimize adverse impacts. Activities such as discharge of runoff to sinkholes or sinking streams, filling of sinkholes, and alteration of cave entrances can lead to environmental impacts including surface collapse, flooding, erosion and sedimentation, contamination of groundwater and springs, and degradation of subterranean habitat for natural heritage resources (e.g. cave adapted invertebrates, bats). These potential impacts are not necessarily limited to the immediate project area, as karst systems can transport water and associated contaminants rapidly over relatively long distances, depending on the nature of the local karst system. If the project involves filling or "improvement" of sinkholes or cave sinkhole improvement is for storm water discharge, copies of VDOT Form EQ-120 will suffice.

Furthermore, if tree removal is proposed beyond the existing right-of-way, the proposed project will impact Ecological Cores (**C2 and C5**) as identified in the Virginia Natural Landscape Assessment (<u>https://www.dcr.virginia.gov/natural-heritage/vaconvisvnla</u>). Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer, available here: <u>http://vanhde.org/content/map</u>.

Ecological Cores are areas of at least 100 acres of continuous interior, natural cover 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. Interior core areas begin 100 meters inside core edges and continue to the deepest parts of cores. Cores also provide the natural, economic, and quality of life benefits of open space, recreation, thermal moderation, water quality (including drinking water recharge and protection, and erosion prevention), and air quality (including sequestration of carbon, absorption of gaseous pollutants, and production of oxygen). Cores are

ranked from C1 to C5 (C5 being the least significant) using nine prioritization criteria, including the habitats of natural heritage resources they contain.

Impacts to cores occur when their natural cover is partially or completely converted permanently to developed land uses. Habitat conversion to development causes reductions in ecosystem processes, native biodiversity, and habitat quality due to habitat loss; less viable plant and animal populations; increased predation; and increased introduction and establishment of invasive species.

DCR recommends avoidance of impacts to cores. When avoidance cannot be achieved, DCR recommends minimizing the area of impacts overall and concentrating the impacted area at the edges of cores, so that the most interior remains intact.

The proposed project will impact a core with very high ecological integrity. Further investigation of these impacts is recommended and DCR-DNH can conduct a formal impact analysis upon request. This analysis would estimate direct impacts to cores and habitat fragments and indirect impacts to cores. The final products of this analysis would include an estimate of the total impact of the project in terms of acres. For more information about the analysis and service charges, please contact Joe Weber, DCR Chief of Biodiversity Information and Conservation Tools at Joseph.Weber@dcr.virginia.gov.

DCR recommends the development and implementation of an invasive species plan to be included as part of the maintenance practices for the right-of-way (ROW). The invasive species plan should include an invasive species inventory for the project area based on the current DCR Invasive Species List (<u>http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf</u>) and methods for treating the invasives. DCR also recommends the ROW restoration and maintenance practices planned include appropriate revegetation using native species in a mix of grasses and forbs, robust monitoring, and an adaptive management plan to provide guidance if initial revegetation efforts are unsuccessful or if invasive species outbreaks occur.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The U.S. Fish and Wildlife Service (USFWS) utilizes an online project review process

(https://www.fws.gov/office/virginia-ecological-services/virginia-field-office-online-review-process) to facilitate compliance with the Endangered Species Act (16 U.S.C. 1531-1544, 87 Stat. 884) (ESA), as amended. The process enables users to 1) follow step-by-step guidance; 2) access information that will allow them to identify threatened and endangered species, designated critical habitat, and other Federal trust resources that may be affected by their project; and 3) accurately reach determinations regarding the potential effects of their project on these resources as required under the ESA. If you have questions regarding the online review process, please contact Rachel Case at <u>rachel_case@fws.gov</u>.

The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <u>http://vafwis.org/fwis/</u> or contact Amy Martin at 804-367-2211 or <u>amy.martin@dwr.virginia.gov</u>.

Should you have any questions or concerns, feel free to contact me at 804-371-2708. Thank you for the opportunity to comment on this project. Sincerely,

Rem' Hy -

S. René Hypes Natural Heritage Project Review Coordinator

Cc: Wil Orndorff, DCR-Karst Amy Martin, VDWR

Literature Cited

NatureServe, 2015. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe. Arlington, Virginia. Available <u>http://explorer.natureserve.org</u> (Accessed: April 21, 2016).

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