



COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

April 22, 2022

Joby P. Timm
Forest Supervisor
USFS
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: 61907, Balcony Falls To Buena Vista Transmission Line Replacement Project

Dear Mr. Timm:

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 Davidson Run Pond Conservation Site is located within the project area. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Davidson Run Pond Conservation Site has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resource of concern at this site are:

<i>Helenium virginicum</i>	Virginia sneezeweed	G3/S2/LT/LE
<i>Helanthium tenellum</i>	Dwarf burhead	G5/S1/NL/NL
	Shenandoah Valley Sinkhole Pond	G1/S1/NL/NL

Virginia sneezeweed, a globally rare perennial herb in the Aster Family with clusters of golden-yellow flower heads, has a disjunct distribution, found only in Virginia and Missouri. In Virginia it has been documented only in Augusta and Rockingham Counties. This wetland plant is found on the shores of shallow, seasonally flooded ponds or meadows that are generally flooded from January to July. Virginia sneezeweed has adapted to survive the water level fluctuations of the seasonal wetlands; however, based on the fluctuations, population numbers may vary widely from year to year. Threats to populations of this plant include residential development, incompatible agricultural practices, filling and ditching of its wetland habitat, and other disruptions of its habitat and the hydrology that maintains it. Surveys for Virginia sneezeweed should be conducted from July 15 –October 31

when water levels have generally drawn down in the depression ponds. Flowering plants may be visible emerging from still inundated depressions, but underwater rosettes would be difficult to detect.

Dwarf burhead is a rhizomatous perennial found in seasonal draw-down zones of natural ponds. The plant blooms in July through October (Weakley et. al, 2012).

Intermittently to permanently flooded basin wetlands that occur on broad, acidic alluvial fan deposits along the western foot of the Blue Ridge are colloquially known as Shenandoah Valley Sinkhole Ponds. These wetlands and the geomorphic conditions that have produced them are strictly endemic to a narrow zone that stretches through eastern Augusta, Rockingham, and Page Counties in the central Shenandoah Valley. Here, local solution of deep underlying carbonate rocks and reworking of surficial material by streams have resulted in the development of numerous natural ponds varying in size from less than 0.04 ha (0.1 ac) to over 1.5 ha (3.7 ac). The extraordinary combination of solution features overlain by acidic colluvium and alluvium from metasedimentary rocks of the Blue Ridge has created wetlands with edaphic conditions similar to habitats in the Coastal Plain. Pollen profiles from bottom sediments from two Augusta County ponds demonstrate the continuous existence of wetlands over the past 15,000 years (Craig 1969). Most ponds in the Shenandoah Valley complex experience seasonally fluctuating water levels. Clay weathered from metasiltstone and phyllite alluvium impedes drainage, but most ponds draw down as the growing season progresses and evapotranspiration increases. The hydroperiods of many ponds are irregular and unpredictable, varying with size and depth of basin, degree of shading, and local groundwater conditions. Soils vary from organic to clay-rich. Low pH, calcium, and magnesium levels combined with high aluminum levels may impair the assimilation of macronutrients by plants (Fleming et al., 2021).

In addition adjacent to the James River, a historic occurrence of Sword-leaf phlox (*Phlox buckleyi*, G2/S2/SOC/NL), was documented and could occur in the right-of-way. Sword-leaf phlox a rhizomatous, perennial herb in the Jacob's-ladder family (Polemoniaceae) is endemic to western Virginia and eastern West Virginia and grows in woodlands, woodland edges, and roadbanks underlain by shale (Weakley in prep.). Bright pink, five-petaled flowers bloom from May-June in clusters at the top of an erect stem with up to seven pairs of opposite, linear to lanceolate leaves (Gleason and Cronquist 1991). Also present are sterile shoots with evergreen leaves arising from the rhizomes. Surveys should be conducted during the May-June flowering period when the bright pink flowers are highly visible. Threats include mowing, herbicides, road maintenance activities, competition from invasive species, and shading.

Please note that sword-leaf phlox is tracked as a species of concern by the United States Fish and Wildlife Service (USFWS); however, this designation has no official legal status.

Due to the potential for this site to support populations of natural heritage resources, DCR recommends an inventory for the resources in the study area to determine if there are other Shenandoah Valley Sinkhole Ponds and rare plant species. With the survey results we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

DCR-Division of Natural Heritage biologists are qualified to conduct inventories for rare, threatened, and endangered species. Please contact Anne Chazal, Natural Heritage Chief Biologist, at anne.chazal@dcr.virginia.gov or 804-786-9014 to discuss availability and rates for field work. A list of other individuals who are qualified to conduct inventories may be obtained from the USFWS.

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. Survey results should be coordinated with DCR-DNH

and USFWS. Upon review of the results, if it is determined the species is present, and there is a likelihood of a negative impact on the species, DCR-DNH will recommend coordination with VDACS to ensure compliance with Virginia's Endangered Plant and Insect Species Act.

This project has 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, Wil.Orndorff@dcr.virginia.gov) 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 openings, DCR would like detailed location information and copies of the design specifications. In cases where sinkhole improvement is for storm water discharge, copies of VDOT Form EQ-120 will suffice.

Furthermore, the proposed project will impact an Ecological Cores (**C4 and C5**) as identified in the Virginia Natural Landscape Assessment (<https://www.dcr.virginia.gov/natural-heritage/vaconvisvnl>). Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer, available here: <http://vanhde.org/content/map>.

Ecological Cores are areas of at least 100 acres of continuous interior, natural cover that provides 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 the nearest core edges and continue to the deepest parts of cores. Cores also provide natural and economic benefits of open space, recreation, water quality (including drinking water recharge and protection, and erosion prevention), and air quality (including carbon sequestration and oxygen production). 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 results in changes that reduce ecosystem processes, biodiversity, population viability and habitat quality due to limited recolonization, increased predation, and increased introduction and establishment of invasive species.

Therefore, avoiding or minimizing core impacts is a key mitigation measure that will reduce deleterious effects and preserve the area and connectivity of habitats that are key components of biodiversity. DCR recommends efforts to minimize edge in remaining habitat fragments, retain natural corridors that allow movement between fragments and design the intervening landscape to support native wildlife (natural cover versus lawns).

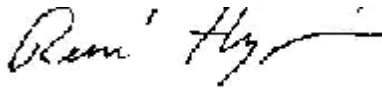
There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

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 <http://vafwis.org/fwis/> or contact Amy Martin at 804-367-2211 or amy.martin@dwr.virginia.gov.

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.

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,



S. René Hypes
Natural Heritage Project Review Coordinator

Cc: Troy Andersen, USFWS
Wil Orndorff, DCR-Karst

Literature Cited

Fleming, G.P., K.D. Patterson, and K. Taverna. 2021. The Natural Communities of Virginia: a Classification of Ecological Community Groups and Community Types. Third approximation. Version 3.3. Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, VA.
www.dcr.virginia.gov/natural-heritage/natural-communities/ [Accessed: 22-April-2022]

Gleason, H.A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern United States and Adjacent Canada. Second Edition. The New York Botanical Garden. Bronx, NY. 910 pp.

Weakley, A. In prep. Flora of the southern and mid-Atlantic states. Working draft of 15 May 2011. University of North Carolina Herbarium, North Carolina Botanical Garden, University of North Carolina at Chapel Hill, NC.

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