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Organization: Department of Conservation and Recreation-Division of Natural Heritage

Title: VA Natural Heritage Project Review Coordinator

Comments: Dear Ms. Yonce:

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 German River - North Fork Shenandoah River - Bennett Run Stream Conservation Unit (SCU) and the Sours Run - Runion Creek - Shoemaker River Stream Conservation Unit SCU are within the project areas. 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 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.

The German River - North Fork Shenandoah River - Bennett Run SCU has been given a biodiversity significance ranking of B3, which represents a site of high biodiversity. The natural heritage resources of concern associated with this SCU are:

Glyptemys insculpta Wood turtle G3/S2/NL/LT Aquatic Natural Community (RV-North Fork Shenandoah Second Order Stream) G2/S2/NL/NL

The Sours Run - Runion Creek - Shoemaker River SCU has been given a biodiversity ranking of B2, which represents a site of very high significance. The natural heritage resources associated with this site are:

Glyptemys insculpta Wood turtle G3/S2/NL/LT Aquatic Natural Community (RV-North Fork Shenandoah Third Order Stream) G2/S2/NL/NL

The Wood turtle ranges from southeastern Canada, south to the Great Lake states and New England. In Virginia, it is known from northern counties within the Potomac River drainage (NatureServe, 2009). The Wood turtle inhabits areas with clear streams with adjacent forested floodplains and nearby fields, wet meadows, and farmlands (Buhlmann et al., 2008; Mitchell, 1994). Since this species overwinters on the bottoms of creeks and streams, a primary habitat requirement is the presence of water (Mitchell, 1994).

Threats to the wood turtle include habitat fragmentation, urbanization, and automobile or farm machinery mortality (Buhlmann et al., 2008). Please note that the Wood turtle is currently classified as threatened by the VDGIF.

In addition, Cold Spring River, Little Dry River and Slate Lick Branch are within 100-feet of the project areas have been designated by the Virginia Department of Game and Inland Fisheries (VDGIF) as "Threatened and Endangered Species Waters" for the Wood turtle.

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 Wood turtle, DCR also recommends coordination with VDGIF, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation.

Due to the potential for this site to support other populations of natural heritage resources and following the Memorandum of Understanding with USFS, DCR biologists have performed surveys within the proposed management Areas. Plant surveys were performed in the Fall of 2017 in majority of treatment tracts resulting in negative results, no natural heritage plants of concern were documented. DCR zoologists also conducted surveys for the Rusty patched bumble bee (*Bombus affinis*, G1/S1/LE/NL) and the Yellow-banded bumble bee (*Bombus terricola*, G3G4/SC/NL/NL) in the greater area of the project footprint.

The Rusty patched bumble bee is listed as endangered under the Endangered Species Act by U.S. Fish and Wildlife Service (USFWS) effective March 21, 2017. Since the late 1990s, the Rusty patched bumble bee has declined throughout its historical range including Virginia and is anticipated to be extinct in all ecoregions by 2030. Threats to the Rusty patched bumble bee include disease, pesticides, climate change, habitat loss and small population dynamics.

Based on these survey results, DCR agrees with the EA information provided on page 106 under "Effects to Locally Rare Species" that known rare bee populations are not likely to be affected adversely by the proposed management practices. Please note, though no rare bees were documented during these survey efforts there cannot be certainty that they are not present.

There is also potential for the Northern Long-eared bat (*Myotis septentrionalis*, G1G2/S1S3/LT/LT) to occur within the project area. The Northern Long-eared bat is a small insect-eating bat characterized by its long-rounded ears that when folded forward extend beyond the tip of the nose. Hibernation occurs in caves, mines and tunnels from late fall through early spring and bats occupy summer roosts comprised of older trees including single and multiple tree-fall gaps, standing snags and woody debris. Threats include white nose syndrome and loss of hibernacula, maternity roosts and foraging habitat (NatureServe, 2014). Due to the decline in population numbers, the Northern Long-eared bat has been federally and state listed as "threatened" by the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Game and Inland Fisheries (VDGIF).

Due to the legal status of the Northern Long-eared bat and the associated final 4(d) rule effective February 16, 2016, if tree removal is proposed for the project DCR recommends coordination with the USFWS and the VDGIF to ensure compliance with protected species legislation.

The proposed project will potentially fragment Ecological Core(s) (C1 through C5) as identified in the Virginia Natural Landscape Assessment (<https://www.dcr.virginia.gov/natural-heritage/vaconvsnla>), 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.

Fragmentation occurs when a large, contiguous block of natural cover is dissected by development, and other forms of permanent conversion, into one or more smaller patches. Habitat fragmentation results in biogeographic changes that disrupt species interactions and ecosystem processes, reducing biodiversity and habitat quality due to limited recolonization, increased predation and egg parasitism, and increased invasion by weedy species.

Therefore minimizing fragmentation is a key mitigation measure that will reduce deleterious effects and preserve the natural patterns and connectivity of habitats that are key components of biodiversity. DCR 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). Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer, available here: <http://vanhde.org/content/map>.

The proposed project will cause significant fragmentation of one or more highly significant cores with very high to outstanding ecological integrity. If any portion of a harvested area is not allowed to re-grow to forest (i.e. there is any development and thus permanent fragmentation of the core) further investigation of these fragmentation impacts is warranted. DCR-DNH can conduct a formal fragmentation analysis upon request estimating 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, please contact *****
*****, DCR Information Manager at *****@dgif.virginia.gov.

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

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.

New and updated information is continually added to Biotics. Please re-submit project information and 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 VDGIF 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 ***** at 804-***-**** or *****@dgif.virginia.gov.

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. Rene' Hypes

VA Natural Heritage Project Review Coordinator