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September 5, 2024

Jessie Howard Project Coordinator 5162 Valleypointe Parkway Roanoke, VA 24019

Re: Red Spruce Fir Restoration Project Scoping

Dear Ms. Howard:

The mission of the Virginia Department of Conservation and Recreation's Division of Natural Heritage (DCR-DNH) is to document, protect and manage "the habitats of rare, threatened, or endangered plant and animal species, rare or state-significant communities and other natural features "(section 10.1: 209-217, *Code of* Virginia).

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 (B-rank) based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. According to the information currently in Biotics, the following conversation sites with associated natural heritage resources per county are documented within the proposed restoration areas:

Amherst County

The Cole Mountain-Rocky Mountain-Spy Rock -the Priest Conservation Site has been assigned a B-rank of B1, which represents a site of outstanding significance and irreplaceable for achieving statewide biodiversity conservation goals. Please note, a predictive model identifying potential habitat for Rusty-patched bumble does intersect the project boundary.

Bath County

The Paddy Knob Conservation Site has been assigned a B-rank of B3, which represents a site of high significance. The natural heritage resources associated with this site are:

| | Central Appalachian Montane Oak - Hickory Forest (Rich Type) | G3G4/S3S4/NL/NL |
|------------------|--|-----------------|
| Bombus affinis | Rusty-patched Bumblebee | G2/S1/LE/LE |
| Cuscuta rostrata | Beaked Dodder | G4/S1S2/NL/NL |

600 East Main Street, 24th Floor | Richmond, Virginia 23219 | 804-786-6124

Please note, predictive models identifying potential habitat for rare bats, Southern rock vole, Southern water shew, and rusty-patched bumblebee do intersect the project boundary.

Bland County

According to the information currently in Biotics, natural heritage resources have not been documented within the submitted project boundary including a 100-foot buffer. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources. Please note, predictive models identifying potential habitat for rare bats and the Tennessee dace intersect the project boundary.

Craig and Alleghany Counties

The Potts-Mountain-Potts Pond Conservation Site has been assigned a B-rank of B1, which represents a site of high significance and critical for achieving statewide biodiversity conservation goals. The natural heritage resources associated with this site are:

| Central Appalachian Acidic Boulderfield Woodland | G4/S4/NL/NL |
|--|-----------------|
| Central Appalachian High-Elevation Boulderfield | G2/S2/NL/NL |
| Forest / Woodland | |
| Central Appalachian Montane Oak - Hickory Forest | G3G4/S3S4/NL/NL |
| (Rich Type) | |
| Central Appalachian Mountain Pond (Buttonbush - | G1/S1/NL/NL |
| Threeway Sedge Type) | |
| Central Appalachian Northern Red Oak Forest | G3G4/S3/NL/NL |

Please note, predictive models identifying potential habitat for rare bats and northeastern bulrush intersect the project boundary.

Nelson County

The Cole Mountain-Rocky Mountain-Spy Rock -the Priest Conservation Site has been assigned a B-rank of B1, which represents a site of outstanding significance and irreplaceable for achieving statewide biodiversity conservation goals. Please note, a predictive model identifying potential habitat for rusty-patched bumble bee intersects the project boundary.

Rockingham County

The Shenandoah Mountain Southwest Conservation Site has been assigned a B-rank of B1, which represents a site of high significance and critical for achieving statewide biodiversity conservation goals. The natural heritage resources associated with this site are:

| | Appalachian Hemlock - Northern Hardwood Forest | G3G4/S1/NL/NL |
|-------------------|--|--------------------|
| | Central Appalachian Northern Hardwood Forest (Yellow | G3G4/S3/NL/NL |
| | Birch - Northern Red Oak Type) | |
| Bombus affinis | Rusty-patched Bumblebee | G2/S1/LE/LE |
| Bombus terricola | Yellow-banded bumble bee | G3G4/S1/NL/NL |
| Catharus guttatus | Hermit Thrush | G5/S1S2B,S5N/NL/NI |

| Heuchera alba | White Alumroot | G2Q/S1/SOC/NL |
|--------------------------------------|-------------------------|----------------|
| Loxia curvirostra | Red Crossbill | G5/S1/NL/NL |
| Plethodon punctatus | Cow Knob Salamander | G3/S2S3/NL/NL |
| Poa saltuensis | Weak bluegrass | G5T5/S2/NL/NL |
| Rubus idaeus var. strigosus | Red raspberry | G5T5/S2/NL/NL |
| Trillium pusillum var. monticulum | Mountain least trillium | G4T1/S1/SOC/NL |

The Shenandoah Mountain Northeast-Gauley Ridge Conservation Site has been assigned a B-rank of B2, which represents a site of high significance and irreplaceable for achieving statewide biodiversity conservation goals. The natural heritage resource associated with this site is:

Plethodon punctatusCow Knob salamanderG3/S2/NL/NL

The Cow Knob salamander is known from the Great North and Shenandoah mountains in north-central Virginia and adjacent sections of West Virginia (Petranka, 1998). It occurs in mixed hardwood and hemlock stands; however, it is most abundant on north-facing slopes in high-elevation old-growth forests (Pague et al, 1991). Like most species in this genus, the Cow Knob salamander is completely terrestrial; however, it relies on moist microhabitats to complete its life cycle.

Threats to this rare salamander include canopy removal due to forestry activities and defoliation by gypsy moths (Pague et al, 1991).

Please note, predictive models identifying potential habitat for Fraser fir, rusty-patched bumblebee, and northeastern bulrush intersect the project boundary.

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.

Tazewell County

The Tazewell Beartown-Burkes Garden Conservation Site has been assigned a B-rank of B1, which represents a site of high significance and critical for achieving statewide biodiversity conservation goals. The natural heritage resources associated with this site are:

| Southern Appalachian High-Elevation Rich Cove Forest | G3/S2/NL/NL |
|---|--------------|
| Southern Appalachian Red Spruce - Northern Hardwood / Rhododendron Forest | G1?/S1/NL/NL |
| Southern Appalachian Red Spruce Forest (Deciduous Shrub Type) | G2/S1/NL/NL |

Please note, predictive models identifying potential habitat for long-stalked holly and rare bats intersect the project boundary.

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.

Grayson County

The Balsam Mountains Conservation Site has been assigned a B-rank of B1, which represents a site of outstanding significance and irreplaceable for achieving statewide biodiversity conservation goals. The natural heritage resources associated with this site are:

| | Fraser Fir Forest | G1/S1/NL/NL |
|-------------------------------|--|------------------|
| | High-Elevation Acidic Cove Forest | G3/S3?/NL/NL |
| | Southern Appalachian Catawba Rhododendron Heath Bald | G2/S1/NL/NL |
| | Southern Appalachian Deciduous Heath Bald | G2/S1/NL/NL |
| | Southern Appalachian Grassy Bald | G1/S1/NL/NL |
| | Southern Appalachian High-Elevation Boulderfield Forest / Woodland | G2G3/S1/NL/NL |
| | Southern Appalachian High-Elevation Rich Cove Forest | G3/S2/NL/NL |
| | Southern Appalachian High-Elevation Seep | G3/S2?/NL/NL |
| | Southern Appalachian High-Elevation Shrub Bog | G1/S1/NL/NL |
| | Southern Appalachian Montane Mixed Oak Forest (Northern Red Oak - Chestnut Oak Submesic Type) | G4?/S3S4/NL/NL |
| | Southern Appalachian Northern Hardwood Forest | G3G4/S3/NL/NL |
| | Southern Appalachian Northern Red Oak Forest (Deciduous Shrub Type) | G4/S3/NL/NL |
| | Southern Appalachian Red Spruce - Northern Hardwood / Rhododendron Forest | G1?/S1/NL/NL |
| | Southern Appalachian Red Spruce Forest (Deciduous Shrub Type) | G2/S1/NL/NL |
| | Southern Appalachian Red Spruce Forest (Evergreen Shrub Type) | G1/S1/NL/NL |
| Abies fraseri | Fraser Fir | G2/S1/SOC/NL |
| Aegolius acadicus | Northern Saw-whet Owl | G5/S1B,S2N/NL/NL |
| Anaplectoides brunneomedia | Brown-lined Dart Moth | G4/S2/NL/NL |
| Arnoglossum reniforme | Great Indian-plantain | G4/S2/NL/NL |
| Bazzania nudicaulis | A liverwort | G2G3/S1/SOC/NL |
| Bombus fraternus | Southern Plains bumble bee | G3G4/S1S2/NL/NL |
| Bromus ciliatus | Fringed brome grass | G5/S1/NL/NL |

| Calvitimela talayana | A lichen | GNR/S1/NL/NL |
|----------------------------------|-----------------------------------|--------------------|
| Cardamine clematitis | Mountain Bittercress | G3/S1/NL/NL |
| Carex manhartii | Blue Ridge purple sedge | G3G4/S1/NL/NL |
| Carex pallescens | Pale Sedge | G5/S1/NL/NL |
| Catharus guttatus | Hermit Thrush | G5/S1S2B,S5N/NL/NL |
| Cetradonia linearis | Rock gnome lichen | G3/S1/LE/NL |
| Cuscuta rostrata | Beaked Dodder | G4/S1S2/NL/NL |
| Desmognathus organi | Northern Pygmy Salamander | G3/S2/NL/NL |
| Empidonax alnorum | Alder Flycatcher | G5/S1S2B/NL/NL |
| Epilobium leptophyllum | Bog willow-herb | G5/S2S3/NL/NL |
| Geum geniculatum | Bent avens | G2/S1/SOC/NL |
| Glaucomys sabrinus | Carolina Northern Flying Squirrel | G5T2/S1/LE/LE |
| coloratus | | |
| Gnaphalium uliginosum | Low Cudweed | G5/S1/NL/NL |
| Heterodermia erecta | A fringe lichen | G1?/S1/SOC/NL |
| Hypogymnia krogiae | Freckled tube lichen | G5/S1/NL/NL |
| Ilex collina | Long-stalked Holly | G3/S1/NL/LE |
| Liparis loeselii | Bog twayblade | G5/S2/NL/NL |
| Megaleuctra williamsae | Smokies Needlefly | G3/S1S2/NL/NL |
| Microhexura montivaga | Spruce-fir moss spider | G2/S1/LE/NL |
| Phacelia fimbriata | Fringed phacelia | G4/S2/NL/NL |
| Plethodon welleri | Weller's Salamander | G3/S2/NL/NL |
| Polytrichastrum appalachianum | Appalachian Haircap Moss | G3/S1/NL/NL |
| Psilolechia clavulifera | A lichen | GNR/S1/NL/NL |
| Regulus satrapa | Golden-crowned Kinglet | G5/S2B,S5N/NL/NL |
| Sceptridium oneidense | Blunt-lobe grape fern | G4/S1/NL/NL |
| Schistochilopsis incisa | Jagged notchwort | G5/S1/NL/NL |
| Setophaga magnolia | Magnolia Warbler | G5/S2B/NL/NL |
| Sibbaldiopsis tridentata | Three-toothed Cinquefoil | G5/S2/NL/NL |
| Solidago lancifolia | Lance-leaf Goldenrod | G2/S1/SOC/NL |
| Sphagnum angustifolium | Narrowleaf Peatmoss | G5/S1S2/NL/NL |
| Sphagnum rubellum | Red Peatmoss | G5/S2/NL/NL |
| Sphenolobopsis | Horsehair threadwort | G4/S1/NL/NL |
| pearsonii | | |
| Sphyrapicus varius | Yellow-bellied Sapsucker | G5/S1B,S4N/NL/NL |
| Troglodytes hiemalis | Winter Wren | G5/S2B,S4N/NL/NL |

The restoration sites also intersect the following stream conservation sites: Big Branch Stream Conservation Site and Lewis Fork Stream Conservation Site. Stream Conservation Sites (SCS) encompass stream/river reaches, waterbodies, and terrestrial contributing areas containing or associated with aquatic or semi-aquatic resources, including upstream and downstream reaches and tributaries up to 3-km stream distance from the aquatic resources. The size and dimensions of a Stream Conservation Site are based on the hydrology of the waterway and surrounding landscape, taking into consideration dam locations and whether the waterway is tidal. SCS are given B-ranks based on the rarity, quality, and number of natural heritage resources they contain.

The Big Branch SCS and the Lewis Fork SCS have been given a biodiversity ranking of B3, which represents sites of important significance.

The natural heritage resource associated with the Big Branch Stream Conservation Site is:

Desmognathus marmoratus Shovel-nosed Salamander G4/S1S2/NL/NL

The shovel-nosed salamander is known from the southern Appalachian Mountains from southwestern Virginia through northeastern Georgia and Northwestern South Carolina (NatureServe, 2009). It is typically found on the bottom of shallow, cool, well-oxygenated waters, most commonly in riffles. Areas with rough, broken rock are preferred (Gourley & Pague, 1991).

The primary threat to the shovel-nosed salamander is habitat disturbance due to local deforestation and forest fires (Gourley & Pague, 1991) as well as damming and siltation of the streams (NatureServe, 2009).

The natural heritage resource associated with the Lewis Fork Stream Conservation Site is:

Zapada fumosa Fumose forestfly G2G3/S1/SOC/NL

Please note, predictive models identifying potential habitat for Fraser fir, Caroliona Northern Flying Squirrel, Long-stalked holly, smokies needlefly, spruce-fir moss spider, a liverwort-*Bazzania nudicaulis*, lance-leaf goldenrod, roan mountain bluets, rock gnome lichen, and a fringe lichen-*Heterodermia erecta* intersect the project boundary.

The proposed restoration areas also intersect the karst bedrock and spelaea screening layers. The following two caves have been documented within the project area:

Wilburn Ridge Cave, Grayson CountyLatitude: 36.6512Longitude: -81.51789Length: 5 Depth: 2The entrance is described as a small crevice and the description of the cave is that there is a small crevice-type rhyolite cave on Wilburn Ridge.

Iron Mountain Cave, Grayson County Latitude: 36.711112278 Longitude: -81.4978864137 Length: 122 Depth: 46

The entrance is described as a small downward opening in exposed rocks at ground level. The cave is described as being a talus cave developed in fissures. It went consistently down with big boulders to climb over. At the lowest level there was a small stream. An upper lead went up from this lower level that ended in a room. The cave is supposedly developed on three levels and is within the Chilhowie Sandstone.

Neither of these caves contain documented natural heritage resources. However, it is likely the caves have not been surveyed. DCR recommends to field locate the caves to make sure the coordinates are accurate and then

avoid them completely. 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.

Giles County

The Salt Pond Mountain Site has been assigned a B-rank of B1, which represents a site of outstanding significance and irreplaceable for achieving statewide biodiversity conservation goals. The natural heritage resources associated with this site are:

| | Central Appalachian Montane Oak - Hickory Forest (Rich Type) | G3G4/S3S4/NL/NL |
|------------------------------|--|-----------------|
| | Central Appalachian Northern Hardwood Forest (Yellow Birch - Northern Red Oak Type) | G3G4/S3/NL/NL |
| | Southern Appalachian High-Elevation Seepage Swamp | G2?/S1/NL/NL |
| | Southern Appalachian Northern Red Oak Forest (Deciduous Shrub Type) | G4/S3/NL/NL |
| Bombus bohemicus | Ashton cuckoo bumble bee | G3G5/S1/NL/NL |
| Diplophyllum taxifolium | Yew-leaved earwort | G5/S1/NL/NL |
| Orthotrichum elegans | A moss | G5/S1/NL/NL |
| Peltigera hydrothyria | Waterfan | G4/S1/NL/NL |
| Platanthera peramoena | Purple Fringeless Orchid | G5/S1/NL/NL |
| Potamogeton tennesseensis | Tennessee Pondweed | G2G3/S1/SOC/NL |
| Rhododendron arborescens | Sweet azalea | G4G5/S2/NL/NL |
| Sphagnum girgensohnii | Girgensohn's Peatmoss | G5/S1S2/NL/NL |
| Sphenolobus minutus | Comb notchwort | G5/S1/NL/NL |
| Tritomaria exsecta | Cut notchwort | G5/S1/NL/NL |
| | | |

The Stony Creek SCS has been given a biodiversity ranking of B4, which represents a site of moderate significance. The natural heritage resource associated with this site is:

| Etheostoma osburni | Candy Darter | G3/S1/LE/LE |
|--------------------|--------------|-------------|
|--------------------|--------------|-------------|

The Candy Darter occurs in the New River drainage of Virginia and the Appalachian Plateaus of West Virginia (Jenkins and Burkhead, 1994). It inhabits rocky, clear, and small to large creeks in unsilted runs and riffles (Burkhead and Jenkins, 1991). Threats to the habitat of this species include siltation and turbidity (Burkhead and Jenkins, 1991). In addition, the stocking of trout may result in predation of the Candy darter while the spawning sites may be trampled by wading trout fishermen (Burkhead and Jenkins, 1991).

Please note that this species is classified as endangered by the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Wildlife Resources (VDWR).

Predictive models identifying potential habitat for rare bats, northeastern bulrush, Bentley's coralroot and Peregrine falcon intersect the project boundary.

This project has also intersected the karst bedrock and <u>spelaea</u> screening layers. One proposed restoration area is partially within the Sugar Run Cave Conservation Site. This cave conservation site has many caves located in it. None of the significant ones will be impacted by the project. There is only one small cave, Flat Top Lookout Cave, that is even near the work zone in this conservation site. It is developed in talus Tuscarora Sandstone near a cliff. DCR does not anticipate impact to this cave. The Forest Service should already have a location for this cave.

The only other cave conservation site that this seems to intersect is Clover Hollow. The area that they are working in should not impacts the caves within that conservation site.

The Bear Cliff Caves are also just on the edge of one of these polygons These are also talus caves developed in Tuscarora Sandstone and are unlikely to be impacted by this project. Bear Cliff Caves, Giles County Latitude: 37.362240 Longitude: -80.515674 Length: 25

The Bear Cliff Caves are pseudokarstic features, not formed by the dissolving of rock. The caves are among blocks of the Tuscarora Formation (early-Silurian age), a sandstone. The caves consist of openings between and under blocks that have separated from the cliff and have begun to slide downslope. Some of the caves consist of roofed fractures and fissures between the blocks. The total number of caves at this location has not been determined. At least four were visited, and undoubtedly, others exist in the vicinity.

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.

Highland County

The Big Crooked Ridge-NFS Road Conservation Site has been assigned a B-rank of B2, which represents a site of very high significance. The natural heritage resource associated with this site is:

Carex roanensis Roan Mountain Sedge G3/S2/NL/NL

Roan Mountain Sedge is a sedge that occurs in higher elevation of the Blue Ridge, Ridge and Valley, and Central Appalachian ecoregions. In Virginia it is found in dry-mesic, often rocky, oak, oak-hickory and mixed hardwood forest, this species is rare in the mountains (Digital Atlas of the Virginia Flora 2021). Despite a rather broad distribution (found from Pennsylvania to Georgia) this species is imperiled throughout its range, making it a conservation priority. Major threats to Roan Mountain Sedge include activities that destroy or degrade the forest including logging, development, and non-native species (NatureServe 2021).

The Laurel Fork- Straight Fork Conservation Site has been assigned a B-rank of B1, which represents a site of outstanding significance and irreplaceable for achieving statewide biodiversity conservation goals. The natural heritage resources associated with this site are:

| | Central Appalachian Northern Hardwood Forest (Sugar Maple G4/S2/NL/NL - Beech - Black Cherry Type) | | |
|---------------------------|---|--------------------|--|
| | Central Appalachian Red Spruce Forest | G2/S1/NL/NL | |
| | Northeastern Dry-Mesic Beech - Hemlock Forest | GNR/S1/NL/NL | |
| | Northern Appalachian High-Elevation Rich Cove Forest | G4?/S1/NL/NL | |
| Aegolius acadicus | Northern Saw-whet Owl | G5/S1B, S2N/NL/NL | |
| Aeshna canadensis | Canada Darner | G5/S1/NL/NL | |
| Aeshna tuberculifera | Black-tipped Darner | G5/S2S3/NL/NL | |
| Aeshna verticalis | Green-striped Darner | G5/S1/NL/NL | |
| Carex arctata | Black Sedge | G5/S1/NL/NL | |
| Catharus guttatus | Hermit Thrush | G5/S1S2B,S5N/NL/NL | |
| Chlosyne harrisii | Harris's checkerspot | G4?/S1/NL/NL | |
| Cuscuta rostrata | Beaked Dodder | G4/S1S2/NL/NL | |
| Enallagma annexum | Northern Bluet | G5/S1/NL/NL | |
| Ladona julia | Chalk-fronted Corporal Skimmer | G5/S2S3/NL/NL | |
| Lestes disjunctus | Common Spreadwing | G5/S2/NL/NL | |
| Nehalennia irene | Sedge Sprite | G5/S1S2/NL/NL | |
| Regulus satrapa | Golden-crowned Kinglet | G5/S2B,S5N/NL/NL | |
| Rhionaeschna mutata | Spatterdock Darner | G4/S2/NL/NL | |
| Setophaga magnolia | Magnolia Warbler | G5/S2B/NL/NL | |
| Solidago uliginosa var. | Bog Goldenrod | G5T4T5/S2/NL/NL | |
| uliginosa | | | |
| Somatochlora elongata | Ski-tipped Emerald | G5/S1S2/NL/NL | |
| Speyeria atlantis | Atlantis Fritillary | G5/S2/NL/NL | |
| Sympetrum obtrusum | White-faced Meadowhawk | G5/S2/NL/NL | |
| Virginia valeriae pulchra | Mountain Earthsnake | G5T3T4/S1S2/NL/NL | |

The Paddy Knob Conservation Site has been assigned a B-rank of B3, which represents a site of high significance. The natural heritage resource associated with this site is:

Geothlypis philadelphia

Mourning Warbler

G5/S1B/NL/NL

The Shenandoah Mountain Southwest Conservation Site has been assigned a B-rank of B1, which represents a site of high significance and is critical for achieving statewide biodiversity conservation goals. The Shenandoah Mountain Trail has been assigned a B-rank of B4, which represents a site of moderate significance. The natural heritage resource associated with both sites is:

| Plethodon punctatus | Cow Knob Salamander | G3/S2S3/NL/NL |
|---------------------|---------------------|---------------|
|---------------------|---------------------|---------------|

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.

Overall Comments

Several restoration sites occur within large significant natural communities as identified by the Virginia Natural Heritage Program. These areas may not be ideal for spruce restoration, indicated by the community classification as a non-spruce forest type (although spruce may still occur sparsely in these places). Other areas are classified as spruce forests and may be appropriate for spruce restoration.

DCR recommends avoidance of documented occurrences of natural heritage resources. DCR also recommends USFS conduct a biological assessment of each proposed site for threatened and endangered species and forest sensitive species before beginning restoration efforts. 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 <u>anne.chazal@dcr.virginia.gov</u> or 804-786-9014 to discuss availability and rates for field work. For a list of USFWS-approved surveyors in Virginia visit <u>https://www.fws.gov/media/collection-approved-surveyor-lists-project-review-process-virginia</u>.

In areas where restoration activities are determined to be appropriate, DCR recommends minimal ground disturbance. Due to the legal status of some of the natural heritage resources documented in the proposed restoration areas, DCR recommends coordination with the Virginia Department of Wildlife Resources (VDWR) and the United States Fish and Wildlife Service (USFWS) to ensure compliance with protective species legislation.

If additional 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 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.

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 statelisted threatened and endangered plant and insect species.

DCR recommends that current updated resource information be utilized to inform the red spruce fir restoration project. New and updated information is continually added to Biotics.

The 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 <u>https://services.dwr.virginia.gov/fwis/</u> or contact Hannah Schul at Hannah.Schul@dwr.virginia.gov.

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 rachel_case@fws.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 scoping notice.

Sincerely,

Rem' Hy-

S. René Hypes Natural Heritage Project Review Coordinator

Cc: Hannah Schul, VDWR

Literature Cited

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