

Natural Heritage Component

This component is based on information from the Virginia Department of Conservation and Recreation's (DCR) Natural Heritage (NH) Program. The NH Program is a comprehensive effort to save Virginia's native plant and animal life and the ecosystems upon which they depend through inventory, conservation information provision, protection, and stewardship. Natural Heritage Resources (NHRs) are defined as the habitat of rare, threatened, or endangered plant and animal species, rare or state significant natural communities or geologic sites, and similar features of scientific interest (*DCR Website, 2014*). It should be noted that this definition does not fully capture the nature of DCR's work as inventorying rare species is a central part of their program. So a comprehensive description of the agencies work is that it is concerned with both the species and the habitat.

The Butt, Doe, Big, and Salt Pond Mountains have one of the highest densities of NHRs in the state. Approximately 5% of the NH species in the Appalachian Mountain Province (1 of 3 state physiographic provinces) are located in the Butt, Doe, and Salt Pond Mountain region, representing a very high level of biodiversity. The Mountain Lake Conservancy and Lodge property (the property) contributes to the high level of biodiversity with nineteen NH species. The table below displays these nineteen documented species.

Group Name	Scientific Name	Common Name	Last Observed	Global Rank	State Rank
Invertebrate Animal	<i>Euphyes conspicua</i>	Black Dash	7/20/1953	G4	S1S3
Vascular Plant	<i>Botrychium lanceolatum</i> var. <i>angustisegmentum</i>	Lance-leaf Grape-fern	8/11/1941	G5TNR	S1
Vascular Plant	<i>Botrychium multifidum</i>	Leathery Grape-fern	8/19/1962	G5	S1
Vascular Plant	<i>Platanthera grandiflora</i>	Large Purple-fringed Orchid	7/5/1962	G5	S1
Vascular Plant	<i>Clematis catesbyana</i>	Satin-curly	7/28/1965	G4G5	S1
Invertebrate Animal	<i>Phyciodes batesii batesii</i>	Tawny Crescent	7/1/1940	G4T1	SH
Nonvascular Plant	<i>Sphagnum flexuosum</i>	Flexuose Peatmoss	7/14/1974	G5	S1S2
Vascular Plant	<i>Corallorhiza bentleyi</i>	Bentley's Coralroot	8/15/2013	G1G2	S1
Invertebrate Animal	<i>Euchlaena milnei</i>	Milne's Euchlaena Moth	9/21/1984	G2G4	S2
Vascular Plant	<i>Pyrola elliptica</i>	Shinleaf	8/15/2013	G5	S2
Invertebrate Animal	<i>Speyeria idalia</i>	Regal Fritillary	1980ca.	G3	S1
Vascular Plant	<i>Juncus brevicaudatus</i>	Narrow-panicled Rush	7/10/2008	G5	S2
Vascular Plant	<i>Botrychium oneidense</i>	Blunt-lobe Grape-fern	8/19/1962	G4	S2
Vascular Plant	<i>Epilobium ciliatum</i> ssp. <i>Ciliatum</i>	Hairy Willowherb	8/16/1930	G5T5	S2
Vascular Plant	<i>Goodyera repens</i> var. <i>ophioides</i>	Dwarf Rattlesnake Plantain	7/31/1947	G5TNRQ	S2?
Invertebrate Animal	<i>Anaplectoides brunneomedia</i>	Brown-lined Dart Moth	7/1/1938	G4	S2
Invertebrate Animal	<i>Erora laeta</i>	Early Hairstreak	1970-07	GU	S2
Vascular Plant	<i>Lycopodiella inundata</i>	Northern Bog Clubmoss	9/2013	G5	S1
Vascular Plant	<i>Liparis loeselii</i>	Loesel's Twayblade	9/2013	G5	S2

*Explanations of the global and state importance ranking can be found in the introduction and background section of this conservation plan.

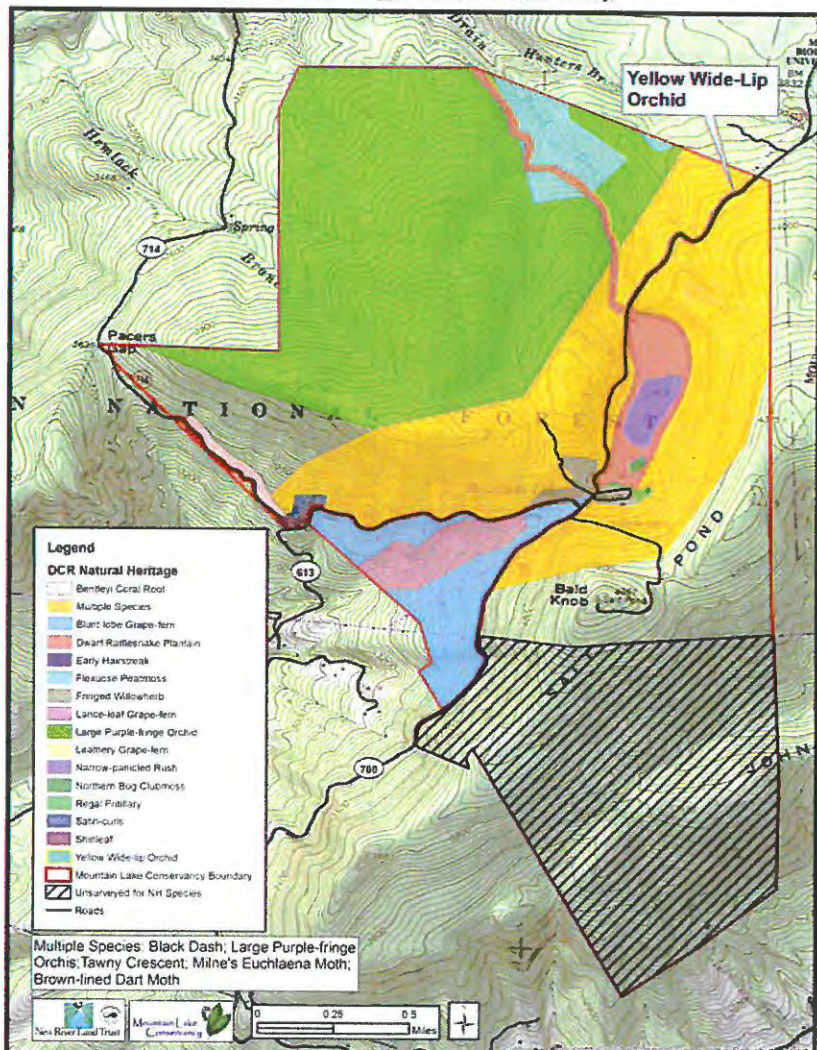
Most of the species listed above are known from herbarium specimens alone, and most have vague locational data. As a result, the mapping of each species intersects with the MLC boundary, but it should be noted that they may not actually have been found on the property (Johnny Townsend, 2014). DCR's NH staff revisited the property in summer and fall of 2013 and confirmed some species were still present and found new species previously undiscovered on the property. The size of the property and the difficulty of observing/documenting NH species leaves open the strong possibility not only of the continuing presence of species recorded in the historic records but also of the existence of others yet to be recorded.

The map below shows the elements of occurrence documented on the property recently or historically. Elements of occurrence are plants, animals, and exemplary natural communities which are tracked by the Virginia Natural Heritage Program due to their rarity. An Element Occurrence relates to the location of a single extant habitat containing one or more individual elements. Element Occurrence Representations (EO Reps) are mapped representations of element occurrences in Virginia. Each occurrence is represented by a polygon indicating its known location. The polygons are intended to indicate the full known aerial extent of the occurrence modified to account for the locational uncertainty of the source data (DCR Element of Occurrence Metadata, 2013). The portion of the property south of Bald Knob has not been surveyed by DCR's NH staff, leaving the possibility that other rare and significant species could be located on the property.

Highest Priority Elements

The species profiles listed in the tables on the following pages are the highest priority species on the property. These species are recognized as the highest priority because of their global and/or state rarity and have been documented on the property in the past 6 years. The species profiles provide name, description, global and state rank, habitat and distribution, and management recommendations. The information in the tables was collected from NatureServe Explorer, an authoritative source for information on more than 70,000 plants, animals, and ecosystems in the US and Canada.

Natural Heritage Resources Map



(NRLT, 2014)

Name	Bentley's Coralroot (<i>Corallorhiza bentleyi</i>)
Description	Stems reddish to yellowish and Flowers are often cleistogamous; it's yellow or red, pointed lip and glossy capsules are diagnostic.
Global and State Rank	G1G2 and S1 (Federally Listed as Endangered)
Habitat and Disturbed	This is a very rare native orchid that was only discovered about 15 years ago in the mountains of West Virginia by Stan Bentley (Freudenstein 1999). Since the initial find there have been about 10 occurrences found in Virginia and at least one more occurrence in West Virginia but always in relatively small numbers. Plants often occur in the interface between mixed upland hardwood forest and open roadsides. Threats exist from road maintenance activities (road grading, herbicide use), trampling from parked vehicles, and competition from invasive plant species.
Management Recommendations	MLC needs to communicate with VDOT about road blading with the rare plant populations being located on road banks. Herbicide use along roads would also threaten the plants. The exotic invasive grass <i>Microstegium vimineum</i> is often found with plants and should be controlled. Timber harvests should be restricted in the vicinity of rare plants. Parking along road needs to be discouraged in the area of the plants.



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Name	Northern Bog Clubmoss (<i>Lycopodiella inundata</i>)
Description	Resembles a large moss. It has prostrate or arching stems that root at irregular intervals and give rise to erect branches that are up to 10 cm high. The narrow, pointed leaves are 4-8 mm long and clothe the stems and branches in 8-10 ranks. Each spore is subtended by a bract, or sporophyll, that is similar to the leaves and borne in dense spikes at the top of erect branches. It is difficult to distinguish the fertile and sterile portions of the branches.
Global and State Rank	G5 and S1
Habitat and Disturbed	Habitats include bogs, shores of rivers or lakes, wetlands. Species prefers open well lit not shaded areas. Patchy distribution through North America, sometimes common, with tens of thousands of occurrences.
Management Recommendations	Located in the lake bed at end of dock near the parking area at the resort. Species began to appear as lake levels declined. Spores were



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	most likely brought by wind and possibly out of seed bank in the lake bed from other historic low water levels. Since plants are located in the lake bed and with lake levels rising no long term management is needed. In short term reducing foot traffic in the area is recommended.	
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Name	Regal Fritillary (<i>Speyeria idalia</i>)
Description	Adult large, size of a monarch. Upper side with reddish-orange forewings and velvety blackish hindwings with blue iridescence with two rows of spots on hindwing, both cream colored in female, outer row orangish in male. Underside forewing similar to upperside, but hindwing dark slightly greenish brown with many elongated whitish spots, no pale subterminal band.
Global & State Rank	G3 and S1
Habitat and Disturbed	
Management Recommendations	



Name	Shinleaf (<i>Pyrola elliptica</i>)
Description	Plant is an evergreen Perennial growing to 0.2 m (0ft 8in) by 0.3 m (1ft). It is in leaf December to January. It is in flower from June to July. The flowers are hermaphrodite (have both male and female organs) and are pollinated by insects, and self. The plant is self-fertilizing.
Global & State Rank	G5 and S1
Habitat and Disturbed	Mostly found in shaded wooded areas with acidic soils. The species does not require any special hydrological conditions. Northern N. America - Newfoundland to Alaska and south to Virginia and Nebraska.
Management Recommendations	Approximately 150 plants within 6m x 2m area, about 3m from edge of road embankment (Rte 613). Only 10% or less of population is fertile. Little is known about the vulnerability of species but recommend limiting foot traffic in the area and notifying VDOT to reduce the amount of spraying on herbicides on road bank where species is located.



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