

Uncommon Species (SN2)

Description

Uncommon species are defined by the Natural Heritage Inventory of Vermont Fish and Wildlife Department as facing a “moderate risk of extinction or extirpation due to restricted range, relatively few populations or occurrences (often 80 or fewer), recent and widespread declines, or other factors.” In contrast, rare species face a higher risk of extirpation and generally have 20 or fewer populations statewide. The Vermont Fish and Wildlife Department uses a ranking scheme to describe the relative rarity of species in Vermont, using a national Natural Heritage methodology.

Ecological importance

Uncommon species of plants and animals are restricted in their distribution because of limited suitable habitat, either from natural causes or due to habitat loss and fragmentation associated with development. Some uncommon species in Vermont may be at or near the edge of their geographic range. Uncommon species are an important part of Vermont’s natural communities and contribute to biological diversity at the genetic and species levels. It is important to keep track of uncommon species as they may become rare or more common as environmental conditions change.

Uncommon Species Conservation Goal

To conserve viable populations of all uncommon plant and animal species in Vermont, the habitat they need to survive, the ecological processes that support them, and landscape connectivity to allow individuals to disperse and populations to shift distribution over time in response to changing environmental conditions. Uncommon species are less at risk than rare species, but conserving all species is critical to conserving biological diversity. Understanding trends in uncommon species and taking appropriate conservation action is important in preventing uncommon species from becoming rare.

Component Mapping Goal

To identify and map all of Vermont’s documented uncommon species populations using the best available data.

Source Data and Selection Criteria

Natural Heritage Database, Vermont Fish and Wildlife Department

Description

The Natural Heritage Database contains detailed, geographically-referenced information on Vermont’s uncommon, rare, threatened, and species and on Vermont’s significant natural communities. The database is periodically updated as new information on species and natural communities becomes available. The data used for BioFinder are current as of March 2012.

Selection Criteria

All uncommon species records in the Natural Heritage Database. These include all records for species with S-rank (state ranks – describes relative rarity) of S3 (uncommon) or S3S4 (uncommon – split rank), with the exception of D-ranked S3 and S3-S4 records (ranks A-D

describe the quality of records and a D-rank implies “not viable”). Records with very poor mapping accuracy, such as those that are mapped to an entire town boundary, are excluded.

Component Strengths

Uncommon species records from Natural Heritage Inventory are based on detailed site surveys and data collected by consistent methods. More recent records have high spatial accuracy.

Component Limitations

Inventories of uncommon species of plants and animals are incomplete, especially for many invertebrate animals and bryophytes (non-vascular plants). Many uncommon species populations that are mapped in the Natural Heritage Database are mapped as circles, with the circle centered on the expected location of the population and the size of the circle representing uncertainty in the mapping accuracy. For older records with poor mapping accuracy this means that more area is mapped for the species population than it actually inhabits.

Component Weight and Justification

Uncommon species were assigned a weight of 6 out of 10. This medium priority weighting is based on the high importance of all species in their contribution to biological diversity, but the relatively moderate risk of extirpation of these species, compared to rare species. The medium priority also reflects the relatively incomplete set of occurrence records for uncommon species in the Natural Heritage Database.

Summary Statistics for Uncommon Species

Table 1. BioFinder component datasets, component weights, and the distribution (%) of components across tiers

Data #	Weight	Component	Tier 1 Greatest	Tier 2 Very High	Tier 3 High	Tier 4 Moderate	Tier 5 Low
Landscapes							
L1	7	Habitat Blocks	12.7%	18.1%	30.1%	39.1%	0.0%
L2	3	Grasslands & Shrublands	4.3%	20.8%	22.7%	10.9%	41.3%
L3	9	Rare Physical Landscape	15.7%	53.9%	11.0%	19.4%	0.0%
L4	4	Representative Physical Landscape	17.2%	19.1%	43.4%	13.7%	6.6%
L5	7	Connecting Lands (<2000ac)	10.1%	23.4%	19.1%	47.4%	0.0%
L6	4	Connecting Blocks	9.2%	12.2%	24.0%	51.8%	2.7%
L7	3	Anchor Blocks	12.1%	19.7%	35.3%	32.7%	0.1%
L8	8	Riparian Connectivity	36.4%	52.9%	10.8%	0.0%	0.0%
L9	4	Wildlife Road Crossings	12.8%	28.1%	20.9%	26.8%	11.4%
Aquatics							
A1	6	Surface Waters & Riparian Areas	31.1%	48.6%	12.9%	7.4%	0.0%
A2	4	Representative Lakes	10.3%	84.5%	5.3%	0.0%	0.0%
A3	8	Important Aquatic Habitats & Species Assemblages	19.9%	75.2%	4.9%	0.0%	0.0%
Species & Natural Communities							
SN1	Tier 1	Rare Species	100.0%	0.0%	0.0%	0.0%	0.0%
SN2	6	Uncommon Species	62.1%	21.7%	10.0%	6.1%	0.0%
SN3	Tier 1	Rare Natural Communities	100.0%	0.0%	0.0%	0.0%	0.0%
SN4	6	Uncommon Natural Communities	57.4%	31.0%	11.4%	0.2%	0.0%
SN5	3	Common Natural Communities	9.8%	52.9%	37.1%	0.2%	0.0%
SN6	7	Vernal Pools (Confirmed)	20.5%	57.0%	8.3%	14.1%	0.0%
SN7	5	Vernal Pools (Potential)	6.0%	30.1%	52.3%	2.4%	9.2%
SN8	8	Wetlands	60.9%	31.0%	5.1%	3.0%	0.0%
SN9	4	Mast production areas	10.3%	49.3%	35.2%	4.0%	1.2%

The sum of percentages for each component is 100.

For more information

A complete report on BioFinder development, methods and findings, including all 21 component summaries can be found at www.BioFinder.vt.gov. For more information specific to this component, contact Eric Sorenson, Vermont Fish & Wildlife Department, 802-476-0126, eric.sorenson@state.vt.us