

Common Natural Communities (SN5)

Description

A natural community is an interacting assemblage of plants and animals, their physical environment, and the natural processes that affect them. As these assemblages of plants and animals repeat across the landscape wherever similar environmental conditions exist, it is possible to describe these repeating assemblages as natural community types. The Vermont Fish and Wildlife Department uses a ranking scheme that is part of the national Natural Heritage methodology to describe the relative rarity of natural community types in Vermont. The range is from S1 (very rare) to S5 (common and widespread). Examples of common natural community types include Northern Hardwood Forest (S5) and Alder Swamp (S5).

Ecological importance

Natural communities represent the distribution of plant and animal species in response to current environmental conditions and natural processes. Although the species composition of natural communities may shift over time in response to changing climate, it is believed that the locations of high quality natural communities represent physical landscape settings that will continue to support important natural communities into the future. Common natural communities are important ecologically because they form the natural matrix of the Vermont landscape, provide habitat for innumerable species and support ecological processes such as natural disturbance, water filtration, and carbon sequestration. Natural communities are commonly referred to as one of the “coarse filters” for conserving biological diversity. This is because there are relatively few natural community types (89 types are currently recognized by Vermont Fish and Wildlife Department) compared to the thousands of plant and animal species, and one approach to conserve most species is to conserve high quality examples of all natural community types across their natural range of distribution. By this approach, natural communities act as a “coarse filter” for conserving species.

Common Natural Community Conservation Goal

To conserve multiple high quality examples of all common natural community types across their geographic range of distribution and representing all physical settings (soil, bedrock, elevation, etc.) in which they occur. Effective conservation should include the ecological processes that support the communities and their component species and a network of connected lands, waters, and riparian areas to allow ecological exchange between communities, including the ability of component species to shift over time in response to changing environmental conditions.

Component Mapping Goal

To identify and map all of Vermont’s documented common natural communities 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 natural community Element Occurrences in the Natural Heritage Database with S-rank of S5.

Component Strengths

Natural communities represent critical coarse-filter elements for conserving biological diversity and overall natural heritage. Natural community Element Occurrences from Natural Heritage Inventory are based on detailed site surveys and data collected by consistent methods.

Component Limitations

Statewide inventories for common natural community types are on-going and therefore our knowledge of common natural community locations is incomplete. The majority of mapped examples are on state-owned land. Statewide inventory of Northern Hardwood Forest, the most widespread natural community type in Vermont, is especially incomplete.

Component Weight and Justification

Common natural communities were assigned a weight of 3 out of 10. This low priority weight is based on the high importance of all high quality natural communities in their contribution to biological diversity, but the low level of inventory that has been completed for common community types and the overall low threat to these common community types.

Summary Statistics for Common Natural Communities

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.us. For more information specific to this component, contact Eric Sorenson, Vermont Fish & Wildlife Department, 802-476-0126, eric.sorenson@state.vt.us