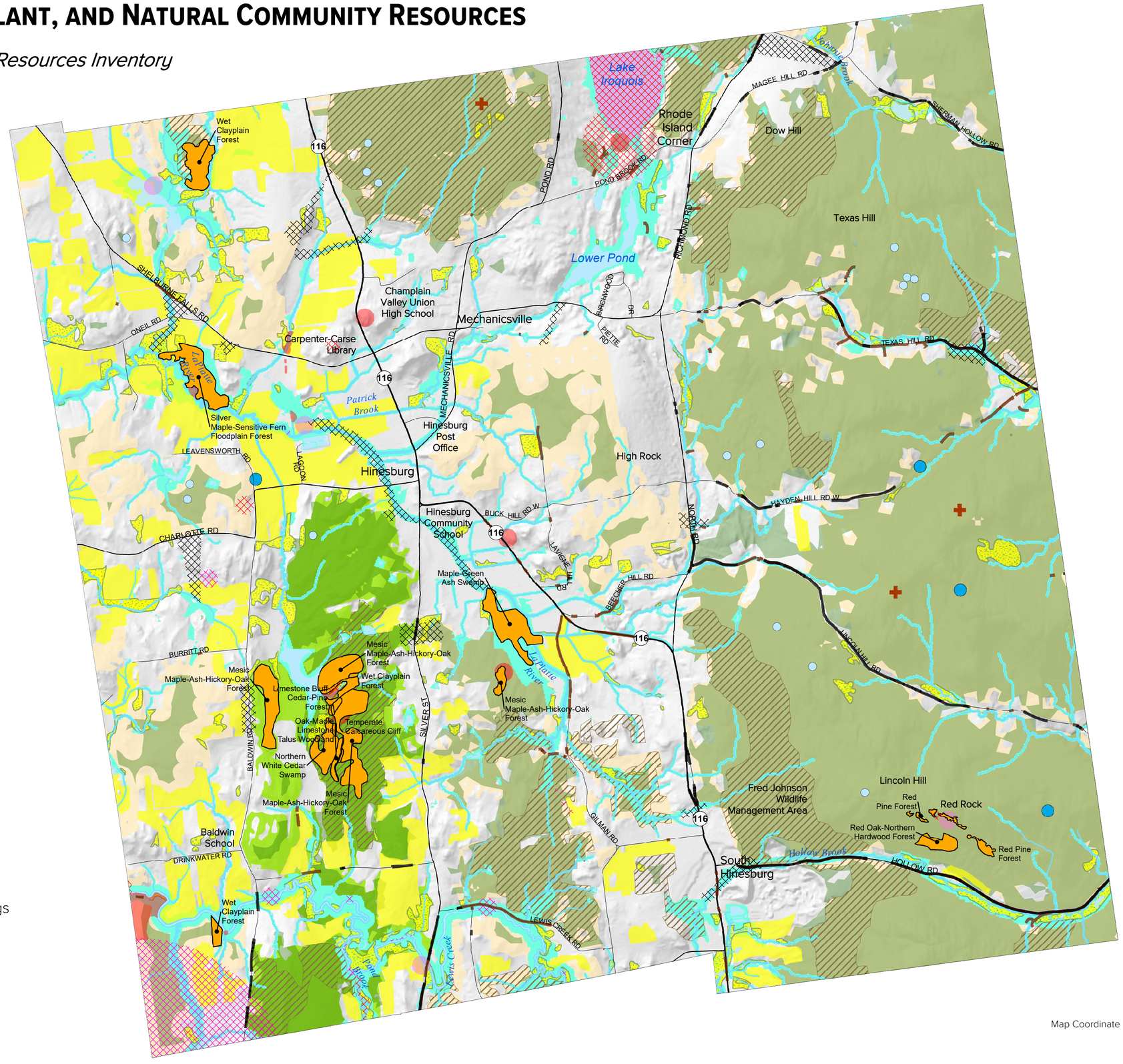
# Wildlife, Plant, and Natural Community Resources

*Phase-1 Natural Resources Inventory*

1:30,000




- Rare, Threated, and/or Endangered Animal
- Rare, Threated, and/or Endangered Plant
- State Significant Natural Community
- Uncommon Animal
- Uncommon Plant
- Confirmed Vernal Pool
- Potential Vernal Pool
- Bear Mast Area
- Deer Wintering Area (Advisory)
- Potential Shrubland Habitat
- Potential Grassland Habitat
- Core Wildlife Habitat
- Priority Interior and Connector Blocks
- Highest Priority Interior and Connector Blocks
- Highest Priority Terrestrial Wildlife Road Crossings
- Priority Terrestrial Wildlife Crossings Road
- Highest Priority Riparian Wildlife Road Crossings
- Priority Riparian Wildlife Crossings Road
- Wildlife Corridor/Linkage
- Riparian Wildlife Connectivity

*Analysis by:* Native Geographic, LLC

This map is not a survey.
Map contains data of varying accuracy and age.

Map produced: 2/7/2021
Map Coordinate System: VT State Plane (NAD 83)

### Wildlife, Plant, and Natural Community Data Layers

Wildlife and nature are important to Vermont's residents, as well as to the many tourists that visit the state. According to a 2011 survey by the U.S. Fish and Wildlife Service, 62 percent of Vermonters engage in fishing, hunting, or wildlife watching (Vermont Wildlife Action Plan Team, 2015). Wildlife is also central to Vermont's outdoor-based tourism industry, which accounts for approximately 11.5% of the state's overall employment (Vermont Forests, Parks & Recreation Department, 2015).

The following data layers were used and/or developed during the inventory and analysis of wildlife, plant, and natural community resources in town.

#### State Significant Natural Communities

Location of known state significant natural community occurrences from the *Vermont Natural Heritage Inventory*, overseen by the *Vermont Fish and Wildlife Department*. Includes the highest quality examples of each natural community type and most rare community occurrences. Natural community data may come from one or more sources, including state and federal studies, consultants, researchers, and collections. Natural communities are classified and ranked using *Wetland, Woodland, and Wildlife* (Thompson and Sorenson, 2000) and the *Vermont Natural Community Ranking Specifications* (Sorenson et al, 2014).

#### Rare, Threatened and Endangered Species

Location of known rare species from the *Vermont Natural Heritage Inventory* (Vermont Fish and Wildlife Department, 2020), including state and/or federally threatened or endangered species. These species have a high risk of extirpation and may have less than 20 populations statewide.

#### Uncommon Species

Location of known uncommon species occurrences from the *Vermont Natural Heritage Inventory* (Vermont Fish and Wildlife Department, 2020). These species have a moderate risk of extirpation.

#### Potential Highest Priority and Priority Terrestrial Wildlife Road Crossings

Road segments with moderate to high wildlife crossing potential for terrestrial species based on computer modelling by *Vermont Department of Fish and Wildlife* (Sorenson et. al, 2015; BioFinder/Vermont Conservation Design Team, 2019). Terrestrial crossings include road sections bordered by vegetation with little development. At these locations, the road is likely to be the primary impediment to wildlife movement between forest blocks. Crossings between highest priority connectivity blocks are considered a highest priority, while crossings between other blocks are considered a priority.

#### Potential Highest Priority and Priority Riparian Wildlife Road Crossings

Road segments with moderate to high wildlife crossing potential for riparian and aquatic species based on computer modelling by *Vermont Department of Fish and Wildlife* (Sorenson et. al, 2015; BioFinder/Vermont Conservation Design Team, 2019). Riparian crossings follow waterways and may be associated with culverts or bridges that could potentially provide passage beneath the road surface. At these locations, the road is likely to be the primary impediment to wildlife movement between forest blocks. Crossings between highest priority connectivity blocks are considered a highest priority, while crossings between other blocks are considered a priority.

#### Wildlife Corridor/Linkage

Stream/riparian, wetland, or forested areas that provide connections between patches of significant wildlife habitat (Map 14) in the Hinesburg Town Plan. Developed and maintained by the town with contributions from Vermont Fish and Fish Wildlife and other consultants, including revisions by Alex Weinhagen (Director of Planning & Zoning, Town of Hinesburg) and David Hirth (HCC). The layer was originally mapped in 2008 by Polly Harris (Stantec), Jens Hilke (VT Fish and Wildlife), Natalie Steen (LandWorks), and Gerry Livingston (HCC).

#### Potential Shrubland Habitat

Shrub-dominated or young forest habitats with the potential to support Species of Conservation Need (Vermont Wildlife Action Plan Team, 2015). These sites have not been verified in the field but were remotely mapped by Native Geographic using 2018 and 2016 aerial imagery and wetland data. Generally delineated at a scale of 1:5,000 or finer.

#### Vernal Pools

Confirmed vernal pools that have been identified and assessed by the *Vermont Vernal Pool Mapping Project*, Native Geographic, LLC, or members of the Phase-1 Natural Resource Inventory Team. Vernal pools are an important breeding habitat for multiple Species of Conservation Need (Vermont Wildlife Action Plan Team, 2015). Confirmed pools have documented breeding of pool-dependent species.

Potential vernal pools have not been field verified and it is unknown if they support breeding activity of vernal-pool dependent species. These potential pools were mapped the *Vermont Vernal Pool Mapping Project*, Native Geographic, LLC, or members of the Hinesburg Phase-1 Natura Resource Inventory Team.

#### Bear Mast Area

Hardwood or mixed-wood forest that has a significant amount of mature, nut-producing beech, oak, or other mast trees with evidence of current or historic bear feeding. Mast areas are an important resource for bear and other wildlife species. In 2001, across the state, Vermont Department of Fish and Wildlife mapped known mast areas using anecdotal information from wardens, foresters, and wildlife biologists. In 2020, Native Geographic visited a selection of the mast areas and deleted prior records that now longer support significant mast production. Also in 2020, Native Geographic surveyed additional areas for mast production and bear feeding. This is not a systematic study of bear habitat but does represent the best available data.

#### Potential Grassland Habitat

Hay, pasture, and other grassy openings at least 10-acres in size. Depending on the timing and intensity of mowing and/or pasturing; these areas have the potential to support nesting grassland birds. Digitized and interpreted by Native Geographic using multiple vintages of leaf-on and leaf-off aerial imagery. Final determination and extent based on 2016 National Agriculture Imagery Program (NAIP) imagery. Fields were generally delineated at a scale of 1:5,000. Throughout town, fields may be used rotated between hay and corn production. Additionally, many hay fields are also seasonally pastured, and some larger pastures may also be rotationally hayed. Also likely to include some large lawns.

#### Deer Wintering Areas (Advisory)

Areas with coniferous forest cover, mixed forest cover, and/or warm westerly, southerly or southwesterly aspects where deer may yard or concentrate during inclement weather. These areas were originally mapped and reviewed by Vermont Fish and Wildlife deer biologists in 2008. Based on 2018 Vermont Ortho aerial imagery, Native Geographic refined the deer wintering area boundaries to exclude areas of recent development, forest clearing, and large areas of deciduous forest on cool northerly, easterly, or northeasterly aspects.

#### Riparian Wildlife Connectivity

Includes the town's interconnected network of streams, rivers, ponds, and lakes and the immediately adjacent riparian and valley bottom forests, wetlands, and other natural/semi-natural covers. These areas were identified by state ecologists and biologists during an early update of the *Vermont Conservation Design* (Sorenson et al., 2015; BioFinder/Vermont Conservation Design Team, 2019). These areas are critical to natural stream, river, and floodplains processes; contribute to broader ecological connectivity across the landscape; and provide important wildlife and plant habitat and travel corridors.

#### Core Wildlife Habitat

Core wildlife habitats are large tracts of forest and wetlands and smaller areas of interior forest with few roads or houses. These areas are identified has as a wildlife habitat of special concern in the Hinesburg Town Plan and included in Map 14 of the Plan. This dataset was developed by the Town of Hinesburg around 2012 and consists of blocks 700 acres or larger, and interior areas (100m meters from edge) of smaller blocks.

#### Interior Forest and Connector Blocks

Subset of forest blocks that provide the highest quality interior forest functions and/or connectivity functions across the state and broader northeast region. These priority forest blocks were identified by state ecologists and biologists during the *Vermont Conservation Design* (Sorenson et al., 2015; BioFinder/Vermont Conservation Design Team, 2019). In 2020, Native Geographic, LLC remapped the Hinesburg blocks to reflect current conditions and improve the data resolution.

Highest Priority: The highest ranked interior forest and/or connector blocks in the surrounding biophysical region.

Priority: Also highly ranked interior forest and/or connector blocks relative to the surrounding biophysical region. These blocks provide interior forest habitat, connectivity, and are also important for maintaining function in nearby highest quality blocks.

#### References


BioFinder/Vermont Conservation Design Team. 2019 BioFinder 3.0 Development Report. Vermont Agency of Natural Resources. Montpelier, VT.

Sorenson, E., R. Zaino, J. Hilke and E. Thompson. 2015. *Vermont Conservation Part 1: Maintaining and Enhancing an Ecologically Functional Landscape*. Vermont Fish and Wildlife Department and Vermont Land Trust. Montpelier, VT.

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Vermont Fish and Wildlife Department. 2020. *The Vermont Natural Heritage Inventory*. Montpelier, VT.

Vermont Forests, Parks & Recreation Department. 2015. *Vermont Forest Fragmentation Report*: Report to the Vermont Legislature, submitted to House and Senate Committees on Natural Resources and Energy and the House Committee on Fish, Wildlife, and Water Resources.

Vermont Wildlife Action Plan Team. 2015. *Vermont Wildlife Action* Plan 2015. Vermont Fish & Wildlife Department. Montpelier, VT.