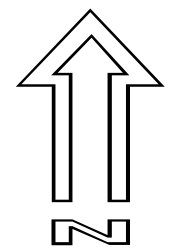
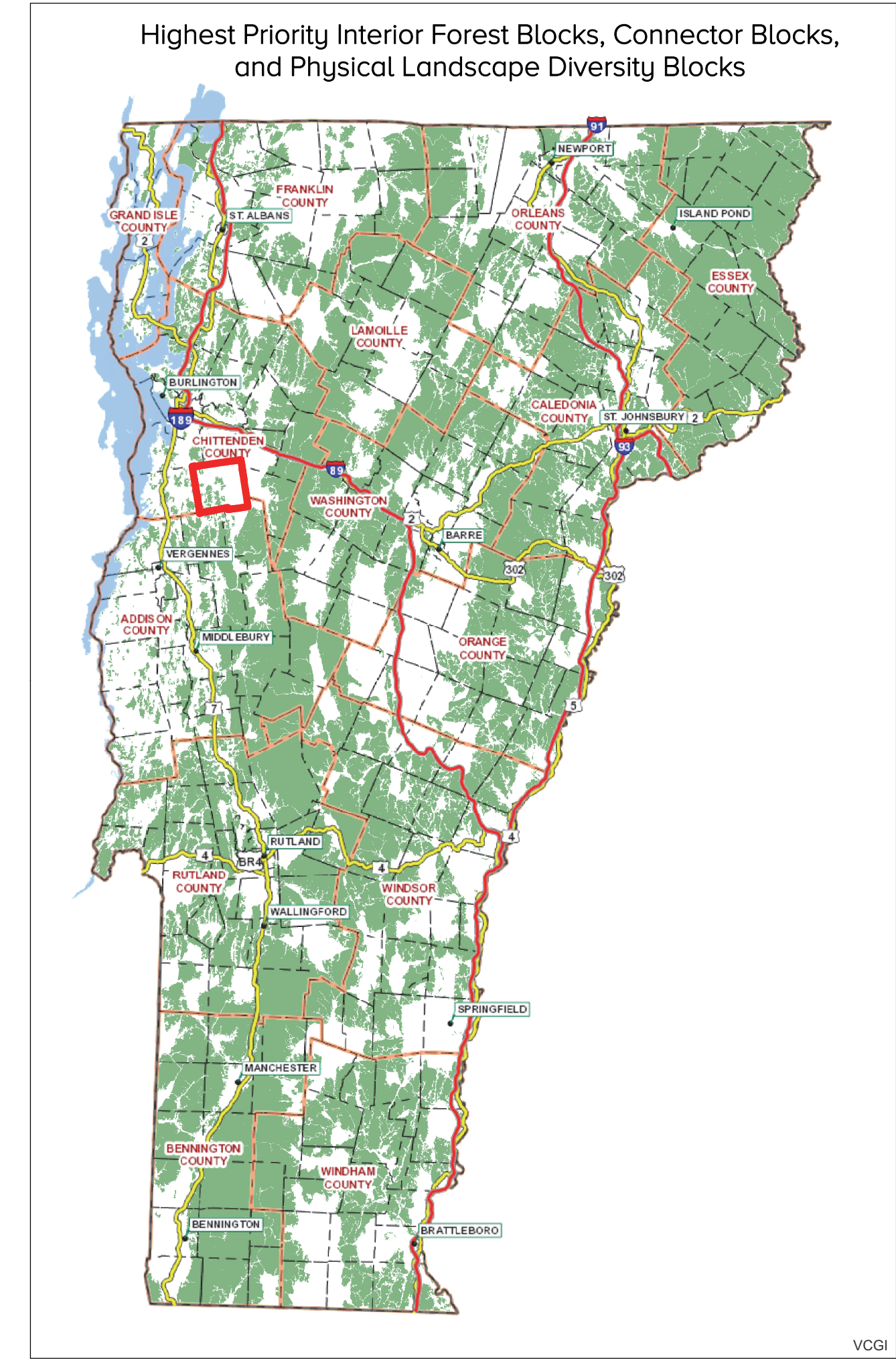
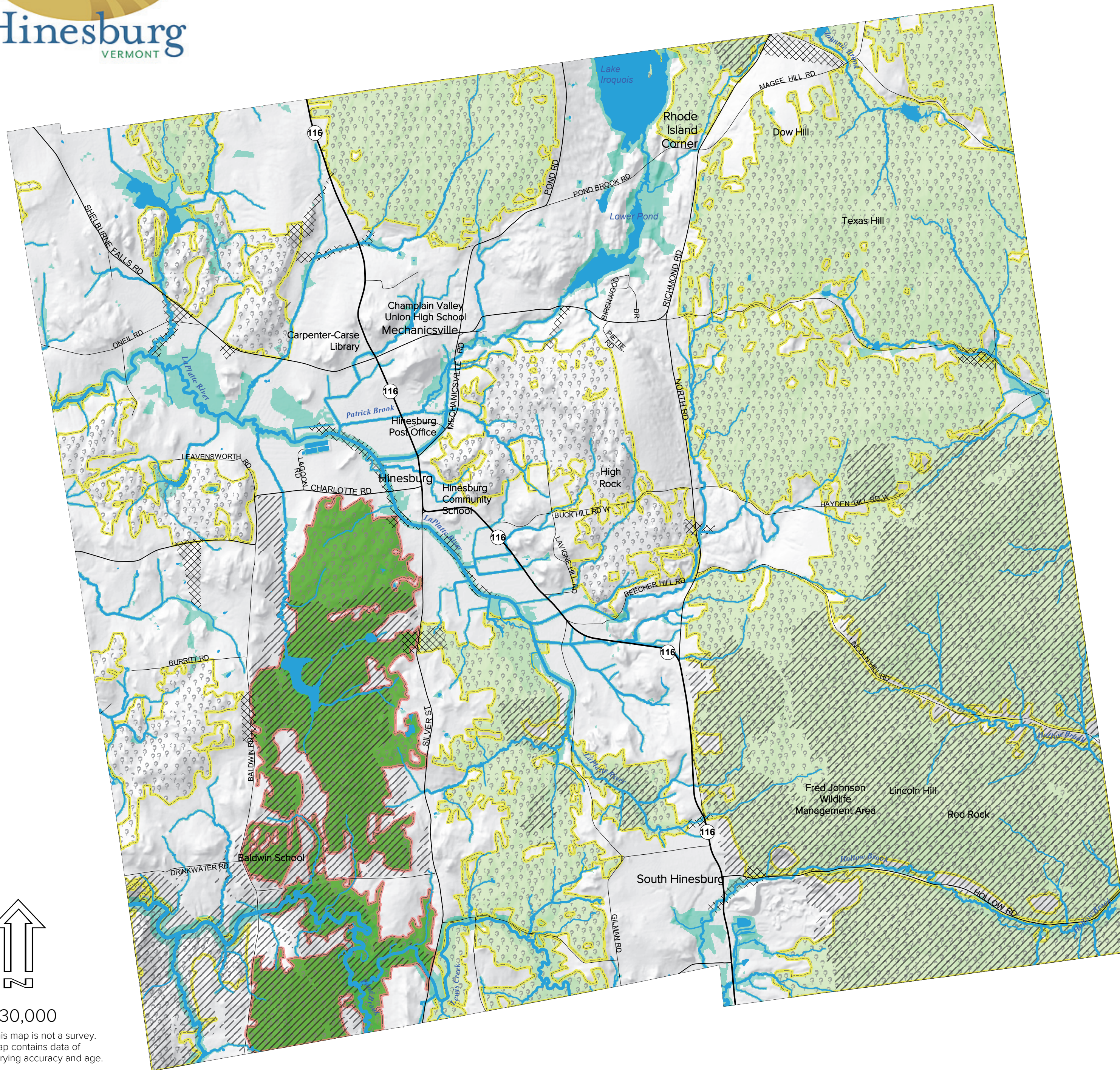




FOREST BLOCK, CONNECTIVITY, AND RESILIENCY RESOURCES

Phase-1 Natural Resources Inventory



1:30,000

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

Map produced: 12/21/2020
Map Coordinate System: VT State Plane (NAD 83)

- Highest Priority Interior Forest Blocks
- Priority Interior Forest Blocks
- Highest Priority Connectivity Blocks
- Priority Connectivity Forest Blocks
- Riparian Wildlife Connectivity
- Wildlife Corridor/Linkage
- Priority Resilient and Connected Lands

FOREST BLOCK, CONNECTIVITY, AND RESILIENCY LAYERS
Forest blocks are areas of contiguous forest and other natural systems (e.g. wetlands, ponds, ledges, etc.) that are not fragmented by roads, development, or agriculture (Sorenson et al., 2015; BioFinder/Vermont Conservation Design Team, 2019). Large forest blocks provide essential habitat for forest interior and wide-ranging wildlife species and species sensitive to human encroachment. Taken in concert with Vermont's priority surface waters and riparian areas—see the Water, Wetland, and Riparian Resources Map—the interconnected network of large forest blocks, riparian corridors, and other natural systems allow for movement of wildlife and plants across the landscape, as well as continuity of other ecological processes critical to Vermont's forests, biodiversity, and climate resiliency. This inter-connected network of forest blocks is also vitally important for sustaining ecological processes that provide important services to people, such as sequestering and storing carbon, growing forest products, and helping to maintain air quality, water quality, and flood resilience (Vermont Forests, Parks & Recreation Department, 2015).

The following data layers were used and/or developed during the inventory and analysis of forest block, connectivity, and resiliency resources in town.

Interior Forest Blocks
Interior forest blocks are the subset of forest blocks that provide the highest quality and often the largest areas of interior forest habitat. 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). Interior forest blocks were evaluated and ranked based on the amount and quality of interior forest habitat, topographic diversity, and capacity for other associated ecological functions. In 2020, Native Geographic, LLC remapped the Hinesburg blocks to reflect current conditions and to improve the data resolution. Using 2016 National Agriculture Imagery Program (NAIP) and 2018 Vermont Ortho aerial imagery and 911 data, all highest priority and priority blocks were remapped at a scale of 1:5,000 or finer. This updated mapping replaces the original block boundaries that were derived from 2006 National Land Cover Data (Sorenson and Osborne 2014), but the original block rankings, such as Highest Priority or Priority, were retained.

Highest Priority: The largest and/or highest-ranked interior forest blocks in the surrounding biophysical region¹. They are critical for maintaining interior forest habitat and associated ecological functions. As part of this remapping, the northerly highest priority blocks were merged with a previously adjacent, but separate

block. These blocks had been separated by a large wetland. The more southerly highest priority block was also enlarged to include areas of young forest, shrub, and wetland cover.

Priority: Priority blocks are highly ranked interior forest blocks relative to the surrounding biophysical region. They provide important interior forest habitat and help to buffer and maintain the integrity of the highest priority interior forest blocks.

Connector Blocks
Subset of forest blocks that are part of a larger inter-connected network of forests, riparian areas, and other habitats that provide connectivity across the state and broader northeast region. These forest blocks were identified by state ecologists and biologists during the *Vermont Conservation Design* (Sorenson et al., 2015; BioFinder/Vermont Conservation Design Team, 2019). A variety of other data layers, connectivity computer models, and studies were used to evaluate and identify the connector blocks. Block boundaries were remapped by Native Geographic, LLC in 2020 (see Interior Forest Blocks).

Highest Priority: Block is central to the larger inter-connected network of forest blocks across the state and broader northeast. Statewide, the highest priority connector block network includes the spines of the major mountain ranges, connections to outside Vermont, and connections across the state's nine biophysical regions.

Priority: Block provides alternate pathways and redundancy to the highest priority Connector Blocks network. These blocks help to support and maintain the integrity of the highest priority blocks.

Physical Landscape Diversity Blocks
Subset of the forest blocks that include combinations of bedrock, soils, landforms, and/or other physical landscape features that are either rare in Vermont or the surrounding region. These forest blocks were identified by state ecologists and biologists during the *Vermont Conservation Design* (Sorenson et al., 2015; BioFinder/Vermont Conservation Design Team, 2019) to supplement the physical diversity included in the highest priority interior forest blocks and connector blocks and to ensure that the state's full diversity of physical habitats is captured in and represented by the overall *Vermont Conservation Design* network.

Priority Resilient and Connected Lands
Location of sites with above average climate resilience and most likely to sustain native plants, animals, and ecological processes in a changing climate. While conceptually like the *Vermont Conservation Design*, these sites were prioritized by a team of 60 scientists led by The Nature Conservancy using slightly different methods and over a far greater geographic area (Anderson et al., 2016). In terms of climate resilience and adaptation, these are the best sites in the Northeast. These sites are generally a priority because they support a wide range of micro-

climates within a highly connected landscape, which not only allows wildlife and plants to move across the landscape, but also increases the likelihood that each species will find suitable habitat.

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 floodplain processes, contribute to broader ecological connectivity across the landscape, and provide important wildlife and plant habitat and travel corridors.

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 Wildlife and other consultants, including revisions by Alex Weinhagen (Director of Planning & Zoning, Town of Hinesburg) and David Hirth (Hinesburg Conservation Commission, 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).

References
Anderson, M.G., Barnett, A., Clark, M., Prince, J., Olivero Sheldon, A. and Vickery B. 2016. *Resilient and Connected Landscapes for Terrestrial Conservation*. The Nature Conservancy, Boston, MA.
BioFinder/Vermont Conservation Design Team. 2019 BioFinder 3.0 Development Report. Vermont Agency of Natural Resources, Montpelier, VT.
Sorenson, E., Zaino, R., Hilke, J. and E. Thompson. 2015. *Vermont Conservation Design-Part 1: Landscape Features Technical Report*. Vermont Fish and Wildlife Department, 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.

¹ A biophysical region is a relatively distinct area of similar climate, geology, geomorphology and broad-scale vegetation patterns. There are nine biophysical regions in the state.

