

Contiguous Wildlife Habitat – Lewis Creek and LaPlatte River Watershed Region



Landscape Level Identification of Contiguous Wildlife Habitat and
Connecting Lands for the Lewis Creek and LaPlatte River Watersheds and
Adjoining Lands – Priority Conservation Areas for Conserving Biological
Diversity, Natural Heritage Elements, and Related Public Interests in the
Champlain Valley and Northern Green Mountains

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Introduction:

Identification of contiguous habitat patches, in other words, those areas within a defined landscape that are relatively unfragmented and offer sufficient space/area to support most species of wildlife that are native to the area of interest, is critical for effective habitat and wildlife population conservation at a landscape scale. This project identifies a mosaic of habitat patches within and adjacent to the Lewis Creek watershed and associated linkage zones that connect all the patches. The linkage zones identified by this project represent what appear to be the best quality areas for animals to move across roads, through developed lands, and between the identified patches of habitat.

This assessment of contiguous wildlife habitat and associated linkage habitat is only part of a multi-level natural resource assessment for this region. This assessment represents a landscape scale evaluation of wildlife habitat. It is imperative to recognize that other assessments are necessary to properly understand and represent wildlife and habitats in this region. A community level assessment that identifies natural communities and riparian zones is important. A species level assessment that identifies important wetlands, mast stands, and deer winter habitat are equally important. All these levels of assessment, taken in concert, provide a complete illustration of the breadth and value of the region's natural heritage, wildlife, habitat, and biological diversity.

This information may be useful for local-, regional-, and watershed-scale conservation planning. It can be used to better understand the current status of landscape level fragmentation within and outside of the watershed. It can be used for prioritizing lands to be conserved or protected. For instance, if a community or watershed interest group is interested in investing conservation fund money, or other sources of financial assistance for land and habitat conservation, this information should be used to prioritize how best to make those investments. It can be used to address state and town road projects and maintenance and their effects on the integrity of the corridors. Without functional corridors, the habitat areas identified by this project could become isolated and serve fewer species of wildlife, for instance. It can be used to establish zoning districts for purposes of conserving important areas of wildlife. There are many functions this information can serve. In conjunction with other wildlife and habitat information, it is possible to identify and prioritize these lands and habitats within the watershed and surrounding areas that are most critical for maintaining the natural heritage of the area.

Objectives of this project are as follows:

- a. Identify habitat patches and wildlife corridors that establish a system of landscape connectivity in both an east/west direction and a north/south direction within the area of interest.
- b. Establish a base map of contiguous habitat patches and associated wildlife corridors that can be used for further analysis to prioritize lands for conservation purposes. The final base map depicts this information in conjunction with other significant natural heritage information to identify, for instance, areas of significant element overlap.

Methods:

1. Mapped baseline information was examined including wildlife road crossing data, significant wildlife habitat data, NWI wetland data, surface water data, road coverage, developed lands, agricultural lands, forest cover type, tax parcels, locations of significant natural communities and rare, threatened and endangered species. This information was used to identify potential conservation priority sites, such as areas where several natural heritage elements (wetlands, rare species, and significant wildlife habitat) overlap.
2. A base map was developed for field analysis of wildlife corridors. This map included roads, developed lands, agricultural lands, forest cover type, wetlands, surface waters, and contiguous forest.
3. Another map depicting tax parcels was used for this analysis. Tax parcel information allowed us to judge the feasibility of corridor conservation and potential risks to corridor integrity as well as identify large ownerships with intact habitats.
4. Field surveys were conducted to evaluate potential road crossing sites and subsequent wildlife corridor areas. These surveys were done in the absence of LCA wildlife corridor data in order to reduce any potential bias to this analysis. Information from bobcat and black bear trappers/hunters was used for this analysis.
5. Contiguous habitat patches were identified remotely, using current ortho photo imagery and core forest habitat data from the University of Vermont's Spatial Analysis Laboratory. In addition, personal experience with lands in the watershed and professional judgment were used to identify important patches of contiguous habitat. It's important to mention that, for purposes of this project, contiguous habitat does not necessarily mean only forested habitat, rather it means forested and other habitats that have not been developed and then do not support roads.
6. Contiguous habitat and associated connecting lands were identified on a common map.
7. An objective of this project was to identify a series of connecting lands or linkage areas and contiguous habitat patches that established landscape level connectivity in both an east/west direction and a north/south direction.

Conclusions and Recommendations:

The identification and mapping of high priority conservation areas, or zones, will help to focus the land use planning efforts of the towns in and adjacent to the Lewis Creek watershed. A variety of planning parameters can be applied by towns in order to encourage the long-term conservation of these high priority areas and the plants and animals which depend upon them. Through the implementation of sound zoning bylaws, for example, towns can regulate the type and intensity of development occurring within these linkage areas. In order to do so effectively, it is critical that the towns incorporate enforceable legal language into their respective town plans. Towns may also utilize the map as a tool to prioritize acquisition/conservation activities in the region. Because the conservation zone is comprised of many large, intact parcels, conservation/acquisition efforts will never be more cost-effective than they are right now.

The map depicts a landscape level planning effort that, if implemented, could provide the region with many of the following benefits:

- protection of contiguous habitat patches for wide-ranging and area sensitive species;
- connectivity between forest habitats within towns and between towns;
- representation of a variety of natural communities, geological types, and landforms (note, this analysis did not look carefully at geologic data or landform data. Further analysis should be conducted to properly represent those features in a conservation plan);
- protection of the functions and values of many wetland habitats;
- protection of rare, threatened, and endangered species habitat and important natural communities; and
- maintenance and improvement of the ability of the public (e.g., hikers, hunters, bird watchers, etc.) to access and connect to the land.

Although the identification and mapping of conservation zones goes a long way toward maintaining the integrity of the region's wildlife habitat and the public's interests therein, some additional elements must be addressed by the local communities to protect specific threatened, endangered, and critical wildlife habitats for future generations.

- Maintain or restore a forested 330' buffer (from the top of the banks on both sides of the river) on Lewis Creek and LaPlatte River.
- Maintain or restore 50 to 100-foot minimum width riparian buffers along all other water courses and wetlands.

- Protect all known rare, threatened, or endangered species habitats in the region.
- Protect all vernal pools in the region.
- Conserve deer wintering areas, mast stands, bobcat denning sites, early succession forest areas, grassland and shrub land habitat, and other critical wildlife habitats within the region. Note, it is important to coordinate with experts on wildlife habitat identification and interpretation to properly represent the necessary compliment of habitats to address the conservation needs of all wildlife species in the region.

The residents of the Lewis Creek Watershed and the surrounding regions should be proud of the fact that they have taken a proactive, comprehensive, scientifically-based approach to the long-term conservation of fish and wildlife habitat in their towns. Their efforts will help to ensure that future generations of Vermonters can enjoy the recreational, spiritual, and intrinsic values of maintaining a diversity of fish and wildlife populations.

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