MAD RIVER WATERSHED
CONSERVATION PARTNERSHIP

CONSERVATION OPPORTUNITIES

AN INVENTORY OF
NATURAL AND CULTURAL FEATURES IN
THE MAD RIVER WATERSHED

Working Document

March 11, 2005

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I. PURPOSE OF THIS DOCUMENT

The goal of the Mad River Watershed Conservation Partnership (MRWCP) is to promote conservation, protection, and sound management of the natural resource base in the Mad River watershed. The purpose of this document is to synthesize past and current efforts to ascertain community attitudes about conservation priorities, to document the methods and results of an updated natural and cultural resource inventory that has been informed by that community input, and to clarify how the Conservation Partnership is pursuing land conservation.

Driven by a commitment to use limited funds and resources judiciously, the information in this document will assist the Partnership with approaching land conservation strategically. This inventory identifies and documents significant resource values, which the Partnership, town boards, and other organizations can use as a tool to help them respond to conservation opportunities. Potential conservation projects can therefore be considered with careful attention to natural resource data and community needs -- as well as through consultation with town boards and other local and state organizations.

To conserve land, the Partnership typically works collaboratively with other entities or organizations to accomplish mutual goals. Partners have included local planning commissions and select boards, the State of Vermont, the Green Mountain National Forest, the Mad River Path Association, the Catamount Trail Association, the Green Mountain Club, the Trust for Public Land, the Conservation Fund, among others. All of these organizations work to accomplish their specific missions, but often seek to collaborate to achieve overlapping goals and to realize the best possible outcome for the state and local communities.

A well-informed conservation strategy based on community input and on the inventory and analysis of the natural features in the watershed will assist all of these potential partners in focusing on the most significant natural features in the watershed -- and in garnering the community support and funding necessary to complete successful land conservation projects.

MAD RIVER WATERSHED CONSERVATION PARTNERSHIP

MISSION STATEMENT

The Mad River Watershed Conservation Partnership is a coalition of the Mad River Valley Planning District, Vermont Land Trust and Friends of the Mad River formed to further land conservation in the watershed of the Mad River. The mission of the Partnership is to identify critical conservation resources and assist willing landowners, organizations and communities in protecting and strengthening the watershed's:

- **working landscape**, by preserving productive farm and forest lands;
- **ecological health**, by preserving wildlife habitats and corridors across the landscape, and identifying and protecting rare and fragile natural areas;
- **rural character**, by protecting and enhancing the scenic landscape; historic sites and structures that contribute to the community's agricultural heritage; and by reinforcing traditional settlement patterns;
- **recreational opportunity**, by maintaining and providing public access to open space, the Mad River, and its tributaries; and,
- **community vitality**, by fostering economic and social well being through open space protection.

The Conservation Partnership will further this mission by making voluntary options for land conservation available to landowners and communities, serving as a local source of information, technical assistance and financial support, and through collaboration with local towns and organizations.

In addition, the Partnership will actively seek to establish a conservation fund to carry out its mission.

II. WHY INVENTORY NATURAL AND CULTURAL FEATURES?

It is widely accepted that open space should be protected. But with increasing demand to find appropriate places for development and limited resources available for funding conservation, it is necessary to identify the most significant features worthy of protection – and to make these the focus of the Conservation Partnership's land protection program.

Many conservation project opportunities do occur due to initiatives by landowners and community members who are interested in conservation certain parcels of land. Nonetheless, identifying key natural and cultural resources through a conservation planning process is of utmost importance so that land is protected that achieves informed conservation objectives based on sound, collective goals for land protection. The MRWCP's land protection program is therefore necessarily both a reactive and proactive process.

Conservation planning is an important component of the local planning process, and can help the Mad River Valley community and local organizations to achieve their various goals for protecting open space, including leveraging resources, directing growth, and focusing efforts on the most significant natural and cultural assets. Conservation planning and the inventory of natural and cultural features can:

- Focus land conservation efforts on properties with multiple natural and cultural features.
- Assist the Conservation Partnership and other organizations in achieving their mission by helping to implement their core goals and values.
- Involve local residents in the process of identifying *their* goals and values regarding land conservation, and to build support for a conservation agenda.
- Reinforce local land use planning efforts and other community objectives.
- Help to identify and maintain contact with key landowners.
- Alert the community of the Conservation Partnership's focus on specific fragile resources, and of their interest in pursuing land conservation projects in the future.
- Communicate to potential conservation partners and funding sources the Conservation Partnership's land conservation priorities.
- Help evaluate potential projects among competing demands.
- Identify and document the public benefits associated with specific conservation projects.

III. BENEFITS OF NATURAL AND CULTURAL RESOURCE PROTECTION

The benefits of conserving open land are many. By strategically protecting these lands, we can be assured that an interconnected system of natural and cultural resources will exist in years to come.

Some of the many ways key undeveloped land can benefit the Mad River watershed and its inhabitants include:

Diversity of wildlife and native plant habitat (Biodiversity). Wildlife habitat is an important component of the natural resource base. While also contributing to the watershed's overall scenic quality and rural character, undeveloped open spaces provide habitat for native plants and animals that cannot live in suburban, densely populated environments. Large wooded tracts are particularly important to native species, including bobcats, fisher, black bear, pileated woodpeckers, several salamanders, and many more species. Large grassy areas are also needed to support many native and migrating birds. Early succession and open areas are also important for a number of species. The Mad River watershed will continue to support a widely diversified assortment of plants and animals only by maintaining large unfragmented areas of varied habitat, and by protecting the corridors that connect habitat areas within the Mad River watershed and between our watershed and neighboring ones.

Parcels that provide significant benefit to wildlife 1) may act as a corridor for present and future dispersal of animals and plants; 2) contribute to the protection of a roadless wildlife habitat area; 3) provide and protect habitat for rare, endangered or threatened plant or animal species; and 4) contribute to the stability and viability of the species.

Surface water and riparian buffers. The Mad River, as well as the watershed's many ponds, streams, and brooks, contribute to our scenic landscape and wildlife habitat, as well as provide abundant recreational opportunities. In addition, river channels and ponds provide flood storage capacity and aquatic habitat. Thus, surface water protection is essential to the conservation and health of the watershed's natural resource base. Pollution of surface water can result from a variety of activities within a watershed. In general, the closer the activity to the surface water, the greater the potential impact on the surface water quality and its dependent wildlife.

To sustain these ecological functions, surface water is best considered as the water-covered area and its surrounding buffers of land (i.e. riparian lands). These riparian lands include the interface between land and water and are characterized by seasonal flooding and a diversity of plant and animal species. The extent of the riparian zone depends on the type of water body and the slope of the surrounding landscape. Healthy riparian areas with an abundance of trees and other vegetation slow flood waters, improve water quality by absorbing pollutants running off of the land, store water, provide cover and shade for water-loving animals, help stabilize streambanks, prevent soil erosion, and provide the key resources that support biological diversity in the riparian area and the nearby uplands.

Wetlands. Wetlands (including vernal pools) retain flood waters; store and absorb soluble nutrients that would otherwise contaminate downstream surface waters; discharge water to surface waters during periods of low precipitation; recharge groundwater; filter pollution; provide habitat for many species that depend on wetlands for all or part of their life cycle; and provide recreational and educational opportunities. As with surface waters, the buffers surrounding wetlands are essential to the protection of wetlands. Wetland protection contributes to the conservation of the natural resource base, wildlife habitats, and recreational and educational opportunities.

Ground water. All Valley residents (including animals) are dependent on local water supplies. Preserving wellhead protection areas is critical to maintaining continued water quality and quantity. Aquifer recharge areas, with a high potential for yielding sufficient water for private and public wells, are limited and easily contaminated. Groundwater supplies providing water to private wells need to be protected. Protecting ground water is also important due to its close connection to our surface waters and therefore the health of our river, streams, and wetlands.

Agricultural lands and productive soils. Soil properties such as depth, permeability, wetness, slope and susceptibility to erosion, define the land's capability to support development and grow crops, trees or pasture grasses. Primary agricultural soils (as determined by the Natural Resource Conservation Service) are the area's most productive soils for food production – and are a finite resource. Most agricultural enterprises cannot remain financially viable without an adequate land base. These landscapes are also an important part of the area's rural character and quality of life. Farmlands are key scenic resources, and offer important historic perspectives into the Valley's past and are associated with some of the community's finest historic structures. Agriculture lands can be an important part of the outdoor recreational resource base of the Valley, providing trail corridors and river access points. Like river valleys, they may also contain important archeological sites. While the number of dairy farms has declined significantly over the past several decades, other types of farms are on the rise in the area, including organic meat and produce farms and horse farms.

Forest lands. Conserving healthy forests is necessary for protecting the town's natural resource base, wildlife habitat and diversity, scenic resources, rural character, and our local economy. Forested landscapes are an important part of the area's cultural heritage. Large tracts of forestland tend to make forestry more financially feasible, although with programs such as Vermont Family Forests, associations of smaller tracts could become more viable. Managed woodlands, logging, maple sugaring, and various types of wood-processing mills are still a small component of the area's economy.

Recreation. Hiking, biking, horseback riding, hunting, fishing, camping, snowshoeing, swimming, paddling, and bird watching are examples of recreational activities that require open spaces and natural areas. Outdoor recreation is highly valued in the Mad River Valley in all seasons of the year and is a key aspect of our local economy. Different types of land can offer active or passive recreation and are essential elements of our open space system. In addition to the Long Trail, the Catamount Trail, and the Mad River Greenway, the Mad River Valley has a network of locally maintained trails. Lands that provide connections between

trail segments, or between parcels that allow public access, are valuable to the overall open space system. Some lands provide buffers for trail and recreation corridors or waterways that protect the ecological stability and viability of an already-established conservation area. They also provide significant open space buffers between developed areas and contribute positively to the open space system.

This report does not address appropriate uses for trails in general or for the specific trails discussed in the narrative or shown on the maps. Further study is needed to evaluate trail use and to suggest a recreational network to serve the spectrum of trail users in this town. Not all open space land is appropriate for trail use and/or public access.

Scenic Assets. Lands that contribute to the protection of a view, as well as the places from which viewing can take place, are important for a number of reasons. Scenic lands contribute to the overall quality of life here, they provide a source of enjoyment for residents, and contribute to the economic well being of the Mad River Valley by drawing visitors to the area. The near and far views of undulating topography and contrasting ridgelines, the patchwork of farm and forestland, and the river itself are undeniably critical scenic assets to the Mad River Valley community that merit continued protection efforts.

Historic Resources and Cultural Landscapes. Historic resources are necessary for understanding and celebrating the Valley's history. The Mad River Valley has an abundance of historic resources that contribute to its essential character. Important elements include structures of traditional use (for example, barns, tree-lined dirt roads, stone walls, mill sites, school houses, and sugar houses), as well as historic landscapes that enhance or protect the agricultural land base, important scenic views, and the rural character of the area. The rural landscape and the historic structures and roadways situated within it are fundamental to maintaining a connection to the region's history.

Education. The natural and cultural features of the watershed and ease of accessibility to certain lands can provide unique or unusual opportunities for outdoor or scientific education. Functional open spaces are needed so that we can learn about the ecological connections among people, wildlife, and the land.

Other Benefits
In addition to the tangible benefits detailed above, other less-obvious benefits of land conservation include:

- Encouraging broad environmental health, hazard prevention, and land restoration;

- contributing to positive community economics by maintaining the area's rural character, scenic beauty, and recreational assets – which are all fundamental to residents' quality of life, the local tourism industry, construction trades, and retention and attraction of skilled employees for the area's growing, non-tourist-based industries;

- reinforcing community land use goals by maintaining traditional and/or desired settlement patterns;

- providing opportunities for civic engagement by enabling community members to assess the role of land conservation in a healthy community;

- fostering a cultural, historical and spiritual relationship with the land by providing places for experiencing connections with natural places; and

- fostering a sense of stewardship and responsibility for the whole landscape in which we and other creatures habitate.

IV. REACHING DECISIONS

Land conservation is one of many strategies used by this community to maintain and enhance the attributes that make the Mad River Valley the special place that it is. It is pursued alongside economic development initiatives; volunteer efforts to enhance recreational, historic, and other key attributes of the area; local land use regulations; and state and federal policies regarding land use and the protection of natural and cultural assets, among other initiatives. Decisions to pursue land conservation projects require careful consideration of a number of factors, including the towns' needs and goals for any given area. It is just as important to consider what lands are not appropriate for land conservation as those that are. Town plans and town boards are consulted and a balance is sought between the need to protect the natural features of the land, landowner objectives, and the long-term planning goals of the town.

CHOOSING AMONG POTENTIAL PROJECTS

As discussed in various sections of this document, the Partnership relies on a number of different sources of information in its conservation planning process. These include past efforts to inventory resources and document conservation goals, recent community input, conservation and land use goals of watershed towns and organizations, project criteria developed by the Partnership's Advisory Council, and the current inventory of natural and cultural resources. In addition, the Partnership is guided by several other factors when prioritizing project opportunities. These include:

- **Threat of development** – Lands that are under imminent threat of development or lands that have a capacity for a high degree of development under the current zoning ordinance may be deemed a higher priority.
- **Town boards and town plans** – In addition to consulting town plans for input on conservation priorities, town plans and town boards will be consulted when issues of conflicting goals and interests arise.
- **Landowner willingness** – In order for the Partnership to be able to conserve land, the landowner must voluntarily choose to work with us. Therefore some lands we may feel are a priority to conserve may not be available if the landowner is not interested in pursuing conservation options, and other lands that may be of lesser priority may rise to the top if the landowner is interested in conserving his or her land. So while the Partnership's conservation efforts are based on a resource- and community input-based strategy, it must also necessarily be opportunity driven.
- **Funding opportunities and criteria** – Conserving land usually costs at least some amount of money. Most of the available funding sources have certain criteria dictating what kinds of resources they will help to protect through their grant programs. Available sources of funds may therefore dictate which projects take precedence.
- **Purchases vs. donations** – Lands that will require fundraising or securing grant funds necessarily must undergo more detailed scrutiny regarding the amount of public benefit and the scope of natural and cultural resource values to ensure that limited funds and staff time are used wisely.

ASSESSING LAND PROJECT-BY-PROJECT

The decision to undertake a *specific* project is based on the consideration of many factors. For each project, the Partnership:

- Assesses the landowner's interests and needs, and informs him or her of various options: The landowner is apprised of a variety of available land-use scenarios appropriate for his or her goals and financial situation.
- Reviews existing natural and cultural resource data.
- Conducts a site assessment: An initial site visit and assessment of the property and resources is conducted to ascertain natural and cultural values of the land.
- Examines relevant town goals and community concerns by consulting the town plan, meeting with town boards and/or other local organizations to assess whether conservation of the given parcel helps to accomplish community goals for the area.
- Reviews the potential project using established project evaluation criteria.
- Assesses the extent of threat to the property and its natural resource values.
- Explores additional collaborative opportunities to achieve the best possible project: Other entities are consulted that may have an interest in the outcome of the project such as user groups, governmental agencies, or other conservation organizations.
- Reviews the appropriateness of public access on the property.
- Ascertains the viability of the project, including staff and financial resources, stewardship and legal issues, conservation methods, and funding needs and sources.
- Works with the landowner to ensure he or she has professional legal, tax, financial, land use planning, and other advice.

  These steps are not necessarily conducted in this order.

V. COMMUNITY CONSERVATION PRIORITIES

The Mad River Valley community has been queried extensively over the past 20 years about issues, insights, and values relating to development, growth, planning, natural and cultural resources, and community vitality, among other topics. The Valley has been at the forefront of small communities that have worked to integrate land use planning and conservation with strategizing for the future social and economic well being of the community. A number of efforts initiated by the Mad River Valley Planning District, as well as the individual towns, have helped to foster a strong stewardship ethic in the Valley – due in part to these efforts to engage the community in dialogue about the value of open space, ecological integrity, rural character, and historic resources to our collective quality of life.

SURVEYS AND QUESTIONNAIRES

Studies and community engagement efforts that have taken place over the past two decades that pertain particularly to land conservation and its role in the community include:

- 2004 Warren Town Plan Survey
- 2002 Conservation Partnership Survey
- 2002 Waitsfield Town Plan Survey
- 2002 Irasville Economic Study
- 2001 Fayston Survey
- 1997-98 Warren Town Plan Workshops
- 1995 "The Best River Ever: A Conservation Plan to Protect and Restore …the Mad River Watershed"
- 1994 Friends of the Mad River Watershed Survey
- 1992 Waitsfield Town Plan Survey
- 1988 Rural Resource Protection Project

Summaries of results from these surveys, when available, are included as Appendix A.

TOWN PLANS

Each of the towns in the watershed has adopted a town plan that articulates land use policies and conservation priorities that help guide conservation efforts in that town. All of the town plans have been updated or rewritten after significant input from community members through numerous opportunities for participation such as public meetings, workshops, and surveys. The goals, objectives, and strategies included in these plans are therefore grounded in the vision and ambitions townspeople have expressed for their respective communities. The town plans for the Mad River watershed communities are useful tools for gaining insight into local conservation priorities. Summaries of conservation goals, objectives, and priorities articulated in the town plans are included as Appendix B.

ADVISORY COUNCIL

The Conservation Partnership convened an Advisory Council when it first formed in March 2000. The Council was comprised of representatives from each of the five towns in the

watershed and met monthly to help steer the initial direction of the Partnership's activities. The Council developed guidelines to assist the Partnership in evaluating potential conservation projects and making decisions about which lands to protect. These consist of broad resource values the Partnership embraces as important to conserve, as well as the more specific attributes of these values the Council thought were important to consider when evaluating the merits of a potential project. These evaluation criteria are considered by the Partnership to be community input on conservation priorities. The guidelines are included as Appendix D.

LOCAL ORGANIZATIONS

Other sources of community input include the goals and objectives of local organizations focused on activities that relate to land conservation, including the Mad River Path Association, Keeping Track, and the Friends of the Mad River. A more detailed synopsis of these sources of community input is included in Appendix C.

SUMMARY

The surveys and studies reviewed for this project indicate repeatedly that people who live here cherish the rural, natural, scenic, agricultural, and recreational assets so prevalent in the Mad River Valley. When asked in various ways over the years if conservation of key land and resources is important to pursue, a large majority of the community has consistently answered affirmatively.

Arriving at conclusions from the assessment of past studies, town plans, and other sources of community input as to *which* specific features are consistently rated as the *highest* priority is elusive. However, in analyzing the input in concert – in an attempt to determine whether certain of the Valley's physical assets, attributes, or natural resources are consistently cited as *the* most important to protect – there does seem to be general agreement that protecting what we can all *see* most prevalently on a daily basis is a top priority. Protecting hillsides and ridgelines, as well as open agricultural land, therefore continually emerge as among the highest priorities in the community input reviewed for this study.

While conserving these features because they are key aspects of the Valley's scenic beauty is important, community members know that the conservation of these "broad brush" resources also protects more specific features such as headwaters and other aspects of water quality, working forest lands, core wildlife habitat and travel corridors, as well as prime agricultural soils, and historic cultural resources. Therefore, while the more encompassing characteristics that contribute to the area's sense of place such as "rural character" and "scenic beauty" are acknowledged as critical assets important to the community, protecting the specific features that comprise these larger assets is essential if we are to succeed in preserving the larger whole.

Almost as important as these aspects of visual and rural character to residents and visitors alike is continued access to recreation opportunities. People place an extremely high value on being able to walk, bike, hunt, snowshoe and ski through and to places with high scenic

value, quality wildlife habitat, and interesting natural features. Equally important is access the Mad River and its tributaries to swim, boat, fish, and enjoy the water and riparian areas.

An assessment of the reviewed community input indicates the following broad priorities:

General high priorities (in order)
- Natural, scenic beauty of the Valley
- Rural character
- Access to recreation opportunities

Specific high priorities (in order)
- High elevation lands – the Northfield Range in particular
- Agricultural land – visible, productive farmland in particular
- The Mad River – the quality of the water itself, the riparian lands along it, and ensured access to it

Additional priorities (not in order)
- Forestland, especially those lands that are contiguous to other undeveloped tracts of forest
- Fragile natural areas, including wetlands
- Wildlife travel corridors, deep woods habitat, and deeryards
- Scenic road corridors
- Permanent access to established trails and places of interest

As noted previously, gleaning from this input which *specific* places are the most important to the community to protect is challenging. Therefore, the resource inventory and analysis in the following section of this document assesses the natural and cultural features that comprise the conservation values cited above as priorities. Using resource analysis and mapping technology, a primary goal of the inventory process was to discern *where* these priorities are located on the landscape. Conservation priorities articulated in the surveys and town plans reviewed for this document can be consulted in Appendix A.

VI. NATURAL AND CULTURAL RESOURCE INVENTORY AND ANALYSIS

OVERVIEW

The purpose of this inventory is to examine the watershed's natural and cultural features in the watershed. The intent is to both inventory existing undeveloped land, and to provide an understanding of how it correlates geographically to natural and cultural resource values. By doing so the Conservation Partnership hopes to establish a rational basis for pursuing prospective conservation projects.

This aspect of the project entailed inventorying features that significantly contribute to the five general resource categories the Conservation Partnership considers vital to the Mad River Valley's essential rural character and ecological health. These are cited in the Conservation Partnership's mission, which includes protecting and strengthening the watershed's:

- Working Landscape
- Ecological Health
- Rural Character
- Recreational Opportunity
- Community Vitality

Data was collected that elucidates the following specific attributes, which contribute to strengthening the general features listed above. These include:

- Productive farmland
- Productive forestland
- Wildlife habitat and wildlife travel corridors
- Rare and fragile natural areas
- Scenic landscapes
- Historic sites and structures that contribute to the area's agricultural heritage
- Traditional settlement patterns
- Public access to open space, interesting natural features, the Mad River, and its tributaries

Watershed maps were developed for this inventory that were designed to identify and illustrate the location of the features discussed above, as well as to note where these resources overlap – thereby potentially signifying significant conservation areas.

The Conservation Partnership will use this inventory – in addition to its mission and it Project Evaluation Criteria (Appendix D) – to assist with evaluating specific conservation projects and to guide its conservation planning efforts. It can be consulted to help evaluate a potential project by documenting the various resources that exist on any given parcel and identify areas for future study. The data in the inventory can also be layered in numerous ways to show combinations of related features, or to help evaluate potentially conflicting uses of certain resources.

This natural and cultural resource inventory complements the other aspects of the overall ***Conservation Opportunities*** project, including a review of past efforts to solicit community input on conservation priorities and the Conservation Partnership's current efforts to engage people in the Mad River watershed in dialogue about the role of conservation in the community. While data gathered using scientific and other technical methods is a valuable method to assess the quality, quantity and location of various resources, the Conservation Partnership also relies on other practical, legal, and technical sources of input to arrive at its decisions about which lands are important to protect. Some of these considerations were reviewed in Section IV of this report (Reaching Decisions on Projects).

INVENTORY METHODOLOGY

A comprehensive database is at the heart of this multi-layered spatial analysis. The database consists of layers of natural and cultural resource data. Each variable represents different resources or features, such as riparian buffers, wetlands, and prime agricultural soils. The resources that have been inventoried as part of this project have been collected from a number of sources, including the Central Vermont Regional Planning Commission and the Vermont Center for Geographic Information; others were compiled by the Conservation Partnership using field reconnaissance and other collection methods to create new data layers.

Most of the data have been mapped using Geographic Information System technology (GIS). The documentation of these features is as GIS data layers and/or as inventory lists. As the table on p.19 shows, most of the variables have been mapped, although a few remain solely in text form, such as historic sites listed on the Vermont State Register.

Which features were documented and the extent to which certain resources have been assessed was directed in part by the values cited as priorities by the community – but also by what data were available from reliable sources and what could be compiled by Partnership staff. The Partnership considers this inventory to be an ongoing process, which can be updated continually as new data become available.

This natural and cultural resource inventory process involved the following tasks:

1) collecting natural and cultural data from the Vermont Center for Geographic Information, University of Vermont Spatial Analysis Lab, town grand lists, and other public and private sources;
2) developing additional data based on locally generated research;
3) creating working maps to illustrate the location of these attributes;
4) evaluating the data using Geographical Information System (GIS) technology to assess areas for conservation value; and
5) developing final digital (maps) and text databases to summarize the findings.

The method of inventorying the individual resource attributes varied depending on the attribute, but focused on documenting their location and relationship to other key features. For example, parcels along the Mad River that that remain undeveloped have been recorded in both a database (i.e., a list of undeveloped parcels on the River) and in map form. These

parcels are important to consider for protection on their own (thus, the list) – or can be assessed in relation to prime agricultural soils, floodplain, and/or potential wildlife corridors, among others (thus, the visual image provided by the map).

Following is a brief description of the rationale and methodology for the collection of data for each resource category cited in the Conservation Partnership's mission. More detailed descriptions and sources of data are included in Appendix E.

WORKING LANDSCAPE

Productive farmland

Agriculture has played an important role in the development of the Mad River Valley. Early settlement patterns were influenced by the location of suitable farmland, especially on the eastern plateau along the Common and East Warren roads. The emphasis of the agricultural land inventory is on the land resource base and its intrinsic values, for without the land base there would be no agriculture. Therefore **primary agricultural soils** were inventoried (based on the statewide soil classification), which accounts for soil and slope factors as a critical means of assessing future suitability of land for farming. Other resources inventoried to document productive farmland were **working farms** and **lands leased by area farmers**. By documenting both of these land types, it is hoped that the majority of open, productive land is included in the inventory. While lands farmed by the landowner are potentially of higher priority in that they comprise the land most obviously critical to a functioning farm, open lands scattered around the Valley kept open by local farmers – but not necessarily owned by them – are also important for several reasons. These lands are a significant component of most farmers' operations, in that their own lands usually cannot provide enough pasture and tillable land to sustain their farms. These open lands are also a critical aspect of the Valley's scenic landscape. In addition to providing economic and cultural benefits, the contrast between agricultural fields and wooded hillsides continues to define the area's scenic beauty and rural character. **Horse farms** were also inventoried, as they comprise an increasing percentage of agricultural land (this inventory was only partially completed at the time of this writing).

Productive forestland

Productive forestlands are those forested areas that have been actively managed in such a way as to promote ecological health while providing a return to the landowner on his or her long-term timber investment. While these can certainly be small 10- to 20-acre backyard woodlots, these lands are generally large, remote and unfragmented – qualities that tend also to lend themselves to headwater and wildlife habitat protection, as well as various types of recreation. These other "uses" of forestland – wildlife, water, and recreation – can also therefore be interpreted as an additional means of determining forestland productivity.

To document these types of lands, parcels in the state's **Current Use Program** were inventoried, as parcels entered into this program must be actively managed according to an approved management plan that adheres to the state's acceptable management practices (AMPs), which address water quality protection. These parcels must be at least 25 acres. To document the quality and extent of forested areas, also inventoried were Class I and II **prime forest soils** (based on the state's soil classification system); location and type of **forest cover**; **forested parcels over 100 acres**; and large, **unfragmented forested areas** that may possibly indicate core habitat for deep woods species (described below).

ECOLOGICAL HEALTH

Wildlife habitat and wildlife travel corridors

Wildlife habitat needs vary depending on the species, and while some types of habitat can be loosely documented based on land cover type, documentation of wildlife sightings and tracks is challenging and the data available is limited. Local groups have begun attempting to document wildlife feeding areas, habitat, and travel corridors, but little substantive data has been gathered for the Mad River watershed. In lieu of such data, more general features were inventoried in an attempt to illustrate areas potentially significant for a variety of wildlife species.

While deer easily accommodate human populations, they do have specific habitat needs that enable them to survive severe winter conditions. Deer wintering areas, or deeryards, are generally found on south-facing slopes where dense coniferous forests predominate and there is access to water. Important **deeryards** that have been identified by the Vermont Department of Fish and Wildlife are included in this inventory. It should be noted that deeryard boundaries change over time. Consequently, inventory maps need to be updated on a regular basis, and site analysis is required to determine the relative value of existing deeryards. Snowshoe hare also utilize this habitat extensively, thereby making it critical to their predators as well, which include bobcat, fisher, and coyote.

Bear habitat data has also been compiled by the state and is included in this inventory. It includes bear production habitat, which are regions supporting relatively high densities of cub-producing females. Generally contiguous and remote forestland, these areas contain critical habitats necessary to bear survival. It also shows seasonal bear habitat, which are regions frequently used by bears, including some cub-producing females. These habitats often contain critical seasonal feeding areas and vital travel corridors for bears, as well as other species. This data is very generalized and is meant for use in large-scale planning efforts.

To document areas potentially significant for additional species that prefer deep woods (or interiors) rather than the edges of forests, a **core habitat** layer was created. This data layer includes forestland that is farther than 100 meters from roads, buildings and other zones of "human disturbance." Areas where these types of "deep woods" species might be attempting to cross well-traveled roads to get from one area of unfragmented forest to another were also documented. These potential **forested road crossings** are places along traveled roads where forest cover meets the road on both sides, or where a wetland or other key habitat feature exists in close proximity to a road with substantial forest cover. These areas have not been field checked but should be in order to verify location and significance. They do suffice to highlight areas that merit closer examination when determining a parcel's conservation values. Only potential crossings of main roads were included in this inventory (i.e., not gravel back roads and driveways).

Rare and fragile natural areas

Fragile features are those distinct physical features that serve important ecological functions, such as water filtration, storm water retention, and critical habitat – and

which are especially susceptible to degradation due to land use and development activities. These features include significant land types such as vernal pools, mature tree stands, mast stands (high-calorie, nut-producing trees), river ways and stream banks, wetlands, rocky outcrops, steep slopes, mountaintops, rich forest sites; or other unique or significant geological or landscape features. They protect and sustain ecosystem functioning and integrity, and sustain biodiversity. They can protect and maintain critical habitat for a plant species that has the status of "threatened" or "endangered" as per the Vermont Endangered Species Law. *Most of these many fragile natural features have not yet been mapped or inventoried in the Mad River watershed.*

Those that have been documented as part of this project include **Class I and II wetlands, floodplains, headwaters, 100-foot buffers along all surface waters, undeveloped sites along the Mad River,** and **Natural Heritage Sites**. Wetlands and floodplains are both critical resources due to the important wildlife habitat they provide, as well as their role in the retention and filtration of stormwater runoff. The quality and health of headwater streams is threatened by development at high elevations, on steep slopes, and in areas with poor soils. These and other streams and surface waters have been inventoried by the state and are included as part of this inventory. Riparian vegetation – that vegetation that exists within a given area on either side of a river, stream or other surface water (creating a "buffer") – provides shade, stabilizes streambanks, and provides habitat for a variety of wildlife. Maintaining a vegetated buffer along all streams is critically important to the overall health and well being of the Mad River and its tributaries. All **surface waters** in the Mad River watershed – and their accompanying 100-foot buffer – have been included in this inventory. The State of Vermont maintains an inventory of Natural Heritage Sites – rare, endangered and fragile environments. Three of these sites may be found in Warren, including a rare species of orchid in the vicinity of Blueberry Lake, and two rare plant communities in high elevations of the Green Mountain National Forest. All three are on protected land.

RURAL CHARACTER

Scenic landscape

While there is general agreement that scenic resources are critically important to the rural character of the Valley, assessing these resources is difficult for a number of reasons including the inherent subjectivity in the interpretation of beauty and the undeniable fact that so many different characteristics and places in the Valley are scenic that there is a tremendous resource to evaluate.

Nonetheless, the Valley's scenic landscape can be fairly said to be dominated by four distinct features: 1) the rugged, steeply sloped ridgelines that enclose the valley to the east (Northfield Range) and west (Green Mountain Range); 2) the north-flowing Mad River and adjacent floodplain, which constitute the valley floor; 3) a fertile plateau at mid-slope between the valley floor and the eastern ridge; and, 4) a feature somewhat unique to this particular valley, a series of intermediate ridges and freestanding knolls creating lesser east-west valleys.

In an attempt to assess the Valley's scenic attributes, research for the Valley's 1989 Rural Resource Protection Plan included consulting various methodologies used across the country. In conjunction with input from other scenic resource studies, the Plan's scenic inventory was based on local surveys that queried respondents about scenic assets of the Valley. A list of popular scenic areas, vantage points and focal points was developed from the responses. By examining this list of places and drawing on the surveys, a composite list of scenic attributes was developed, which the plan asserted are basically the raw components of all the scenic places. Although some of these places and view sheds have been impacted by ridgeline development, most have not changed all that much in the past 15 years. These two lists are included as part of this inventory in Appendix F.

To further document some of the features repeatedly cited as critical to the Valley's scenic landscape, additional data were gathered. High-elevation lands are repeatedly cited as a critical component of the Valley's scenic landscape. To document this feature, **zoning districts** currently in place in the watershed towns' zoning ordinances were consulted. Parcels within the zoning districts aimed at protecting high-elevation areas were included as part of this inventory to document these fragile, scenic areas. The Conservation Partnership is committed to working with the towns to assist with protecting what each respective town has deemed important to protect. Therefore, using these districts appears the most reliable means of documenting the high-elevation features deemed most significant by each town.

Resources that were inventoried to assess other significant characteristics of the watershed help also with assessing the area's scenic landscape. These include **working farms, leased farmland, historic barns, trails, surface water buffers,** and **wetlands**.

Historic sites and structures that contribute to the area's agricultural heritage; traditional settlement patterns

The rural landscape is shaped by the integration of natural landforms, traditional land uses, and the historic built environment. The Mad River Valley has an abundance of historic resources that contribute to the area's character and quality of life. In general terms, historic resources are those buildings, structures, districts and archeological sites that are important to the Valley for understanding its history and prehistory.

Of the vast array of historic sites and structures still intact in the Mad River Valley, the Conservation Partnership's mission focuses in part on those that specifically contribute to the area's agricultural heritage. With changes in the economics of farming, the number of farms in the Mad River Valley has greatly decreased over the past 50 years. The type of farming activities has also changed and diversified. Nonetheless, many historic barns are being restored and used for new types of farming or being adapted to new uses. Oftentimes the area around the barn – the farmstead or farmscape – has been maintained to retain the rural character of the area, and the traditional settlement patterns of the region.

The Mad River Valley Rural Resource Commission completed a comprehensive inventory of historic barns in 2002. From this inventory, those historic barns (50 years or older)

that are still located within a **historic farmscape** and are associated with land that is either being used as farmland or is highly scenic as a rural farmscape were culled and put into a new data layer. These farmscapes were included in the inventory as they contribute significantly to the historic and rural character of the Mad River Valley.

The Mad River Valley Planning District has recently updated the **Historic Sites and Structures Surveys** for Fayston, Waitsfield, and Warren (2004). The State Survey is an inventory of a town's historic structures over 50 years old that meet State Register criteria. It includes information on each structure's location, owner of record when property was surveyed, current and present use, approximate date of construction, style, materials, physical description, general context, and statement of significance, along with a photo and a map. Structures are surveyed individually, as complexes (e.g. a group of buildings on a farm), or as districts (e.g. a group of buildings which are related architecturally and/or historically). The State Register is the State's official listing of sites and structures that are worthy of preservation because of their recognized importance as architectural and/or historic resources. In the Valley, there are more than 200 historic structures now listed in the State Register. While these structures have not been digitized into a GIS database, they are **included in this inventory by reference** and are available in each town clerk's office and the Mad River Valley Planning District office.

The National Register of Historic Places is the nation's official list of historic, architectural, and archeological resources worthy of preservation. The requirements to have a building nominated to the National Register are more rigorous than those of the State Register. The National Register provides prestigious recognition, a degree of protection from federally assisted projects, and possible participation in a tax credit program. Like the State Register, buildings may be nominated individually, as complexes, or as districts. The Mad River Valley's five National Register Districts have been mapped using GIS. These are the Knoll Farm, Waitsfield Village, Warren Village, the Rural Agricultural District (encompassing Route 100 and North Road from the north end of Waitsfield Village to the south end of Moretown Village), and the Waitsfield Common.

RECREATION OPPORTUNITIES

Public access to open space, interesting natural features, the Mad River, and its tributaries

The **Mad River Path Association** (MRPA) maintains a GIS inventory of the trails it oversees; these **trails** are included in the inventory database. Also included are the **VAST (snowmobile) trail network**, the **Long Trail** and other trails maintained by the Green Mountain Club, and the **Catamount Trail**. **Class IV** roads and other primitive roads are included in the inventory as they provide an important recreation resource for the area.

While the MRPA and other trail organizations don't necessarily need to have permanent public access easements in place to ensure long-term use of a trail by the community, sometimes securing permanent protection is the only viable means to guarantee perpetual access. Therefore, in addition to mapping the actual trails, the **parcels through which the sections of the locally maintained (MRPA) trails pass** were compiled to create a layer indicating important recreation areas meriting additional focus. Also included in this layer are **parcels through which proposed links** of the existing trails pass, most notably the trail connecting Warren Village with Waitsfield Village, and Waitsfield Village with Moretown Village. Likewise, parcels though which heavily or previously used trails pass to get to important vantage points, mountaintops, or natural features were also included. These parcels, while part of this inventory are not shown on any of the inventory maps to protect the privacy of the landowners. Also included in the inventory are lands in current public ownership including **state lands and the Green Mountain National Forest**. These lands offer both formal trail and wilderness recreational opportunities.

There are many other trails and potential links that could be mapped, including Nordic ski area trails, and other less formal networks used extensively by the local community. Several issues have discouraged more in-depth inventorying and mapping, including the necessity of protecting landowners' privacy and the time-intensive nature of trail mapping.

The other chief recreation resource that was inventoried for this project was **river access points**. These points were mapped using data from the 1987 Mad River Basin Water Quality Management Plan and the Waterfall and Swimming Hole Site survey, and field checked by a MRWCP intern who used GPS to map most of them in 2003. Sites include both public and private access points that are popular with the community. To protect the interests of landowners, most of this specific river access data was not included in the inventory in Appendix H; it is however indexed in the Conservation Partnership's database. Those access sites that are privately owned and which the public is actively discouraged are not shown on the maps included with this document but have been noted.

Resource Inventory Summary Table

A compilation of the individual components of the database is shown in the table below. As noted, detailed mapped data sources, definitions, and descriptions are included in Appendix E. The text versions of the individual inventoried features have been included in Appendix H, when appropriate. Most of the data listed below exists for all five watershed towns, for the portions of the towns that are within the Mad River watershed. As Duxbury's parcel data is not digitized, some of the information connected to or derived from parcel data does not exist for Duxbury and is therefore not included in this inventory.

Farmland	mapped	database list
▪ prime and statewide agricultural soils	yes	no
▪ working farms	yes	yes
▪ horse farms	partial	partial
▪ leased farmland	partial	partial
Forestland		
▪ wellhead protection areas & aquifers	yes	no
▪ forest cover	yes	no
▪ large, unfragmented forest areas	yes	no
▪ parcels in Current Use Program	yes	yes
▪ Class I & II forest soils	yes	no
▪ Parcels larger than 100 & 250 acres	yes	yes
Wildlife habitat and corridors		
▪ Deeryards	yes	no
▪ Bear habitat	yes	no
▪ Core habitat	yes	no
▪ Forested crossings of main roads	yes	no
Rare, unique or fragile natural areas		
▪ Wetlands (Class II)	yes	no
▪ Floodplains	yes	no
▪ Natural Heritage sites	yes	no
▪ Surface water with 100' buffer	yes	no
▪ Undeveloped land along the Mad River	yes	yes
Historic sites and their accompanying lands		
▪ Historic Barns	yes	yes
▪ historic barns with farm or "farmscape"	yes	yes
▪ National Register Districts	yes	yes
▪ Structures on state surveys	no	yes
Scenic lands (in addition to working farms and forest lands, above)		
▪ View sheds from RRPP	no	yes
▪ High elevation lands from towns' zoning	yes	no
Recreation lands		
▪ Trails (MRPA, LT, CT, VAST)	yes, partial	yes, partial
▪ Class IV roads	yes	no
▪ River access points/swim holes	yes	yes, partial
▪ Parcels through which proposed trail sections pass	yes	no
Additional data		
▪ Conserved lands	yes	yes
▪ Public land	yes	yes
▪ Land adjacent to conserved and public lands	yes	no
▪ 100' and 50' contours	yes	no
▪ Roads	yes	no
▪ E911 sites	yes	no
▪ Parcel and town boundaries	yes	no

CO-OCCURRENCES

In addition to assessing the natural and cultural attributes individually and in various combinations – to both illustrate what features exist on any given parcel under consideration for protection and to illustrate potentially significant areas – a methodology was sought to effectively show which areas possess a high number of priority attributes. This was important to include in the inventory analysis since areas with more significant resources are for the most part of higher importance. The Conservation Partnership explored a number of different methodologies and arrived at the following approach.

GIS was used to overlay the resources described above to locate and quantify the degree of co-occurrence of features. This was accomplished by assigning each incidence of the chosen attributes a value of "1". A simple example of this would be: all areas with deeryards, wetlands, or prime or state agricultural soils were assigned a value of "1". These various resources are layered on top of one another and then combined so that their assigned values are added together according to their degree of co-occurrence. Thus, in the example, areas where all three resources coexist would be assigned a value of "3" and these areas are illustrated on the map in a particular color. Areas where two of the resources coexist would have a value of "2" and show up on the map in a different color. Areas with just one resource would be assigned a value of "1 and would show up in yet another color. Areas with none of these resources would be white.

Note: These 23 layers of data were not ranked in order of significance, as the range of priorities voiced by the community is broad, as is the Partnership's mission.

The features layered for this aspect of the project were chosen because they best represent critical resources or characteristics that have been targeted by the community as priorities to protect. The Partnership considers this project to be ongoing and fully anticipates continually updating these data as new information is available or priorities change.

The following features were layered and used to create the Co-Occurrence Map:

1. Bear habitat
2. Core wildlife habitat
3. Deer wintering yards
4. Floodplain
5. Forest cover
6. High-elevation & Forest Reserve zoning districts
7. Historic barns with agricultural land
8. Horse farms
9. Leased agricultural lands
10. Parcels adjacent to conserved and public lands
11. Parcels100 acres and larger
12. Parcels in the Vermont Use Value Program
13. Parcels through which key section of proposed trails pass
14. Potential road wildlife crossings
15. Primary agricultural soils
16. Prime forest soils
17. Rural Agricultural & Waitsfield Common National Register Districts
18. Surface water with 100' buffer
19. Swim holes (private, well-used)
20. Undeveloped parcels along the Mad River
21. Wellhead protection areas
22. Wetlands (VSWI) with 100' buffer
23. Working farms

ANALYSIS OF RESOURCE INVENTORY

The natural and cultural features noted in the previous section were used to evaluate areas for conservation value. The inventory indicates where on the landscape significant features exist. Therefore, the analysis of the data included in the inventory has shown the location, extent, and quality of the attributes, as well as to their relation to other features – to the degree allowed by the data available.

As noted above, in addition to assessing the natural and cultural attributes individually and in various combinations, the data were combined into a single layer that demonstrates where on the landscape the various attributes occur together. This aspect of the project is valuable in illustrating where significant natural or cultural features co-exist to varying degrees. The Co-Occurrence Map displays areas in the watershed that display up to 11 co-occurrences of key attributes (out of 23 that were layered).

It should be noted that areas with just one or two resources might be deemed as important to protect as those with multiple resources, due to the significance of that particular resource. This is best illustrated with the example of a site with a rare or endangered species, which would most likely be critical to protect despite the fact that the site may only have one attribute of value. Moreover, additional information may have a significant impact on illustrating the importance of any given area within the watershed.

LIMITATIONS

It should be noted that much of the data collected for this inventory was developed at a fairly large scale. It thus must be interpreted and utilized as a broad-brush tool that is useful in informing land conservation decisions, but may need to be field checked and adjusted when using it to assess individual parcels. Likewise, since the sources of the data vary, the layers at times do not match perfectly as in the example of the FEMA-generated floodplain data layer and the VCGI-generated surface water data layer.

As noted above, additional limitations to this analysis include lack of field-checked data on wildlife habitat and significant archeological sites. Neither of these was included in this analysis as data is not available to the public. Trails (or proposed trails) on private land where an agreement does not exist with a recognized organization were not included in the Recreation Asset map that is part of this document, but many of them were included in the Co-Occurrence map to ensure these important priorities are included in planning efforts. Scenic vistas and view sheds of the watershed were not mapped, although several other resources that are highly scenic, such as high elevation areas and working farms, were.

SUMMARY

This inventory allows the Partnership and other conservation-focused entities to consult a readily available compendium of data to assist with evaluating the Mad River watershed's landscape and natural features. It documents where on the landscape these features exist and where they overlap. It provides a basis from which to start, and can be used along with other information and circumstances to guide decisions about land conservation in the Mad River watershed. Analysis of the data will be ongoing as it is consulted on a project-by-project basis, and as the need to reevaluate significant conservation areas arises.

INVENTORY MAPS

In addition to the Co-Occurrence Map, resources were layered in smaller combinations to illustrate relationships and document their locations. Some of the data layers are repeated on the various maps as they may significantly contribute to more than one conservation goal. Maps illustrating inventoried features include:

Natural Areas & Potential Wildlife Habitat
- Wetlands (VSWI) with 100' buffer
- Surface water with 100' buffer
- Potential wildlife (main) road crossings
- Potential core wildlife habitat
- Deer wintering yards
- Bear habitat
- Forest cover
- Threatened & Endangered Species

Scenic and Historic Attributes
- High-elevation zoning districts
- 50' contours
- National Register Districts
- Historic barns

Agricultural Attributes
- Historic barns with conservation land
- Primary agricultural soils
- Working farms
- Leased agricultural lands
- Rural Agricultural and Waitsfield Common National Register Districts
- Horse Farms

Forest Attributes
- Surface water
- Prime forest soils
- Parcels in Use Value Program
- Parcels 100 acres and greater
- Forested cover

Recreation Attributes
- Existing, formally recognized trails - trails on private land that are not sanctioned are not shown
- Class IV roads
- Swim holes
- Recreation destinations (peaks, etc.)
- 100' contours
- Public lands

Water Attributes

Mad River and its tributaries
Lakes and ponds
Wetlands (Class II)
100' buffer of all surface water
Undeveloped sites along the Mad River
Floodplain
Wellhead protection areas

Conserved Lands

Conserved lands
Public lands
Parcels adjacent to conserved and public lands

The inventory maps are available in the Mad River Valley Planning District Office, and will be continually updated pending new data and/or shifting community conservation priorities.

VII. CONCLUSION

The inventory of data outlined above is readily accessible by the Conservation Partnership staff, its partners, town boards, other conservation groups, and other qualified entities. The inventory is being used in numerous ways including assisting with site assessment of individual parcels, gauging the location and qualities of various resources, as well as analyzing relationships between various resources. Please contact the Conservation Partnership or the Mad River Valley Planning District at the numbers listed in the Contacts section with questions about the inventory. The inventory is available on-line at http://www.madrivervalley.com/community/localboards/mrwcp.htm

VIII. CONTACTS AND ACKNOWLEDGEMENTS

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(go here for a copy of this document on-line)

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- Steve Kimball, GMNF District Ranger, Rochester District
- Shayne Jaquith, Water Quality Division, ANR, Fayston Planning Commission member
- Richard Hiscock, Chair, Mad River Path Association Board, Waitsfield Planning Commission member

IX. APPENDICES

APPENDIX A – SURVEY RESULTS

2004 WARREN TOWN PLAN SURVEY

For town meeting in March of 2004, the Warren Planning Commission developed a survey to solicit opinions on a number of planning-related issues to assist with the revision of the town plan. Questions 4, 5 and 6 addressed conservation-related topics.

Question 4 asked whether respondents thought the Green Mountain National Forest should continue to expand within the town of Warren. More than 71% of the 167 responses to this question indicated they would like to see the National Forest expand.

Question 4: Should the GMNF be expanded?		
Yes	**No**	**Total responses**
119	48	167
71.26%	28.74%	

Question 5 addressed continued funding for land conservation in town. The town had created a land conservation fund in the 1990s after it decided it no longer needed the allocated funds to purchase Blueberry Lake (the fund was previously known as the Blueberry Lake Fund). It had not been added to in a number a years, yet past surveys and workshops have indicated a very favorable inclination toward land conservation in town. The survey asked whether Warren should allocate additional money to the Fund, and if so, how much.

Question 5: Should the town allocate additional monies to Warren's Conservation Reserve Fund?						
	Yes	**No**	**Total**			
	140	40	180			
	77.78%	22.22%				
If yes, how much?						
Amount?	**5-10K**	**10-15K**	**15-20K**	**20-25K**	**Other**	**Total**
# of responses	28	16	14	36	16	110
	25.45%	14.55%	12.73%	32.73%	14.55%	

A large majority of respondents (78%) indicated they thought additional money should be allocated to the fund. Of the amounts provided in the question, $20,000 - $25,000 received the most votes of the 110 responses (more than 32%).

At Town Meeting 2005, the voters approved an article adding $20,000 to the Conservation Reserve Fund.

Question 6 asked respondents to select what they thought were the highest conservation priorities for the town.

Question 6: Select the three highest conservation priorities for the town of Warren.			
	Checked	Blank	Total
Wildlife habitat and travel corridors	86	105	191
	45%	55%	
High elevation ridge lines and knolls	71	120	191
	37%	63%	
Land with trails or other recreation opportunities	120	71	191
	63%	37%	
Connectivity of conserved lands	20	171	191
	10%	90%	
Public access to the Mad river	49	142	191
	26%	74%	
Agricultural lands and other open meadows	68	123	191
	36%	64%	
Large tracts of forestlands	28	163	191
	15%	85%	
Wetlands	36	155	191
	19%	81%	
Water quality of the Mad River, its tribs	119	72	191
	62%	38%	
Scenic Road Corridors	15	176	191
	8%	92%	

Land with trails or other recreation opportunities, water quality of the Mad River and its tributaries, and wildlife habitat and wildlife travel corridors were the three top-ranking priorities.

Based on the results of this survey, Warren's Conservation Committee established the following list of conservation priorities, which have been used to update the new town plan (to be voted on in 2005). The Committee will use these priorities to help guide their pursuit of conservation projects in Warren. These are listed in order of importance as gleaned from the above referenced survey.

1. Land with outdoor recreation resources, including parcels with existing or potential trails, river accesses (especially the Mad River and its tributaries), hunting areas, and potential playing fields and recreation areas.
2. Resources that would protect or enhance water quality, such as wetlands, headwater areas, and riparian buffers along the Mad River and its tributaries.
3. Land with identified wildlife values, including critical habitat for endangered species, black bear (including the Slide Brook basin), and identified wildlife corridors.
4. High elevation forest (ridgelines and prominent knolls), and farmland and meadows visible from well-traveled town roads and Route 100.

5. Productive farmland, especially land currently under farm management or with the potential for active farm management.
6. Productive forestland, especially lands that are contiguous to other undeveloped tracts of forest and conserved parcels.
7. Land that contributes to the town's historic settlement patterns, including upland areas with poor access to town centers; undeveloped parcels that define the contrast between open countryside and village centers; and, open space that contributes to the character of Warren Village.

CONSERVATION PRIORITY SURVEY REPORT
Mad River Watershed Conservation Partnership
October, 2002

The Mad River Watershed Conservation Partnership distributed a survey during the summer of 2002 soliciting input from landowners in the Mad River watershed on land conservation priorities. The survey was part of a continuing effort to seek input from the community on the role and values of land conservation in the Mad River Valley. The survey was distributed as an insert in the "Conservation Legacy" booklet that highlighted all of the land conservation projects completed in the Valley over the past 20 years. It was also printed in the *Vermont Journal* and distributed as an insert in the *Valley Reporter* and the *Vermont Journal*. As the survey was distributed three different ways (to landowners and through the local papers), the significance of the return rate is not high. Of the 3,200 that were distributed via the *Valley Reporter* (by far the most-returned survey type) 150 were returned for a 4.7% return rate.

Respondent Characteristics
Of the 150 people who responded to the survey, 18.6% own land in Fayston, 38% own land in Waitsfield, 8.6% own land in Moretown, 26% own land in Warren, and 2% own land in Duxbury, One respondent owns land in Waterbury.

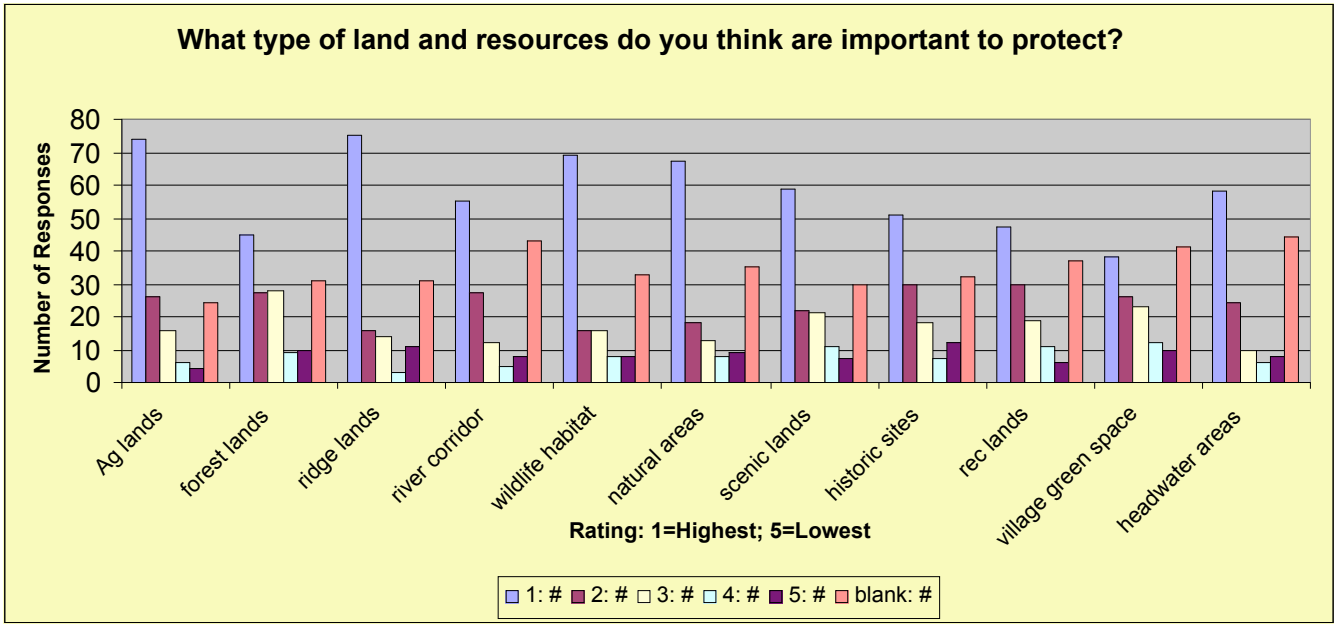
The object of the questionnaire – to assess what types of land people think are important to protect – dictated that the majority of people who answered the survey were in favor of conservation. When asked ***"Do you think it is important to permanently conserve land in the Mad River Valley?"*** 86.5% of the respondents answered "yes," 7.5% answered "no," 2.5% answered "not sure" and 3.5% said "need more information."

Priority Land and Resource Types
Respondents were asked to rate each of the following types of land from 1 to 5, 1 being the most important to protect and 5 being the least important to protect.
- Agricultural lands (pastures and tilled land owned or leased by area farmers)
- Forest lands managed and utilized for timber products or maple sugaring
- Upper elevation ridge lands
- Lower elevation river corridor lands
- Wildlife habitat and wildlife travel corridors
- Rare and fragile natural areas (including wetlands and sites with rare species or unique land features)
- Highly visible scenic lands

- Historic sites and structures (such as barns, farmsteads, historic village centers)
- Recreation lands (such as access to key destinations and trail corridors)
- Village green space
- Headwater areas
- Other

Responses that were not filled out correctly were not included in the tabulation. Of those who chose to answer this question and answered it as directed, protecting agricultural lands, high elevation ridge lands, wildlife habitat and natural areas were the top four priorities. Protecting village green space ranked the lowest of the choices offered.

Question 2: What type of land & resources are most important to protect? (rated 1-5)



Protecting ridge lands was rated as number 1 most often, with agricultural lands and wildlife habitat 2nd and 3rd in being rated number 1. Recreation lands and historic sites were rated #2 most often. Combining those resources that were rated #1 and #2 most often resulted in agricultural lands, high elevation ridge lands, wildlife habitat, and natural areas receiving, in that order, the most points (see table next page).

Question 2: What type of land & resources are most important to protect? (rated 1-5)

	% of people who responded to this choice who rated this number 1 (out of 5)	% of people who responded to this choice who rated this number 2 (out of 5)	% of those rating this choice 1 or 2 (out of 5) that filled in these choices	% of 150 who returned survey who rated this #1	% of 150 who returned survey who rated this #2	% of 150 who returned survey combo #1 & #2
Ag lands	58.7%	20.6%	79.4%	49.3%	17.3%	66.7%
forest lands	37.8%	22.7%	60.5%	30.0%	18.0%	48.0%
ridge lands	63.0%	13.4%	76.5%	50.0%	10.7%	60.7%
river corridor	51.4%	25.2%	76.6%	36.7%	18.0%	54.7%
wildlife habitat	59.0%	13.7%	72.6%	46.0%	10.7%	56.7%
natural areas	58.3%	15.7%	73.9%	44.7%	12.0%	56.7%
scenic lands	49.2%	18.3%	67.5%	39.3%	14.7%	54.0%
historic sites	43.2%	25.4%	68.6%	34.0%	20.0%	54.0%
rec lands	41.6%	26.5%	68.1%	31.3%	20.0%	51.3%
village green space	34.9%	23.9%	58.7%	25.3%	17.3%	42.7%
headwater areas	54.7%	22.6%	77.4%	38.7%	16.0%	54.7%

- highest

Important issues to consider

Respondents were asked to rate each of the following types of land from 1 to 5, 1 being the most important to consider in selecting conservation projects, and 5 being the least important.

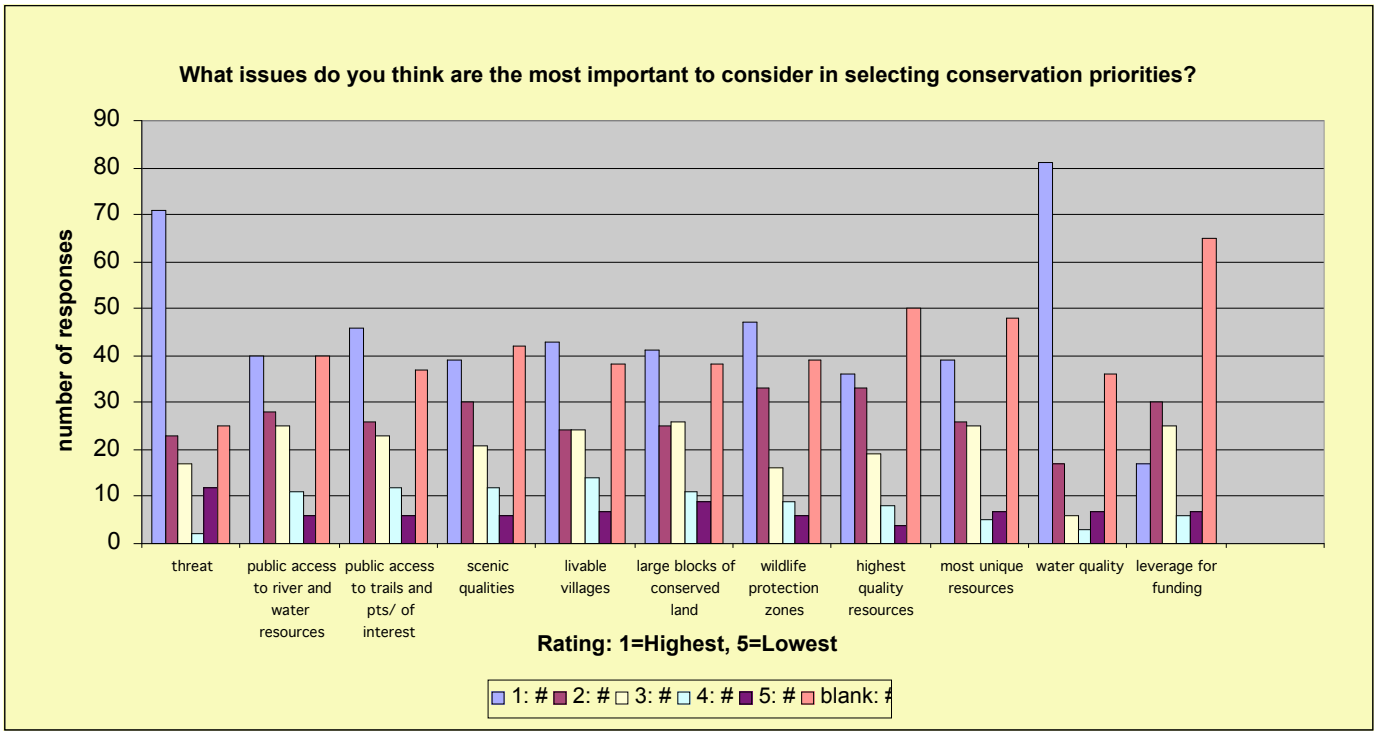
- Addressing immediate threat of development
- Ensuring guaranteed public access to river and water resources
- Ensuring guaranteed public access to trails and points of interest (e.g. mountain peaks)
- Protecting the scenic qualities of the watershed
- Enhancing vital and livable village communities
- Creating large blocks of conserved land
- Creating wildlife protection zones that limit high-impact recreational uses
- Focusing on the highest quality resources (e.g. prime agricultural soils)
- Focusing on the most unique resources (e.g. rare or endangered species)
- Protecting water quality (including headwaters, wetlands, river corridors, etc.)
- Focusing on projects that best leverage various funding sources
- Other

Question 3: What priorities do you think are the most important to consider in selecting conservation projects? (rated 1 – 5)

	threat	public access to river & water resources	public access to trails and pts of interest	scenic qualities	livable villages	large blocks of conserved land	wildlife protection zones	highest quality resources	most unique resources	water quality	leverage for funding
1: %	56.8%	36.4%	40.7%	36.1%	38.4%	36.6%	42.3%	36.0%	38.2%	71.1%	20.0%
2: %	18.4%	25.5%	23.0%	27.8%	21.4%	22.3%	29.7%	33.0%	25.5%	14.9%	35.3%
3: %	13.6%	22.7%	20.4%	19.4%	21.4%	23.2%	14.4%	19.0%	24.5%	5.3%	29.4%
4: %	1.6%	10.0%	10.6%	11.1%	12.5%	9.8%	8.1%	8.0%	4.9%	2.6%	7.1%
5: %	9.6%	5.5%	5.3%	5.6%	6.3%	8.0%	5.4%	4.0%	6.9%	6.1%	8.2%

- highest

Of the choices provided, responding to immediate threat of development and protecting water quality were rated by far as the most important factors to consider in selecting conservation projects. Protecting water quality was rated number 1 by 71.1% of the respondents, while responding to immediate threat of development was rated number 1 by 56.8% of the respondents. When those rated with a 1 and a 2 were combined, protecting water quality, threat of development, and considering wildlife protection zones were highest ranked. Responding to immediate threat of development received the most votes overall, while protecting water quality and ensuring guaranteed public access to trails and points of interest received 2nd and 3rd most votes, respectively, by respondents.



Funding Land Conservation

Several questions were asked regarding various means for paying for land conservation.

4. Are you supportive of an annual allocation from your town's budget toward land conservation via a conservation fund? If your town does not have a conservation fund, do you think it should? Of those who answered the first part of this question, 59% of respondents said yes, while 25% said that it depends on the amount. Those saying they are not supportive of an annual allocation amounted to 8.3% and 7.6% indicated they were unsure. The second part of the question assumes that only those respondents whose towns do not have conservation funds would answer it; of those who answered, 86% answered yes. Warren and Waitsfield are the only two towns in the watershed that had conservation funds when the survey was distributed.

5. Would you pay an additional small surcharge (for example $1.00) on your ski lift ticket or restaurant bill to support land conservation? Sixty-six percent answered yes to this question, while 18% indicated they were not supportive of this method of raising money to pay for land conservation projects and 16% answered that they were not sure. Four percent did not answer the question.

6. What other ways would you consider for raising local funds to support land conservation? Of property transfer tax, local fundraising campaign, town bond votes for specific conservation projects, options suggested in the survey, using local fundraising was the moist popular means to raise funds by far with 78% of those responding indicating they were supportive of this method. Town bond votes received 62% in favor with 25% maybe, and property transfer taxes received 41% in favor with 32% maybes. Other suggestions included a gas tax, a "tourist visa" whereby tourists chip in some money via some mechanism when they visit, grants, using a portion of building permit fees for conservation.

Special Lands

This question was asked to try to solicit input on specific parcels or areas of land people think should be protected, as distinguished from land or resource *types*, which was addressed in Question 2.

7. What unprotected lands do you personally think should be protected and why?

Summary

- Ridgelines/ high elevation lands (11)
- Northfield Ridge in particular (11)
- Open/farm land (11)
- River, tributaries, and adjacent lands (5)
- Trails (4)

Other specific areas:

- Route 100 (4)
- Bragg Hill (3)
- Lincoln Gap Road area
- The Fairgrounds, Pine Hill, Mt. Waitsfield
- Slide Brook
- Blair Farm
- Woodlands east of German Flats Road
- Woodlands east of Plunkton Road
- Lincoln Brook area
- Wimble farmland in Moretown
- Dowsville, Ward Hill
- Cobb Mountain in Moretown
- Duxbury Hill/Cobb Hill
- Undeveloped land back in Fayston
- Von Trapp's Farm
- Woodland between Waitsfield and Moretown north of Cox Brook Road
- East Warren Four Corners

Respondents provided the following specific answers to question 7:

- Farms & Moretown Common fields for historic, scenic, agricultural purposes.
- Lincoln Gap Road area
- Trails corridors, Mad River Greenway, Mill Brook Trail, 20th Hole: between Mt. Ellen & Mad River Glen
- People should not build by rivers. Leave ??? Mountain.
- Open land along Route 100, East Warren Road & Common Road
- Ridge tops visible from almost everywhere.
- Ridgeline protection
- Land adjacent to Lincoln Mountain/ National Forest above last residence.
- Upper elevation lands along the Northfield range.
- Pine Brook watershed
- Fairgrounds behind Our Lady of Snows church, Pine Hill (above Lareau swim area), Mt. Waitsfield
- Everything remaining and undeveloped–stop putting houses in the middle of beautiful old farmland.
- Phen Basin, Slide Brook
- Riversides & river.
- Northfield ridgeline & streams
- Blair Farm
- East side of East Warren Rd., Roxbury Rd. to Moretown; Blueberry pond & woods from Southface to Rt. 17, parallel to German Flats Rd.; woods & ridge east of Plunkton Rd., Warren; Bragg Hill to Phen Basin.
- Bobbin Mill/Lincoln Brook in Warren. It is a public resource that is magical & it is a headwater of the Mad River.
- Cobb Mountain in Moretown – it's between Rt. 100B and Rt. 2 – borders both the Mad River & the Winooski, lots of tributaries. It should be protected against large-scale development. Lots of wildlife, rare flora sites.
- Highlands, open lands – two blocks of land in North Fayston now in works for development.
- Open land along Route 100
- Land on Common Rd., Von Trapp's land on East Warren Rd.
- Northfield ridge
- Trails, public R.O.W.'s, Class 4 roads & non-public lands required to connect them.
- Northfield ridge viewscape is a common asset, all agricultural lands in MRV.
- The entire area.
- Farm land – combine farming with tax incentive.
- The properties on the Northfield ridge should be protected through easements.
- Ridge lines – Northfield ranges, Green Mountains
- 4 corners Roxbury/East Warren/Airport Road (scenic), Route 100 between Warren & Waitsfield (scenic), Plunkton/West Hill corner (scenic), high elevations (ecological)
- Farm land – historic, cultural, tourism, beauty.
- High elevation – beauty, flora & fauna.
- River access & watershed – maintenance, recreation, beauty.
- Much of the woodlands along the ridge b/w Northfield and Moretown, north of Cox Brook Rd. and south of 100B.
- Duxbury Hill/Cobb Hill.

- Village centers that are commercial should be restricted and enforced on how close to the water (rivers), streams, build or create landscaping, roads/runoff.
- High elevations, meadows & pastures – keep Vermont as beautiful as it is.
- Headwaters & streams leading to Mad River. We don't want a polluted river. Ridgelines & upper hill slopes to avoid "McMansions" from ruining the peoples' view of the Valley as a whole entity.
- All ridgelines & below.
- The Northfield range – all of it!
- Wetlands, headwaters, wildlife corridor, threatened & endangered species
- I don't know if it's protected, but we love the Robinson's pond area in Warren.
- Up on Bragg Hill/Kew Vasseur
- Where farmland borders waterways.
- Common Road ridge
- The entrance to the Valley from the north and into Waitsfield should remain visually pristine.
- Lincoln Gap above last house. Not safe in cold season because of ice and joins U.S. National Forest.
- All land along Rtes. 100 & 17.
- Along the ridgelines from Sugarbush Resort south – Lincoln Peak south & from Mad River Glen north to Camel's Hump State Park – Waitsfield/Northfield/Moretown ridgelines.
- Mt. Ellen & adjoining land & peaks for protection of scenic land & water.
- High ridge lands.
- Just like you, expropriate my money to use for your agenda against my principles. It's like paying school taxes for sex education.
- Several thousand-acre block at top of Dowsville-Ward Hill.
- Wimble Farm in Moretown Common. It is a beautiful hill farm on the common, key to the area's character and the Wimbles have struggled to keep it open. P.S. They probably don't want your help.
- Agriculture needs to be saved.
- High ridge areas (Old Scrag)
- Not every parcel of land can or should be protected. MRWCP should develop a prioritized list of criteria we want to protect and rate a parcel's scenic/conservation value according to defined criteria. But most importantly, be prepared to PURCHASE the land or the development right from the owners for fair market value.

Additional comments from the surveys included:

- Please be careful not to turn it [the Mad River Valley] into a Disney park.
- Must protect property rights. All programs must be voluntary!!! No legislating away property rights (e.g., upper elevation ridge lines).
- Involve the public in goals and management/stewardship of conserved parcels.
- If the people really want to save the valley; milk prices 2001 = $15.90, today = $11.10. 1963 = $12.00. How long before they sell?
- Conservation is important but needs to be balanced with what you can afford. Blueberry Lake deal is example. What once was a $500,000 project will be $750,000 before they get done. Who's going to pay difference??

- Although in favor of voluntary conservation, WAIT, THINK, and STOP before taxing for it. Please concentrate your efforts on tax benefits for conserved land and VOLUNTARY contributions.
- I would love to see a comprehensive natural resource assessment followed by an outreach effort to educate landowners about the impacts uses on their individual land holdings have on the larger landscape.
- Preservation, tourism & development should not be at odds in the Valley. Congruence of objectives is in all our best interest.
- Save the barns and old farms – stop development. No more new roads.
- It seems to me that too much land (particularly in Moretown) is being logged out.
- There must be a fine balance between individual property rights and the public good. Northfield ridgeline could be used for wind power production for the common good.
- Village preservation – buildings & homes – limit "housing projects" in villages, ridge lands & farm lands (open)
- Agricultural/pastoral land & ridgelines should be protected & we must preserve the beauty we see around us in order to maintain tourism & the way of life we all appreciate. "However ones mind may be elevated and kept up to what is excellent, by the works of the great masters, still nature is the fountain's head, the source from whence all originally must spring." Constable, 1800's.
- Conservation should only be accomplished by fair-market acquisition from willing sellers with funds donated or voted by taxpayers.
- At age 74, I have seen so many changes up here, many negative. Too many houses, too much open land gobbled up. Need ridge building restricted in Fayston and Duxbury. I own 280+ acres, but rising taxes make it so hard to hang on to. In my youth, 3 houses on our road, now 20+. Only lands not developed are owned by my brother or me.
- River access, Mad River Path excellent resources. Village development, sidewalks a priority, preserve character. Bike lanes on roads & bike paths a priority especially on Rts. 100 & 17!
- The villages – need limit to growth boundaries protected by common open land.
- I am against any effort that minimizes or restricts use of these lands for hiking, biking, snow shoeing, x-country skiing or snowmobiling. What good is protection if no one can enjoy it?!
- Open grazing fields surrounded by lines of trees, undeveloped ridgelines, and access to hiking.
- The farms and their usable acreage, all historic buildings in Vermont towns and any ones that are considered historic should be conserved.
- It is all important to me. It's all beautiful and we should protect it all.
- Real threat to land is people, both extremes of classes: 1) trophy houses constitute pollution. Limit maximum square footage to say 6,000. 2) "affordable housing" can be a problem if the renters are screened by a remote agency. We may get people from half-way/drug rehab houses. Keep local control!
- We only have 20 acres, which is why we'd like to get together with neighbors.
- Confining business, condos to specific areas & not allowing our rural areas to become degraded by sprawl & pollution.
- I would like to see the uplands preserved/conserved (e.g., all those areas that are 1500'+ in elevation). The soils are too thin to support much development in these areas and they represent an important natural & economic asset in the MRV.

- We have a good town plan & good zoning regulations, but they are inadequately enforced. Why? Further development should be encouraged to be at Sugarbush.
- Farms, open space, uncluttered (to some degree) mountains. Thanks for survey.
- I love our Valley. We do not need to develop museums, etc. The beauty is all around us. That's what we love & so do the tourists.
- Balances thoughtful and varied human uses with natural conservation
- Tourism and farming are very important to the Valley survival!
- We can't stop development, but it needs to be more concentrated in the villages as well the countryside (pseudo-farms). Probably more bike paths & ways to slow down traffic. Get big chunks of land now or later it will be too prohibitive.
- Wonder if people ever consider the right of long time owners to live as they choose?
- I think that the watershed areas around MRG & Sugarbush should be tested and protected more than they already are. The resorts use chemicals for snowmaking and other things and some of these chemicals have to be running off into streams.
- "Protected land" is a term I think is used loosely. Protected from development? From x-c skiers or snowmobilers? Everyone should have access to the land to enjoy it – not just the animals & plants.
- I welcome this opportunity for input.
- This effort should get top priority.
- Way, way too much conservation in this valley is done by the planning commissions, select boards, etc. Property rights of owners are rarely given much more than lip service. I favor conservation. I am an environmentalist, but I am opposed to a handful of appointed PC board members changing zoning radically to the detriment of property owners. Be prepared to purchase land for conservation at fair market value! This is the only equitable method for land conservation (other than gifting).

2002 WAITSFIELD TOWN PLAN SURVEY

The purpose of Waitsfield's 2002 Community Survey was to solicit public input on a range of topical issues identified by the Planning Commission and related to the Town Plan update. The survey was mailed to 1,150 individuals in mid-September 2002. The survey asked eight questions relating to natural resources and land conservation, with respondents indicating strong preference for Waitsfield to continue its efforts toward these objectives. Four of them pertain directly to land conservation priorities and are summarized below.

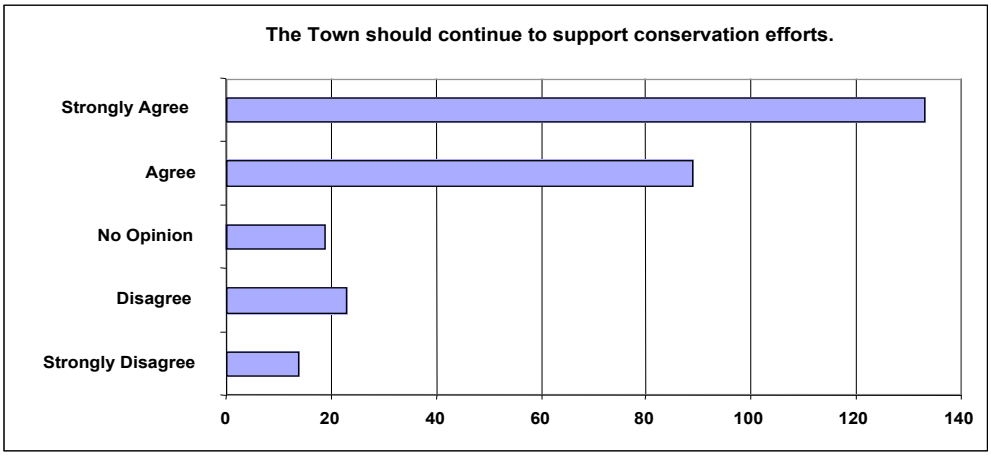
Responses to Question 1 indicate strong support for the protection of natural resources, with large majorities either agreeing or strongly agreeing that the Town should take specific efforts to protect a variety of resources.

Question 1

Waitsfield should take specific efforts to protect:	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. forest land	3.6%	4.3%	5.4%	36.9%	49.8%
b. wildlife habitat	1.8%	5.5%	6.9%	33.2%	52.6%
c. working farmland	1.4%	5.3%	5.3%	25.3%	62.6%
d. Mad River and tributary streams	1.1%	1.8%	5.1%	27.4%	64.6%
e. scenic roads	1.1%	4.7%	8.7%	37.2%	47.7%
f. ridgelines & hillsides	5.1%	5.8%	5.4%	25.7%	58.0%
g. historic buildings	2.2%	4.4%	10.3%	35.9%	47.3%
h. wetlands	1.5%	6.2%	12.4%	31.3%	48.6%

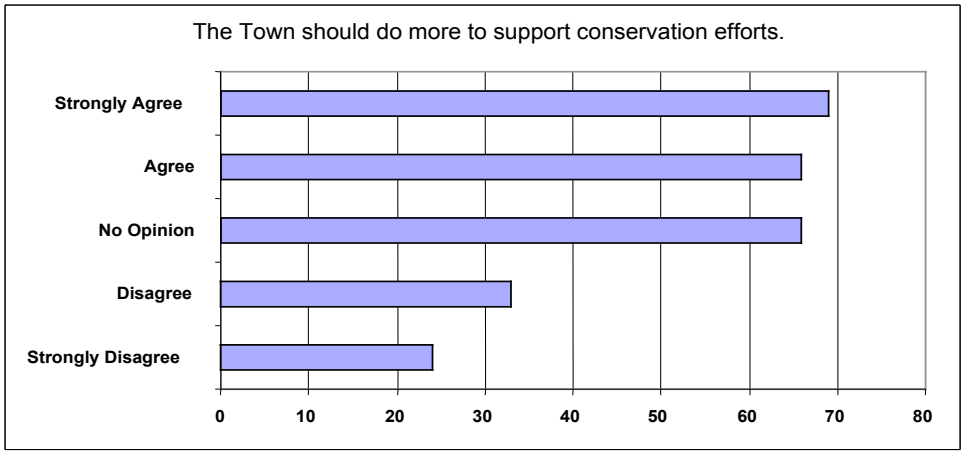
Three questions were asked regarding support for the town's ongoing land conservation efforts. Responses to the first of these questions, 3a, indicated that nearly 80% of the respondents agreed or strongly agreed that conservation efforts should continue.

Question 3a



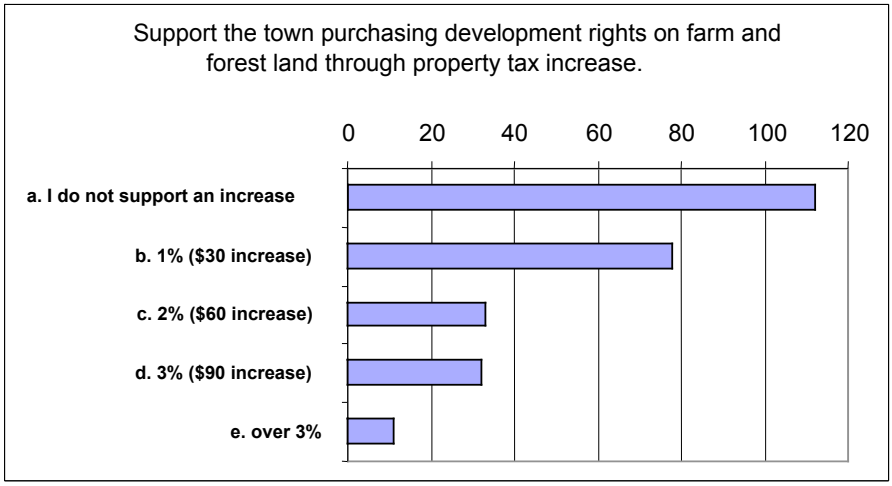
Responses to the question of whether such efforts should be expanded, 3b, however, suggest uncertainty regarding the extent or implications of such efforts, given that 25.6% of respondents had no opinion on the matter, and a relatively high percentage of total survey respondents (10.4%)
neglected to answer the question altogether. Despite the uncertainty, a majority of respondents (52.3%) either agreed or strongly agreed that the "town should do more to support conservation," with 22.1% disagreeing or strongly disagreeing.

Question 3b



The third question regarding land conservation, Question 4, asked respondents to quantify the amount in additional property taxes they would support to fund conservation efforts (it should be noted that the survey did not make clear whether such funding would be in addition to reserve funds currently set aside by the town on an annual basis for this purpose). While 55.2% of respondents indicated support for some kind of a tax increase to purchase development rights on farm and forestland, over 42% of the respondents did not support an increase in taxes for this purpose.

Question 4



MAY 2002 IRASVILLE ECONOMIC STUDY

The town of Waitsfield hired Economic and Policy Resources, Inc. to conduct an economic study as part of the Irasville Master Plan process. The goal of the study was to help develop meaningful economic development strategies and to provide information relating to the economic and demographic environment in which the community is likely to grow over the next two decades. The full report is available from the Mad River Valley Planning District or the Town of Waitsfield.

The qualitative analysis component of the plan was based on 13 interviews that represented a range of business sectors, employer sizes, and customer bases. The interviewees were virtually unanimous in saying that the Valley's greatest strength is its sense of community and quality of life. Interviewees indicated that the natural beauty of the Valley is a key component of the quality of life, and is why many businesses choose to locate and stay here. Access to diverse recreation opportunities, clean air and water, and the stunning aesthetic environment were cited as significant assets. Interviewees also felt that most non-residents and visitors see these attributes as some of the Valley's key strengths.

The study found that "nearly every business capitalizes on the natural beauty and high quality of life that the valley offers. The natural beauty not only attracts visitors and customers, but also is key to attracting and retaining exceptional employees and entrepreneurs as well."

Among the recommendations of the report based on both qualitative and quantitative data collected for the study, it was suggested that: "Economic development strategies should at minimum include the protection of the Valley's natural assets…"

2001 FAYSTON SURVEY

The Fayston Planning Commission conducted a survey of Fayston residents in 2001 as part of its town plan revision process. More than 17% of all property owners and residents and roughly 14% of all year-round residents responded.

Fayston residents clearly value land conservation, habitat protection, and recreational opportunity. According to the survey nearly three-quarters hike or walk in Fayston, nearly half cross-country ski, and forty percent of year-round residents enjoy mountain biking in Fayston. There is unambiguous support for expanding local and statewide recreational trail networks as well.

- When asked what Fayston's three greatest assets are, the top three responses included rural character, scenic beauty, and recreational opportunities.

- When asked if the town should provide annual support for Valley-wide efforts on land conservation, 79% chose "strongly agree" or "agree."

- When asked whether Fayston should limit development/impact on streams, wildlife habitat areas, scenic vistas, forested hillsides and ridgelines, historic resources, scenic roads, or open fields, 90% of the respondents indicated it should be limited near streams,

87% in wildlife areas, and 86% on forested hillsides and ridgelines and within scenic vistas.

The Planning Commission provided this information to residents and officials to help incorporate public opinion and interests into policy and planning decisions. Full results from the survey are available from the Mad River Valley Planning District or from the Town of Fayston.

WARREN TOWN PLAN WORKSHOPS (late 1990s)

As part of the 1997-1998 town plan revision process, Warren conducted a number of community forums to provide an opportunity for residents to voice their opinions about various issues relating to planning for the town's future. One of the forums was focused on asking participants what they love and what they don't love about Warren. Participants working independently submitted in writing their top three positive and negative attributes of the town. Of the positive attributes, the category that received the most citings was "beauty, ruralness and views" (55 items). The rest of the contributions fit into the following categories: community character (51 items), the village (36 items), the river (35 items), landscape and wildlife (23), recreation opportunities (19 items), other places (9 items), government (7 items), no sprawl (6 items), and business (4 items).

Participants were also asked what were the most important issues facing Warren in the next 10 years. Overwhelmingly, respondents cited preservation of the environment as critical. Specific issues included: riverbank conservation, open meadow conservation, protecting water quality, preventing fragmentation of wildlife habitat, addressing light pollution, limiting development on ridges, raising money to buy land, and protecting the town's natural beauty and community character.

Also as part of the town plan revision, the planning commission sponsored a Visual Reference survey, the purpose of which was to enable citizens to evaluate physical images of natural and built environments. The major finding of the survey was the widespread preference for the traditional settlement pattern, characterized by compact village centers with a formal arrangement of buildings, surrounded by a working landscape of productive farmland and forest.

OTHER WARREN ACTIVITIES

Warren has been quite active over the years in working in various ways to protect significant lands. In 1985 the town underwent a Land Evaluation and Site Assessment Criteria (LESA) process. The purpose of establishing the LESA criteria was to enable the Town to identify the farmland important for protection; to refine goals, policies, and recommendations for farmland protection in the town plan; to direct the use of the town's purchase of development rights fund; to expand the tax stabilization contracts by farmland owners; and to develop and refine land use regulations.

In 1986 a study and report on the Meadowland Protection Program was commissioned. The objective was to describe existing farmland conditions, the programs in effect to protect farmland, and to suggest procedures to set priorities on farmland protection.

In 1989 the Atlantic Study for the Environment worked with the town and the Green Mountain National Forest to look at land acquisition options. The objective was to define and recommend parcels of land in Warren to be acquired for the GMNF as part of the land exchange between Sugarbush and the National Forest Service.

1988 RURAL RESOURCE PROTECTION PROJECT

In 1987 the Mad River Valley Planning District and the Vermont Land Trust initiated the Rural Resource Protection Project with the goal of conducting an inventory and developing a strategy for conserving the Valley's rural resources. While the report was designed to be used by anyone interested in rural resource protection, one of it primary goals was for it to be used as part of town plan revision. Its focus was on specific resources and was not meant to be a comprehensive land use plan. It has been a widely used, valuable tool in the Valley, and is referred to still in current town plans. The Plan has been lauded by planners and other land use professionals as an innovative and groundbreaking land use planning resource.

Public participation was an important aspect of this project. The Rural Resource Commission acted as an advisory board and several subcommittees were formed to carry out the inventory work. To solicit input from the community for the Rural Resource Protection Plan, two surveys were conducted. The first was an informational survey distributed at town meeting. Questions included: What are the rural qualities of the Valley that make it a desirable place to live or visit? and "What are the specific locations of the rural and historic resources which are most important to you?" *Do the results of this survey still exist? (can't find in RRPP, appendices, or files)*

The second survey was a random sample phone survey that polled 102 residents. The purpose of the effort was to find out the importance of rural resources to Valley residents, specific locations of important scenic and historic resources, and preferred methods of protection for rural resources.

- 98% of the residents surveyed felt it was important to protect the Valley's rural resources.
- 87% believed growth in the Valley should be controlled n order to protect rural resources.
- 92% said it was important to preserve historic properties or landscapes.
- 100% of those interviewed said that scenic views are important to them, and
- 60% said that the Valley's views are being threatened in some way. Interviewees were asked to name their three favorite views in the valley. The recurring answers included views from: Center Fayston Road, top of Route 17, East Warren Road, Common Road, Fuller Hill Road, Lincoln Gap, golf course area, Bragg Hill, Roxbury Gap, the Long Trail; and views of: the Mad River, Camel's Hump, East Warren Road, Route 100 corridor, Bragg Hill, Waitsfield Common, Granville Gulf corridor.
- 84 % said it was important to have an active agricultural community.

- When asked if there are any factors that make one parcel of agricultural land more important than another parcel, 45% said yes, and 38% said no. Those who said yes, mentioned factors such as the productivity and fertility of an agricultural parcel, visibility of the parcel, and views form the parcel.

This project focused on inventorying resources in five categories: historic resources, archeological resources, scenic resources, agricultural and open land resources, and river and trail resources. These resource areas were also looked at in conjunction with one another and an additional category was created called "outstanding resource areas," based on where two or more of the individual resources co-existed. While aspects of these resources were mapped, most of them were not accompanied by a text version of the inventory.

The inventory of historic resources involved reviewing and updating existing structures entered on the Vermont State Register. Primary efforts were focused on identifying those historic structures that best reflect the agricultural theme prevalent in the Valley. The National Register of Historic Places Criteria were used, as were criteria specific to the Mad River Valley, including: that its agriculture-related buildings are at least 50 years old and have historic significance, and that the surrounding landscape retains its historic integrity, and thus reflects the land's historic use. Structures listed on the State and National Registers were listed in the Appendix and mapped, however a distinct inventory of historic structures based on local criteria was not actually developed.

Archeological resources were inventoried by mapping high and moderate "sensitivity areas" in the Valley. The criteria for determining these areas were determined by the Vermont State Archeologist and generally focus on zones along the Mad River and its tributaries, as well as lakes, ponds, bogs and marshes, and terraces and knolls within 200 feet of the floodplain.

Scenic resources were broken down into attributes designed specifically for the Mad River Valley. A list of popular scenic areas, vantage points, and focal points was developed based on input from the surveys conducted as part of this overall project. This list was examined to arrive at a composite list of scenic attributes, which are basically the raw components of all the scenic places determined to be priorities by the community.

<u>Popular Scenic Areas</u>
Route 100/Mad River Corridor
East Warren/Common Road area
Common and Meadow Road area

<u>Popular Vantage Points</u>
Center Fayston Road
Route 17/Appalachian Gap
East Warren Road, Common Road, and four corners area
Bragg Hill
Fuller Hill Road
Top of Ski areas

Lincoln Gap
Sugarbush golf course area
Roxbury Gap
Long Trail

Popular Focal Points
Ridgelines and hillsides of scenic sensitivity: Green Mountain Range (especially Burnt Rock, Camel's Hump), Northfield Range, and various intermediary knolls. (Also listed covered bridges, Waitsfield's church steeple, and the Round barn.)

Agricultural and open land resources were inventoried using the Land Evaluation and Site Assessment (LESA) system developed by the Soil Conservation Service (now the Natural Resources Conservation Service). The notion proposed in the Plan was to determine whether agricultural land in question had prime agricultural soils, and if so then apply the LESA criteria to determine a LESA score. Twelve test parcels were evaluated and guidelines were developed based on these results, for use if and when new parcels were scored. An actual inventory of these types of parcels was not developed.

The river and trail inventory involved mapping existing formal or established recreational opportunities, including alpine and Nordic ski trails, snowmobile trails, hiking trails, public easement areas, and unpaved, primitive roads. Informal recreational areas were also explored, including river access points, but not mapped or published due to landowner sensitivity reasons.

Resource maps of the above attributes were developed and overlaid to arrive at a composite map showing areas where two or more resource categories were present. These were called **"Outstanding Resource Areas."** The areas are illustrated on the Plan's Outstanding Resource Areas map, but not put into list format. These maps can be viewed in the Mad River Valley Planning District office.

OLDER SURVEYS

In a 1986 town meeting survey, there was widespread support for protecting rural character and channeling growth to established commercial areas (92% in Warren, 81% in Waitsfield, and 79% in Fayston).

In a survey administered as part of the 1980 Valley Growth Study residents showed strong support for maintaining visual character and conserving agricultural land and open space (84%), maintaining the atmosphere of our villages (92%), and preserving scenic beauty along Route 100 (85%).

APPENDIX B – TOWN PLAN GOALS, OBJECTIVES, AND STRATEGIES

Goals, objectives, and strategies that pertain to land use and conservation priorities.

– should be revised to reflect new TPs

Duxbury Conservation Priorities
Duxbury rewrote their town plan in 2001.

One of the three overriding goals of the 2001 Town Plan is to preserve and enhance Duxbury's rural character. Objectives to achieve this goal as articulated in the plan include:

A. Promote activities consistent with the Town's rural landscape;
B. Preserve the natural resources that are essential to Duxbury's rural character.

The new plan recommends the following actions in the Natural Resources section:

- Citizens participate in wildlife monitoring and water quality monitoring efforts.
- Citizen groups and/or scientific groups identify critical habitat areas for key species, including bear, bobcat, deer, moose, river otter, beaver, and other species as appropriate.
- The maintenance, long-term protection, and restoration of silver-maple-ostrich fern riverine floodplain forests along the Winooski River wherever possible.
- The continued and increased enrollment if privately managed forests in the State's Current Use Program.
- The long-term conservation (through easements and/or purchase) of sites with high biodiversity significance, including recognized biodiversity hotspots.
- The continued and increased use of conservation easements throughout Duxbury, particularly for large tracts of contiguous forest lands.
- The improved enforcement of existing natural resource-related laws, particularly related to Acceptable Management Practices and illegal motorized vehicles (ATVs).
- Further identification of specific sites of ecological importance, including vernal pools, seeps, and other ephemeral wetlands.
- More frequent use of cluster housing by increasing the use of Planned Residential Developments and Planned Unit Developments, in order to safeguard ecological values and services.
- Participation by the Town in Act 250 hearings to advocate for the preservation of essential habitat for key species.
- Explore the feasibility of a designated and protected wildlife corridor along the Winooski River (particularly along intact forested areas), along the ridge of Crossett Hill running north to south from Camel's Hump State Park to the Winooski River, and from Duxbury to Moretown via a crossing along Route 100.
- Provide for Planning Commission review of any additional proposed changes to public recreational trails due to potential impacts to wildlife, residents, and traffic.

Fayston Conservation Priorities

Below are goals, objectives, and implementation strategies excerpted from Fayston's 2002 town plan that articulate Fayston's land conservation priorities.

Goals that relate to land conservation include:

- the maintenance, preservation, and enhancement of Fayston's natural features and environmental quality for the benefit of the future generations;
- encourage the responsible use and careful stewardship of Fayston's natural resources, rural character, and cultural heritage; and
- guide land development in a manner that preserves important community resources, while encouraging a range of land uses in the appropriate locations.

Objectives include:

- to protect and enhance Fayston's visual character and aesthetic resources;
- to protect Fayston's fragile resources and sensitive natural areas, reduce environmental hazards, and prevent loss of life and property from flooding;
- to enhance the economic viability of agricultural and forestry activities in Fayston;
- to maintain an adequate land base to support present and future forestry and agricultural activities;
- to protect and enhance Fayston's wildlife populations; and
- maintain an overall high level of environmental protection throughout Town.

Specific implementation strategies include:

- Support the efforts of the Mad River Rural Resource Commission to implement the 1988 Rural Resource Protection Plan.
- Prevent creation of parcels, which will result in development on steep slopes, critical wetlands, and floodplain.
- Explore zoning ad subdivision regulations that more clearly define areas unsuitable for development.
- Encourage owners of private forest lands to develop sound forest management plans to develop sound forest management plans that further the objectives of sustainable timber production, protection of water quality, maintaining a diversity of wildlife habitat, and enhancing the town's visual quality.
- Encourage the permanent protection of farmland, through conservation easements or comparable deed restrictions, during the local subdivision process.
- Support the efforts of the Vermont Land Trust and comparable private organizations to protect farmland, forestland, and other open space in Fayston through landowner education and voluntary conservation mechanisms.
- In conjunction with the Vermont Land Trust and the Vermont Housing and Conservation Board, explore opportunities for purchasing development rights from farmland.
- Encourage the preservation of private forestland through the Forest Legacy Program and other comparable land conservation programs.
- Discourage further fragmentation of important parcels of forest resources.
- Work with the Vermont Land Trust, Mad River Valley, Planning District, and ad other organizations to use all available tools, including tax incentives and conservation easements, to preserve remaining open space and agricultural land as permanently protected open space.

- Protect habitat to ensure a sustainable deer population, with emphasis on protecting those areas identified by the State Fish and Wildlife Department.
- Protect existing habitat for deep woods species, including black bear, bobcat and moose. Discourage habitat fragmentation, and encourage the maintenance of wildlife travel corridors.

Moretown Conservation Priorities

Natural and cultural resource **policies** that articulate the town's conservation priorities include:

1. Prevent the fragmentation and/or destruction of fragile natural resources, including wetlands, and floodplain.

2. Prevent further degradation of water resources and improve the quality of groundwater and rivers and streams.

5. Support the efforts of local, regional and statewide conservation organizations to protect open space in the town through voluntary programs (e.g. through the purchase of development rights).

6. Minimize land subdivision and associated development that results in the loss of productive farm and forestland.

8. Maintain and upgrade Moretown's historic built environment and promote greater appreciation of the Town's cultural heritage.

Specific natural and cultural resource **strategies** include:

1. Protect and enhance the ecological health of local steams and rivers through (among other means) limiting development in 100-year floodplains to farming, recreation and other non-commercial and non-residential land uses, with the exception of those related to the maintenance and continued use of existing structures.

4. Work with private conservation organizations and the Vermont Department of Fish & Wildlife to inventory critical wildlife habitat in town, including wildlife travel corridors, and to develop strategies for the preservation of that habitat.

9. The Planning Commission should support, through technical assistance and advice, the efforts of local, state, and regional conservation organizations to protect open space and scenic land. In addition, the Planning Commission and the Selectboard should consider the creation of an open space fund to leverage other private, state, and federal conservation funds and support local conservation projects.

1. Town voters should be asked to establish a reserve fund, funded with revenues from the host town agreement with the WSI Landfill, for the purpose of acquiring property or interests in property for conservation, open space and recreation purposes. Whenever possible, such funds should be used to leverage private, state and or federal conservation dollars.

Land use **policies** that articulate the town's conservation priorities include:

1. Retain the rural qualities of the town by discouraging sprawl and by maintaining the historic patterns of development.

4.Promote the preservation of scenic vistas by maintaining open land.

5.Development of the Route 100B corridor should be compatible with the existing character of that area, as defined by agrarian landscape with scattered residential and agricultural buildings.

9.Protect the rural and scenic character of the land along Route 2 east of the landfill to Middlesex Bridge.

Land use tasks and **strategies** include:

3.The Planning Commission shall explore regulatory and non-regulatory options that support and enhance the working landscape by (among others):

- Providing incentives for the preservation of the Mad River Corridor and disincentives for the development of the corridor;
- Providing incentives for the preservation of high elevation lands and disincentives for development at high elevations.

4. The town shall seek to preserve or assist with the preservation of important conservation lands by purchasing the land or development rights with the assistance of local, state, federal, and private funding.

Waitsfield Conservation Priorities

Waitsfield is in the process of rewriting its town plan as this project [name] is nearing completion. Below are goals, objectives, and implementation strategies excerpted from Waitsfield's most recent Town Plan, last updated ____, which articulate Waitsfield's land conservation priorities.

Goals that relate to land conservation include:

- the maintenance, preservation and enhancement of Waitsfield's natural features and environmental quality for the benefit of future generations;
- the careful stewardship and responsible use of Waitsfield's natural resources in a manner, which maintains the traditional use of those resources;
- the preservation of the Town's rural character, cultural heritage and historic working landscape; the preservation of the Town's historic settlement pattern, defined by compact villages surrounded by rural countryside; and
- the provision of adequate community facilities and services to the citizens and visitors to Waitsfield.

Objectives include:

- to project Waitsfield's fragile resources and sensitive natural areas and reduce environmental hazards and prevent the loss of life and property from flooding;
- to protect and enhance Waitsfield's wildlife populations;
- to enhance the economic viability of agricultural and forestry activities in Waitsfield;
- to maintain and adequate land base to support present and future forestry and agricultural activities;

- to protect and enhance Waitsfield visual character and aesthetic resources;
- to maintain and upgrade Waitsfield's historic built environment;
- to promote greater understanding and appreciate of Waitsfield's history and architecture; and
- to provide those municipal services necessary to ensure the public health and welfare, and which improve the quality of life for Waitsfield residents and visitors.

Specific implementation strategies include:

- Protect habitat to ensure a sustainable deer population, with emphasis on protecting those wintering areas identified in this plan as important resources.
- Protect existing habitat for deep woods species, including black bear and mountain lion.
- Encourage the permanent protection of farmland, through conservation easements or comparable deed restrictions, during the local subdivision and/or development review process.
- Support the efforts of the Vermont Land Trust and comparable organizations to protect farmland, forestland and other open space in Waitsfield through landowner education and voluntary conservation mechanisms.
- In conjunction with the Vermont Land Trust and the Vermont Housing and Conservation board, explore opportunities for purchasing development rights from farmland.
- Encourage the preservation of private forestland through the Forest Legacy Program another comparable land conservation programs.
- Discourage further fragmentation of parcels in those areas identified as important forest resources.
- Explore opportunities for expanding the Scrag Municipal Forest, especially through the acquisition of lands along the Northfield Range.
- Support the efforts of the Mad River Valley Planning District to implement the 1988 Mad River Valley *Rural Resources Protection Plan.*
- Work with the Vermont Division for Historic Preservation and the Mad River Valley Planning District to encourage the use of Certified Local Government (CLG) funds to support and enhance historic preservation planning and education in Town.
- In conjunction with other organizations, secure permanent access to traditional hiking trails in Town, including trail access to the Scrag Municipal Forest from both the north and the south.
- Acquire the Lareau Swim hole as a public wayside park and river access, and explore other opportunities for securing permanent public access to the Mad River.

Warren Conservation Priorities - ***This section needs to be revised as they have rewritten their TP***

Warren rewrote its town plan in 1998-1999 (it is the process of rewriting it again in 2003-04). Based upon past open space planning efforts in Warren, and the comments and concerns expressed by participants in the 1997/98 town plan workshops, the 1999 Warren Town plan (Chapter 3) indicates that future protection priorities should include the following:

- Productive farmland, especially land currently under farm management or with the potential for active farm management;
- productive forest, especially lands which are contiguous to other undeveloped tracts of forest;

- scenic properties, including high elevation forest (ridgelines and prominent knolls) and farmland and meadows visible from well traveled Town roads and Route 100;

- Blueberry Lake and associated wetlands and surrounding forest;
- land with identified wildlife values, including critical habitat for endangered species, black bear (including the Slide Brook basin), and identified wildlife corridors;
- resources which would protect or enhance water quality, such as wetlands, headwater areas, and riparian buffers along the Mad River and its tributaries;
- land that contributes to the Town's historic settlement patterns, including upland areas with poor access to Town centers; undeveloped parcels which define the contrast between an open countryside and village centers; and, open space that contributes to the character of Warren Village;
- land with outdoor recreation resources, including parcels with existing or potential trails, river accesses and hunting areas, and potential playing fields and recreation areas; and,
- lands identified by State and private funding sources as priorities and therefore is eligible for other funding programs.

Below are goals, objectives, and implementation strategies, excerpted from Warren's current town plan, that also articulate the town's land conservation priorities.

Goals in the town plan include:
- the maintenance, careful stewardship, preservation and enhancement of Warren's natural resources and environmental quality for the benefit of future generations;
- the preservation of the Town's rural character, cultural heritage and historic working landscape; and
- the preservation of the Town's historic settlement pattern, defined by compact villages surrounded by rural countryside.

Objectives include:
- to protect Warren's fragile features, open space and natural resources;
- to prevent the degradation of water resources and improve water quality;
- to protect and enhance Warren's wildlife populations;
- to enhance the economic viability of agricultural and forestry activities in Warren;
- to maintain an adequate land base to support present and future forestry and agricultural activities;
- to protect and enhance Warren's scenic landscape and rural character;
- to maintain and upgrade Warren's historic built environment and promote greater understanding and appreciation of the Town's architectural heritage;
- to promote traditional access to undeveloped lands for public recreation;
- to maintain the land resources necessary to support recreation and public access to recreation areas.

Specific **implementation strategies** include:
- Support and encourage land conservation organizations (i.e., Vermont Land Trust, Trust for Public Land, etc.) to work with the Town to identify and preserve lands with fragile features and other important natural resources. Coordinate expenditures of the Town of Warren Conservation Fund.
- Encourage and support the Friends of the Mad River and other entities to implement *The Best River Ever: a conservation plan to protect and restore Vermont's beautiful Mad River Watershed.*
- Identify and where reasonable protect deer wintering areas (deeryards) from development and other uses which threaten the ability of the habitat to support deer.
- Protect bear habitat from development and other uses, which threaten the ability of the habitat to support bear.
- Support the identification of critical wildlife travel corridors and ensure, through local development regulations, that identified corridors are protected from inappropriate development; consider data related to wildlife habitat generated by the local Keeping Track wildlife monitoring program and other organizations when updating local planning documents and/or reviewing development proposals.
- Encourage the use if the Warren Conservation Fund to help purchase easements on working agricultural land and land with prime agricultural soils.
- Consider updating Land evaluation and Site Assessment (LESA) program to help establish conservation priorities.
- Encourage the permanent protection of farmland and important natural resources areas through conservation easements or comparable deed restrictions, during the local subdivision and/or development review process.

- In conjunction with private conservation organizations, explore opportunities for purchasing development rights from farmland and important natural resources areas.
- Continue to contribute to the Town's Conservation Fund.
- Support the efforts of private conservation organizations to protect farmland, forestland and other open space in Warren through landowner education and voluntary conservation efforts.
- Encourage the preservation of forestland through the expansion of the GMNF's proclamation boundary to include portions of the Northfield Mountain Range.
- Encourage and support the efforts of the Mad River Valley's Rural Resource Commission and other entities in their efforts to implement the *Mad River Valley Rural Resource Protection Plan.*
- Support the efforts of the Mad River Path Association, Vermont Snow Travelers, U.S. Forest Service and other parties to create and maintain an integrated trail network through town.
- Protect identified trail corridors, including the Long Trail and the Catamount Trail, as part of the subdivision process.
- Where appropriate, acquire interest (e.g. conservation easement) in important recreation resource areas. Continue to fund the Towns Conservation Fund for this purpose.
- Encourage the U.S. Forest Service's acquisition of Blueberry Lake and additional lands in Town to be included in the Green Mountain National Forest.

APPENDIX C – LOCAL ORGANIZATIONS' PRIORITIES

Mad River Path Association Priorities

The MRPA is interested in taking advantage of any opportunity that presents itself to complete the following sections of trail at any time. They would like to secure permanent access for a multi-use trail through and across the properties that comprise these proposed sections of trail:

1. Brook Field in Warren (probably crossing the river at/near park) to Warren Riverside Park
2. Warren Riverside Park to Butternut Hill Road
3. Butternut Hill Road to the Lareau Park (this may also require crossing the river)
4. Connecting the current greenway section from Tremblay Road south to the Waitsfield Elementary School
5. Connecting the current greenway section from the Carpenter/Neill boundary north to Moretown with a link to Harwood High School
6. Moretown Village north to Middlesex, linking with the Cross Vermont Trail

Friends of The Mad River

The Friends of the Mad River work to preserve and enhance the ecological, scenic, and recreational values of the Mad River and its watershed. Their work focuses on programs and projects that include water quality monitoring and improvement, education, river stabilization and access, and watershed protection. Their conservation priorities, then, are to permanently conserve land that provides public access to the river, helps to stabilize the river, and that contributes to the overall health of the watershed.

Keeping Track (local monitoring group)

While the local Keeping Track group is not active at the time of this writing, the group had articulated the following objectives in 2002.

Broad Objectives:

1. Preserve wildlife habitat and water quality
2. Education of landowners about wildlife and habitat
3. Document the presence of the six umbrella species
4. Identify the core or pristine habitat areas
5. Identify the areas of habitat degradation ("pinch areas") or areas threatened
6. Identify the habitat areas that provide connections for wildlife between core areas
7. Provide data for town plans and town officials for use in decision making (zoning and development permits)

Focused Objectives:

Find out…

2. Where are animals crossing Route 100?
3. Where are animals crossing German Flats Road?
4. Where are the passes on ridgelines and watershed boundaries that animals use to get from one watershed to another?
5. What are the important wetlands?

6. Where are the specific core areas?
7. Where are the rapidly developing areas that may threaten habitat?
8. What are the specific areas of connectivity?
9. What is the animal activity in the more developed areas of the watershed?

The local Keeping Track group's present priorities for reconnaissance areas are to focus on:

- Potential development areas
- Gaps in conserved land
- Wildlife "crossing" areas (esp. on routes 100 and 100b)
- Corridors
- Wetlands
- Headwater streams
- Ridgelines (passes)
- Back-country ski areas
- Islands/Peninsulas
- Disturbed areas
- Large tracts of undeveloped land
- Potential core areas

Assigned transects were:

- North Road east to Northfield Ridge, Waitsfield
- South of Scrag area, Waitsfield
- "Betsy' Bowl" above Mad River Barn to the Mad River Ski Area
- East Warren Airport Road to Route 100, just north of village (and across Route 100), Warren
- Blueberry Lake area, Warren
- Austin Brook watershed?
- Between Slide Brook and Camel's Hump State Forest, German Flats Road
- On either side of West Hill Road, to the north of Lincoln Gap Road, Warren
- On either side of Cary Strong Road, Fayston

APPENDIX D – ADVISORY COUNCIL-GENERATED PROJECT EVALUATION CRITERIA

The Conservation Partnership convened an Advisory Council when it first formed in March 2000. The Council was comprised of representatives from each of the five towns in the watershed and met monthly to help steer the initial direction of the Partnership's activities. The following guidelines were developed with input from the Council to assist the Partnership in evaluating potential conservation projects and making decisions about which lands to protect.

Properties must exhibit or contain three or more of the resource value categories below; or exhibit the majority of the attributes within one of the categories listed below; or be a highly significant example of a resource attribute in the region.

MINIMUM THRESHOLDS
In order for the Conservation Partnership to consider *seeking or otherwise expending funds* toward the purchase of the property, or its development rights, the proposed property will meet the following minimum thresholds:

Project Feasibility: The proposed project is determined to be viable as per the attached feasibility guidelines.

Community Support: The land will have been previously recognized by the town select board or planning commission, and/or a town or regional plan, to have an important conservation value, or it can be identified as a new conservation priority for the town or region by town board(s) or local citizen groups.

Public Benefit: Project benefits many members of the community and region rather than a narrow segment of the community.

Resource Values: The property exhibits or contains three or more of the resource value categories listed below; OR exhibits the majority of the attributes within one of the categories listed below; OR is a highly significant example of a resource attribute in the region.

GUIDING PRINCIPLES
The Conservation Partnership will consider the following guiding principles when evaluating properties for conservation. These principles will apply to both donations and purchases.

- Properties that hold a number of the resource values listed below will be of higher priority.
- Properties of larger size will generally be of higher priority, with notable exceptions including small parcels with significant ecological or community importance.
- A project that includes multiple parcels, which individually may be less significant, will be considered a higher priority.

- A project will have resource attributes generally considered to be worthy of conservation.

- Over time the Partnership will seek a variety of different types of projects in order to accomplish a balance of conserved resource types.

- A parcel's viability, as determined by its most significant resource value, will be considered in evaluating a project's priority (e.g. public access for recreation, prime soils for agricultural and forest parcels).

- In evaluating a parcel, the project's vulnerability to development will be weighed against its probability of success.

A. Farmland

Land that:

· is contiguous to conserved land;
· is contiguous to other farmed land;
· is used, leased by, or otherwise contributes to a viable farm operation or will contribute to viability of existing or future farm operations;
· has prime or statewide agricultural soils;
· is scenic or is part of a viewshed.

B. Forestlands

Land that:

· provides deep woods wildlife habitat;
· is part of a significant viewshed or provides vantage points to scenic views;
· provides headwater protection as measured by extent of streams originating or running through land;
· is contiguous with other protected forested parcels or with other priority parcels;
· has an ecologically sustainable economic activity associated with the parcel;
· has site conditions that contribute to sustainable forest management.

C. Historic sites and structures and their accompanying lands

Property that:

· contributes to the rural landscape, and defined as an outstanding rural resource in the RRPP;
· is eligible for National Register nomination (> 50 yrs. old at minimum);
· helps to define the edge of a village center;
· is or contains a unique or irreplaceable historic resource.

D. Recreation Lands

Land that:

· is contiguous to conserved land
· will provide appropriate public access via an existing road, existing or proposed trails, public lands, or public easements, which would not unduly compromise ecological or other conservation values of the property;

- will foster better "sensitivity levels" among the general public by allowing for:
  - diverse recreation & access opportunities, including pedestrian and other non-automobile routes of travel;
  - access to natural features such as forests, rivers, streams, and ridgelines; and
  - environmental education opportunities;
- contains existing opportunities and/or features that have recreational value such as hunting access, hiking trails, historically significant sites, natural features or water frontage suitable for swimming, fishing or boating;
- would serve to protect the availability and quality of recreational opportunities on adjacent lands;
- enhances hunting and fishing opportunities.

E. Ecological Value

1. Wildlife habitat & corridors

Land that:

- is contiguous to conserved land;
- expands or links together viable feeding, breeding, or migration areas for umbrella and keystone species;
- includes a critical road crossing and/or travel corridor;
- protects and maintains critical habitat for rare, threatened or endangered species (as per the Vermont Endangered Species Law, 10 V.S.A. Chapter 123) or is listed on the Natural Heritage Sites Inventory;
- protects an identified deer wintering area.

2. Rare, unique or fragile natural areas

Land that:

- is contiguous to conserved land;
- protects and sustains ecosystem functioning and integrity, and sustains biodiversity;
- promotes education and connection with the environment;
- aids scientific research;
- protects and maintains critical habitat for or otherwise contains a plant species that has the status of "threatened" or "endangered" as per the Vermont Endangered Species Law;
- includes critical land types such as vernal pools, mature stands, mast stands, river ways and stream banks, wetlands, rocky outcrops, steep slopes, mountaintops, rich forest sites; or other unique or significant geological or landscape features.

F. Scenic Value

Land that:

- is contiguous to conserved land;
- protects the historical settlement pattern;
- allows for public access;
- includes high-elevation lands such as the Northfield Ridge or free-standing knobs;
- includes a scenic road;
- includes or is adjacent to a significant water body such as a beaver pond, waterfalls, a riparian corridor, or a wetland;
- includes an important vantage point;

- includes or expands the Long Trail, the Catamount Trail, a path maintained by the Mad River Path Association, or other significant trail system;
- includes established meadowland;
- is visibly prominent and provides a significant scenic resource as identified in the Rural Resource Protection Plan.

II. FEASIBILITY GUIDELINES

The Mad River Watershed Conservation Partnership may refuse a project if:

A. Project would threaten the credibility of the Mad River Watershed Conservation Partnership.

1. Project is in opposition to the MRWCP's mission or to the criteria set forth in Section I.
2. Project sets an inappropriate precedent with other landowners, agencies or communities.
3. Project has ethical or public image problems.

B. Project management, monitoring, and stewardship requirements cannot be met.

1. The cost of management and monitoring is too expensive for the MRWCP to take on the project.
2. The land is not endowed to pay for stewardship of the property.
3. The property is contaminated by waste, contains hazards, or has liability problems that are irreparable or too expensive to undertake.
4. Management will be difficult due to the size of the property, its fragmentation, inaccessibility, vandalism, or other circumstances.
5. The terms of conservation restrictions on the property will be difficult or impossible to enforce.

C. The conservation proposal is inappropriate.

1. Title limitations exist that are in opposition to the primary conservation values of the project or would limit the ability of the conservation easement to be enforced.
2. Landowner or donor insists on provisions or reserved rights that are potentially in opposition to the primary conservation values of the project and/or MRWCP's mission.
3. The conservation restriction will not last in perpetuity.
4. The conservation easement protects some resources while permitting the destruction of other significant resources.
5. The cost of the conservation effort is too expensive in relation to the conservation value of the property.

D. Other problems exist.

1. Land is in litigation or an estate dispute, boundary dispute or other legal problems exist that would increase costs and complications of the project beyond the scope of the MRWCP.
2. Project size or cost is beyond the reasonable financial and human resource capabilities of the MRWCP.
3. MRWCP's partners, legal counsel or staff recognize a problem not mentioned herein.

APPENDIX E – MAP DATA LAYER DESCRIPTIONS AND SOURCES

LAND-RELATED NATURAL FEATURES

Land Use/Land Cover – VCGI

This layer was derived from Landsat Thematic Mapper Imagery (early 1990s). These data are designed for regional scale land use/land cover analysis. The layer includes various types of forest cover, agricultural lands, developed areas, and utilities. Specific application areas include non-point source pollution modeling, broad scale wildlife habitat analysis, and regional land use inventories. The various forest cover polygons (deciduous, mixed, etc.) from this layer were separated out to create a new "forest cover" layer that was used to 1) assess possible wildlife road crossings, and 2) create a core wildlife habitat layer (see below). Note: Minor corrections have been made since original release (1997), including changing an area in Phen Basin that was erroneously coded as Barren Land (7)(VCGI used the ArcInfo GRID module (FILLREGION) to change this area to Deciduous Forest (41), 2003).

Deeryards – VCGI

Data includes areas drawn by VT Fish & Wildlife Department (VFWD) biologists on USGS topographic maps. Sources for these areas were lines drawn on state highway maps, topographic maps, overlays to 1977 infared photos, written material and verbal information from VFWD biologists. Some of the sources maps date back to the early 1970's. Areas were mapped and field checked over a period of two decades. The most accurate information available has been compiled and mapped. Most people acknowledge, however, that the data needs updating and/or case-by-case field checking.

Bear Habitat – VT Fish and Wildlife Department

Data was digitized from the 1989 paper map illustrating statewide bear habitat in 1997. It was created to "provide communities, conservation groups, planners, and others a land-use planning tool to help secure the black bear resource for future generations. The black bear is a sensitive environmental indicator of Vermont's remote forestland." The data layer shows Bear Production Habitat (P), which are regions supporting relatively high densities of cub-producing females. Generally contiguous and remote forestland, these areas contain critical habitats necessary to bear survival. It also shows Seasonal Bear Habitat (S), which are regions frequently used by bears, including some cub-producing females. These habitats often contain critical seasonal feeding areas and vital travel corridors.

Unfragmented forested areas/ potential core deep-woods wildlife habitat– MRWCP

This data layer was derived from the Land Use/Land Cover data layer developed by the VCGI (see above). Forest cover was separated out from other land cover types into a separate data set. A 100-meter buffer was placed on the road data and on the E911 sites (both provided by VCGI). These developed areas were deleted from the forest cover to arrive at potential "core habitat" areas, those that provide deep woods cover for certain key species and are widely accepted as essential to maintain and restore native wildlife

populations in Vermont. A similar methodology was used by the UVM spatial analysis lab to create a core habitat layer for the state, which it developed based on scientific research regarding habitat needs of Vermont's deep woods species. This dataset thus depicts those areas in the watershed that are at least a 100 meters from a zone of human disturbance including developed, industrial, or residential areas, agricultural openings, and roads.

Potential Wildlife Road Crossings – MRWCP

Forest cover data (from Land Use/Land Cover data, above) was analyzed along with wetland, road, and E911 data to determine likely places for wildlife to cross roads. Those areas where 1) forest cover met the road on both sides, and 2) did not contain an E911 site were marked as possible wildlife crossings, as were sites where a wetland or tributary was in relative close proximity to a spot along a road where 1) there were no E911 sites, and 2) the forest cover existed on the other side. This data has not been field checked and will obviously change rather quickly over time as new structures are built and land is cleared, or grows up due to natural succession.

Rare, Threatened, and Endangered Species/Natural Heritage Sites – VCGI

These rare or endangered native plants and animals are tracked because they have very particular habitat requirements, are at the edges of their ranges, are vulnerable to disturbance or collection, or have difficulty reproducing. Rare native species with a state status of threatened or endangered are protected by the VT Endangered Species Law (10 V.S.A. Chap. 123.). All species are protected by Federal Endangered Species Act (P.L. 93-205) that occur in Vermont are also protected by the Vermont Endangered Species Law, both of these categories are included in this data layer. Site visits were used to identify point locations, but some were also based on literature, museum and botanical specimens. The latitude/longitude coordinates were scaled from USGS maps. The Vermont Nongame and Natural Heritage Program of the Fish and Wildlife Department maintain this information. *All sites in watershed are on public or protected land.*

Conserved lands – VLT/UVM Spatial Analysis Lab/VCGI

This data layer is based on the Vermont Conserved Lands Database. Since March of 1997, the University of Vermont, Spatial Analysis Lab has worked in cooperation with the Vermont Agency of Natural Resources, the Vermont Housing and Conservation Board, the Vermont Land Trust, the Vermont chapter of The Nature Conservancy, regional planning commissions, Vermont municipalities, and other conservation organizations to complete the database for the entire state of Vermont. New or improved data on conserved parcels is continually added to the database. VCGI also enables access to this data via its website. A private lands subset of the database is available only through the University of Vermont, Spatial Analysis Lab (UVM/SAL). The Vermont Land Trust also maintains a GIS database of conserved lands. The data from both of these sources was used to create a layer that contains all of the conserved land in the Mad River watershed.

Public conserved lands – UVM/VCGI

This dataset is a subset of the Vermont Conserved Lands Database. Contained within it are only the publicly owned or protected lands. The original Vermont Conserved Lands Database contains various conserved land holdings by public and private organizations.

Public lands with natural resource features are included regardless of the conservation designation. Public lands dedicated to schools, garages, or other non-natural resource oriented facilities were not included in the UVM database, but schools with substantial extra acreage and land owned by municipalities for septic capacity were added by the MRWCP as they do contribute significantly to scenic and recreational opportunities. Public lands included are considered likely to be maintained with at least a minimal degree of protection from land conversion, but may allow multiple uses such as logging and recreation access. The minimum size for most parcels is two acres, with exceptions for critical natural areas and state public access areas.

Lands adjacent to conserved and public lands – MRWCP

Parcels immediately adjacent to previously conserved land were culled from parcel data set illustrate areas where conserved areas could possible be enlarged and where links could begin to be made between conserved parcels. It is widely acknowledged among wildlife biologists, ecologists, and other conservation professionals that islands of protected land are less significant – and less advantageous – than larger areas of linked protected areas. Larger, linked protected areas are beneficial for forestry, recreation, wildlife, and water protection, among other things.

100', 50' and 20' contours – VCGI

These data layers consist of 100-foot, 50-foot, and 20-foot contour intervals interpolated from the USGS NED (National Elevation Dataset).

AGRICULTURAL-RELATED FEATURES

Prime and state agricultural soils – VCGI

These data depict information about the kinds and distribution of soils on the landscape. Prime and state agricultural soils were culled from the state soil data to illustrate those soils formally categorized as the most highly productive soils for growing crops and produce. Soil scientists prepared the soil data as part of the National Cooperative Soil Survey. Field maps were manually compiled to base templates, which overlay RF 20,000-scale orthophotographs based on Vermont State Plane Meter Grid, and ensure the soils data will be compatible with existing Vermont State data layers. Both prime and state agricultural soils are considered to be "primary" agricultural soils, and receive equal prioritization under the Department of Agriculture and Vermont Housing and Conservation Board's conservation grant programs.

Working farms – MRWCP

Working farms were categorized as those on which the landowner is producing and/or growing food or food products for sale outside the home. There were no size restrictions placed on the acreage of the farm, or on the amount of food produced or income raised from the sale of the products produced. Land owned by area farmers was mapped based on field reconnaissance, and on information collected in interviews with area farmers by MRWCP staff. These farms are identifiable by landowner and by farm type. Horse farms, where horses are the sole animal raised, were not included in this data layer, although may be included in a subsequent, separate one.

Leased farmland – MRWCP

Land leased by area farmers was mapped based on information collected in interviews with area farmers by MRWCP staff. These lands are critical to the operation of many local farms in that most farms would not be able to function successfully without the hay and other crops secured from these lands. This layer is still in draft form and is not complete. It was not used as part of the co-occurrence aspect of the project, but will be added when the remaining data are collected.

WATER-RELATED FEATURES

Source Protection Areas (SPA) – VT DEC – Water Supply Division

Source Protection Area (SPA) boundaries have been located on RF 24000 & RF 25000 scale USGS topographic maps by Water Supply Division (DEC) and VT Dept of Health (historical) personnel. Buffered SPAs are based on the point location of the water source(s). Source Protection Areas (SPAs) include wellhead protection areas (WHPA) and watersheds feeding surface water intakes (SWSPA) supplying public community water systems and bottled water systems. SPAs are defined as the "surface and subsurface area from or through which contaminants are reasonably likely to reach a public water source." The SPA coverages (WHPAS, PRWHPAS, SWSPA, PRSWSPA) are organized in the following manor; WHPAS coverage contains SPAs for groundwater sources (wells, springs); PRWHPAS includes proposed WHPAs; SWSPA includes SPAs for surface water sources (stream, pond, etc.). WHPAS were used for this project.

100 and 500-year Floodplain areas – FEMA, VCGI

This digital data were derived from maps published by the Federal Emergency Management Agency (FEMA). These digital versions of the town-based sectional flood maps distributed by FEMA are known as Q3 flood data. These data are the basis for floodplain management, mitigation, and insurance activities for the National Flood Insurance Program (NFIP).

Surface waters – VCGI

Surface water consists of all lakes, ponds, rivers and streams. The surface water data layer is part of the Vermont Hydrography Dataset (VHD), which is a consistent, enhanced statewide surface water data layer generated at a nominal scale of 1:5000 and organized at the sub-basin level, 2003. The "certified" version of this data is compliant with the national hydrography dataset (NHD) standard and all aspects of the NHD "core framework" data model. This data layer is based on the best available surface water data across the state and has been enhanced via on-screen digitizing with the aid of photo-interpreting RF 5,000-scale orthophotos, derived contours and multi-spectral aerial photographs. It has not been subject to field checking. River and lakeshore features are seasonal and have been interpreted at the feature's position as of the date of the source photos. Standardized delineation methodologies were followed throughout the compilation of this data providing a high degree of consistency.

Wetlands – VCGI

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of classification in the Vermont Wetland Rules (VT Water Resources Board, 2002) wetlands must have one or more of the following three attributes: 1) at least periodically, the land supports predominantly hydrophytes; 2) the substrate is predominantly un-drained, hydric soil; and 3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year. For purposes of these rules all wetlands in Vermont are designated as Class I, Class II, or Class III wetlands. Class I wetlands are those wetlands that are exceptional or irreplaceable in their contribution to Vermont's natural heritage and are therefore so significant that they merit the highest level of protection under these rules. Class II wetlands are those wetlands, other than Class I wetlands, that are so significant, either taken alone or in conjunction with other wetlands, that they merit protection under these rules. Class III wetlands are those wetlands that have not been determined by the Water Resources Board to be so significant that they merit protection under these rules either because they have not been evaluated or because when last evaluated were determined not to be sufficiently significant to merit protection under these rules.

The wetlands mapped as part of this inventory are included in Vermont's Significant Wetlands Inventory (VSWI). These correspond with wetlands represented on U.S. Fish and Wildlife Service National Wetland Inventory Maps (NWI); however, there may be differences in delineation of certain wetlands. The Vermont Agency of Natural Resources determines which wetlands are included in the VSWI. NWI maps were used by the State of Vermont Agency of Natural Resources as a means for creating this data layer. The wetlands in this layer are Class II wetlands (as there are no Class I wetlands in this region of the state and Class III wetlands are not protected under the wetland rules in effect in the state, as noted above).

100' surface water buffer – MRWCP

A buffer of 100 feet was added to all surface water (VHD data, see above) to represent appropriate setbacks for various conservation purposes, a distance suggested as the minimal ideal by the Friends of the Mad River, the Agency of Natural Resources, and the Natural Resources Conservation Board. Riparian buffers are important to protect for a number of reasons including wildlife habitat, stream bank stabilization, non-point pollution prevention and general river health.

Watershed boundary – VCGI

The Mad River watershed boundary is one of 34 basins defined by the Vermont Department of Environmental Conservation.

Undeveloped sites along the Mad River – MRWCP

Parcel data (from Central Vermont Regional Planning Commission), 2003 surface water data, and most recently available E911 data were analyzed in combination to assess which parcels along the main stem of the Mad River remain undeveloped, or in some cases, largely undeveloped (e.g. a large parcel along the river where the house or other structure is a significant distance from the river).

RECREATION-RELATED FEATURES

Trails – MRPA, MRWCP

Permitted and permissioned trails were mapped by the Mad River Path Association during the summer of 2002 using Global Positioning System (GPS). The potential location of additional trails and trail connections were also mapped, some using a GPS unit. Parcels through which these trails would ideally cross were selected and developed into a new data layer to depict conservation priorities. These included connecting the Warren School path all the way to Harwood Union High School, crossing through the Kingsbury Pond trail, the Irasville Village Path, the Waitsfield Village path, and the north end of the now-existing Greenway. Other popular trail networks and destinations were included. While the MRPA and other organizations such as the Green Mountain Club and the Catamount Trail Association can sometimes secure trail access without securing a permanent access or trail easement, securing some form of permanent access is oftentimes ideal. For this reason, these parcels were selected and utilized in the co-occurrence mapping project. The MRWCP also has the VAST trails, Long Trail, and Catamount Trail contained in its overall data inventory.

Class IV roads – VCGI

Class IV roads are distinguished from other town and state roads as they are a critical recreation resource used by hunters, hikers, skiers, mountain bikers and snowmobilers, among others. While the town or state does not regularly maintain them for vehicular use they do require occasional maintenance. These were simply culled from the general road data available through VCGI (see below).

River access points - MRWCP

These points were mapped using data from the 1987 Mad River Basin Water Quality Management Plan and the Waterfall and Swimming Hole Site survey, and field checked by a MRWCP intern who GPSed most of them. Sites include both public and private access points that are popular with the community. Those that are privately owned and the public is actively discouraged from using were selected as possible conservation priorities and used as part of the co-occurrence project.

CULTURAL FEATURES

Historic barns - CVRPC

Barns that are 50 years or older were compiled into an inventory and database by the Mad River Valley Rural Resource Commission with the help of the Central Vermont Regional Planning Commission and developed into a GIS data layer.

Historic barns with conservation land - MRWCP

This data layer is comprised of parcels that have both a historic barn and land that is either being used as farmland or is highly scenic as a rural farmscape, and therefore contributes significantly to the historic and rural character of the Mad River Valley.

National Register Districts - CVRPC

The five districts listed on the National Register of Historic Places were digitized by the Central Vermont Regional Planning Commission. The two National Register Districts with significant agricultural lands (the Waitsfield Common and the Rural Agricultural District) were included in the co-occurrence map as these district's historically open lands contribute significantly to the area's historic settlement patterns, rural character, and future agriculture potential.

INFRASTRUCTURE AND DEVELOPED FEATURES

Roads – VCGI

The Master Road Centerline data layer contains arcs for all town and state highways, as well as many private roads and driveways. A combination of paper and orthophotos were used to determine road locations as originally digitized. Road attributes were taken from the official VT Agency of Transportation (VTrans) highway maps. New roads not appearing on the photos were digitized with locations approximated from the VTrans highway maps. State forest maps were used to determine both location and attributes of state forest roads.

E911 sites/Developed areas – VCGI

Data was collected during 1996-1998 as part of the Enhanced 911 data development project. Site coordinates were captured at each location requiring a new address, or for "grandfathered" towns that requested GPS work. The primary objective of the GPS data collection system was capture of site coordinates and various site information. In addition to the typical "sub-texter" GPS systems for capture of coordinate data, the data collection system utilized a "dead-reckoning" system that enhanced the GPS data by providing coordinate and heading data during periods of poor GPS reception. RF 5000 scale orthophotography was used for sites not accessible in the field.

Parcel data – CVRPC

Parcel data was generated from town tax maps prior to 2000. This data is now in need of updating but is still very useful in assessing landowner and parcel configuration.

Parcels larger than 50/100/250 acres – MRWCP

Parcels were culled from the base parcel data based on acreage.

APPENDIX F – SCENIC LANDS

From Rural Resource Protection Plan 1998

Popular Scenic Areas, Vantage Points, and Focal Points

Popular Scenic Areas
- Route 100/Mad River Corridor
- East Warren/Common Road area
- Common and Meadow Road area

Popular Vantage Points
- Center Fayston Road
- Route 17/Appalachian Gap
- East Warren Road, Common Road, and four corners area
- Bragg Hill
- Fuller Hill Road
- Top of ski areas
- Lincoln Gap
- Sugarbush golf course area
- Roxbury Gap
- Long Trail

Popular Focal Points
- Ridgelines and hillsides of scenic sensitivity:
  Green Mountain Range (especially Burnt Rock, Camel's Hump)
  Northfield Range
  Various intermediary knolls

Inventory of Scenic Resources

Route 100
Entry view to Valley form north (Turner/conserved)
South of N. Fayston Road
Woliner (conserved)
Spaulding at crest of hill
Neill south of mobile home park
Kenyon's
Across hay meadow from Lareau's (Tardy)
Gaylord and Ketchum fields
Kingsbury farm
Ford/Rodgers Farm

Waitsfield
Carpenter Farm (North Road)
River Road (North Road)
Messer Farm (North Road)
Neill Farm (North Road)
Richards Farm (East Road)
River's Farm (Long Road)
Von Trapp's Farm (Common Road)

Parcels along Common, Cross and palmer Hill roads
Foster's Meadow
Round Barn (EWR)
Eurich Farm area (EWR)
Parcels along Common Road (Maple Ave.)
Rolston Road
Great Lakes area (Sherman Rd: Mooney, Seely)

Warren
Ward/Wadhams farms area (EWR)
Airport and Dump roads intersection
Defreest Farm and sugarbush (airport Road)
Intersection Plunkton and Brook roads (Hereoux, etc.)
Roxbury gap
Senor Farm
Kathan Farm
Parcel along Senor Road
Intersection of Plunkton and Fuller Hill
Blair Farm
Brook Road (Freeman/Kids Brook ravine)
Hartshorn farmstead (Lincoln Gap Road)
Sugarloaf Hill Farm (West Hill)
Golf Course Road
Whitworth Farm (west side of village)

Fayston
Tucker Hill Road (Tenny)
Bragg Hill Farm
Vasser Farm (what's left)
Reba Hall meadow (Center Fayston Rd.)
Yellow farm house b/w N. & C. Fayston rds.
Burnt Rock Road meadows
North Fayston Road meadows

APPENDIX G – INVENTORY MAPS

- **Natural Areas and Potential Wildlife Habitat**
- **Scenic and Historic Attributes**
- **Agricultural Attributes**
- **Forest Attributes**
- **Recreation Attributes**
- **Water Attributes**
- **Conserved Lands and Adjacent Parcels**
- **Co-Occurrences of Natural and Cultural Features**

Note: If these maps are not included in your copy of the inventory, they are available at the offices of the Mad River Watershed Conservation Partnership and the Mad River Valley Planning District.