State of Vermont

Agency of Natural Resources
Department of Forests, Parks and Recreation

Long-Range Management Plan
MT. MANSFIELD STATE FOREST

FORESTS, PARKS & RECREATION
VERMONT
AGENCY OF NATURAL RESOURCES

Approved December 2, 2002

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Long Range Management Plan
Mt. Mansfield State Forest

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Vermont Agency of Natural Resources

The mission of the Agency of Natural Resources is "to protect, sustain, and enhance Vermont's natural resources, for the benefit of this and future generations." (Agency Strategic Plan, 2001-2005)

Four agency goals address the following:

To promote the sustainable use of Vermont's natural resources;
To protect and improve the health of Vermont's people and ecosystems;
To promote sustainable outdoor recreation; and
To operate efficiently and effectively to fulfill our mission.

Departments

Vermont Department of Environmental Conservation
Mission Statement - 2001-2005

To preserve, enhance, restore, and conserve Vermont's natural resources, and protect human health, for the benefit of this and future generations.

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Vermont Department of Fish and Wildlife
Mission Statement - 2001-2005

The mission of the Vermont Fish and Wildlife Department is the conservation of all species of fish, wildlife, and plants and their habitats for the people of Vermont. To accomplish this mission, the integrity, diversity, and vitality of their natural systems must be protected.

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Vermont Department of Forests, Parks and Recreation
Mission Statement - 2001-2005

The mission of the Department of Forests, Parks, and Recreation is to practice and encourage high quality stewardship of Vermont's environment by monitoring and maintaining the health, integrity, and diversity of important species, natural communities, and ecological processes; managing forests for sustainable use; providing and promoting opportunities for compatible outdoor recreation; and furnishing related information, education, and services.

Overview of Lands Management by the Vermont Agency of Natural Resources

Purposes of Land Ownership

On behalf of the State of Vermont, the Agency of Natural Resources manages state-owned land for a variety of purposes, ranging from the protection of important natural resources to public uses of the land in appropriate places.

Natural resources include, but are not limited to, the following: biodiversity, wildlife habitat, natural communities, water bodies, wetlands, undeveloped land, scenery, and aesthetic values.

Public uses include, but are not limited to, the following: recreation, access to state lands or waters, environment-related businesses, flood control, education, research, and sustainable use of renewable resources such as hunting, fishing, trapping, and forest management.

Outcome of Long-Range Management Plans

The Vermont Agency of Natural Resources manages state lands in a sustainable manner by considering all aspects of the ecosystem and all uses of the natural resources. (Agency Strategic Plan 2001-2005)

The agency has a mandate to serve as the principal land steward for properties owned or managed by its three departments--Environmental Conservation; Fish and Wildlife; and Forests, Parks and Recreation.

The development of long-range management plans (LRMP) for agency lands represents a key step in providing responsible stewardship of these valued public assets. Each LRMP identifies areas where different uses are to be allowed and describes how these uses will be managed to ensure protection of natural resources. The following over-arching management standards further both agency and department missions and are applied to the development of long-range management plans for all ANR lands:

Biological Diversity: Agency lands are managed to both maintain and enhance the variety and abundance of plants, animals and other life forms at scales ranging from local to regional.

Ecosystem Health: Agency lands are managed to ensure ecosystem functions, health, and sustainability. Threats and stresses are monitored, evaluated, and reported regularly.

Legal Constraints: Agency lands are managed in accordance with the purposes for which they were acquired. Many agency lands were purchased with federal funds that require management to be directed for specific purposes. These requirements and other legal restrictions, such as conservation easements, are supported in all planning and management activities.

Natural Resource Science: The foundation for management decisions on agency land consists of comprehensive ecological assessments as developed and documented in long range management plans.

Wildlife Management: Wildlife management activities are directed at protecting and enhancing wildlife habitat for species needing to be conserved as well as those of public interest and utilization.

Recreational Uses and Needs: Agency lands are managed to create, maintain, and enhance sustainable recreational uses. Permitted or allowed activities are dependent upon site capabilities and public need. Wildlife management areas continue to give priority to wildlife dependent activities.

Sustainable Forestry: Agency lands are managed to ensure forest health and sustainability. Vegetation management and utilization strategies based on natural communities and appropriate silvicultural guidelines ensure that trees, forests, and forest ecosystems remain healthy.

Public Involvement: State lands are a public resource. The public is involved in all aspects of decision-making on state lands, including acquisition, policy development, management planning, and the implementation of policies, plans, and regulations. In developing long range plans, the agency considers interests outlined in local, regional, and state plans, including town plans, regional plans, watershed plans, and species recovery and management plans, and works to resolve conflicts between plans as may be appropriate or necessary.

Historical/Cultural and Scenic Values: Agency lands are managed to be sensitive to historical, cultural, and scenic values. Due to protection under state and federal regulations, sites of archaeological significance are equal in status to legal constraints applicable to the lands.

Best Management Practices: Lands under agency management serve as exemplary stewardship models for the public and private sectors in Vermont. Whenever possible, best management practices that are utilized are visible and easy to understand.

Regional Availability of Resources and Activities: Because every parcel of agency land cannot accommodate all the uses that the public might want, the agency works to ensure that the following uses are made available on a

regional basis: sustainable forest harvest; sustainable recreational activities; wildlife-oriented activities; protection of biodiversity and natural communities; and activities that reflect historical and cultural values.

August, 2001

PLAN STRUCTURE

This long-range management plan follows the agency's planning format. It is divided into several sections.

Section I is the *Introduction*, which includes the Agency and Department missions and an overview of lands management.

Section II is the *Parcel Description*. Found in this section is a summary of the parcel land use history, the history of acquisition, location and setting information, as well as locator maps and the parcel base map. Also included is a summary of the natural resources found on the property, as well as other special resources. How this plan relates to regional and town plans is also in the section.

Section III is a *Summary of Public Input* to this plan and management of the property.

Section IV covers *Management Strategies and Actions*. This section of the plan identifies areas where different uses are to be allowed and describes how these uses will be managed.

Section V is a compilation of a *Schedule of Activities*.

Section VI is the *Monitoring and Evaluation* portion of the plan, which will develop over time and provide a way of tracking accomplishments.

Section VII is the *Appendix*. Found in the appendix is a complete description of the public comment process and responsiveness summary as well as the full resource analyses, glossary, pertinent policies, legal constraints and additional maps.

SECTION II Parcel Description

LOCATION INFORMATION

Mt. Mansfield State Forest is the largest contiguous landholding owned by the Vermont Department of Forests, Parks and Recreation and one of its most diverse. The forest consists of 39,837 acres and spreads into the counties of Chittenden, Lamoille and Washington (See State Locator Map). It is located in the towns of Bolton, Cambridge, Johnson, Morristown, Stowe, Underhill and Waterbury (See Town Locator Map and Base Map).

The forest is located north of U.S. Route 2 and U.S. Interstate 89, west of VT Route 100 and south of VT Route 15. Most of the land surrounding Mt. Mansfield State Forest can be characterized as small privately owned parcels. There are a few exceptions: to the southwest is Bolton Valley Ski Area; to the west is the Vermont Army National Guard firing range; and to the northwest are industrial forest lands owned by local sawmills.

Vermont is divided into eight different biophysical regions, based on areas of similar climate, geology, topography, soils, and natural communities. Mt. Mansfield State Forest in found within the Northern Green Mountain biophysical region (See Biophysical Region Map). This region is characterized by high elevations, cool summer temperatures and acidic metamorphic rocks. Precipitation levels are greater than in the surrounding lower elevations.

State Locator Map

Town Locator Map

Biophysical Region Map

State Forest Map

HISTORY OF ACQUISITION

State acquisition of Mt. Mansfield State Forest began on August 17, 1914 when the state purchased 3,155 acres from Ralph and Louise Case in the town of Mansfield, now a part of the Town of Underhill. During the next two years (1915 and 1916), C.E. and F.O. Burt sold the state about 2,000 acres in Stowe, which would become the site of Stowe Mountain Resort. There have been several major acquisition periods since.

In 1929 Champlain Reality sold the state 1,238 acres. In 1939 the Green Mountain Power Company transferred 10,000 acres around and including Waterbury Reservoir to the State. In 1940 the state purchased the Morse property, which included scenic Smugglers Notch, in the Town of Cambridge. The 1960s saw two more additions. The State exchanged 326 acres in Cambridge, the current site of the Village at Smugglers Notch, for 1,924 acres in Johnson. Later 8,000 acres in Stowe were acquired from the Laird and Burt families. In the 1990s, roughly 7,000 acres were acquired.

Since the 1960s almost all the lands acquired have had easements of some form attached to the purchase of the property. (See Purchase Constraints Map) A more detailed account of the legal constraints on Mt. Mansfield State Forest are found in Appendix A.

1. Land and Water Conservation Funds (LWCF) were used to purchase the Burt lands in Stowe and to build the Underhill, Smugglers Notch, Little River and Waterbury Center State Parks. The main restriction on these parcels is that they must remain open for recreational activities and the park facilities must be maintained and remain in use.

2. Vermont Housing and Conservation Board (VHCB) funds were used to purchase the Burling property in the Town of Morristown. This property is to be managed for passive outdoor recreation, forestry, open space and wildlife uses. The department cannot permit any infrastructure for alpine skiing, except for what existed at the time of purchase. VHCB funds were use also used in the purchase of the Sterling and Bingham Falls Tracts and the Kruse Block. VHCB is a co-holder of the easements with the Vermont Land Trust and Stowe Land Trust.

3. Green Mountain Club (GMC) purchased a number of parcels for the protection or relocation of the Long Trail. These deeds contain standard restrictions of two types. One allows for a variety of uses and the other is restricted to pedestrian recreational uses.

Buttolph Tract (Waterbury) can be used for all forms of non-motorized pedestrian recreational uses. However, snowmobile trails may cross the Long Trail with written approval. Timber harvesting is allowed outside

the trail protection corridor. GMC retains the right to relocate the Long Trail to this parcel and build a trail shelter if needed.

Lathrop and Bolton Valley Tracts (Bolton) have restrictions that allow for only non-motorized recreational uses, which include the relocation of the Long Trail and the construction of one rustic shelter. No commercial logging, use of motorized or mechanized vehicles, or use of horses and other pack animals is permitted on the property.

4. Vermont Land Trust (VLT) assisted with the purchase of two parcels, one in Stowe and the other in Underhill.

Sterling Tract is adjacent to the Beaver Meadow Block and is almost completely above 2,500 feet in elevation. Conservation restrictions allow the property to be used for wildlife habitat, forestry, education, non-commercial recreation, and open space purposes.

Kruse Block was purchased for the purposes of providing public access for recreation, to conserve wetland and wildlife habitat, scenic, cultural and open space values, and management of forest stands.

5. Stowe Land Trust (SLT) assisted with the purchase the Bingham Falls parcel in the Town of Stowe. The purpose of the easement is as follows:

1. As primary purposes, (a) to conserve and protect wildlife habitat, natural communities, native flora and fauna and waterfalls, gorges and cascades on the protected property; and (b) to foster pedestrian recreational use and utilization of the protected property.
2. As secondary purposes, (a) to provide for other non-commercial, non-motorized public recreational uses, including hiking, hunting, fishing, trapping, provided such uses are conducted in a manner that minimizes negative impacts on the primary purposes; and (b) to protect the protected property's undeveloped character, scenic and open space resources for present and future generations.

Purchase Constraints Map

LAND USE HISTORY

Pre-State Ownership:

The Main Mountain and Notch[1]- Development began on Mt. Mansfield in the late 1700s, when a trail was established to allow passage by horseback through Smugglers Notch. This trail was used to smuggle goods to and from Canada during the Revolutionary War and prohibition. It was later used as part of the under ground railroad smuggling slaves out of the south. In 1830, another horse trail was constructed on the Underhill side of the mountain. A guest house, known as the Halfway House, was built in 1850 part way up the trail. In 1857, the Tip Top House, later known as the Summit House, was constructed at the present site of the Octagon (a warming hut at Stowe Mountain Resort) on the Stowe side. It was reached by a horse trail. In 1858 the Summit House was moved to a new location on the ridgeline below the nose. Eventually the Town of Stowe was persuaded to construct the Toll Road part way up to the Summit House to allow visitors passage by carriage.

In the early 1860s the Notch House was constructed near Big Spring in Smugglers Notch. The original structure was abandoned in 1869, and then rebuilt in 1896. The town of Stowe later upgraded the horse trail through the Notch for passage by carriage to Big Spring. At the same time, work began to extend the Toll Road to the Summit House. This project was completed in 1870 and offered visitors an easier way to the summit of Mt. Mansfield.

The entire Notch Road was completed as a carriage road in 1894. In 1917, the State Legislature appropriated $20,000 to make the Notch Road passable by cars. This was followed by major reconstruction of the Toll Road. At a cost of $80,000 the Toll Road was upgraded to accommodate automobiles. In return for maintenance of the road, the Town of Stowe gave the Toll Road to the Mt. Mansfield Hotel Co., now Stowe Mountain Resort.

In 1910, the Green Mountain Club, organized by James P. Taylor, started construction of the Long Trail from Camel's Hump to Mt. Mansfield, although hiking trails had been established on the mountain as early as 1847. Taft Lodge, the first shelter on the Long Trail, was built in 1924 to accommodate over night hikers.

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[1] At detailed history of Mt. Mansfield called "Mansfield" was written by Robert L. Hagerman, 1975 and published by Phoenix Publishing, Canaan, New Hampshire, Courier Printing C.

Little River Region[2] - To the south of Mt. Mansfield, in the Town of Waterbury, is the Little River Region. This area was first settled in the late 1700s along the Little River. As a road was established along the river valley to Moscow, people began to carve out their homesteads on higher ground. Settlement continued into the 1800s.

Logging played a major part in the lives of residents in the region. Remains of old logging camps and remnants of the Last Block Sawmill in the Ricker Block provides evidence of the early logging activities that took place. Records indicate that the Last Block Sawmill operated from 1917 to 1922. The land was logged to clear sites for homes, fields and pastures for farming. Logging provided a source of fuelwood for cooking and heating and lumber for construction. It was also a way for many farmers to earn extra money during winter months. The Little River was harnessed and provided the main source of power to operate a number of sawmills in the region.

Farming was not easy or very profitable because the hillside soils were extremely rocky and shallow. By 1900 many families had abandoned their farms and left the region. In the 1920s, Green Mountain Power Company began buying land in the area for a hydropower project. These plans were put on hold after the devastating Flood of 1927. Following the flood, the U.S. Engineering Department surveyed the region and proposed plans for flood control and power generating projects on several rivers in Vermont, including the Little River. Development of the dam on the Little River did not begin until the Civilian Conservation Corps (CCC) was formed in 1933. Before construction on the dam began, Camp Smith was built, eventually housing 2,500 men in tents and barracks. Construction began on the dam in June 1935 and was completed in 1938. After completion of the dam, the surrounding 10,000 acres were transferred to the State of Vermont and became part of Mt. Mansfield State Forest in 1939.

Post-State Ownership

Ski Area Development - Ski area development began in 1933 in the Town of Stowe with the clearing of the Bruce Trail near Ranch Camp. In 1934 the CCC cleared the Nose Dive and Chin Clip Trails and built the Vermont Ski Dorm. On February 7, 1937, Roland Palmedo, J. Hegley Cook and Lowell Thomas sought to obtain a lease from the State of Vermont to build a chair lift from the base of the mountain to the original site of the Summit House, the current site of the Octagon. A lease was eventually signed between the state and the Mt. Mansfield Lift Company. The company has been through a number of name

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[2] A detailed history of the Little River Region has been compiled and published by W. Patrick Yaeger, "That Beautiful Vale Above the Falls", 1995. Pp 157.

changes and is now known as Stowe Mountain Resort.

The original lease was for a strip of land 100 feet wide by 6,300 feet long. On December 9, 1940 the first chair lift in Vermont and the longest in the nation opened on Mt. Mansfield. That same year the CCC built the Octagon. The Base Lodge was constructed in 1941 and has been expanded over the years. In the 1960s Mt. Mansfield experienced a second wave of development. This included an expanded trail system, increased parking capacity at the Base Lodge, construction of the gondola and the installation of snowmaking equipment. Lifts have been updated over the years and in 1992 night skiing began.

Through the 1930s and early 1940s the CCC began to clear downhill ski trails on the Underhill side of the mountain. At the time, it was envisioned that the Underhill area would be developed into a downhill ski area, similar to Stowe. About three miles of trails were completed when work stopped due to World War II. The idea was never rekindled in the post-war era.

Ski area development in Cambridge began in 1956 when the Smugglers Notch Ski Ways, now called Smugglers Notch Resort, started developing the area east of VT Route 108 from the base to the summit of Sterling Mountain. The original development consisted of two poma lifts, six trails, a state constructed shelter at the base and a warming hut at the top. The ski area went through an expansion surge in the 1960s with the addition of double chair lifts, more trails, construction of a new base lodge and snowmaking on Morse Mountain. A beginner ski area was added in 1999.

State Park Development - Development of the State Park system on Mt. Mansfield State Forest began in1936 when the CCC constructed a picnic area in Smugglers Notch. This was followed by the Smugglers Notch State Park Campground, which consisted of four remote leantos and a bath house. It was later expanded in the 1960s.

At the same time the CCC crews were constructing ski trails in Underhill, they also started development of Underhill State Park, including a ranger's house.

On the Waterbury Reservoir, Little River State Park was developed in the 1960s as well, and later expanded in the 1970s. In 1981, development of a day use area was started with the installation of a concrete boat launch and vault toilet. The beach was developed in 1986, followed by construction of the entrance contact station. The summer of 1987 marked the official opening of the Waterbury Center State Park.

Vegetative Management - Prior to state ownership, much of Mt. Mansfield State Forest had been subject to various timber harvesting activities. The only harvesting records for the early acquisitions are the mention of logging operations in many of the original deeds. The Burt Nebraska and Burt Ranch Blocks were purchased from the Burt Family who managed their lands intensively for wood products. Timber management has been practiced on these lands since their acquisition. Timber sale records have been kept since 1956.

Since 1956, a total of 18.5 million board feet of timber have been harvested from various areas of Mt. Mansfield State Forest. Timber sales have ranged in size from 1,520 acres harvesting 1.5 million board feet of logs to three acres removing 28 cords of softwood pulp. Starting in the 1970s many cords of hardwood firewood have been harvested in five-cord firewood lots, which were sold to and cut by private individuals.

Another important management activity on Mt. Mansfield State Forest has been to maintain old apple orchards and fields as permanent openings for a variety of wildlife species. These areas have been either burned or mowed on a three-year schedule.

SUMMARY OF RESOURCES

Mt. Mansfield State Forest is largely mountainous terrain covering approximately 18 miles of the summits of the northern Green Mountain Range. Elevations range from 600 feet above sea level, at Waterbury Reservoir, to over 4,300 feet on Mt. Mansfield. This range in elevation creates a wide diversity of vegetative types and natural communities, which include: early successional forests; northern hardwood and spruce-fir forests; sub-alpine forests; cliffs; rock outcrops; and wetlands.

The most common natural communities found on Mt. Mansfield State Forest are the northern hardwood forests in the lower elevations and the montane spruce-fir and spruce-yellow birch forests in the upper elevations. There are also a number of natural communities that occur on very limited sites and which are considered state significant because of their quality. The Smugglers Notch area has many of these communities, including open talus slopes, boreal acidic and calcareous cliffs, and subalpine Krummholz communities. There are a number of rare, threatened and endangered plant species associated with these communities. The Cotton Brook in Waterbury also supports two unusual natural communities: an erosional river bluff; and a river sand or gravel shores. (See Appendix B).

Of the manageable timber land on the forest, the most common timber type is northern hardwood, consisting of sugar maple, yellow birch, beech and

a variety of associated species. The stands of early successional species such as white birch, red maple and aspen are a result of abandonment of farm fields and pastures. There are a number of small pine plantations on the forest that were established in the 1930s by the CCC. The native softwood stands consist of hemlock or red spruce and a variety of hardwood species. Management of state lands for timber products is free of many of the economic pressures that influence management of private forestlands. This lack of economic pressures allows state lands to provide a reliable and strategically important supply of timber, since timber sales are planned based on biological needs and not markets. As a result, it is possible to manage state forests to provide large diameter, high quality hardwood timber. (See Appendix D).

Mt. Mansfield, at an elevation of 4,393 feet above sea level, is the highest peak in Vermont. While the department owns the majority of the mountain, 400 acres on the summit ridge is owned by the University of Vermont and 20 acres by the Stowe Mountain Resort. The mountain's ridgeline resembles the profile of a man's face, and the names given to the prominent features reflect this: forehead, nose, upper lip, lower lip, chin and Adam's apple. The bedrock of Mt. Mansfield is sericite schists, gneisses and quartzites. Glacial deposits of gravel are common along stream courses at the lower elevations.

Mt. Mansfield State Forest is completely within the Lake Champlain watershed basin. It contains many of the headwaters for the Lamoille and Winooski River watersheds. There are a few high elevation natural ponds located on the forest, namely Goose Pond, Sterling Pond, Bear Pond and Lake-of-the-Clouds. It almost completely surrounds the largest body of water in Central Vermont, Waterbury Reservoir at 806 acres. Most of the low elevation wetlands are influenced by human or beaver activity.

There is an abundance of wildlife on the forest including black bear, moose, white-tailed deer, ruffed grouse, wild turkey, a variety of furbearers, the state threatened peregrine falcon and many species of songbirds. Mt. Mansfield State Forest not only provides general habitat for these species it also contains some critical habitats. The hemlock stands around the Waterbury Reservoir are part of a larger mapped deer wintering area. Throughout the forest are concentrated beech stands that are important mast stands for black bear and other animals. Four bear travel corridors have been identified along Route 108, which facilitate movement between the northern and southern portions of the forest. Since 1988, peregrine falcons have nested in Smugglers Notch. In recent years, peregrine falcons also nested in Nebraska Notch. The montane spruce-fir forest above 3,000 feet in elevation is summer nesting habitat for Bicknell's thrush. While Bicknell's thrush is not on the state's endangered species list it does warrant special consideration because of its very specific habitat requirements and the limited amount of habitat in the northeastern United States. (See Appendix B).

Located on Mt. Mansfield State Forest is evidence of the past farming communities. The Little River basin had a large settlement. The only thing remaining of these homesteads are the cellar holes, barn foundations, stonewalls, cemeteries and old roads. Within the basin, the Goodell House is the only structure remaining from the early settlement. There are a few old mill sites on the forest as well. The Waterbury Reservoir flooded a portion of the settlements in the Little River basin but these homesteads and roads can still be seen during times when the reservoir is drained. The cultural history of this area can be experienced by taking the self-guided History Hike from Little River State Park. There are other cultural sites around the forest, including CCC development in Underhill and scattered homesteads on the northern end of the forest. In 1932 Craig Burt, Sr. transformed his old logging camp in Ranch Valley into cross-country ski accommodations. The hostel was called Ranch Camp. The only things remaining of the camp are the building foundations.

Public recreational use of Mt. Mansfield State Forest is as diverse and varied as its size and geographic distribution would indicate. Most of the forest is just over an hour's drive from the Burlington area, Vermont's most populated region. It is also less than a three-hour drive from Montreal, Quebec (2 million people) and a day's drive for more than 30 million people in southern New England and the mid Atlantic states. While hiking, hunting, fishing and trapping have long been traditional uses of this land there are also opportunities for other recreational pursuits.

Three state park campgrounds are conveniently located within the forest. A day use area is located on Waterbury Reservoir along with two concrete boat launches and a separate launch for canoes and kayaks. Currently the reservoir has been drained so that repairs can be made to the earthen dam. Work is expected to be completed in 2005.

Developed winter recreation is offered at the Stowe Mountain Resort in Stowe and Smugglers Notch Resort in Cambridge. Both resorts are known for their exceptional downhill and nordic skiing facilities. The Vermont Association of Snow Travelers (VAST), the Green Mountain Club (GMC) and the Catamount Trail Association (CTA) all maintain trails on Mt. Mansfield State Forest. Trails range from the very difficult, climbing Mt. Mansfield, to the easy, the Nature Trail at Little River State Park. There are backcountry shelters and tenting areas. Smugglers Notch is also known for its winter ice climbing and mountaineering experiences. (See Appendix C).

RELATIONSHIP TO THE REGIONAL CONTEXT AND OTHER PLANNING EFFORTS

The Mt. Mansfield State Forest long- range management plan dove tails nicely into the regional context. The property is managed to maintain natural communities and water quality, to provide high quality wildlife habitat and forest products, and at the same time provide a wide variety of recreational experiences, from those involving contact with many people and developed facilities to those in remote settings with little human contact.

Regional Plans

Mt. Mansfield State Forest is located in the counties of Chittenden, Lamoille, and Washington. Each county has a regional planning commission and is required to prepare a regional plan every five years by soliciting input from member municipalities, regional organizations and the general public. The regional plans reflect growth trends and address issues of concern at the local and regional level; support the individual goals and issues of each of their respective communities as expressed in municipal plans; and provide a collective voice for the region in state and/or federal regulatory proceedings and in state agency planning efforts. The Central Vermont Regional Plan was adopted in 1998, the Chittenden County and Lamoille County regional plans were adopted in 2001. Consideration to these documents was given when planning for Mt. Mansfield State Forest.

From 1980 to 1995, population growth in Lamoille County was the fastest in the state. Chittenden County was the fourth fastest growing during this same period. This trend is expected to continue. As lands bordering Mt. Mansfield State Forest continue to experience development pressure the forest will come under pressure to provide increased opportunities for recreational activities, as well as provide high quality wildlife habitat and forest products.

Each of the regional plans recognizes the value of the forest land for providing habitats for numerous game and non-game wildlife; forest products; jobs to enhance regional economies; clean water resources; outdoor recreational opportunities; and contrast upon the landscape. This all contributes to a high quality of life.

Watershed Context

Mt. Mansfield State Forest is located in both the Lamoille River and Winooski River watershed. These watersheds represent two of the 17 basins throughout the state for which plans are being written by the Agency of Natural Resources (ANR) under the leadership of the Department of Environmental

Conservation, Water Quality Division.

The purpose of the basin plans is to look at overall water quality of each watershed by identifying issues related to water quality and water-related resources and by providing strategies and actions for improving these as well as conserving high quality water resources. It is ANR's intention to implement these activities in collaboration with interested organizations and individuals and within other agencies and departments.

The Lamoille basin plan is currently underway. The management of Mt. Mansfield State Forest will be conducted in cooperation with the efforts of this basin planning process and with efforts for the Winooski basin when it occurs.

From a watershed standpoint, state lands function as forested buffer zones that play an important role in maintaining water quality and modifying flood potential. To better understand the role of Mt. Mansfield State Forest, a broader viewpoint is needed.

A biophysical region assessment of the Northern Green Mountain biophysical region done in 1998 looked at the percentage of forested lands by elevation zones as well as the percentage of forested land in conservation status (state and federal ownership and private lands with conservation easements).

Northern Green Mountain Biophysical Region

Elevation Range (feet)	Total Area (acres)	Forested Area (acres)	Percent Forested	Percentage of Total Conservation Land
0-600	26,816	16,252	61%	20%
600-2000	927,544	824,844	89%	51%
2000-3000	180,947	179,865	99%	68%
>3000	18,177	17,920	99%	69%

Approximately seventy percent of all the land over 2000-feet elevation in the northern green mountain biophysical region is in public ownership.

SECTION III Public Input Summary

Public involvement, or citizen participation, is a broad term for a variety of methods through which the citizens of Vermont have input into public land management decisions. The Department of Forests, Parks and Recreation is committed to seeking that input. Expressions of citizen interest come in many forms. These include letters, personal comments, telephone calls, and more formal methods, such as public meetings.

Formal public involvement for this planning effort on Mt. Mansfield State Forest started in 1989, when the Department of Forests, Parks and Recreation, the Central Vermont Regional Planning Commission and the Lamoille County Planning Commission co-sponsored a public forum to receive input regarding management of the forest. Attendees at this meeting broke into groups addressing their issues in six topic areas: Local Officials/Town Planning, Timber Management, Waterbury Reservoir, Summer Recreation, Winter Recreation, and General Uses.

During the past ten years, formal public meetings were used to address specific issues such as: a land swap between the Department of Forests, Parks and Recreation and Stowe Mountain Resort, relocation of the Smugglers Notch Campground, and the Smugglers Notch Scenic Highway. A planning advisory group was developed in 1995 to assist with the development of the long-range management plan. Since the department was in the early stages of using the geographic information system (GIS) technology, the planning advisory group asked that existing data layers be developed in GIS format before management decisions were made. There was also a need for more comprehensive resource data.

Three public meetings were held to review the final draft of this plan. These were held in a town in each of the forest's three counties: Morrisville, Lamoille County on June 18, 2002; Waterbury, Washington County on June 20, 2002; and Underhill, Chittenden County on June 25, 2002. Public comments were received at the meetings and during a formal comment period of 36 days after the last meeting. The comments received and responses to them are found in Appendix F – Responsiveness Summary.

All of this public input has been considered in the writing of the Mt. Mansfield State Forest Long-Range Management Plan and will continue to be considered as management of the forest moves forward. There will be future opportunities for the public to stay involved. Public comments will be needed for amendments and other planning efforts on Mt. Mansfield State Forest. Also, the Annual Stewardship Plan is available for review by July 1 of each year. Future opportunities will be announced on the department's website and local media.

SECTION IV Management Strategies and Actions

Vision Statement

Mt. Mansfield State Forest is revered as Vermont's finest example of a multi-use forest: in which the appropriate uses of timber management, wildlife habitat, recreation, research, historic sites, scenic corridors and vistas, all of which contribute significantly to the local and regional economies, are delicately balanced with the protection of environmentally sensitive areas, maintenance of the forest's wild character, and protection of critical headwaters in the Lake Champlain basin.

Management Goals of Mt. Mansfield State Forest

Within the broad bounds of the overall vision and management theme stated above, the following goals and objectives provide more specific direction for the management of Mt. Mansfield State Forest as a whole.

Management Goals and Objectives:

1. **To protect biodiversity.**
   - Protect species which are rare or exemplary
   - Maintain or enhance critical wildlife habitats and aquatic ecosystems
   - Use a coarse filter and fine filter approach to maintain and enhance natural communities.

2. **To provide opportunities for the continuation of recreational activities that have taken place historically (e.g., hunting, fishing, trapping, hiking, alpine and nordic skiing, snowmobiling, camping, etc.) and for other compatible recreational activities.**
   - Work with trail organizations to maintain trail systems
   - Maintain campgrounds and other recreation facilities

3. **To maintain the contribution this forest makes to the local and regional economies.**
   - Manage for a sustainable flow of high quality forest products.
   - Manage to provide high quality habitat for target wildlife species.
   - Manage to provide a wide range of recreational opportunities.

Land Use Categories (Classification)

This section of the plan identifies areas where different uses are to be allowed and describes generally how these uses will be managed. The four land use categories for lands managed by the ANR determine where certain activities or uses will be emphasized. Other activities may be allowed within these areas as long as they are compatible with and do not detract from the emphasized activity. The four categories are: (1) Highly Sensitive, (2) Special Use, (3) General Use, and (4) Intensive Use.

As part of the planning process, the lands, resources and facilities held by the Agency of Natural Resources are evaluated and assigned to the appropriate land use category. Assignment of the land use areas for Mt. Mansfield State Forest is based on a thorough understanding of the resources available and application of the over-arching land management standards presented in the introduction section of the plan. The resources include natural communities, plants, and wildlife as well as recreational, historic, timber and water resources. The 11 land management standards, as well as implementing legal constraints, such as easements held, wherever they are applicable.

Land Use Classification Map

Highly Sensitive Areas (HSA):

Highly Sensitive Areas have uncommon or outstanding biological, ecological, geological, scenic, cultural or historical significance where these values are preserved and protected. Human activities/uses should be minimal and managed to protect these exceptional features. However, within many of these areas, trails already exist. There are only three roads found in or adjacent to the Highly Sensitive Areas, Route 108 through Smugglers Notch, the access road beyond Underhill State Park and the Toll Road, which is the boundary between two use areas. While it will not be possible to eliminate the uses already in existence, negative impacts may be mitigated. Logging will not occur in Highly Sensitive Areas, however, protection of the natural communities in these areas may involve some vegetative management.

On Mt. Mansfield State Forest the Highly Sensitive Areas represent 16,819 acres or 42% of the forest. Of these acres, 3,461 were designated as a Natural Area by the Governor in 1968. An additional 100 acres was designated as a Natural Area in 1995. About ten thousand acres occur on steep slopes with shallow soils that are not suitable for logging. The remaining 3,200 acres are low elevation lands that that are either part of the Vermont Monitoring Cooperative's minimal management areas or protect the steep, highly erodible slopes to Waterbury Reservoir and Cotton Brook. Most of this land has not been logged since state ownership. Hunting, fishing and many recreational activities are allowed throughout these areas.

Management Goals:

(1) Protect rare, threatened and endangered plants, animals and natural communities.
(2) Protect examples of exemplary natural communities.
(3) Protect high elevation areas with steep slopes and fragile soils.
(4) Protect Class A1 waters (those above 2,500 feet elevation) to maintain their natural condition. Manage Class B1 waters to maintain an almost natural condition showing minimal changes from reference conditions for aquatic macroinvertebrates and fish assemblages.
(5) Protect significant and unique wildlife habitats.
(6) Maintain areas of remoteness, which provide a semi-primitive opportunity for recreation.
(7) Continue to provide dispersed recreational opportunities where appropriate and compatible with other goals.

Management Objectives:

HSA #

1 **Protect the Hemlock-Northern Hardwood natural community along the Cotton Brook and the west shore of the reservoir between the Cotton Brook and Little River State Park**. This is an exemplary example of this natural community. Also within this area are Erosional River Bluff natural communities. These sites are unique in that they occur on clay soils. This characteristic, along with the landscape context of being within a relatively large forested community, make it a state significant site. Over the years many sites along Waterbury Reservoir have been used by boaters for camping.

Implementation:

a. Within this area there exists a multi-use trail. This trail will be maintained for hiking, mountain biking and snowmobiling.
b. No new trails will be established.
c. Due to the unstable nature of the Erosional River Bluffs, they will be protected from any form of human activity.
d. Assess existing remote camping sites along the shores of the reservoir for compatibility with the resources. Manage the remote sites to control use and environmental impacts. Close sites as necessary.

2 **Protect the high elevation Montane Spruce-Fir and the Montane Yellow Birch-Red Spruce natural communities**. Mt. Mansfield State Forest contains some of the most extensive, undisturbed examples of these natural communities in the state. They typically occur on steep slopes to the summit of the ridgeline and have shallow soils that are susceptible to severe erosion. These natural communities also serve many other functions.

The Montane Spruce-Fir natural communtiy provides Bicknell's thrush habitat, which is limited throughout its breeding range. From a landscape scale, the ridgeline is a highly visible scenic resource. Within this area are a number of cliff communities including Boreal Calcareous Cliffs, Boreal Acidic Cliffs and Boreal Outcrops. The cliffs in Nebraska Notch provide nesting for a pair of peregrine falcons. Just south of Bolton Mountain summit there is a site containing two rare alpine plants. The Long Trail is currently found within this area.

Implementation:

a. Human activity in this area is limited to pedestrian uses.
b. When the location of a new crossing of the Winooski River is determined, the Long Trail will be rerouted for part of its length. The two Long Trail shelters located within this area will be maintained. There is also an access trail to the Long Trail from Lake

Mansfield to Taylor Lodge. This trail will be maintained.

c. A backcountry ski trail exists from Cotton Brook to Bolton Mountain Ski Area and down to the Little River. Part of this trail is on the proposed relocation of the Long Trail. The two trails will co-exist. Work on this trail consists of brushing only.

d. Any activity will consider the impact on the Bicknell's thrush nesting habitat. Trail relocations, improvements and new trails will be designed to eliminate further loss or degradation of this habitat.

e. The peregrine falcon nesting site will be protected. During the nesting season it may be necessary to restrict access to this area.

3 **Protect the high elevation Montane Spruce-Fir and the Montane Yellow Birch-Red Spruce natural communities**. This area is similar to HSA 2. It is part of this extensive natural community with a few differences. Within this area are a number of boreal outcrop communities. The ridgeline is highly visible making it an important scenic resource.

Implementation:

a. Human activity in this area is limited to dispersed, pedestrian uses. Currently no trails exist within HSA 3. No new trails are planned for this area.

4 **Protect the Northern Hardwood natural community as part of the Vermont Monitoring Cooperative's (VMC) research area with minimal disturbance.** While the northern hardwood forests found on Mt. Mansfield State Forest are not rare they are considered exemplary for this natural community. Within HSA 4 there is an extensive, high quality beech stand that provides excellent fall feeding opportunities for black bear. Given the size of the area and amount of bear use in these beech stands, they are considered regionally significant for wildlife values.

Implementation:

a. This area is designated for ecosystem research through a memorandum of understanding with the Vermont Monitoring Cooperative (VMC). It is designated as minimal disturbance, so research activities must have minimal negative impacts on the resource. All research activities must be reviewed and approved following VMC's established process.

b. A portion of the trail system for the Mt. Mansfield Ski Touring Center is located within this area. Existing trails will be maintained. Maintenance on most trails consists of only brushing but some trails require drainage and excavating work. Given the high density of existing trails in this area, all proposals for new trails will come under intense scrutiny.

5 **Protect the high elevation Montane Spruce-Fir and the Montane Yellow Birch-Red Spruce natural communities**. This is the same natural community found in HSA 2 & 3. The difference in this area is that it is designated as part of the Vermont Monitoring Cooperative's research area. Portions of this area also provide Bicknell's thrush nesting habitat.

Implementation:

a. Ecosystem research will be allowed through the VMC review process. It is designated as minimal disturbance so research activities must have minimal negative impacts on the resource.
b. Some of the backcountry trails for the Mt. Mansfield Ski Touring Center are located in this unit. The trails will be maintained by brushing them to keep the trails open. Because use of these trails is limited to winter use, the ground has not been disturbed and erosion tends not to be a problem.
c. Any activity will consider impact on the Bicknell's thrush habitat. No further loss or degradation of this habitat will occur.

6 **Protect the high elevation Montane Spruce-Fir and the Montane Yellow Birch-Red Spruce natural communities**. This area was designated a Natural Area by the Vermont Legislature in 1968. It also contains a number of other small natural communities, including Boreal Calcareous Cliffs, Boreal Outcrops, Open Talus, and Subalpine Krummholz. The largest expanse of Bicknell's thrush nesting habitat on Mt. Mansfield State Forest is found within this area, along with active peregrine falcon nesting sites. Smugglers Notch proper is found within the boundaries of the Natural Area. VT Route 108, which travels through the notch, is designated as a scenic highway[3]. This road is a popular commuting route during the summer and brings many visitors to the area each year. The notch is also a popular area during the winter and has been identified as a premier ice climbing area. There is also one cleared alpine ski trail in the Natural Area (Snuffy's Run). Snuffy's Run connects Smugglers Notch Resort in Cambridge with Spruce Peak in Stowe. The Long Trail, three shelters, a tenting area, and a number of side and access trails are located in this area. Sterling Pond is found within the Natural Area. Existing ski development encroaches on the shoreline of Sterling Pond. The area in the Town of Underhill is designated as part of the Vermont Monitoring Cooperative research area. Vermont State Parks operates an information booth in the notch proper as part of the Smugglers Notch State Park.

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[3] The Smugglers Notch Scenic Highway went through extensive public involvement. A Corridor Plan was adopted in 1995 and the implementation process is underway. The northern and southern gateways are currently under construction. A copy of The Smugglers Notch Scenic Highway Corridor Plan can be reviewed at the Barre District Office or the office of the Lamoille County Planning Commission.

Implementation:

a. Human activity in this unit is limited to pedestrian uses, with two exceptions: Vermont Route 108 brings vehicles through Smugglers Notch and will remain in use; and the alpine ski trails are maintained during the ski season with groomers. The groomers are not allowed on Sterling Pond.

b. The Smugglers Notch Scenic Highway will be managed according to the management plan. Activities planned for the Scenic Highway will require State permits.

c. Maintain a department staff presence in the notch proper. This may involve continuing to operate and maintain the information booth. The department will reassess this need when the northern and southern gateways on the scenic highway are fully functional. Construct a new composting toilet to replace the existing outhouse facility.

d. The Long Trail and associated shelters will be maintained. The trail system will be monitored to determine if trail closings or relocations are necessary. The Long Trail north of VT Route 108 will be moved to the Elephants Head Trail to eliminate the VT Route 108 walk for through hikers.

e. The peregrine falcon nesting sites will be protected. During the nesting season it may be necessary to restrict access to the nesting habitat by closing trails and limiting rock climbing.

f. Any activity will consider the impact on the Bicknell's thrush nesting habitat. No activity that will cause further loss or degradation to this habitat will occur.

g. Within the research area, activities must be coordinated with the VMC. Only non-destructive research will occur in this area.

h. A plan will be developed with the goal of restoring the riparian zone of Sterling Pond. Thousands of hikers, including anglers, visit this fragile high elevation pond annually and have caused considerable damage. The area will be monitored and evaluated to determine impacts on the resource, including the practice of stocking fish and ski area development.

i. Rock climbing and bouldering are popular activities in the Notch. These activities will be monitored and action taken to mitigate negative impacts.

j. A major problem within this area is winter snowboarding and skiing. Many illegal trails already exist. This activity will be monitored to determine its impact on the resource and actions taken to mitigate any negative impact.

7 **Protect the Northern Hardwood natural community as part of the Vermont Monitoring Cooperative's (VMC) research area with minimal disturbance.** The natural community is similar to that found in HSA 4. It contains a number of access trails to the Long Trail. There is an existing state forest highway in this area that was used for timber management. It currently provides access to the area for research.

Implementation:

a. This area is designated for ecosystem research through a memorandum of understanding with the VMC. It is designated as minimal disturbance, so research activities must have minimal negative impacts on the resource. All research activities must be reviewed and approved following VMC's established process.
b. Human activities will be limited to pedestrian uses.
c. Access trails to the Long Trail will be maintained. Some trails may be considered for closure or major relocation in accordance with the Long Trail Management Plan as prepared by the Green Mountain Club.
d. Evaluate the state forest highway to determine if the road should be maintained or closed permanently.

8 **Protect the high elevation Montane Spruce-Fir and the Montane Yellow Birch-Red Spruce natural communities**. This area is the northern most area of these natural communities on Mt. Mansfield State Forest. Within this area are a number of Boreal Acidic Cliff natural communities and an extensive Sedge Meadow natural community. The Long Trail and the access trails are located within this area. Whiteface shelter is directly on the Long Trail. Within the Beaver Meadow basin there are two other shelters. Beaver Meadow Lodge is maintained by the Green Mountain Club, while Burling Camp, which was built by the previous owner, is maintained by the Department of Forests, Parks and Recreation.

Implementation:

a. Most activity in this area will be limited to pedestrian uses. The trail to Burling Camp was constructed for use by vehicles. While this trail will be closed to vehicle use it may be maintained using mechanical equipment.
b. Any activity within this area will consider the impact on the Bicknell's thrush nesting habitat. No further loss or degradation of this habitat will occur.
c. The Long Trail will be maintained as will Whiteface Shelter. The access trails to the Long Trail through Beaver Meadow Block will also be maintained. These trails are also used as a loop for day hiking in the basin.

d. There are two lodges near the Sedge Meadow. They are used year round for over night use, since they are two of only a handful that still have wood stoves in them. This may create problems with providing a firewood supply and waste management. Both the Beaver Meadow Lodge and Burling Camp have privies that will need attention in the future. These two sites will continue to be monitored and specific solutions will be discussed.

9 **Protect the old growth stand within the Montane Yellow Birch-Red Spruce natural community.** This area was designated as the Daniel's Notch Natural Area in 1996. It is a significant example of an old growth forest. A foot trail goes from the Morse Block, through Daniel's Notch and into French Hill.

Implementation:

a. Human activity within this area will be limited to pedestrian uses. The biggest management challenge that needs to be addressed is the use of all-terrain vehicles on the trail through Daniel's Notch.

10 **Protect the Red Spruce-Hardwood Swamp natural community.** This natural community exists on the side of a slight slope and is the result of seepage from the slope above coupled with a dense hardpan. It is state significant because of its quality and size. Old access roads exist in this area.

Implementation:

a. Harvesting activity will not occur within the area.
b. The old access road may be used to skid wood products out from adjacent stands, under frozen conditions only.

Highly Sensitive Areas Map

Special Use Areas (SUA):

Special Use Areas have unique or special resources where management objectives emphasize protection and/or enhancement of those resources. Where appropriate, compatible activities may occur, such as timber harvesting, wildlife management, road maintenance and construction and recreational activities. However, only those activities that are compatible with and do not detract from the primary objective of protection and/or enhancement of the unique or special resource will be considered.

On Mt. Mansfield State Forest the Special Use Areas represent 4,254 acres or 11% of the forest.

Management Goals:

(1) Provide high quality habitat for target wildlife species.
(2) Provide opportunities for dispersed recreational pursuits.
(3) Manage Class B1 waters to maintain an almost natural condition showing minimal changes from reference conditions for aquatic macroinvertebrates and fish assemblages.
(4) Manage existing agricultural fields using the Accepted Agricultural Practices developed by the Vermont Department of Agriculture, Food and Markets.
(5) Produce high quality timber where compatible with the "special" resource.

Management Objectives:

SUA #

1, 2, 4,6 &11 **Deer Wintering Areas.** These areas have been mapped by the Vermont Department of Fish and Wildlife as deer wintering areas. Winter habitat is considered to be a critical element for white-tailed deer survival in Vermont. The wintering areas consist of Hemlock-Hardwood natural communities. All activities within these areas will be designed to improve the function of the hemlock and other softwood species as winter cover, as well as produce high quality accessible browse. A VAST corridor trail is located in SUAs 1 and 2. There are also trailhead parking areas in SUA 1 and 11. Over the past 10 years, sections of the trail have been relocated to keep the trail near existing roads and closer to the edge of the wintering areas rather than running through the middle of them. This reduces the recreational use impacts on the wintering deer. The old trail is still available for summer hiking use, but closed during the winter. In SUA 6 the major truck road is used as the VAST trail. The trail then goes through SUA 11 where it is located very close to the boundary line. SUA 4 contains remote camping sites along the reservoir. Primary access to these sites is by boat. The canoe access to the reservoir is in SUA 6. The Little River below Waterbury Dam is Class B3 due to water level fluctuations.

Implementation:

a. Manage the Hemlock-Hardwood natural community under an unevenaged system. Every effort will be made to regenerate hemlock, enhance the ability of the stand to provide superior cover and provide browse. (Treatment will occur every 15 to 20 years).
b. Evaluate recreation trails in the area to minimize the effects of use on the wintering deer. Close or relocate trails as needed. Maintain the parking areas at Cotton Brook and Little River. New trails through the deer wintering area will not be allowed.
c. Assess existing remote camping sites along the shoreline of the reservoir for compatibility with the resources. Manage the remote sites to control use and reduce environmental impacts. Close sites as necessary.
d. Maintain the canoe access area.

5 **Floodplain Forest, Wetland Natural Communities, and Canoe Access Area.** This area occurs at the north end of the Waterbury Reservoir along the Little River. It is a mixture of natural communities that are water influenced. The natural communities include: Alder Swamps, Alluvial Shrub Swamps, River Sand or Gravel Shore, and Successional Floodplain Forest. Most of these natural communities have been disturbed by past agricultural practices. Since the construction of the Waterbury Dam and consequent flooding, the agricultural practices that disturbed the original natural communities have been discontinued. Natural floodplain communities have redeveloped in the absence of the agricultural practices in the remaining areas not inundated by the reservoir. The canoe access area to the reservoir is located within this area. While the water level has been lowered to facilitate repairs to the dam, there is a designated mountain bike trail from the canoe access to the mouth of the Cotton Brook where it ties into the established trail. When the dam is repaired and the water is returned to normal level, this trail will no longer exist. Japanese knotweed is an invasive, exotic plant that is found along the Little River in this area. The presence of this plant species could make it hard to establish desirable tree species along the river.

Implementation:

a. Maintain a vegetated buffer along the Little River. This may require working cooperatively with other agencies on stream bank stabilization projects.
b. Monitor and attempt to control the spread of invasive, exotic plants.
c. Maintain the canoe access area for launching small crafts that must be carried to the water's edge.

3, 7, 8, 9 10 & 16 **Agricultural Fields.** There are 91 acres of fields within the forest on which local farmers have agricultural licenses for producing farm crops or grazing livestock. These are the last remaining agricultural areas on the forest. Most of these fields are on the rich bottom lands along the Little River. The fields will be managed using the Accepted Agricultural Practices developed by the Vermont Department of Agriculture, Food and Markets.

Implementation:

a. No pesticides will be applied to the licensed fields, per the Department of Forests, Parks and Recreation policy on pesticide use.
b. Fertilizer will be applied at rates determined after soil tests.
c. Buffer strips will be maintained between cropland and adjoining waters. Currently there are two fields that need to have buffer strips re-established because of natural stream bank erosion. The department, in conjunction with Department of Fish and Wildlife biologists, will cooperate with the licensee and the Natural Resources Conservation District to reestablish the buffers along the Little River and Miller Brook.

12 & 13 **Vermont Monitoring Cooperative Research Area (VMC).** These areas have been set aside for long-term monitoring and research on forest ecosystems by the VMC. The research in these areas will be designed to study the effects of active management on the ecosystem. A portion of the Mt. Mansfield Ski Touring Center's trail system is found in SUA 13. Also, within SUA13 is a high quality beech stand that provides excellent fall feeding opportunities for black bear.

Implementation:

a. Ecosystem research will be allowed through the VMC review process.
b. Work with Stowe Mountain Resort to maintain the cross-country ski trail network. Maintenance work will include brushing, installing or replacing culverts, and installing waterbars, ditches or other structures to control erosion problems.
c. Given the density of trails within SUA 13, all proposals for new trails will come under intense scrutiny and may not be allowed.

14 & 15 **Long Trail Corridor.** The Long Trail will be maintained according to the Memorandum of Agreement between the Department of Forests, Parks and Recreation and the Green Mountain Club. Within this corridor there is a Long Trail shelter that will be maintained by the Green Mountain Club. A number of parcels have recently been acquired north of the forest along what is known as Dry Ridge, for relocation the Long Trail. When all parcels have been acquired, the new route will be flagged and all necessary permits obtained before construction begins. The corridor will change to correspond with the relocated trail.

Implementation:

a. Maintain a 200-foot buffer area on both sides of the Long Trail where no logging will be allowed. Manage an additional 300-foot buffer on both sides of the Trail under single tree selection.

b. Maintain the Long Trail and Bear Hollow Shelter.

Special Use Areas Map

General Use Areas (GUA):

General Use Areas are where multiple land uses occur. The dominant use may be sustainable timber harvesting, wildlife habitat management, dispersed recreation or other general land uses. Where other uses dominate, vegetative management will be conducted to enhance the dominant use and will not permanently impair the land for that use.

On Mt. Mansfield State Forest the General Use Areas represent 14,171 acres or 36% of the forest.

Management Goals:

(1) Provide a sustainable flow of high quality forest products.
(2) Provide high quality habitat for target and general wildlife species.
(3) Provide opportunities for a wide variety of dispersed recreational pursuits: hiking/walking, running, mountain biking, snowmobiling, hunting, fishing, trapping, cross-country skiing, remote camping on the reservoir, and primitive camping.
(4) Maintain clean, high quality water resources and aquatic habitats. Restore quality of water resources where necessary.
(5) Promote healthy natural communities.

Management Objectives:

GUA #

1 **Extensive Northern Hardwood Forest.** This area consists of a northern hardwood forest that has been exposed to a wide variety of uses. The Little River area was first settled in the late 1700s. There was extensive settlement of the area that resulted in most of the land being cleared for farming or harvested to supply the local sawmills. By the turn of the 20th century many of the farms had already been abandoned. The remaining farms were purchased in the early 1900s, and in the 1930s the Waterbury Reservoir dam was constructed. The many cellar holes, stonewalls, cemeteries and apple orchards in this area are all evidence of this settlement. The existing northern hardwood forest is a result of the activities that have taken place. The areas abandoned in the 1930s are comprised of early successional tree species. Within this area there are approximately 17 acres of permanent grassy openings. These consist of old fields, apple orchards and log landings.

The remaining area consists primarily of sugar maple, yellow birch, white ash and other associated species. There are inclusions within this area that are comprised of red spruce, red maple and white birch or hemlock and yellow birch. The red spruce sites tend to be fairly wet, while the hemlock sites tend to be on rock outcrops. This area has been intensively managed for high quality timber products since state

ownership. Truck roads may double as VAST corridor trails during the winter and are used in the summer as multiple use trails. An alternate trail exists for times when the roads are plowed for timber harvesting activities.

Implementation:

a. Manage the northern hardwoods emphasizing an unevenaged silvicultural system. Some stands will continue to be managed under an evenaged system. Stands will be treated on a 15- to 20-year cutting cycle.
b. Manage early successional forest stands using an evenaged silvicultural system to maintain the vegetative diversity and to provide habitat for wildlife species requiring openings, edge and shrub-scrub habitat.
c. Manage softwood inclusions using an evenaged silvicultural system. Treatments will result in thinnings every 10 to 15 years to maintain growth rates and establish regeneration.
d. Maintain 10 percent of the basal area in hard mast producing species as a wildlife food source. Manage beech stands to promote tree health and conserve their wildlife functions and values.
e. Maintain existing grassy openings to provide wildlife feeding areas and add to the diversity of the unit.
f. Protect historic and cultural features from damage. Continue to provide self-guided tours of the Little River cultural area.
g. Protect water quality and aquatic ecosystems from degradation.
h. Provide the opportunity for diverse recreational pursuits that are compatible with the resources. This includes primitive camping and maintenance of existing trails and possible expansion of trails and trail uses. Consideration will be given to the recreational experience available and desired when addressing expansion of trails or uses.
i. Maintain the existing truck road system. The truck roads in this area are gated to control vehicle access.

2,3 & 4 **Mixed Hemlock Forest.** These areas are predominantly hemlock with a mixture of other species including red spruce, white pine and a variety of hardwood species. These stands are located around the east arm of the reservoir. They are important for controlling erosion along the shores of the reservoir and maintaining the views from the water. A VAST corridor trail is located in GUA 2 and connects with the trail in GUA 1. The areas adjacent to these GUAs are mapped as deer wintering areas. These areas contain remote camping sites along Waterbury Reservoir. Primary access to the sites is by boat. Manage to produce high quality timber products, wildlife habitat and dispersed recreational opportunities.

These areas include cultural sites that were part of the Little River area. Currently most of the sites are located under water as a result of the reservoir. When the reservoir is drained the old roads can still be found.

Implementation:

a. Manage the hemlock using an unevenaged silvicultural system. Stand will be treated on a 15- to 20-year cutting cycle.
b. Manage the white pine stands using an evenaged silvicutlural system. Over time these stands will regenerate to a mixed hemlock-hardwood natural community. Thin every 10 to 15 years.
c. Protect any historic and cultural features that are found from damage.
d. Protect water quality and aquatic ecosystems from degradation.
e. Assess existing remote camping sites along the shoreline of the reservoir for compatibility with the resources. Manage the remote sites to control use and environmental impacts. Close sites as necessary.
f. Provide the opportunity for diverse recreational pursuits that are compatible with the resources. This includes maintenance of existing trails and possible expansion of trails and trail uses. Consideration will be given to the recreational experience available and desired when addressing expansion of trails and uses.

5 & 6 Northern Hardwood Forest. These areas were designated in the Fragile Areas Registry, adopted in January 1982 as the Miller Brook Cirque. As such, any activities that affect the geologic features of the designated area are discouraged. These areas consist primarily of sugar maple, yellow birch, beech, and other species associated with a northern hardwood natural community. Within GUA 5 is an extensive beech stand that is used heavily by black bears and other wildlife during years of good nut production. The Catamount Trail is also located on the north western boundary of GUA 5. The Lake Mansfield Trail to Taylor Lodge and the Long Trail runs through GUA 6.

Implementation:

a. Manage the northern hardwoods using an unevenaged silvicultural system to maintain and improve tree health and stand structure, to maintain a continuous canopy cover and a sustainable flow of timber products. Stands will be treated on a 15- to 20-year cutting cycle.
b. Manage softwood inclusions using an evenaged silvicultural system. Treatments will result in thinnings every 10- to 15-years to maintain growth rates and establish regeneration.
c. Maintain 10 percent of the basal area in hard mast producing species for wildlife food. Manage beech stands to promote tree health

and conserve their wildlife functions and values.

d. Provide the opportunity for diverse recreational activities that are compatible with the resources.

e. Protect any historic and cultural features that are found from damage.

f. Protect water quality and aquatic ecosystems from degradation

7 **Northern Hardwood Forest.** This area is primarily northern hardwood consisting of sugar maple, yellow birch and beech. Within the area are inclusions of hemlock, red spruce and a variety of hardwoods. Along Clay Brook a series of active and inactive beaver ponds exists. These wetlands provide vegetative diversity and habitat for water dependant wildlife.

Implementation:

a. Manage the northern hardwoods using an unevenaged silvicultural system. Stands will be treated on a 15- to 20-year cutting cycle.

b. Manage softwood inclusions using an evenaged silvicultural system. Treatments will result in thinnings every 10- to 15-years.

c. Maintain 10 percent of the basal area in hard mast producing species for wildlife food. Manage beech stands to promote tree health and conserve their wildlife functions and values.

d. Protect water quality and aquatic ecosystems from degradation. Maintain the wetlands along Clay Brook as high quality wildlife habitat.

e. Provide the opportunity for diverse recreational activities that are compatible with the resources.

f. Protect any historic and cultural features that are found from damage.

8 **Northern Hardwood Forest.** This area is primarily northern hardwood consisting of sugar maple, yellow birch and beech. Within the area are inclusions of hemlock, red spruce and a variety of hardwoods. There are 10 acres of permanent grassy openings. The area has been intensively managed for timber products.

Implementation:

a. Manage the northern hardwoods using an unevenaged silvicultural system. Stands will be treated on a 15- to 20-year cutting cycle.

b. Manage softwood inclusions using an evenaged silvicultural system. Treatments will result in thinnings every 10- to 15-years.

c. Maintain 10 percent of the basal area in hard mast producing species for wildlife food. Manage the beech stands to promote tree health and conserve their wildlife functions and values.

d. Provide the opportunity for diverse recreational activities that are compatible with the resources. Activities include hiking,

snowshoeing, cross-country skiing, hunting, etc. Consideration will be given to the recreation experience available and desired when addressing expansion of trails or uses.

e. Protect any historic and cultural features that are found from damage.
f. Protect water quality and aquatic ecosystems from degradation.
g. Maintain existing grassy openings to provide wildlife feeding areas and add to the diversity of the unit. The openings consist of apple orchards, old fields and log landings.

9 & 10 **Northern Hardwood Forest.** These areas are primarily northern hardwood consisting of sugar maple, yellow birch and beech. Within these areas there are inclusions of mixed hemlock and hardwoods, located along the brooks. In these areas there are a number of small beech stands that provide excellent fall feeding opportunities for black bear. Two black bear travel corridors have been documented along Route 108. The corridors provide linkages for movement within their range. Located at the top of the Brewster River are a series of beaver ponds. These ponds are considered significant as bear spring feeding areas as well as important habitat for other wetland dependant wildlife. In GUA 9 there is evidence of past settlement. There are a couple of cellar holes and a mill site. GUA 10 is located within the wellhead protection area for the Village at Smugglers Notch's water source. The main truck road in this area is used as part of the Smugglers Notch Resort's cross-country ski trails.

Implementation:

a. Manage the northern hardwoods using an unevenaged silvicultural. Stands will be treated on a 15- to 20-year cutting cycle.
b. Manage the softwood stands to promote the hemlock using an unevenaged silvicultural system. Stands will be treated on a 15- to 20-year cutting cycle.
c. Maintain 10 percent of the basal area in hard mast producing species for wildlife food. Manage beech stands to promote tree health and conserve their wildlife functions and values.
d. Protect water quality and aquatic ecosystems from degradation. Maintain the wetlands at the headwaters to the Brewster River as high quality wildlife habitat.
e. Protect the bear travel corridors.
f. Protect any historic and cultural features that are found from damage.
g. Provide the opportunity for diverse recreational activities that are compatible with the resources.
h. Maintain the existing truck road system. The truck roads in this Unit are gated to control vehicle access.
i. Work with Smugglers Notch Resort to maintain the cross-country

ski trail network.

11 & 12 **Northern Hardwood Forest.** These areas are predominantly a Northern Hardwood natural community. Small areas of Lowland Spruce and Hemlock natural communities exist in both GUAs. In GUA 11 are 5 acres of permanent grassy openings in the form of old fields and apple orchards. A VAST corridor trail is located in GUA 11. The Catamount Trail also passes through this area for a short distance.

Implementation:

a. Manage the northern hardwoods using an unevenaged silvicultural system. Stands will be treated on a 15- to 20-year cutting cycle.
b. Manage the hemlock using an unevenaged silvicultural system. Stand will be treated on a 15- to 20-year cutting cycle.
c. Manage softwood inclusions using an evenaged silvicultural system. Treatments will result in thinnings every 10- to 15-years.
d. Maintain 10 percent of the basal area in hard mast producing species for wildlife food. Manage beech stands to promote tree health and conserve their wildlife functions and values.
e. Maintain existing grassy openings to provide wildlife feeding areas and add to the diversity of the unit.
f. Protect water quality and aquatic ecosystems from degradation.
g. Maintain the existing truck road system. The truck roads in this area are gated to control vehicle access.
h. Provide the opportunity for diverse recreational pursuits that are compatible with the resources. This includes maintenance of existing trails and possible expansion of trails and trail uses. Consideration will be given to the recreational experience available and desired when addressing expansion of trails or uses.
i. Protect any historic and cultural features that are found from damage.

General Use Areas Map

Intensive Use Areas (IUA):

Intensive Use Areas are easily accessible and characterized by a high level of human activity and/or high intensity development on or adjacent to state land. Vegetative management will be directed towards aesthetic and safety considerations while lessening impacts on natural resource values. Other resources may be managed but in a compatible way with the dominant use.

On Mt. Mansfield State Forest the Intensive Use Areas represent 3,786 acres or 9% of the forest.

STATE PARKS

Management Goals:

(1) Protect the natural and historic resources while providing high quality recreational opportunities and experiences, includes both terrestrial and aquatic resources.
(2) Provide safe recreational facilities.
(3) Provide recreational facilities to meet current and future needs.
(4) Provide educational facilities and opportunities.

Management Objectives:

IUA #

1 **Little River State Park** was built in the 1960s and consists of two areas (A and B), with loops through a mixed hardwood and softwood forest. They are located on the edge of Waterbury Reservoir and separated by Stevenson Brook. There are a total of 81 tent/trailer sites and 20 lean-tos. Three of the four toilet buildings have hot showers. The toilet building in loop B has been modified to be handicap accessible. A sanitary dump station is available, however the sites are not equipped with RV hookups. There are two swimming beaches for campers, along with a boat launch and boat rentals. There are many miles of roads and trails available for hiking in Mt. Mansfield State Forest. Some of the trails have been designated for mountain biking. Little River State Park receives on average 28,500 camper days per year with an additional 3,400 day-use visitors per year.

Within this area is a boat launch located at the Waterbury Dam, which is open to the public. There is no fee for use of this boat launch and it is open for use even if the park is closed.

The Little River area was first settled in the late 1700s. There was extensive settlement of the area that resulted in most of the land being cleared for farming or harvested to supply the local sawmills. By 1900 many of the farms had already been abandoned. The remaining farms

were purchased in the early 1900s. The Waterbury Dam was constructed in the 1930s, by the Civilian Conservation Corps. The reservoir was drained from 1981 to 1985 so repairs could be made to the earthen dam. It was drained again in 2000 for additional repairs. This work should be completed in 2005.

Implementation:

a. Improve and update existing facilities to meet current regulatory codes and public demands. However, RV hook-ups are not considered compatible with the goals of Vermont State Parks.
b. Convert some sites into cabins or lean-tos if demand warrants it.
c. Protect historical and cultural features within the park.
d. Maintain the existing park roads and trails. Consider expansion of trail uses, such as designated mountain bike trails. Possible user conflicts will be considered before new uses are designated. The park entrance road is gated to control vehicle access during the non-operational period.
e. Maintain and improve the boat launch facility at the dam (maintained by the Department of Environmental Conservation).
f. Manage the hemlock-hardwood forest to promote tree health and provide understory vegetation for screening between campsites.
g. Develop and manage remote campsites on the Reservoir to control use and environmental impacts. Close sites as necessary.
h. Develop additional educational and interpretative materials and information on the natural and cultural history of the area.
i. Participate in the hydroelectric relicensing process to provide high quality recreational opportunities on or near the reservoir.

2 **Waterbury Center State Park** is located on the eastern arm of the Reservoir and sits on a 90-acre peninsula. It is one of the newest facilities within Mt. Mansfield State Forest. The park provides day recreation activities with a swimming beach, concrete boat launch, and a picnic area with charcoal grills and picnic tables. The park also offers a self-guided nature trail and boat rentals. The park receives about 20,000 visits per year.

Implementation:

a. Improve and update existing facilities to meet current regulatory codes.
b. Protect historical and cultural features within the park.
c. Maintain the existing park road, parking lots and trails. The park entrance road is gated to control vehicle access during the non-operational period.
d. Maintain the day use beach area with separation from the boat launch.

e. Maintain and improve the boat launch facility.

3 **Smugglers Notch State Park** is the oldest park in Mt. Mansfield State Forest. Historically, Smugglers Notch State Park consisted of a 35-site campground situated across Route 108 from the former entrance to the Stowe Mountain Resort Ski Area. The park has recently been expanded to include the state campground, the designated Scenic Highway, the Vermont State Ski Dorm, the proposed southern and northern gateways and the various recreational, geological, historical and ecological attractions (to include the Long Trail and side trails, Big Spring, Elephant's Head Scenic Vista, Sterling Pond, Smugglers Notch proper, and the picnic area). Within the park are accesses to the Long Trail and a number of side trails to the summit of Mt. Mansfield and Sterling Pond. The 72-acre Bingham Falls parcel was acquired in 2001 and is part of Smugglers Notch State Park.

Smugglers Notch State Park campground receives about 8,400 campers per year. The four campsites constructed by the CCC, in the 1930s, are listed on the National and Stat Register of Historic Places for their architectural significance relating to the CCC. The State Ski Dorm is also listed on the State Register of Historic Places.

Since there is no controlled access to the notch proper, it is hard to determine how many people travel through the notch during a season. Use of the hiking trails can be an indication of the number of people there. The Long Trail to Sterling Pond averages 12,800 hikers per year and the Long Trail to Taft Lodge averages 8,400 hikers per year. A black bear travel corridor has been documented along VT Route 108 within the Smugglers Notch State Park. The corridor provides linkage for movement within their range.

The Vermont State Ski Dorm was the longest operating ski hostel in the area. It closed to overnight guests in 1998 because it did not meet fire safety codes. The Stone Hut, located near the Octagon, is used by GMC Ranger Naturalists during the summer and available for overnight accommodations during the winter.

On May 2, 1996 the Vermont State Legislature authorized the Commissioner of the Department of Forests, Parks and Recreation "to enter into an exchange of land, whereby the state would convey a portion of its land holdings in the Town of Stowe, not to exceed 25 acres in size, which are currently part of Mt. Mansfield State Forest, and upon which the Smugglers' Notch State Park (SNSP) campground facilities are situated at present, to Mt. Mansfield Company, Inc., doing business as Stowe Mountain Resort (SMR), in exchange for a number of parcels of land SMR

owns in the Towns of Stowe and Cambridge, consisting of 1,092 acres, which have an appraised value equal to or greater than the state-owned parcel being conveyed." At this time, a new campground across from Bingham Falls is being constructed to replace the existing SNSP. When the new campground is ready to operate the exchange will be transacted. For more information on the various exchange parcels see Appendix E.

Implementation:

a. Improve and update existing facilities to meet current regulatory codes and public demands, to include the campground facilities, Stone Hut, Ski Dorm and parking in the notch. (Work with Stowe Mountain Resort during construction of the new campground).
b. Protect historical and cultural features within the park. As part of the land exchange, the CCC structures in the existing campground must be relocated to the new campground.
c. Protect black bear travel corridors.
d. Maintain the existing park roads, excluding VT Route 108, which is a State highway and maintained by the Agency of Transportation (AOT).
e. Maintain the Long Trail and associated side trails. The trail system will be monitored to determine if trail closings or relocations are necessary. The Long Trail north from Route 108 may be moved to the Elephant's Head Trail to eliminate the road walk for through hikers. This relocation may require extensive work on the Elephant's Head Trail to make it an easier hike for backpackers.
f. Maintain the Bingham Falls parcel in an undeveloped state. No buildings will be constructed. Trails will be evaluated to determine the need for stabilization or closing. Formalize and develop trails to Bingham Falls to protect resources and for public safety.
g. Manage the northern hardwood forest to promote tree health and provide understory vegetation for screening between campsites.
h. Continue to be a partner in management of the Scenic Highway Corridor. Management will follow the Smugglers Notch Scenic Highway Plan, which includes development of the southern and northern gateways, and parking issues in the notch proper and at trailheads.
i. Develop educational and interpretative materials and public information for Mt. Mansfield State Forest and its natural and cultural history.
k. Monitor winter use of the notch and develop management strategies as appropriate.

4 **Underhill State Park** is located on the west slope of Mt. Mansfield near the headwaters of the Brown's River. Facility development was initiated by the Civilian Conservation Corp in the 1930s and is cited in the National

Registry of Historic Places. There is an upper camping area, generally reserved for organized group use, and a lower camping area. Vehicle access to the upper area is restricted by a locked gate. Facilities in the upper area include nine lean-tos, a vault privy, and water supply standpipes. The park's water supply (deep well, solar array for pump power, and water storage/pumphouse control building) is located above the upper camping area, beside the CCC Road.

In the lower camping area are 11 tent sites, 6 lean-tos, a ranger station/residence, group picnic shelter, parking areas and toilet building. The toilet building has cold water and flush toilets, but no showers. The campground is not recommended for use by campers with RVs or camper trailers, in part because of the steep three-mile access road, but also because the sites are walk-in from the parking area. Most of Underhill's approximately 10,000 annual visitors (2,500 camper, 7,500 day-use) come to hike. Four trails from the park access the Mt. Mansfield summit ridge. The trails are part of the Long Trail system, and a number of loops are possible.

Implementation:

a. Improve and update existing facilities to meet current regulatory codes and public demand.
b. Protect historical and cultural features within the park. Management activities will follow guidelines established by the National Registry of Historic Places.
c. Maintain the existing park roads.
d. Maintain the trail system. The trail system will be monitored to determine if trail closings or relocations are necessary.
e. Manage the northern hardwood forest to promote tree health and provide understory vegetation for screening between camp sites.
f. Develop educational and interpretative materials and public information for the natural and cultural resources of the park and region.

SKI AREAS

Management Goals:

(1) Protect the natural and historic resources while providing high quality winter and summer recreational opportunities.
(2) Prevent soil erosion in the cleared ski trails and access roads.
(3) Maintain high quality water resources.

It is important to note that all activities within the ski area are subject to Act 250 review.

Management Objectives:

IUA #

5 **Stowe Mountain Resort Ski Area** (SMR) is located on the east slope of Mt. Mansfield in the Town of Stowe. The original lease was developed in 1938 with the Mt. Mansfield Lift Company. The current lease runs until the year 2057. Currently the ski area encompasses 480 acres, and contains 11 lifts, 48 trails and 39 miles of skiing. Stowe Mountain Resort owns and operates the Cliff House and Octagon. They also own and operate the Toll Road, which is open from Memorial Day through October. The Toll Road allows approximately 18,000 people to access the summit of Mt. Mansfield each year. The Montane Spruce-Fir natural community is mapped as Bicknell's thrush habitat. While Bicknell's thrush is not on the state's endangered species list it does warrant special consideration because of its very specific habitat requirements and the limited amount of habitat in the northeast region.

Implementation:

a. Review annual work plans prior to construction season.
e. Inspect and monitor construction work to prevent erosion problems.
f. When SMR proposes repair, replacement, or expansion of existing facilities, ANR will work closely with them to assure that the projects are consistent with the resort's master plan, that existing cultural and natural resource impacts are mitigated whenever possible and that additional impacts are avoided or minimized.
d. Maintain high quality Bicknell's thrush habitat. This will mean no net loss of understory vegetation in this area. Clearing of new trails and glades will not be allowed in Bicknell's thrush habitat.
e. Manage around the mapped beech stands to promote their wildlife function and values.

6 **Smugglers Notch Resort Ski Area** (SNR) is located on the west side of Mt. Mansfield State Forest and is north of the notch proper. The original lease started in 1956 with the Smugglers Notch Ski-Ways Corp. The current lease runs until 2058. The resort consists of 1,000 acres of terrain with 70 trails and 76 miles of skiing. The three mountains; Madonna, Sterling and Morse are all interconnected by lifts and trails. The Montane Spruce-Fir natural community is mapped as Bicknell's thrush habitat. Within this area are a number of small beech stands that are used by black bears and other wildlife species.

Implementation:

a. Review annual work plans prior to construction season.
b. Inspect and monitor construction work to prevent erosion problems.
c. When SNR proposes repair, replacement, or expansion of existing facilities, ANR will work closely with them to assure that the projects

are consistent with the resort's master plan, that existing cultural and natural resource impacts are mitigated whenever possible and that additional impacts are avoided or minimized.

d. Maintain high quality Bicknell's thrush habitat. This will mean no net loss of understory vegetation in this area. Clearing of new trails and glades will not be allowed in Bicknell's thrush habitat.

e. Manage around the mapped beech stands to promote their wildlife function and values.

Intensive Use Areas Map

Water Resources

The management of Mt. Mansfield State Forest by the Department of Forests, Parks and Recreation will, at minimum, maintain the quality of all surface waters associated with the land. It is understood that agricultural and silvicultural activities that follow Accepted Agricultural Practices and Acceptable Management Practices are presumed to conform with the rebuttable presumption of compliance with Vermont's Water Quality Standards.

Managers of ANR land holdings will cooperate with the ANR's Department of Environmental Conservation, Water Quality Division's watershed planning initiatives for the Lamoille River Basin and others as they are undertaken.

The watershed basin planning effort includes the determination of the water classification and water management type of all waters located within the basin(s). Through this process the assignment of a water classification and water management type for all waters will take into consideration the existing water quality, the desired water quality, and whether or not the desired quality is attainable.

By Vermont statute, all waters above 2,500 feet in elevation are classified as A1 (water management type) and are managed to maintain their natural condition.

The goal for the water management type of waters below 2,500 feet that flow through ANR lands is of a high level (potentially B1). B1 waters are managed to maintain an almost natural condition showing minimal changes from reference conditions for aquatic macroinvertebrates and fish assemblages. Possible exceptions to B1 typing include the following:

- where water level is fluctuated for ski area water withdrawal
- where water level fluctuates due to dam bypass area
- where agricultural lands are located adjacent to waters
- situations where B1 water quality is otherwise unattainable.

On Mt. Mansfield State Forest the West Branch of the Little River, below Stowe Mountain Resort, is listed as an impaired waterway. As a result, any construction draining into this waterway will receive intense scrutiny. Skiing, hiking and other recreational trail construction will be closely monitored and controlled.

Section V Schedule of Activities for the Next 20 Years

The long-range management plan outlines in a general way how the Mt. Mansfield State Forest will be managed for the foreseeable future. Management activities to be undertaken in a particular year are detailed in the annual stewardship plan prepared by the District Stewardship Team. These are available for public review for each fiscal year beginning in June for the following July through June.

This section of the plan offers more specific details about a variety of management activities and practices that will be implemented on the forest. Some of these are of an ongoing nature, such as maintenance projects. Exactly when such projects are to be implemented often depends upon the availability of funding, which varies from year to year.

Another management activity included here is the cutting schedule for timber harvests for the next 20 years. This activity is more predictable than other activities. However, due to a variety of circumstances described in the timber sale section, harvest operations may need to be shifted a few years one way or the other. Due to the long-term durability of forests, this will have little effect on the final outcome.

Other management activities may include upgrades to existing facilities, new facilities, additions to the forest, and new demands for uses, which are unknown at this time. As these arise, they will undergo resource analysis and public review. They will then be placed in the appropriate land use classification category and managed accordingly.

The Department of Forests, Parks & Recreation is part of the Mt. Mansfield Partnership Group that also consists of the University of Vermont, Stowe Mountain Resort and the Green Mountain Club. Their goal is to work jointly to manage and protect the entire mountain including the privately owned summit ridgeline.

For management purposes, the forest is divided into smaller units called blocks, usually determined by natural features. Mt. Mansfield State Forest consists of 12 blocks. Management responsibilities are divided between District III in Essex and District IV in Barre (the Underhill and Kruse Blocks are managed by District III).

Roads

On Mt. Mansfield State Forest 42 percent of the forest is classified in the Highly Sensitive Area. The only roads in these areas are Route 108, a road into one of the VMC monitoring areas adjacent to Underhill State Park, and the Toll Road that is on a use class boundary. Any skid roads in these areas will continue to be left to grow over.

There are no plans for constructing new truck roads in any of the remaining land use classes. Maintaining the existing truck roads is an on-going process. Each year the culvert headers are cleared of leaves and other debris. Periodically the ditches are cleaned and re-established using an excavator. Culverts are repaired or replaced and the road surface is graded and graveled as needed. There are a number of bridges on various roads. The bridges will be maintained, repaired and replaced as needed. The roadsides are mowed to keep woody vegetation from growing up and closing in the roads.

There are numerous skid roads in the General and Special Use Areas that are used periodically for timber harvesting operations. When they are not in use they are closed down by waterbarring, removal of temporary water crossings, and blocking access.

Wildlife Habitat

Scattered throughout Mt. Mansfield State Forest are old fields and apple orchards. These grassy openings serve important wildlife functions for a variety of birds, mammals and reptiles. Maintaining the openings requires constant attention. These areas are mowed on a three-year schedule. Mowing occurs after August 15th to protect ground nesting birds. They may also be maintained with the use of controlled burning. The burning season in Vermont is very short and occurs before nesting begins.

The most current guidelines will be used to address management of riparian habitats, bear travel corridors, beech stands used as fall feeding areas, and other wildlife habitats. Den and snag trees will be maintained to provide habitat for cavity nesting birds and mammals.

Most of the deer wintering areas on Mt. Mansfield State Forest are mixed hemlock-hardwood stands They are managed to promote the health of the softwood trees which enhances their ability to function as winter cover and provide hardwood browse in close proximity to the winter cover. This reduces the energy that deer will need to use in the search for food. These treatments will be accomplished as part of larger commercial timber sales included in the Timber Sale section.

Fiscal Year	Block	Sale #	Treatment
2004	Ricker	1	Deer Wintering Area
2009	Blush Hill	2	Deer Wintering Area
2013	Blush Hill	3	Deer Wintering Area
2013	Woodward Hill	4	Deer Wintering Area
2016	Ricker	6	Deer Wintering Area
2021	Blush Hill	4	Deer Wintering Area
2021	Cotton Brook	7	Deer Wintering Area

Timber Sale Schedule

The timber management goals for Mt. Mansfield State Forest include: manage on a sustainable basis; improve tree quality, vigor and species composition; improve wildlife habitat where opportunities present; maintain high standards for water quality; practice demonstration quality silviculture; maintain the high scenic quality of the Mt. Mansfield range; work with the natural community classifications to assure appropriate species composition on each site; and accommodate recreational uses where possible.

A detailed sale prescription will be prepared for each project at the time it appears in the Annual Stewardship Plan. Each block will be re-inventoried on a 10- to 20-year schedule. This timber sale schedule covers all treatments in the General and Special Use Areas. Management of wetlands, vernal pools, riparian areas, den and snag trees, bear corridors, and mast stands are implemented in each sale based on Agency of Natural Resource guidelines.

This Timber Sale Schedule is subject to change, depending on the results of more current inventories, improved silvicultural or habitat guidelines, insect and disease outbreaks, floods, wind and ice storms, exceptionally wet or snowy years, access problems, district workloads, markets, and the identification of new sensitive sites. Recognized U.S. Forest Service silvicultural guides will be used when developing stand prescriptions for timber harvests. Because forest management is a long-term proposition, shifting harvesting operations a couple years one way or the other has little effect on the final outcome. Unevenaged silvicultural practices will be the primary guide to manage the northern hardwood forest. Evenaged silvicultural practices will be used to manage the softwood plantations and maintain areas of early successional species.

The following schedule of timber sales on Mt. Mansfield State Forest has been developed for the time period Fiscal Year 2004 through 2024.

Fiscal Year	Block	Sale #	Treatment
2004	Ricker	1	Selection
	Woodward Hill	1	Thinning
2005	Cotton Brook	1	Overstory Removal/Selection
2006	Burt Nebraska	1	Selection/Group Selection
	Blush Hill	1	Thinning/Selection
2007	Morse	1	Selection/Group Selection
	Ricker	2	Selection
	Woodward Hill	2	Selection/Thinning/Patch Cuts
2008	Cotton Brook	2	Selection/ Overstory Removal/Patch Cut
	Morse	2	Selection
2009	French Hill	1	Selection/Shelterwood/Patch Cuts
2010	Morse	3	Selection. Overstory Removal
	Ricker	3	Selection
	Woodward Hill	3	Selection/Group Selection/Overstory Removal
2011	Burt Nebraska	2	Selection/Group Selection
	Cotton Brook	3	Selection
2012	Morse	4	Selection
	Ricker	4	Patch Cuts/Thinning
	Beaver Meadow	1	Selection/Group Selection
2013	Woodward Hill	4	Selection
2014	Cotton Brook	4	Selection
	Ricker	5	Selection/Patch Cuts
	Underhill	1	Selection/Group Selection
2015	French Hill	2	Selection
	Morse	5	Selection
	Woodward Hill	5	Selection
	Beaver Meadow	2	Selection/Patch Cuts/Thinning
2016	Burt Nebraska	3	Selection
	Ricker	6	Selection/Group Selection
2017	Cotton Brook	5	Selection
	Woodward Hill	6	Selection
2018	Ricker	7	Selection/Patch Cuts
	Beaver Meadow	3	Selection
2019	Burt Nebraska	4	Selection
	Cotton Brook	6	Selection
	Woodward Hill	7	Thinning (Sale area 1 retreated)
2020	French Hill	3	Selection/Group Selection
	Ricker	8	Selection
2021	Cotton Brook	7	Selection
2022	Burt Nebraska	5	Selection

2023	Cotton Brook	8	Selection
	Ricker	9	Selection (Sale area 1 retreated)
2024	Burt Nebraska	6	Selection

Other Operations: In addition to the above projected timber harvesting operations, stands adjacent to driveable roads may be subject to improvement thinning through the Department's Roadside Fuelwood Program at any time during the span of the management plan. Harvesting operations may also be done as part of training workshops, demonstration projects, salvage of storm or insect and disease damaged trees, removal of hazard trees in Intensive Use Areas, research studies, and maintenance and development in the ski areas. Access to state land is a problem in some areas. Therefore, some timber sales may be operated when adjacent landowners are conducting timber sales.

Mt. Mansfield State Forest Map - Timber Sales for 2004 to 2024

Recreation

Management Responsibilities - Management responsibilities for recreation on Mt. Mansfield State Forest are divided between the Forestry and Parks Divisions. The Parks Division manages campgrounds, picnic areas, day use areas, buildings and other intensively use sites. The Forestry Division manages the extensive recreational opportunities such as hiking, snowmobiling, cross-country skiing, mountain biking, and primitive camping. The ski areas are the responsibility of the Department Lands Administration Section with field assistance provided by district forestry and parks staff.

There are a variety of maintenance projects that take place each year from work on trails, to the facilities in the campgrounds. It is an ongoing process. Most of the trail work on Mt. Mansfield State Forest is funded through the Vermont Recreation Trails Fund, a fund set up using gas tax receipts from non-highway sales of gasoline. There exists a huge network of trails on the forest. They include, but are not limited to, snowmobile trails, hiking trails, mountain bike trails, cross-country ski trails and combinations of these. Projects within the campgrounds and day use area include maintenance of buildings, beaches, boat launches and other associated facilities and upgrades to systems (water, sewer, electrical) that support use of the areas.

Hiking:

- Work with the Green Mountain Club (GMC) to maintain the Long Trail system, reduce environmental impacts in the highly sensitive areas and around trail shelters.
- Maintain other trails that are not part of the Long Trail system, ie. Trails at Little River State Park, Bingham Falls.
- Monitor levels of use to identify future needs and problem areas.
- Address the issue of winter parking at trailheads.

Snowmobiling:

- Work with the Vermont Association of Snow Travelers (VAST) to maintain the trail network, reduce environmental and user group conflicts and provide a high quality experience.
- Monitor snowmobile trail use to identify future needs and problem areas.
- Address the growing demand for commercial snowmobile tour use of state lands.

Hunting, Fishing & Trapping:

- Manage wildlife habitats to enhance the carrying capacity of the resource.
- Open the state park campgrounds during the November deer season for

camping with self-contained RVs and campers.

Cross-country Skiing:

♦ Work with the Catamount Trail Association (CTA) and other cross-country skiing groups to maintain the back-country trails, address issues of environmental impacts and safety.

♦ Address the issue of winter parking at trailheads.

Mountain Biking:

♦ Work with the Vermont Mountain Bike Advocates (VMBA) and other mountain bike organizations to address issues of trail maintenance, environmental impacts, signage, policing use, and designating new trails.

♦ Keep mountain bike activity out of the upper elevations and other sensitive areas.

♦ Monitor levels of mountain bike activity to identify future needs and problem areas.

Rock and Ice Climbing, Bouldering:

♦ Monitor levels of use to identify future needs and problem areas.

Camping:

♦ Remove hazard trees within the developed campgrounds.

♦ Maintain buildings and facilities.

♦ Convert tent sites to leantos as appropriate.

♦ Provide areas for primitive camping.

Constructing New Trails and Recreational Facilities

Many things have changed from the time when most of the trails on Mt. Mansfield State Forest were constructed. Today construction projects for new trails must go through an extensive review process. The following are some of the issues that must be addressed before a new trail can be approved:

$ Does the parcel deed allow the activity?

$ Is the activity consistent with agency and department policies?

$ Is it compatible with the land use classification? Recreation Opportunity Spectrum (ROS) classification?

$ Are there significant resource issues? wildlife habitat; rare, threatened and endangered species; wetlands; cultural/historic, etc.

$ Are there other user group conflicts?

$ Is an Act 250 permit required? local permits required?

$ Is a storm water permit required? wetland permits?

$ Who will be responsible for construction, maintenance, signing, parking, enforcement, etc.?

A new project can take a significant commitment of time and energy from

conception to construction. Because of the district's small staff and many other responsibilities, the Department of Forests, Parks and Recreation will seldom propose a new trail or recreational facility unless it is to resolve an environmental issue, user conflict or to meet recreational needs and demands. Therefore, it will take a very committed organization or individual to get a new trail effort off the drawing board and onto the ground and take on responsibility for maintenance.

New/Unknown Recreational Uses of existing trails are always surfacing. Again they will have to go through a similar review process before use can occur.

Any organization interested in developing new trails or designating new uses for existing trails should start by contacting the State Lands Stewardship Forester in the Barre Office.

Research Activities Under the Vermont Monitoring Cooperative (VMC)

Underhill and Burt Ranch Blocks

The Vermont Monitoring Cooperative organization coordinates monitoring and research of forested ecosystems conducted by various scientists and organizations. Many studies are ongoing to monitor trends in the environment (i.e. weather, air quality, water quality, etc.) and in organisms within forests (i.e. birds, amphibians, trees, stream organisms, etc.). Other studies address specific research questions currently important to natural resource management and that can be accomplished given the natural resource features of Mount Mansfield. While the timing of implementing projects is subject to annual fluctuations in research funds, the following outlines the types of studies currently planned or implemented. Many are distributed throughout the VMC research area. Several are restricted to Underhill or Burt Ranch and are identified as such. Details are available through the VMC web site: http://vmc.snr.uvm.edu

Underhill Block

This is the area currently used for the Forest Ecosystem Management Demonstration Project. Many scientists are collecting data on the forest ecosystem, economics, and social values associated with this forest. Silvicultural treatments will be conducted during the winter of 2002-2003 using both typical practices (single tree selection, group selection) and new silviculture whose goal is to accelerate development of old-growth characteristics. Results on ecological effects, silvicultural success, economic and social tradeoffs will be collected over the next five years. Tours are planned to demonstrate results to foresters, landowners and the public.

Burt Ranch and Smugglers Notch Blocks

This is the area currently used for the High Elevation Paired Watershed Study. Burt Ranch serves as the undeveloped forested watershed, and is compared to part of the Smugglers Notch Block (West Branch Watershed) where the Stowe Mountain Resort has developed ski trails, lodges, parking lots, and resort facilities. Cooperating with the Stowe Mountain Resort, permanently established stream gage stations on Ranch Brook and West Branch Brook provide a watershed framework for other VMC research on nutrient cycling, forest health, aquatic macroinvertebrates, stream water quality and sediment transport. Valuable data on the impacts of high elevation development are intended to further natural resource planning. Effects of snowmaking on hydrology and water quality should provide unique data for applications throughout the northeast.

Water Resources

In order to achieve the goals of 10 V.S.A. §1250 (Water Pollution Control) and 33 U.S.C. § et seq. (Clean Water Act), management practices on Agency of Natural Resources lands will, to the extent feasible, restore and maintain the quality of the state's waters and aquatic habitats. All management activities will conform with Vermont Water Quality Standards and Vermont Wetland Rules, and will follow guidance provided in the documents found in Appendix H.

♦ Cooperate with the Department of Environmental Conservation, Water Quality Division on their watershed planning initiatives for the Lamoille and Winooski Rivers.

♦ Manage waters according to their classification and typing.

Cultural Resources

Land management practices on Agency of Natural Resources lands will protect and maintain cultural and historic resources. Known cultural sites will be documented for future reference, as will new sites as they are found. As resources become available our knowledge of pre-European settlement will be improved.

Section VI Monitoring and Evaluation

Each year the Long-Range Management Plan for Mt. Mansfield State Forest is in effect, monitoring will be conducted by the Agency of Natural Resources with the goal that state-owned resources are protected from insects and diseases, encroachments and unforeseen problems that may occur. Additionally, management activities will be evaluated to determine how closely the actual results match those projected within the plan. The Agency of Natural Resources may make recommendations for changes in planned activities to reflect the changed conditions or unanticipated results. Any major changes to the plan would be proposed as amendments and would be subject to public review and approval by the Agency's State Lands Stewardship Team and the appropriate department commissioner.

A. **Forest Health**

The health of the forest within Mt. Mansfield State Forest will be monitored annually by department personnel through a system of aerial observations and ground checking. Significant changes in forest conditions will be recorded and investigated by the forest protection staff. They will provide specific information on identified problems sufficient to make informed management decisions and will assist the state lands staff in formulating appropriate management strategies.

B. **Natural Communities**

The health of the natural communities within Mt. Mansfield State Forest will be monitored periodically. The state lands ecologist will assist in determining if changes to the natural community designation should be made. The monitoring will help determine recommendations for managing natural communities including rare, threatened and endangered species. Natural communities will also be monitored for the presence of invasive exotic plant and animal species. Recommendations will be made for possible control measures.

C. **Vegetation Management**

Timber harvests and wildlife management practices completed on Mt. Mansfield State Forest will be periodically monitored by the stewardship forester and district stewardship team to determine if the planned objectives are being met. If the monitoring results indicate that there is a significant difference between the outcomes predicted in the plan and the actual conditions, the Agency of Natural Resources may recommend changes.

D. **Recreational Trails and Opportunities**

Trails will be monitored for types and amounts of use they receive. They will be monitored for maintenance and repair needs. Work will be scheduled as needed.

E. **Roads**

All truck roads will be monitored to determine if erosion problems exist and when repairs to structures are needed. Recommendations will be made to make necessary repairs.

F. **Water Resources and Aquatic Habitat**

The water resources on Mt. Mansfield State Forest will be monitored to ensure that management objectives are attained. Monitoring will be conducted in the context of programs carried out by various departments of the Agency of Natural Resources. The Vermont Monitoring Cooperative will conduct research on a paired watershed on the east side of Mt. Mansfield to study nutrient cycling, forest health, aquatic macroinvertebrates, stream water quality and sediment transport.