

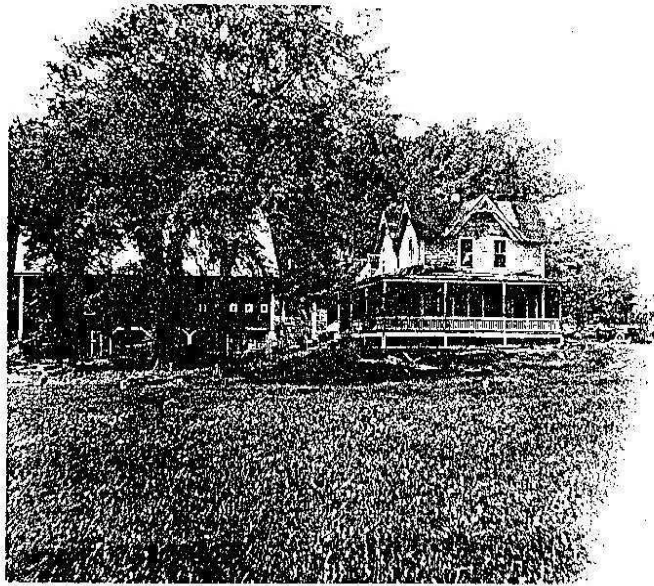
VII. APPENDIX

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APPENDIX A. Camp Plymouth Topo Map.

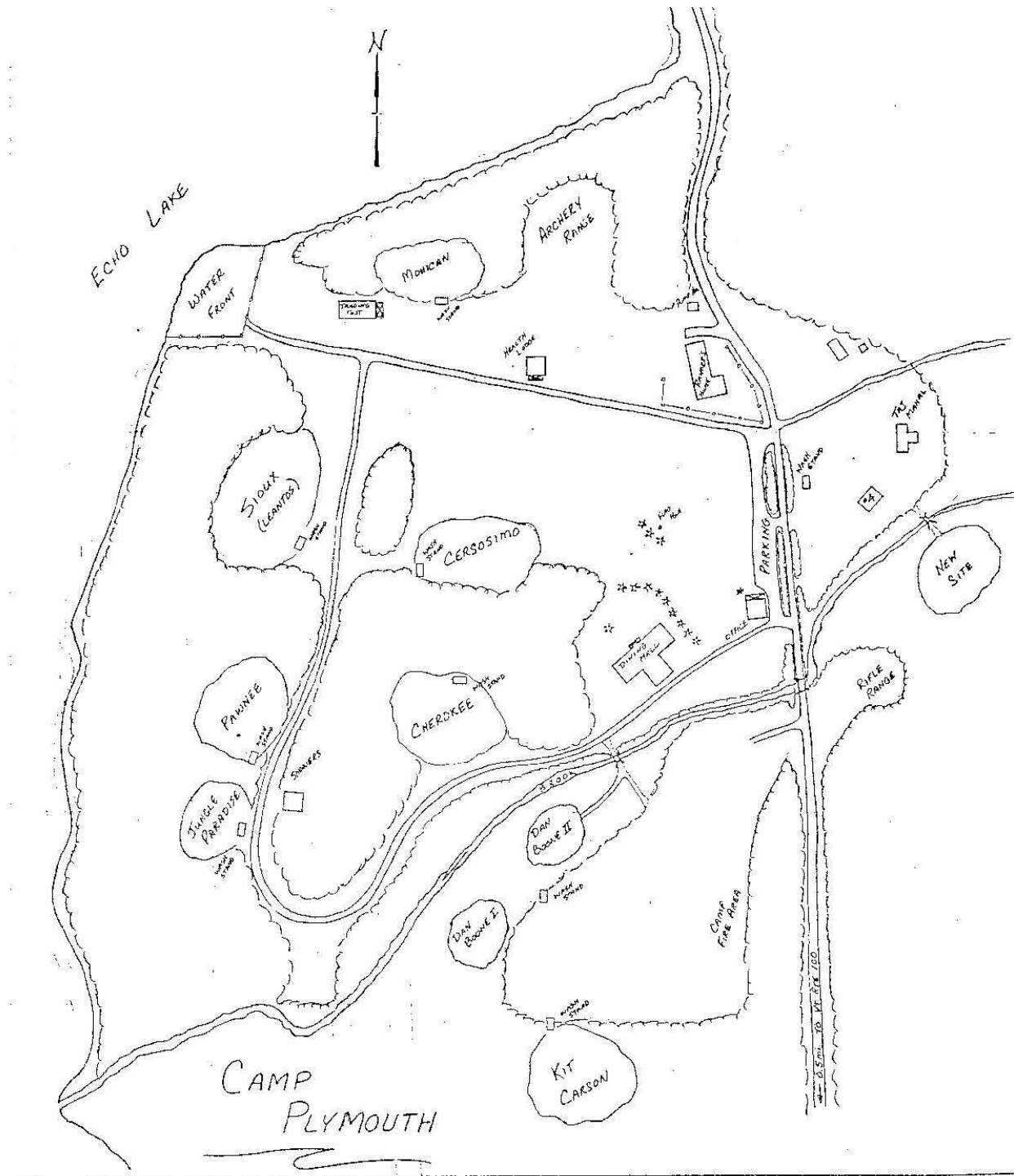
APPENDIX B. Camp Plymouth Orthophoto.

APPENDIX C. Additional historic information.



Pollard House & Barn circa 1925

Additional historic information



Sketch of Camp Plymouth, Boy Scouts of America
drawn in 1971 by Klint Wigren, RC&D Forester

APPENDIX D.
Birds, Reptiles, Amphibians, and Mammals observed
at Camp Plymouth State Park.

Amphibians

Eastern American Toad (*Bufo americanus*)
Gray Tree Frog (*Hyla versicolor*)
Green Frog (*Rana clamitans*)
Northern Spring Peeper (*Hyla crucifer*)
Northern Two-lined Salamander (*Eurycea bislineata*)
Red-backed Salamander (*Plethodon cinereus*)
Red-spotted Newt (*Notophthalmus viridescens*)
Spotted Salamander (*Ambystoma maculatum*)
Wood Frog (*Rana sylvatica*)

Reptiles

Common Snapping Turtle (*Chelydra serpentina*)
Eastern Garter Snake (*Thamnophis sirtalis*)
Eastern Painted Turtle (*Chrysemys picta*)

Mammals

American Black Bear (*Ursus americanus*)
Beaver (*Castor canadensis*)
Bobcat (*Felix rufus*)
Gray Squirrel (*Sciurus carolinensis*)
Coyote (*Canis latrans*)
Domestic Dog (*Canis domesticus*)
Domestic Cat (*Felis domesticus*)
Eastern Chipmunk (*Tamias striatus*)
Fisher (*Martes pennanti*)
Meadow Vole (*Microtus pennsylvanicus*)
Mink (*Mustela vison*)
Moose (*Alces alces*)
Muskrat (*Ondatra zibethicus*)
Porcupine (*Erethizon dorsatum*)
Raccoon (*Procyon lotor*)
River Otter (*Lutra canadensis*)
Red Fox (*Vulpes vulpes*)
Red Squirrel (*Tamiasciurus hudsonicus*)
Snowshoe Hare (*Lepus americanus*)
White-footed Mouse (*Peromyscus maniculatus*)
White-tailed Deer (*Odocoileus virginianus*)

Birds

American Crow (*Corvus brachyrhynchos*)
American Goldfinch (*Carduelis tristis*)
American Robin (*Turdus migratorius*)
American Tree Sparrow (*Spizella arborea*)
American Woodcock (*Scolopax minor*)
Barn Swallow (*Hirundo rustica*)
Barred Owl (*Strix varia*)
Belted Kingfisher (*Ceryle alcyon*)
Black and White Warbler (*Mniotilta viria*)
Blackburnian Warbler (*Dendroica fusca*)
Black-capped Chickadee (*Parus atricapillus*)
Blue Jay (*Cyanocitta cristata*)
Blue-gray Gnatcatcher (*Poliophtila caerulea*)
Brewers Blackbird (*Euphagus cyanocephalus*)
Canada Goose (*Branta canadensis*)
Cedar Waxwing (*Bombycilla cedrorum*)
Chipping Sparrow (*Spizella passerina*)
Common Grackle (*Quiscalus quiscula*)
Common Raven (*Corvus corax*)
Common Yellowthroat (*Geothlypis trichas*)
Dark-eyed Junco (*Junco hyemalis*)
Downy Woodpecker (*Picoides pubescens*)
Eastern Phoebe (*Sayornis phoebe*)
Eastern Redstart (*Setophaga ruticilla*)
Eastern Wood Peewee (*Contopus virens*)
European Starlings (*Sturnus vulgaris*)
Fox Sparrow (*Passerella iliaca*)
Golden-crowned Kinglet (*Regulus satrapa*)
Gray Catbird (*Dumetella carolinensis*)
Great Blue Heron (*Ardea herodias*)
Green-wing Teal (*Anas crecca*)
Hairy Woodpecker (*Picoides villosus*)
Hermit Thrush (*Catharus guttatus*)
House Sparrow (*Passer domesticus*)
Mallard (*Anas platyrhynchos*)
Mourning Dove (*Zenaida macroura*)
Northern Flicker (*Colaptes auratus*)
Northern Oriole (*Icterus galbula*)
Northern Rough-winged Swallow (*Stelgidopteryx serripennis*)
Northern Waterthrush (*Seiurus noveboracensis*)
Oven Bird (*Seiurus aurocapillus*)
Purple Finch (*Carpodacus purpureus*)
Red-breasted Grosbeak (*Pheucticus ludovicianus*)
Red-eyed Vireo (*Vireo olivaceus*)
Red-tailed Hawk (*Buteo jamaicensis*)
Red-wing Blackbird (*Agelaius phoeniceus*)
Ruby-throated Hummingbird (*Archilochus colubris*)
Ruffed Grouse (*Bonasa umbellus*)
Song Sparrow (*Melospiza melodia*)

Spotted Sandpiper (*Actitis macularia*)
Tree Swallow (*Tachycineta bicolor*)
Tufted Titmouse (*Parus bicolor*)
Turkey Vulture (*Cathartes aura*)
Veery (*Catharus fuscescens*)
Warbling Vireo (*Vireo gilvus*)
White-breasted Nuthatch (*Sitta carolinensis*)
White-crowned Sparrow (*Zonotrichia leucophrys*)
Wild Turkey (*Meleagris gallopavo*)
Wilson's Warbler (*Wilsonia pusilla*)
Winter Wren (*Troglodytes troglodytes*)
Wood Thrush (*Hylocichla mustelina*)
Yellow Warbler (*Dendroica petechia*)
Yellow-throated Vireo (*Vireo flavifrons*)

APPENDIX E. Public Input **Response to Comments**

Comments received during public involvement meeting held on 6/17/03 and the 30-day public comment period following the meeting. Comments are in italics.

One comment was received during the 60-day public comment period following the release of the draft plan. This comment is located on page 64 and is marked with an asterisk (*).

- **Traffic Issues:** *Can traffic be directed to both roads to alleviate use on Kingdom Road? Increased traffic is a local problem. Sign at Boy Scout Road. Would hate to see big increase in use and need control signs at other end. Two accesses.*

We recognize that the park generates a significant amount of local traffic during the park's operating season. There is no reason that the current levels should greatly increase.

Three signs will be added to divert some traffic from the Tyson Reading and Kingdom Road to Scout Camp Road. We will work towards getting landowner permission to place a travel information sign on Route 100, north of Hawk Mountain Resort. This sign will direct folks traveling south on Route 100 from Bridgewater Corners to access the park from the Hawk Mountain Resort (northern) end of Scout Camp Road instead of from the Tyson Reading/Kingdom Road. Two additional signs will be placed in the park. Visitors leaving the park will be directed north (left) on Scout Camp road to access Route 100 north or directed south (right) to Route 100 south.

The District Stewardship Forester from the VT Department of FP&R met with the Plymouth Selectboard at their September 3rd meeting. The selectboard stated that the current speed limits posted were advised by the Windsor County Sheriff's Department and are thought to be reasonable. They also stated that in the past a sheriff has set up near the residential area at the beginning of the Tyson Reading Road. Their assessment was that most folks were within the speed limit though a few exceeded the limit. Those folks were issued fines.

The selectboard did not have an opinion at this time regarding further reductions. The road is well signed for current speed limits. The selectboard indicated they would be open to listen if they were approached by a group of citizens about reducing the speed limits. FPR will send an outline of the process for getting speed limits reduced to the folks who attended the meeting.

- **Camping Concerns:**
 - *The original promise for no horses, no overnight camping, etc. by/to trustees was not honored.*
 - *Would like to see electrical hookups at campsites in Vermont state parks. Owns a pop-up trailer, not a large travel trailer. Hookups encourage more people to use state parks.*

The property deed for Camp Plymouth State Park contains no restrictions against camping at the park. The Vermont Land Trust was involved with the acquisition of Camp Plymouth State Park and according to their records, there is no evidence of any discussions or promises to prohibit camping.

Group camping appears to be part of FP&R's original plan for Camp Plymouth State Park. The philosophy statement for the Camp Plymouth State Park Steering Committee written by FP&R in 1984 states: Camp Plymouth State Park will be operated primarily as a day use area with group camping and other group day use activities as defined in our rules and regulations.

No expansion is planned regarding camping in the park. The primary focus of the park will remain day use. The rustic group camping facilities on the south side of Buffalo Brook will continue to be utilized by groups and occasional campers with horses. Over the past three years we have had a total of approximately ten campers with horses. This should not increase significantly.

There are also no plans for adding electric, water, or sewer hook-ups to the park. Vermont State Park policy prohibits providing any hook-ups to campers in any state park. At Camp Plymouth there are two sites with full hook-ups for use by park staff and volunteers.

- **Gold Panning:** *The most important value of Camp Plymouth State Park is the availability of a gold panning area.*

Hand panning for gold is an allowed recreational activity within Camp Plymouth State Park. Vermont Department of FP&R regulations allows gold panning on FP&R lands only by traditional hand-panning techniques. The use of mechanical techniques including dredges or sluices is prohibited. When hand panning, excavating or disturbing streambanks is prohibited, only the streambed shall be exposed to mining activities.

Gold panning is also allowed on private lands, but mechanical dredging requires both a permit from the Stream Alteration Engineer of the Vermont Water Quality Division and permission from the landowner.

- **Park Educational Programs:** *How about summer evening/weekend programs to teach campers/visitors about mammals, birds, insects, reptiles, amphibians, flowers, trees, **and** rocks and minerals including gold panning?*

Each park region has a staff of naturalists who conduct educational programs at state parks. Programs have been conducted at Camp Plymouth State Park in the past, however the number of people that show up for this type of program has been typically very low. The park is interested in conducting such programs and is always looking for new program ideas and volunteer speakers. An interpretive birding trail consisting of several stations where information will be provided on birds and habitats is planned for the park.

- **Invasive Plants:** *Continue to pursue programs on controlling invasive species – recruit volunteers to help.*

Our management strategies for the Sugar Maple-Ostrich Fern Riverine Floodplain Forest, a 20 acre example of a rare natural community, includes monitoring and removing any invasive plants that appear in this ecologically sensitive area. Our Department provides many

opportunities for volunteers to assist with stewardship activities on state land. Future invasive plant removals could be done with volunteers.

- **Eurasian Milfoil:** *There may be milfoil on east-central portion (Bowen) #80 off Scott Terrace. Permission granted to access via #80 by landowner.*

Lake Echo at this point does not have a confirmed presence of Eurasian milfoil. A complete lake survey was done in 1990 by the Water Quality Division Lakes & Ponds Section and a follow-up survey on the north end and access in 1998. The Water Quality Division anticipates doing a full survey of Echo again in the next year or so.

Signs and informational brochures are posted at the Fish & Wildlife access but not at Camp Plymouth. We will order these for the 2004 camping season and install at the contact station and possibly the boat launch.

Three rare aquatic plants have been found in Echo Lake by the Lakes and Ponds Section. Two of these plants are native milfoils that look similar to Eurasian milfoil and could be easily mistaken for it. No member of the public should attempt control measures such as pulling milfoil without first verifying that they are dealing with a weed and not a rare plant. Assistance in identifying milfoils can be provided by the Aquatic Biologists from the Vermont Water Quality Division.

Eurasian milfoil was confirmed in Lake Rescue (Round Pond) in 1998. The Lake Rescue Association has an active control program that has reduced but not eliminated the Eurasian milfoil population. The association also has a physical presence at the Round Pond access each summer doing education and boat inspections.

The contact for Eurasian milfoil info and sightings is:

Ann Bove, Aquatic Biologist
VT Department of Environmental Conservation
Water Quality Division
103 South Main Street, 10 North
Waterbury, VT 05671-0408
(802) 241-3777
ann.bove@anr.state.vt.us

- **Buffalo Brook Road:**

- *...I am a Plymouth resident who currently uses the State Park in the following ways, mainly during the park's closed season: walking, snowshoeing, and cross-country skiing in the day use area and on the trails. I also snowmobile through the day use area and Buffalo Brook Road to pack down trails for x-country skiing and walking. During the park's open season, I walk and occasionally mountain bike on Buffalo Brook Road. I was disappointed to learn that the State would like to close, or gate, Buffalo Brook Road due to erosion. I am opposed to the attempt to close Buffalo Brook Road. Buffalo Brook Road is a public road, and has probably been a public road since the mine was in use 150 years ago. The public uses the road in many ways. I have, at various times, participated in the following activities on the road (never needing to pay a fee): hiking, snowshoeing, x-country skiing, mountain biking, snowmobiling, occasionally driving up it in a friend's jeep, and riding an off-road motorcycle. If the road is gated, I assume that it would end*

any motorized use of the road and end free use of the road. Gating the road would cause problems for anyone using vehicles on the road, including mountain bikers. Many people come down from the Reading Pond and Five Corners areas and would be inconvenienced by finding the road gated near the State Park. ...I am a little skeptical about the role of vehicles regarding the erosion of the road. I know that during the winter, we often have thaws and rain which causes damage. ...it seems possible that the erosion is caused more by excessive rain rather than by vehicles. I would ask those who will be determining the future of Buffalo Brook Road to keep in mind that people have been enjoying unrestricted access to the road for over a century before the existence of Camp Plymouth State Park.

- *The park should aggressively pursue control of the road system, gating, etc. management need to design restoration of the main road including waterbars to control downhill runoff and a plan to inspect, clean out, and repair as necessary.*
- *Would like the park to remain the same. Don't like off-road use of class four road where they hike. Worried about the bridge.*

We understand that the Buffalo Brook Road has been used by the public for motorized access between Camp Plymouth State Park and the Reading Pond/Five Corner region for many years. Because of its proximity to Buffalo Brook and the lack of maintenance over the years, the road has been completely washed out by the brook in at least one major location. The erosion is so severe that we recommend that motorized vehicles use by the public should be restricted to prevent any additional damage to the brook and the park.

The Department of Forests, Parks and Recreation will work cooperatively with the Town of Plymouth Selectboard to remove the existing wooden bridge and construct a gate and turn-around at a location agreeable to both parties. Since the roadway provides access to both Town of Plymouth and State property, keys to the gate will be provided to Town of Plymouth officials and any other landowner whose property is accessed by this road. Also, in order to ensure that vehicles do not get caught at the gate from the Reading Pond side, the Department will block the upper portion of the road near the western boundary of Arthur Davis Wildlife Management Area to motorized access.

The Buffalo Brook Road will continue to be open to many types of recreation including hiking, mountain biking, and horseback riding. As in past years, the State does not plan to charge people for use of this portion of Camp Plymouth State Park.

- *○ *...I am opposed to any gating of Buffalo Brook Road, but if the road is to be gated to reduce erosion, I would like to see the gates opened in the winter for snowmobile use. Snowmobiles certainly do not cause erosion...*

As stated on pages 41 and 42 of this long-range management plan for Camp Plymouth State Park, the Town of Plymouth considers the Buffalo Brook Road to be a Class 4 town road. Although we will recommend to the town that Buffalo Brook Road be gated at least during the snowless part of the year, this road falls under the legal jurisdiction of the town. Therefore, it is up to the Town of Plymouth to determine what activities are allowed on the road. Please refer to our previous Buffalo Brook response to review our reasons for wanting to gate this road.

APPENDIX F.

Authorization to Plan and Manage

Statutory Authority

The Vermont General Assembly has authorized the Agency of Natural Resources and its Departments to acquire lands, hold interests in lands, and conduct land management activities. Authority is vested in several statutes that collectively empower the Agency, upon approval of the Governor or General Assembly, to acquire lands, accept donations of lands or interests in lands, exchange or sell lands or interests in lands for public benefit, and to manage those lands for a variety of public purposes.

Specific authorizing statutes are:

- **Title 3, Chapter 51, Section 2825:** The primary duties of the secretary are to coordinate the activities of the various departments and divisions of the agency for the proper development, management and preservation of Vermont's natural resources, to develop policies for the proper and beneficial development, management, and preservation of resources in harmony with the state comprehensive planning program and to promote the effective application of these policies by the departments and divisions affected.
- **Title 10, Chapter 83, Section 2601:** Establishes the general purposes and policies to acquire and manage state lands and authorizes the Department of Forests, Parks & Recreation to undertake such activities.
- **Title 10, Chapter 83, Section 2603:** Establishes the general powers and duties of the commissioner of the Department of Forests, Parks & Recreation to manage state lands.
- **Title 10, Chapter 103, Section 4144:** Authorizes the Department of Fish & Wildlife to acquire state lands.
- **Title 10, Chapter 103, Section 4147:** Authorizes the Department of Fish & Wildlife to exchange, sell, or lease lands.
- **Title 10, Chapter 37, Section 905b:** Authorizes the Department of Environmental Conservation to acquire and manage lands and the rights to protect the state's water resources.
- **Title 10, Chapter 155, Section 6301-5:** Authorizes acquisition of rights less than fee of real property.

APPENDIX G.

Summary of Some Policies and Guidelines Used in the Management of Vermont Agency of Natural Resources Lands

Some of the highlights of the many policies and guidelines used in managing Vermont Agency of Natural Resources lands are listed below. In general, these were in effect at the start of this long range management plan. If more information is needed, refer to current policies and guidelines which can be made available upon request. The information is grouped into some general categories to make this document easier to use.

Acquisition of Land

Lands Conservation Plan: A Land Acquisition Strategy for the Agency of Natural Resources, October, 1999 - Standards and procedures for the Agency of Natural Resources to acquire lands.

Fish and Wildlife

Vermont hunting, fishing, and trapping regulations.

Wildlife Management Areas Operational Procedures Manual, Vermont Department of Fish and Wildlife - Standards for management of wildlife management areas.

Management Guide for Deer Wintering Areas in Vermont, Fish and Wildlife, 1990 - Standards for managing for deer.

Landowner's Guide to Wildlife Habitat Management, Fish and Wildlife, Fish and Wildlife, 1995 - Standards for managing for a variety of wildlife species on state and private land.

Native Vegetation for Lakeshores, Streamsides and Wetland Buffers, Environmental Conservation, 1994, Standards for buffer strips along lakes, streams and wetlands in Vermont.

Rare and Endangered Species - Listing of species protected under state regulations.

Gravel Pits

Forests, Parks and Recreation Policy #3, 1991 - Standards for use of gravel pits on Forests, Parks and Recreation lands.

Historic and Archaeological Resources

State of Vermont laws, rules, and guidelines applicable to historic and archeological resources, especially 22 VSA 14 and Division for Historic Preservation's *Guidelines for Conducting Archeology in Vermont*, as well as federal laws that apply.

Land Use and Development

Act 250 - Law governing plans for land use and development in Vermont.

Mountain Top Communications Facilities

Siting, Use and Management of Electronic Communication Facilities on Properties Owned by the State of Vermont, Agency of Administration, 1998.

Natural Area Designation

Natural Areas Law and Forests, Parks and Recreation Policy #7 - Standards and guidelines for designation of Natural Areas on state forest and parks lands.

Pesticides Use

Forests, Parks and Recreation Policy #9 - Regulations on the use of pesticides on state forest and parks lands.

Prescribed Fire

Prescribed Burn Directive, Vermont Department of Forests, Parks and Recreation, 1989 - Procedures for planning and execution of prescribed burns.

Recreation

Uses of State Lands, Agency of Natural Resources Policy, 1999 - Criteria for appropriate uses and when permits and licenses are and are not required.

Forests, Parks and Recreation Policies and Procedures Manual, 1990-1999 - Procedures and standards for administering recreational activities on state forests and parks lands.

State Park Ranger's Manual, Forests, Parks and Recreation, 1999 - Operating procedures, rules, regulations, and standards for recreational activity on state forests and parks land.

Scientific Research

Forests, Parks and Recreation policy # 8 - Standards and guidelines for research on state lands.

Silviculture

Silvicultural References Manual, Forests, Parks and Recreation, 1997 - Guidelines for the Intent to Heavy Cut notification process.

Acceptable Management Practices (AMP) Guidelines, 1987 - Practices for maintaining water quality on logging jobs.

Wetlands Regulations, 1990 - Regulations which outline practices for logging around wetlands in Vermont.

Native Vegetation for Lakeshores, Streamsides and Wetland Buffers, Environmental Conservation, 1994 - Standards for buffer strips along lakes, streams and wetlands in Vermont.

Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites, Vermont Department of Environmental Conservation, revised September, 1983.

Vermont Streambank Conservation Manual, Agency of Natural Resources, 1982 - Guidelines for construction around streams.

Water Resources

Acceptable Management Practices (AMP) Guidelines, 1987 - Practices for maintaining water quality on logging jobs in Vermont.

Long Trail Construction and Maintenance Standards, Green Mountain Club, 1995 - Trail construction standards for public and private land.

Native Vegetation for Lakeshores, Streamsides and Wetland Buffers, Environmental Conservation, 1994 - Standards for buffer strips along lakes, streams and wetlands

Vermont Streambank Conservation Manual, Agency of Natural Resources, 1982 - Guidelines for construction around streams.

Vermont Water Quality Standards, Vermont Water Resources Board, 7/2/00.

Vermont Wetland Rules, Vermont Water Resources Board, 1/1/02

APPENDIX H.

Glossary

The following is a series of key words and their definitions used in the development of Long Range Management Plans for Vermont Agency of Natural Resource lands.

Acceptable management practices (AMPs). In this plan, a series of erosion control measures for timber harvesting operations, as identified in state statutes. The AMPs are the proper method for the control and dispersal of water collecting on logging roads, skid trails, and log landings to minimize erosion and reduce sediment and temperature changes in streams.

All-aged (Uneven-aged) system. Timber management which produces a stand or forest composed of a variety of ages and sizes. Regeneration cutting methods in this system include single tree selection and group selection.

Basal area. A measure of the density of trees on an area. It is determined by estimating the total cross-sectional area of all trees measured at breast height (4.5 feet) expressed in square feet per acre.

Best management practices. A practice or combination of practices determined to be the most effective and practicable means of preventing negative impacts of silvicultural activities.

Biodiversity. The variety of plants and animals, their genetic variability, their interrelationships, and the biological and physical systems, communities, and landscapes in which they exist.

Biophysical region. A region with shared characteristics of climate, geology, soils, and natural vegetation. There are currently eight biophysical regions recognized in Vermont.

Block. A land management planning unit.

Browse. The part of leaf and twig growth of shrubs, vines, and trees available for animal consumption.

Buffer (Riparian Buffer Zone). The width of land adjacent to streams or lakes between the top of the bank or top of slope or mean water level and the edge of other land uses. Riparian buffer zones are typically undisturbed areas, consisting of trees, shrubs, groundcover plants, duff layer, and a naturally vegetated uneven ground surface, that protect the water body and the adjacent riparian corridor ecosystem from the impact of these land uses.

Canopy. The more or less continuous cover of branches and foliage formed collectively by the crowns of adjacent trees and other woody growth.

Capability. The potential of an area to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends on current conditions and site conditions such as climate, slope, landform, soils, and geology as well as the application of management practices such as silvicultural protection from fire, insects, and disease.

Cleaning (Weeding). Regulating the composition of a young stand by eliminating some trees and encouraging others, and also freeing seedlings or saplings from competition with ground vegetation, vines, and shrubs.

Clearcutting. A cut which removes all trees from a designated area at one time, for the purpose of creating a new, even-aged stand.

Commercial forest land. Land declared suitable for producing timber crops and not withdrawn from timber production by statute or administrative regulation.

Conservation. The careful protection, planned management, and use of natural resources to prevent their depletion, destruction, or waste.

Conservation easement. Acquisition of some rights on a parcel of land designed to keep the property undeveloped in perpetuity.

Cover. Vegetation which provides concealment and protection to wild animals.

Cultural operation. The manipulation of vegetation to control stand composition or structure, such as site improvement, forest tree improvement, increased regeneration, increased growth, or measures to control insects or disease. Examples of methods used are timber stand improvement, cleaning or weeding, release, and site preparation.

DBH (diameter at breast height). The diameter of the stem of the tree measured at breast height (4.5 feet or 1.37 meters) from the ground.

Deer wintering area. Forest area with at least 70 percent conifer that provides suitable, stable habitat to meet deer needs during the winter.

Den tree. A live tree at least 15 inches DBH (diameter at breast height) containing a natural cavity used by wildlife for nesting, brood rearing, hibernating, daily or seasonal shelter, and escape from predators.

Developed (or intensive) recreation. Activities associated with man-made structures and facilities that result in concentrated use of an area. Examples are campgrounds and ski areas.

Diameter at breast height (DBH). The diameter of the stem of the tree measured at breast height (4.5 feet or 1.37 meters) from the ground.

Dispersed recreation. Outdoor recreation activities requiring few, if any, support facilities.

Ecological processes. The relationships between living organisms and their environment. Among these processes are natural disturbances such as periodic fire, flooding, or beaver activity; natural stresses such as disease or insects; catastrophic weather-related events such as severe storms or lightning strikes; or more subtle ongoing processes such as succession, hydrology, and nutrient cycling.

Ecological reserve. An area of land managed primarily for long-term conservation of biodiversity.

Ecosystem. A complex array of organisms, their natural environment, the interactions between them, the home of all living things, including humans, and the ecological processes that sustain the system.

Ecosystem management. The careful and skillful use of ecological, economic, social, and managerial principles in managing ecosystems to produce, restore, or sustain ecosystem integrity, uses, products, and services over the long-term.

Endangered species. A species listed on the current state or Federal endangered species list (VSA Title 10, chapter 123). Endangered species are those which are in danger of becoming extinct within the foreseeable future throughout all or a significant portion of their range.

Even-aged system. Timber management that produces a forest or stand composed of trees having relatively small differences in age. Regeneration cutting methods in this system include clearcutting, seed tree (seed cut) method, and shelterwood method.

Forest health. Condition in which forest ecosystems sustain their complexity, diversity, resiliency, and productivity.

Forest type. A natural group or association of different species of trees which commonly occur together over a large area. Forest types are defined and named after the one or more dominant species of trees, such as the spruce-fir and the birch-beech-maple types.

Forestry. The art and science of growing and managing forests and forest lands for the continuing use of their resources.

Fragmentation. Division of a large forested area into smaller patches separated by areas converted to a different land use.

Game species. Animals habitually hunted for food, particular products, sport, or trophies.

Geographic Information Systems. A computer-based means of mapping lands and resources and communicating values associated with them (GIS).

Green certification. A process, sponsored by several international organizations, that promotes sustainable forest management practices, providing a marketplace identify for forest products certified to have been grown and manufactured in a sustainable manner.

Group Selection. The removal of small groups of trees to meet a predetermined goal of size, distribution, and species.

Habitat. A place that provides seasonal or year round food, water, shelter, or other environmental conditions for an organism, community, or population of plants or animals.

Hardwood. A broad leaved, flowering tree, as distinguished from a conifer. Trees belonging to the botanical group of angiospermae.

Healthy ecosystem. An ecosystem in which structure and functions allow the maintenance of the desired conditions of biological diversity, biotic integrity, and ecological processes over time.

Heritage Sites. Sites identified by the Vermont Nongame and Natural Heritage Program of the Department of Fish and Wildlife, which have rare, threatened, or endangered species of plants or animals. Heritage sites are identified using a common standards-based methodology, which provides a scientific and universally applicable set of procedures for identifying, inventorying, and mapping these species.

Intensive (or developed) recreation. Outdoor recreation activities requiring major structures and facilities.

Interior dependent species. Those wildlife species that depend on large unbroken tracts of forest land for breeding and long term survival. The term is also often used in conjunction with neotropical migratory bird species requiring large patches of fairly homogeneous habitat for population viability.

Intermediate treatment. Any treatment or tending designed to enhance growth, quality vigor, and composition of the stand after its establishment or regeneration and prior to the final harvest.

Land conservation. The acquisition or protection through easements of land for wildlife habitat, developed state parks, and working forests.

Landscape. A heterogeneous area of land containing groups of natural communities and clusters of interacting ecosystems. These can be of widely varying scales but normally include a range of elevations, bedrock, and soils.

Mast. The fruit (including nuts) of such plants as oaks, beech, hickories, dogwood, blueberry, and grape, used for food by certain wildlife species.

Motorized use. Land uses requiring or largely dependent on motor vehicles and roads.

Multiple-use forestry. Any practice of forestry fulfilling two or more objectives of management, more particularly in forest utilization (e.g. production of both wood products and deer browse).

Multiple-use management. An onsite management strategy that encourages a complementary mix of several uses on a parcel of land or water within a larger geographic area.

Native (species). A plant or animal indigenous to a particular locality.

Natural Area. Limited areas of land, designated by Vermont statute, which have retained their wilderness character, although not necessarily completely natural and undisturbed, or have rare or vanishing species of plant or animal life or similar features of interest which are worthy of preservation for the use of present and future residents of the state. They may include unique ecological, geological, scenic, and contemplative recreational areas on state lands.

Natural community. An assemblage of plants and animals that is found recurring across the landscape under similar environmental conditions, where natural processes, rather than human disturbances, prevail.

Nongame species. Animal species that are not hunted, fished, or trapped in this state. This classification is determined by the state legislature.

Northern hardwood. Primarily sugar maple, yellow birch, and beech. May include red maple, white ash, white birch, black cherry, red spruce, and hemlock.

Old growth forest. A forest stand in which natural processes and succession have occurred over a long period of time relatively undisturbed by human intervention.

Outdoor recreation. Leisure time activities that occur outdoors or utilize an outdoor area or facility.

Overstory. That portion of the trees, in a forest of more than one story, forming the upper or upper-most canopy layer.

Pole. A tree of a size between a sapling and a mature tree.

Pole timber. As used in timber survey, a size class definition; trees 5.0 to 8.9 inches (varies by species) at DBH. As used in logging operations, trees from which pole products are produced, such as telephone poles, pilings, etc.

Regeneration treatment (harvest cut). Trees are removed from the stand to create conditions that will allow the forest to renew or reproduce itself. This is accomplished under either an even-aged management system or an uneven-aged management system. The four basic methods used to regenerate a forest are clearcutting, seed-tree, shelterwood, and selection (group selection or single tree selection).

Regeneration methods. Timber management practices employed to either regenerate a new stand (regeneration cutting) or to improve the composition and increase the growth of the existing forest (intermediate treatment).

Regulated Hunting/Fishing/Trapping. The harvest of wildlife under regulations stipulating setting of seasons, time frame of lawful harvest, open and closed zones, methods of take, bag limits, possession limits, and reporting or tagging of species.

Release (release operation). The freeing of well-established cover trees, usually large seedlings or saplings, from closely surrounding growth.

Removal cut. The final cut of the shelterwood system that removes the remaining mature trees, completely releasing the young stand. An even-aged stand results.

Salvage Cutting. The removal of dead, dying, and damaged trees after a natural disaster such as fire, insect or disease attack, or wind or ice storm to utilize the wood before it rots.

Sanitation cutting. The removal of dead, damaged, or susceptible trees to improve stand health by stopping or reducing the spread of insects or disease.

Sapling. As used in timber surveys, a size class definition. A usually young tree larger than seedling but smaller than pole, often 1.0 to 4.9 inches at DBH.

Seedling. A very young plant that grew from a seed.

Seed-Tree (Seed Cut) method. The removal of most of the trees in one cut, leaving a few scattered trees of desired species to serve as a seed source to reforest the area.

Shelterwood method. A series of two or three cuttings which open the stand and stimulate natural reproduction. A two cutting series has a seed cut and a removal cut, while a three cutting series has a preparatory cut, a seed cut, and a removal cut.

Silvicultural systems. A management process whereby forests are tended, harvested, and replaced, resulting in a forest of distinctive form. Systems are classified according to the method of carrying out the fellings that remove the mature crop and provide for regeneration and according to the type of forest thereby produced.

Single tree selection method. Individual trees of all size classes are removed more or less uniformly throughout the stand to promote growth of remaining trees and to provide space for regeneration.

Site Preparation. Hand or mechanical manipulation of a site, designed to enhance the success of regeneration.

Snag. Includes standing dead or partially dead trees that are at least 6 inches in diameter at breast height (DBH) and 20 feet tall.

Softwood. A coniferous tree. Softwood trees belong to the botanical group gymnospermae, including balsam fir, red spruce, and hemlock.

Stand improvement. An intermediate treatment made to improve the composition, structure, condition, health, and growth of even or uneven-aged stands.

Stewardship. Caring for land and associated resources with consideration to future generations.

Sustainability. The production and use of resources to meet the needs of present generations without compromising the ability of future generations to meet their needs.

Sustained yield. The yield that a forest can produce continuously at a given intensity of management.

Thinning. Removing some of the trees in a dense immature stand primarily to improve the growth rate and form of the remaining trees and enhance forest health.

Threatened species. A species listed on the state or Federal threatened species list. Threatened species are those likely to become endangered within the foreseeable future throughout all or a significant portion of their range.

Timber lands. Properties that are managed primarily for the maximum production of forest products.

Timber Stand Improvement. Activities conducted in young stands of timber to improve growth rate and form of the remaining trees.

Traditional uses. Those uses of the forest that have characterized the general area in the recent past and present, including an integrated mix of timber and forest products harvesting, outdoor recreation, and recreation camps or residences.

Uneven-aged (All-aged) system. Timber management which produces a stand or forest composed of a variety of ages and sizes. Regeneration cutting methods in this system include single tree selection and group selection.

Watershed. The geographic area within which water drains into a particular river, stream, or body of water. A watershed includes both the land and the body of water into which the land drains.

Weeding (cleaning). Regulating the composition of a young stand by eliminating some trees and encouraging others, and also freeing seedlings or saplings from competition with ground vegetation, vines, and shrubs.

Wilderness. Areas having pristine and natural characteristics, typically roadless and often with some limits on uses. (This is not the federal definition of wilderness.)

Wildlife habitat. Lands supplying a critical habitat need for any species of wildlife, especially that which requires specific treatment and is of limited acreage.

Working forest. Land primarily used for forestry purposes but also available for recreation, usually where both managed land and land not presently being managed is present.

Working landscape. A landscape dominated by land used for agricultural and/or forestry purposes.