

Department of Environmental Conservation

Office of Natural Resources - Region 5

High Peaks Wilderness Complex Unit Management Plan

Wilderness Management
for the High Peaks
of the Adirondack Park

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New York State Department of Environmental Conservation
George E. Pataki, *Governor*

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HIGH PEAKS UNIT MANAGEMENT PLAN FINAL DRAFT

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PREFACE

State lands are classified according to "...their characteristics and capability to withstand use". Those lands administered by the Department of Environmental Conservation (DEC) are classified into five categories: **WILDERNESS, PRIMITIVE, CANOE AREA, WILD FOREST,** and **INTENSIVE USE.** Each classification carries an explicit set of guidelines which will, when implemented, provide the State lands of the Park with a unique blend of resource protection and public use.

There are over one million acres of Adirondack forest preserve managed as wilderness. These lands were legally designated as wilderness by the Adirondack Park State Land Master Plan (APSLMP) in 1972. The APSLMP was legislated as part of the Adirondack Park Agency Act and was designed to provide a unified and comprehensive mandate on how the State lands of the Adirondack Park should be managed and used. To accomplish this objective, Section 816 of the Act directs the Department of Environmental Conservation to develop, in consultation with the Agency, individual unit management plans (UMPS) for each unit of land under its jurisdiction classified in the master plan. In accordance with this statutory mandate, all plans will conform to the guidelines and criteria set forth in the master plan and cannot amend the master plan itself. The courts have ruled that the APSLMP has the force of law. These UMP's translate the objectives of the APSLMP and related legislation, legal codes, rules, regulations, policies, area specific resource and visitor use information into a single useful document. Ordinarily, these plans are based on a five year time frame so that revisions can be made reflecting changes in resource and/or sociological conditions. Plans may also be amended or revised sooner if warranted.

The subject of this management plan is a designated wilderness area. The APSLMP, defines a **WILDERNESS** area, in contrast with those areas where man and his own works dominate the landscape, as an area where the earth and its community of life are untrammelled by man - where man himself is a visitor who does not remain. A wilderness is further defined to mean an area of state land or water having a primeval character, without significant improvements or permanent human habitation, which is protected and managed so as to preserve, enhance and restore where necessary, its natural conditions, and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least ten thousand acres of land and water or is of sufficient size and character as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological or other features of scientific, educational, scenic or historical value.

Members of a Temporary Study Commission on the Future of the Adirondack Park (TSC) originally wrote this functional definition in 1970 to closely parallel the Congressional

definition of wilderness found in the Federal Wilderness Act of 1964. The commission felt this definition appropriate for the Adirondack forest preserve with the exception of a few minor word changes. The definition substitutes "forest preserve" for Federal land and increased the Federal minimum size requirement for wilderness designation from five thousand acres to ten thousand acres to be applicable for state lands (TSC Technical Report I Volume B).

The wilderness resource is a composite of many basic biophysical and sociological resources, but what make New York Wilderness Areas unique is the settings in which they occur. The APSLMP described this setting as:

- ! A place not controlled by humans, where the land's primeval character and influence are retained and natural processes are allowed to operate freely.
- ! A place not occupied or modified by humans, where humans are visitors and the imprint of their work is substantially unnoticeable.
- ! A place with outstanding opportunities for solitude or a primitive and unconfined type of recreation.

These settings are truly special and outstanding - not only to New York State but to the entire eastern United States as well. It is because of this uniqueness that wilderness lands were granted the highest priority in public land management by the APSLMP.

One of the biggest challenges in wilderness management is how to keep the "wildness" in wilderness and yet, still make it available for public use and enjoyment under today's heavy recreational pressures. The demands on New York's wilderness resources will intensify over time as resources like clean air and water become more precious. There will be requests for use of wilderness that cannot even be envisioned now, but they will certainly come. When natural resource managers decide what to approve and what to deny, their foremost goal must be the protection of the wilderness resource itself. The wilderness resource in all its many facets is fragile and can be lost through the effects of seemingly inconsequential decisions.

NEED FOR A PLAN

One of the objectives in designating wilderness areas within the Adirondack Park was to ensure that an increasing population does not occupy and modify all natural areas within New York State. Wilderness lands, by law, are to be protected and preserved indefinitely in their wild state.

Without a UMP, wilderness area management can easily become a series of uncoordinated reactions to immediate problems. When this happens, unplanned management actions often cause a shift in focus that is inconsistent and often in conflict with wilderness preservation goals and objectives. A prime objective of wilderness planning is to use environmental and social science to replace nostalgia and politics. Comprehensive planning allows for the exchange of ideas and information before actions, that can have long-term effects, are taken. A written plan stabilizes management despite changes in personnel or the influences of multiple administrative units where several managers and/or disciplines have different perceptions on how wilderness should be managed. In view of tight budgets and competition for monetary resources, plans that clearly identify management objectives and actions have demonstrated greater potential for securing needed funding.

Lastly, and perhaps most importantly, involving and introducing the public to the planning process gives interested parties the opportunity to learn about, evaluate, provide advice, and become directly involved in unit planning. Public participation gives a sense of pride and ownership in the care and custody of State lands; it allows the public to experience the problems that DEC constantly struggles to resolve. This involvement is crucial to a plan's acceptance and implementation.

MANAGEMENT GOALS

The overall intent of this management plan is to emphasize the preservation, enhancement, and restoration of natural environmental conditions in the High Peaks Wilderness Complex (HPWC), in perpetuity for the people of the State of New York as an area of wilderness that is not adversely affected by human activities. This reflects a biocentric philosophy of management as found in the introduction to the master plan which states "If there is a unifying theme to the classification system, it is that the protection and preservation of the natural resources of the state lands within the Park must be paramount. Human use and enjoyment of those lands should be permitted and encouraged, so long as the resources in their physical and biological context and their social or psychological aspects are not degraded" (APSLMP 1987). This theme is drawn not only from the APSLMP, but from over a century of legislative history of public attitudes towards New York state's publicly owned Adirondack forest preserve.

The High Peaks region has helped define the Adirondack Wilderness. For more than 150 years, it has been an immense attraction for those people with a sense of adventure and appreciation for wild places. Although it may fall short of providing the ultimate in solitude, naturalness, and self-reliance as envisioned by the APSLMP, it has served an important role in introducing and educating people to the concept of wilderness.

The APSLMP requires DEC to establish an acceptable level of use that is in proper balance with its wilderness protection mandates. Both DEC managers and the public are challenged to keep the HPWC "affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." Unfortunately portions of the wilderness, at least in the eastern High Peaks, currently sustain high levels of resource degradation, and diminished opportunities for solitude, with the consequence that APSLMP wilderness standards are not being met. The uniqueness and resulting popularity of the High Peaks embrace "people" as part of the solution as well as part of the problem. A concerted effort by all parties is needed to implement the following management goals:

- ! To provide for the long-term protection and preservation of the area's wilderness character under the principle of non-degradation "which calls for the maintenance of existing environmental conditions if they equal or exceed minimum standards, and for the restoration of conditions which are below minimum levels." (Hendee, 1990) The area's natural condition, opportunities for solitude, opportunities for primitive and unconfined types of recreation, and any ecological, geological, or other features of scientific, educational, scenic, or historical value present will be managed so that they will remain unimpaired.

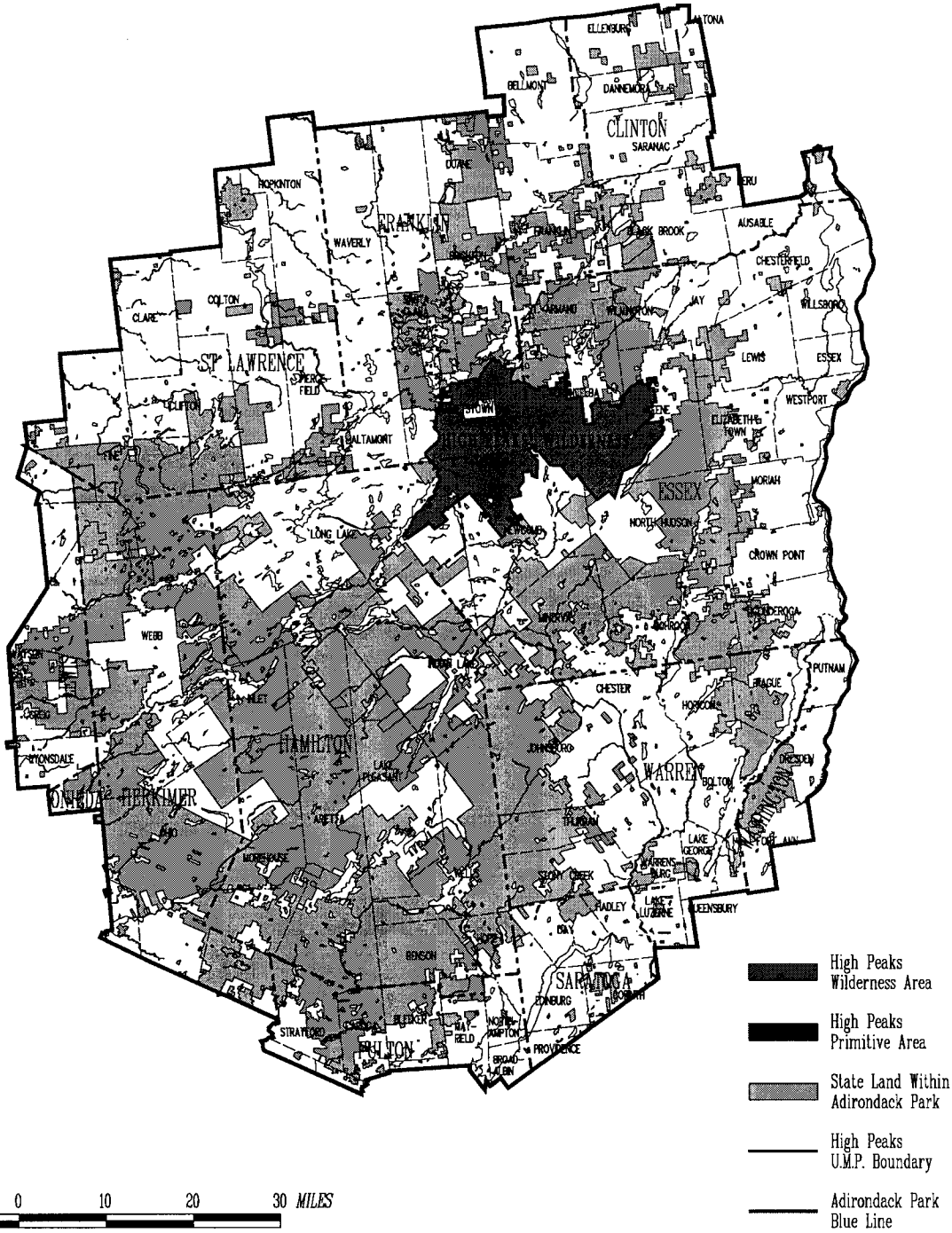
- ! To manage human use in a manner that encourages an appreciation and advocacy of wild areas.
- ! To manage the wilderness area for the use and enjoyment of visitors in a manner that will leave the area unimpaired for future use and enjoyment as wilderness. The wilderness resource will be dominant in all management decisions where a choice must be made between preservation of wilderness character and visitor use.
- ! To manage the area using the minimum tool, equipment, action, or structure necessary to successfully, safely, and economically accomplish the objective. The chosen tool, equipment, action or structure shall be the one that least degrades wilderness values temporarily or permanently. Management will seek to preserve spontaneity of use and as much freedom from regulation as possible.
- ! To manage and/or remove non-conforming uses so as to prevent unnecessary or undue degradation of wilderness character. Non-conforming uses are the exception rather than the rule; therefore emphasis is placed on maintaining wilderness character.

The goals presented above are broad based that not only serve present needs, but will also aid in future planning. This document is intended to be the first phase of a transition plan to bring this area into compliance with the APSLMP. It initially covers a period of five years.

Some issues will require further study and evaluation, based on better understanding of the resource and its users. These studies, in part, will include trailhead and trail realignments, further adjustments in camping and lean-to locations, a reduction in manmade facilities, and visitor sensitivity to crowding. Further work will be needed to carry out the goal of reducing human induced pressures in certain areas and restoring the wilderness setting. In some instances, merely responding to the guidelines of the APSLMP will not provide all the necessary steps.

The Unit Management Plan that follows recommends several ways management of the HPWC can be improved. The sum of its parts does not complete the job; however, initial restrictions and policy guidelines are designed to enhance the wilderness experience of the visitor and to help protect resources. Much more will be required in future years.

ADIRONDACK PARK HIGH PEAKS WILDERNESS AREA



SECTION I

INTRODUCTION TO THE HIGH PEAKS WILDERNESS COMPLEX

AREA OVERVIEW

The High Peaks Wilderness Complex (HPWC) is comprised of three distinct, but interrelated units: (1) the Ampersand Primitive Area, (2) the High Peaks Wilderness, and (3) the Johns Brook Primitive Corridor. Although not identified as a separate unit by the APSLMP, the Adirondack Canoe Route coincides with the western boundary of the complex and therefore must be considered.

The High Peaks Wilderness is the best known wilderness of the Adirondacks; it is the state's largest wilderness and receives the most visitation. While its topography varies considerably, the area is predominantly high mountain country, containing many of New York's highest peaks. The primary attraction is Mount Marcy, the state's highest peak at an elevation of 5,344 feet. The climbing of Mount Marcy is an "absolute must" for many hikers. It is truly New York's Mecca for those interested in mountain climbing. The pilgrimage to the summit is not an easy one, requiring a minimum round trip hike of fifteen miles. In addition, a range trail from Keene Valley to the summit of Mt. Haystack is considered one of the most rugged and the most scenic in New York State. The trail crosses seven mountaintops with elevations above 4,000 feet. The eastern portion of the wilderness is heavily used by recreationists. Western segments of the wilderness are more remote, receive substantially less use, and offer some of the best opportunities for solitude in the northeast. The Ampersand Primitive Area and the Johns Brook Primitive Corridor are relatively small sections of state land affording access to private lands enclosed by the High Peaks Wilderness.

UNIT DESCRIPTIONS

AMPERSAND PRIMITIVE AREA

The Ampersand Primitive Area is a narrow strip of Forest Preserve land located between the Ampersand Road and Ampersand Brook in the Town of Harrietstown, Franklin County. The primitive area extends from the privately owned Ampersand Lake property westward to Stony Creek, and thence northward to Stony Creek Ponds. It is enclosed by the High Peaks Wilderness on three sides and occupies 700 acres. The Ampersand Road provides legal access to the aforementioned private property which prevented this area from being included in the High Peaks Wilderness.

JOHNS BROOK PRIMITIVE CORRIDOR

This is a long narrow piece of land in the Town of Keene, Essex County, consisting of a right-of-way 1.3 miles long across state lands leading to 13 private parcels enclosed by the High Peaks Wilderness on three sides. The right-of-way serves as the boundary south of Johns Brook and the Phelps Trail, also known as the Johns Brook or Northside Trail, across the brook, is the primitive area's northern boundary.

HIGH PEAKS WILDERNESS

Covering 192,685 acres (301 sq. miles), the High Peaks Wilderness is located in three counties and six towns: the Town of Harrietstown in Franklin County, the Towns of North Elba, North Hudson, Keene, and Newcomb in Essex County, and the Town of Long Lake in Hamilton County. It is the largest legally designated wilderness in New York State. The unit is bounded on the north by the Old Haybridge Road, which runs from Cold Brook to Averyville, Adirondak Loj at Heart Lake, the Mt. Van Hoevenberg Winter Recreation Complex, and NYS Route 73 at Cascade Lakes. Private lands west of Route 73 form the eastern boundary. The southern boundary follows the boundaries of the Ausable Club, Finch Pruyn and Co., NL Industries Inc., and Huntington Wildlife Forest. The wilderness is further bounded by Long Lake and the Raquette River.

ADIRONDACK CANOE ROUTE

Although not a distinct land classification, the Adirondack Canoe Route is an integral part of the HPWC. The Canoe Route parallels the western boundary of the unit for 23 miles along the eastern shores of Long Lake and the Raquette River. This section is a major link in the 90-mile canoe route from Old Forge to Saranac Lake.

BOUNDARY

The HPWC boundary follows public roads, water courses, and individual property lines. Property lines, where surveyed, are blazed, painted yellow, and marked with Forest Preserve signs. Seventeen parcels of private land are enclosed by the wilderness boundary. Collectively, these parcels total 3,315 acres. The DEC recognizes all historically exercised rights of access to these lands. Also enclosed within the HPWC boundary there are 2,500 acres of state-owned, non-Forest Preserve lands on the easterly slopes of Santanoni Mountain and the southerly slopes of Henderson Mountain. These lands were received as a "gift" from Finch Pruyn in 1955, which by deed at the request of the donor, were not accorded Forest Preserve status. They were to be retained for "forestry and/or silvicultural purposes." (Van Valkenburg, 1991)

Section I: Introduction to the High Peaks Wilderness Complex

Principal adjoining landowners include: the Adirondack Mountain Club (640 acres), the Adirondack Mountain Reserve (7,500 acres), Finch Pruyn (46,000 acres), NL Industries (11,000 acres), and the Huntington Wildlife Forest, a component of the SUNY College of Environmental Science and Forestry, (15,000 acres).

PRIMARY ACCESS

Access to the periphery of the HPWC is easily gained via Interstate 87, NYS Routes 3, 8, 30, and 73, and by numerous town and county roads. The interior is served by 303 miles of trails. The Long Lake-Raquette River corridor provides important water access to the western boundary. The entire unit lies within one day's drive of over 70 million people in the northeast states and Canada. Nearby population centers include Albany, New York (140 miles), New York City (300 miles), and Montreal, Quebec (120 miles).

SECTION II

BIOPHYSICAL RESOURCES

GEOLOGY

The High Peaks region appears as part of a mountainous dome covering an area approximately 60 miles in diameter. The region, referred to as the "Central Highlands", is part of the Grenville Province, a large area of bedrock extending into Canada. The High Peaks are a remnant of a mountain region existing 1000-1300 million years ago. Once flat, the Adirondacks were covered by sedimentary rock; the same sedimentary rock that surrounds the region today. During more recent geologic time, the region was uplifted, creating a central dome with its sedimentary covering removed by erosion. The dome is characterized by three prominent geologic features: (1) long straight valleys running north-northeast, (2) gently curved ridges and valleys, and (3) radial drainage patterns flowing outward from the dome. Elevations rapidly fall north and east in the central highlands, and decline more gradually south and west. (Isachsen, 1991).

Much of the bedrock is metanorthosite, a metamorphic rock that has been subject to extremely high temperatures and pressures. Metanorthosite is very hard, extremely dense, and resists weathering and erosion. It was left towering over the countryside as sedimentary rock wore away. Rock color ranges from white to bluish gray. Plagioclase feldspar is its major component. The largest area of such rock is the Marcy massif which underlies most of the High Peaks. The massif contains numerous "dikes" or intrusions of igneous rock that penetrate the anorthosite. Chemically less stable and less resistant to erosion than the base rock, many of these dikes eroded to form stream channels. Where the dike rock in stream beds is fractured and broken, waterfalls and stream rapids occur. Examples include Rainbow, Indian, Roaring Brook, Rock, and Bushnell Falls.

High Peaks rocks are also altered by folding and faulting of the crust which serves to relieve internal pressures. Valleys form along and within the fault zones. These valleys tend to be long and straight, and generally follow a north-northeast direction; they divide the High Peaks into its characteristic mountain ranges. Even resistant rocks eventually succumb to the pull of gravity and slabs are torn from craggy peaks, leaving cliffs with piles of broken rock at their bases. (Kendall, 1987). Referred to as "mass wasting," this down slope movement of weathered, disintegrated rock, is evident along all cliffs and steep slopes. Rock falls and slides are encountered on Cascades, Gothics, Colden, Santanoni, Nye and Wright Peaks as well as along Avalanche Lake.

Despite the cumulative effects of running water, weathering, mass wasting, and other agents of change, glacial erosion and deposition have had dramatic effects on High

Peaks landscapes. During the Pleistocene Epoch 1.6 million years ago, huge ice sheets advanced and retreated several times across the Adirondacks. The last major ice sheet, the Wisconsinian, reached its maximum advance across the High Peaks over 21,000 years ago. It was thick enough to bury the summit of mile high Mt. Marcy. 10,000 years later in retreat, this glacier accomplished spectacular erosion; plucked rock fragments in its path, scoured mountaintops, scraped away soil and loose sediments, wore away bedrock, and gouged river valleys into deep troughs. Melting ice sheets released huge volumes of melt water.

As the main continental glacier retreated, smaller mountain glaciers remained in the High Peaks. These smaller glaciers concentrated erosion within stream valleys and sharpened the landscape. Glacial retreat accentuated steep valley walls into "U" shaped valleys and naturally tended to form cliffs on mountaintops and on the sides of steep slopes. This is responsible for the ramp-and-cliff pattern on Algonquin and Big Slide. Ice movement and running melt water often followed, and straightened fault zones. Fault zones molded by glaciation and resultant flowing water include Cascade Lakes, Ausable Lakes, and Indian Pass. Where valley glaciers originated on high mountainsides, bowl-shaped cirques formed at the point of origin. Well-defined cirques on the valley heads of Tabletop, Couchsachraga, Donaldson, Marcy, Phelps, and Algonquin attest to this phenomenon. Retreating glaciers deposited accumulations of glacial till, a mixture of clay, silt, sand, and stone, in their wake which dammed stream channels to form numerous lakes, kettle ponds, and wetlands. Kettle ponds were created by huge melting blocks of ice, covered or partially covered by glacial drift (debris). Heart Lake on the adjoining Adirondack Loj property is a typical example of a remnant kettle pond.

Moraine lakes occurred when glacial debris blocked a river valley forming a natural dam, and altered drainage. The wetland beyond South Meadows was once a moraine lake, that over time, filled with vegetation and sediments. Eskers, deposits of glacial drift (usually sand and gravels) formed by stream deposition atop, within, or beneath a glacier, are portrayed as narrow winding ridges prominent south of Corey's and parallel the Raquette River.

SOILS

All soils are formed by the chemical and physical breakdown of bedrock. However, in the HPWC, soil composition is vastly different from the bedrock beneath. They are mostly derived from glacial deposits that have been moved and deposited as glaciers advanced and retreated. Soil characteristics are quite variable and fluctuate widely from location to location. They are basically grouped into four broad soil types; glacial tills,

Section II: Biophysical Resources

glacial outwash, organically derived, and hardpan. No one general characteristic describes them all.

- ! Glacial tills are a mixture of clay, silt, sand, and stone. Their occurrence in the HPWC is widespread. They dominate the lower and middle slopes but thin out and disappear on the high slopes where the spruce/fir forest gives way to the subalpine zone of balsam fir. The deeper and richer soils occur around the base of the mountains, especially on terraces and those slightly elevated locations that escaped the fluvial phase in late glacial retreat, meaning places a hundred feet or so higher than the nearby river system. In effect, hardwoods today dominate these richer soils and mixed conifer/hardwoods the lower sites with partially water-washed soils.
- ! Glacial outwash soils are stratified soils deposited as eskers and moraines in areas subject to periods of flash-flooding during the glacial retreat and from which the nutrient-bearing silts and clays have been washed away. Because the soils are so stony and thus draughty, the fast growing and deep rooted pines out-compete the other more demanding tree species.
- ! Organically derived soils are rich in vegetative matter in various states of decay, and occur in two physiographic situations: (a) on the highest mountain sides, typically above 4,000 feet elevation where the glacial tills washed down slope in early post-glacial time and left exposed bedrock, and (b) in the low wetlands where impeded drainage created saturated soils on top of glacial outwash or bedrock and where upland forest plants could not survive. In both situations sphagnum moss dominates the early stages of plant succession and in the low wetlands may convert ponds into peat bogs and meandering streams into mucky swamps. On the sloping land surfaces near the high summits, the accumulated layers of black humus created by sphagnum and other mosses on top of the bedrock are invaded by various herbaceous plants and in time are replaced by mountain paper birch, the sole pioneering tree species, and by balsam fir, the sole climax species in this drastic timberline ecosystem. The subalpine and alpine organic soils are the most fragile and easily damaged types in the high peaks complex.
- ! Many HPWC sites have a cement like, very dense hardpan texture, lying one to two feet below ground surface. This causes shallow rooting of vegetation; especially tree species, and limits their ability to absorb soil nutrients and water.

This limits height and diameter growth and makes them susceptible to wind-throw. During period of heavy and prolonged rains, these soils are easily saturated and water may sit upon the surface reflecting poor internal drainage. (Ketchledge, 1994).

TERRAIN

The topography ranges from small areas of low-lying wetlands along the Raquette River and the headwaters of the Saranac River to the highest point in New York State atop Mount Marcy. Although there is considerable variation in terrain, the HPWC is predominantly high mountain country.

The highest mountains are mainly grouped in the eastern High Peaks; most peaks surpass elevations of 3,000 feet. Mount Marcy is the highest point in the unit and is also New York State's highest peak at an elevation of 5,344 feet, followed by Algonquin Peak at 5,114 feet. The unit has over 34 peaks with elevations above 4,000 feet.

In contrast, the western High Peaks are characterized by a more gentle topography of rolling hills, and nearly level, wide river drainages. However, it does have a few high points; Santanoni Peak (4,607 ft.), Seward Mountain (4,361 ft.), and Sawtooth Mountain (3,877 ft.).

Maximum relief (change in elevation) across the unit is 4,244 feet from atop Mount Marcy (5,344 ft.) down to the lower slopes of Owl's Head and Rooster Comb (1,100 ft.).

WATER

The HPWC includes headwater portions of the Upper Hudson, Champlain and Raquette watersheds. Approximately 220 miles of primarily first and second order, cold water streams are found within the unit. Many of these streams include sections of extremely high gradient (200+ feet/mile) and some have impassable fish barriers, such as Hanging Spear Falls on the Opalescent River.

The Raquette River watershed portion of the HPWC includes the Cold River and Ampersand Brook. The Cold River sub-basin is also the largest stream system entirely within the HPWC. Three headwater streams which feed the Upper Hudson drainage in the HPWC are the Opalescent River, Calamity Brook and Indian Pass Brook. The Champlain watershed includes the Cold Brook system (tributary to the Saranac River); the Chubb River, South Meadow Brook, Marcy Brook and another Indian Pass Brook (tributary to the West Branch Ausable River); and John's Brook (tributary to the East Branch Ausable River).

The HPWC includes 117 lakes and ponds greater than one-half acre in size which have been enumerated by the New York State Biological Survey Unit of the DEC. The

Section II: Biophysical Resources

total surface area of these waters exceeds 1700 acres. Numerous, smaller water bodies are found in the unit, but most of these are shallow, beaver ponds which are ephemeral in nature. Newcomb Lake, at 506 acres, is the largest water body in the HPWC, although a portion of this water extends into the Vanderwhacker Mountain Wild Forest. Other notable ponded waters include: 218-acre Round Pond, 185-acre Moose Pond (P# 221), 61-acre Duck Hole, 46-acre Big Pine Pond, 41-acre Lake Colden, 27-acre Rock Pond (P# 196), 28-acre Moose Pond (P# 233), 22-acre Lower Cascade Lake, 26-acre Upper Cascade Lake, and 10-acre Avalanche Lake.

Appendix 9 lists the 117 ponded waters in the HPWC and provides some geographical and morphometric data and the fisheries management classification for each water. Appendix 10 gives additional data pertaining to biological and/or chemical survey data collected on 46 waters in the HPWC.

WETLANDS

The wetlands of the HPWC possess great ecological, aesthetic, recreational, and educational value. In their capacity to receive, store, and slowly release rainwater and meltwater, wetlands protect water resources by stabilizing water flow and minimizing erosion and sedimentation. Many natural and man-made pollutants are removed from water entering wetland areas. Also, because they constitute one of the most productive habitats for fish and wildlife, wetlands afford abundant opportunities for fishing, hunting, trapping, and wildlife observation and photography. The wetlands of the unit serve as important habitats for a number of wildlife species listed as threatened or species of special concern which may be present in the unit, including the osprey, northern harrier, red-shouldered hawk, spruce grouse (threatened), the least bittern, Cooper's hawk, Jefferson salamander, and spotted salamander (species of special concern). For the visitor, expanses of open space wetlands provide a visual contrast to heavily forested wilderness settings.

One hundred and eighty-five major wetlands in the unit have been identified. Wetlands covering less than 4.5 acres (2.5 hectares) were not identified unless they possessed significant value as fish or wildlife habitat. One hundred thirty-five of these wetlands are located west of the Sawteeth Range and occupy the lowlands of the Raquette and Cold River drainages.

While most of the unit's wetlands occur in low-lying areas, they can also be found on mountain summits and anywhere soil is seasonally or perennially saturated with water. Summit wetlands are characterized by cool, moist, shallow soil environments and resemble the tundra of northern latitudes. Some of New York's rarest flora are encountered in these elevated wetland communities.

The largest wetlands in the unit are found along Calkins Creek, Chubb River, Cold River, Indian Pass Brook, Moose Creek, Pine Brook and Raquette River drainages. These wetlands are mostly coniferous, characterized by dense stands of red spruce, black spruce and balsam fir. Some serve as important deer wintering areas. The largest wetland community in the HPWC lies east of South Meadows and covers 125 acres. It is largely an alder-sedge plant association.

CLIMATE

The region's climate, in general terms, is best described as cool and moist. Climatic conditions vary considerably throughout the unit and are influenced by such factors as slope aspect, elevation, distance and direction from large bodies of water, seasonal temperatures, precipitation, prevailing winds, and the location of natural barriers.

Summers tend to be warm with cool nights. Maximum day-time temperatures seldom exceed 90 degrees. Frost can occur any month of the year and occasional freezing temperatures are recorded in July and August. Winters are long and extremely cold. Temperatures of -40 degrees are common, often accompanied by high winds. Arctic-like conditions may be encountered at high elevations. Daily temperature variations of 20-30 degrees are common between peripheral entry points and interior locations. Annual precipitation, in rainfall, is between 40 and 60 inches per year; snowfall ranges from 100-150 inches per year.

Due to the availability of direct sunlight, southern slopes are drier than northern slopes. The latter tend to retain more moisture. Prevailing winds are generally westerly, but may be modified by topography. Eastern slopes, leeward of prevailing winds, tend to be drier than western slopes. Extensive damaging winds (hurricane force) are rare, but do occur when coastal storms move inland. The resulting influence of climate on local flora and fauna, in particular, is profound.

AIR QUALITY

The effects of various activities on HPWC air quality have not been sufficiently measured nor determined. Air quality and visibility in the unit appears to be good to excellent, rated Class II (moderately well controlled) by federal and state standards. However, the summits are often obscured by haze caused by air pollutants when a large number of small diameter particles exist in the air. Visibility of the mountains is reduced considerably on high sulphate days (O'Neil 1990). Air quality may be more affected by particulate matter blown in from outside sources rather than from activities within the unit. The relative assimilation of outside pollutants, e.g. acid rain, by HPWC environments is under investigation by a myriad of researchers.

OPEN SPACE

The natural landscape of the HPWC is an important wilderness element. The HPWC affords an endless variety of open space and scenic views; each dramatic and diverse. HPWC scenery is unparalleled in New York State.

Author Lincoln Barnett summed it up best in his 1974 classic book The Ancient Adirondacks. "...there are deep, silent forests, plunging ravines and gorges, tumbling waterfalls, still lakes, soaring mountains, and bird haunted wetlands."

One does not necessarily need to hike great distances to enjoy the beauty of this open space. From afar, the HPWC can best be viewed from NYS Route 73, especially near the Cascade Lakes, and its intersection with the Adirondak Loj Road. The latter

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view, looking into and through Indian Pass, is described as one of the best scenic viewpoints in the Adirondacks. (Goodwin, 1992). An excellent panoramic view of the High Peaks can be seen from a 60 foot fire tower atop Goodnow Mountain, south of Route 28 in the Town of Newcomb. Owned and operated as an interpretive site by the NYS College of Environmental Science and Forestry (ESF), it is possible to view the Swards, Santanoni, Indian Pass, and Algonquin, Colden, and Marcy from a single point. (Masters 1994). Other vantage points include: NYS Route 28N, between Newcomb and Long Lake; NYS Routes 3 & 30, looking northeast from Tupper Lake; and Whiteface Mountain via Veterans Memorial Highway.

Favored interior viewpoints are many. A partial list includes the summits of Marcy, Haystack, Algonquin, Ampersand, Skylight, Sawteeth, Gothics, Wright, Phelps, and Slide Mountains; Avalanche and Ausable Lakes; Bushnell, Hanging Spear, Indian, Raquette, Rocky, and Wanika Falls; Panther Gorge, Duck Hole and Opalescent Flume.

VEGETATION

The HPWC occupies a transition zone between the boreal forests to the north and the mixed forests of the south. Its forests represent a mosaic of plant communities that correspond to local variations in soil, temperature, moisture and elevation. Past events such as fire, wind, land clearing, and logging have exerted a strong influence on present day conditions.

Not much is known about the original forests of the HPWC, but they are believed to have been a mixture of mature, old growth northern hardwoods, spruce-fir, and eastern white pine forest types. These forests were characterized by dense shade, many cavity trees, significant ground debris, and few natural openings. Insect outbreaks, disease, wind and wildfire were vital parts of the natural environment and the major agents of change. Few HPWC forests have survived to make the transition from the pioneer stage to the theoretical climax forest stage.

Extensive softwood cutting prior to Forest Preserve acquisition, severe wildfires in 1903 and 1908, and the "great blowdown of 1950" have altered the composition of this forest dramatically. In most cases, the softwood component has been eliminated or significantly reduced and replaced by northern hardwoods. It is estimated that less than five percent of the HPWC remains in its original forest condition (Ketchledge, 1967). Historically and ecologically, these factors have contributed to a great diversity of forest cover types which support a vast variety of animal and plant species.

In general, HPWC vegetation can be categorized into six land zones based by elevation and topographical position on the landscape. Each land zone has plant communities, associations of plant species that scientists recognize as belonging together under certain circumstances and site requirements. The six land zones are:

Lowland Conifers Zone (to 1,500 feet):

Red spruce - balsam fir associations are especially common to the low lying areas of the western High Peaks where high soil moisture and poor drainage dominate soil conditions. Tree species common to this association include black and red spruce, balsam fir, red maple and white and yellow birch. Infrequent associates are northern white cedar, alder and tamarack. The forest tends to be quite dense and little sunlight reaches the forest floor. Extreme shade and acidic soils preclude many ground plants. The forest floor is relatively open.

Mixed Conifers and Hardwoods Zone (to 2,500 feet):

A mixed forest of conifers and hardwoods is encountered as the elevation rises above the spruce swamps and drainage improves. Red spruce and balsam fir noticeably fade. Increased elevation and improved drainage favor the growth of maples, birches, eastern hemlock and eastern white pine. The dominant ground cover is viburnum, commonly called hobble-bush. Various ferns, grasses and wild flowers are evident.

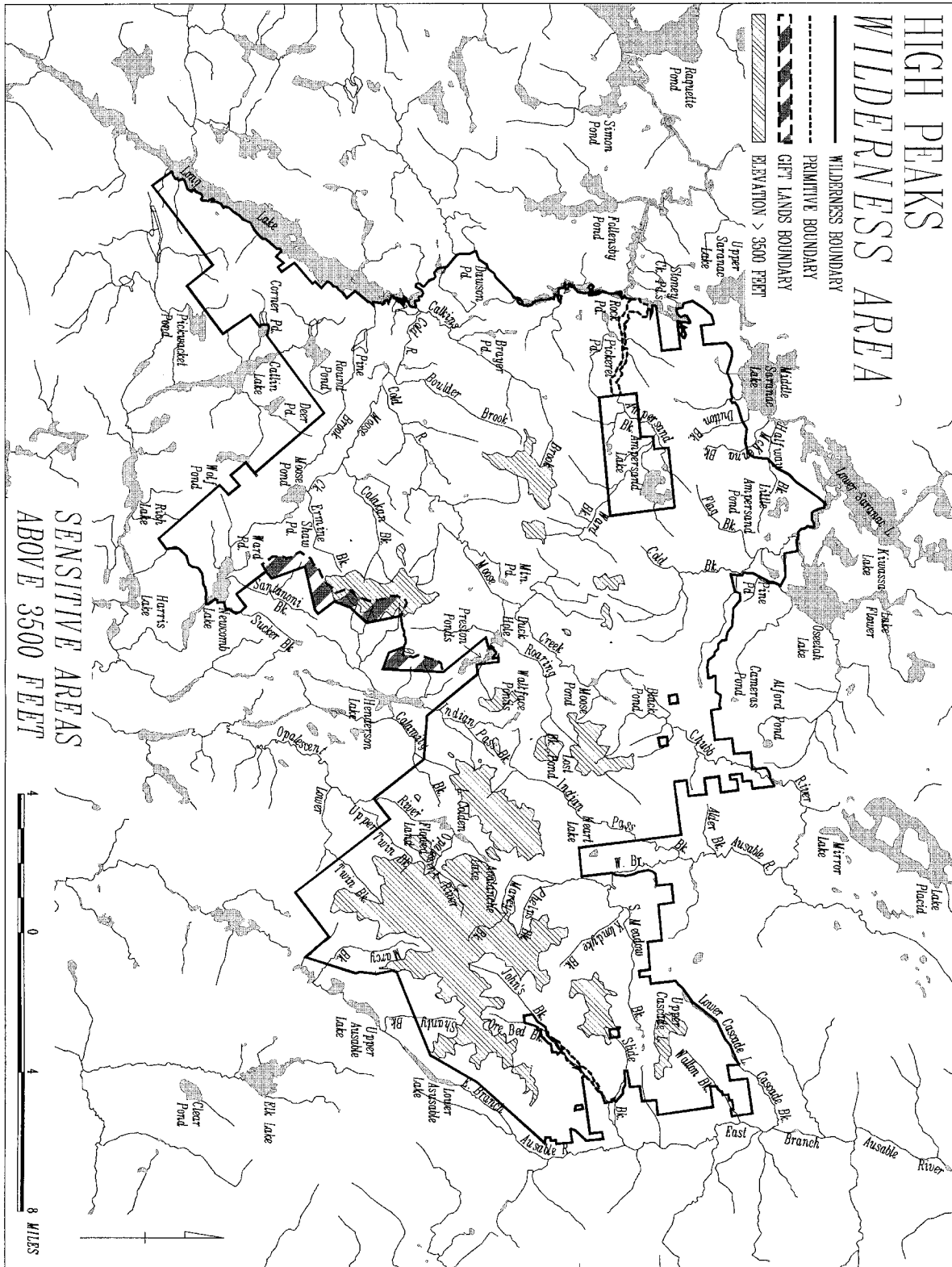
Northern Hardwoods Zone (to 2,500 feet):

Northern hardwoods are the most widespread forest association in the HPWC. It is found on the better drained, more fertile uplands. Deep glacial soils with elevation up to 2,500 feet, favor a forest association of sugar maple, American beech and yellow birch. Black cherry and white ash are minor associates.

Upper Spruce-Fir Zone (2500 feet to 3100 feet):

Above 2,500 feet red spruce and balsam fir forests reappear reminiscent of northern boreal forests. Red spruce and balsam fir prevail in nearly pure stands. They reflect cooler temperatures and increased moisture as elevations rise. Ground cover is almost non-existent due to lack of sunlight on the forest floor.

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Sub-alpine Zone (3100 feet to 4000 feet):

In this zone red spruce generally fades giving way to balsam fir. Approaching 4,000 feet the balsam fir is often stunted and misshapen, barely able to survive the onslaught of cold, drying winds and infertile soils. Here the trees grow almost prostrate as the "krumholz" (meaning crooked wood) forest is encountered. Slightly above the krumholz, timberline is soon reached. Timberline is the point of elevation beyond which climatic conditions become so harsh that tree life cannot survive.

Alpine Zone (4000 feet and above):

In the HPWC the most limiting of all environments are encountered above 4,000 feet. This zone resembles the arctic tundra of the far north. Ground cover is scant and open areas with bare rock are frequent. The common theme among all vegetation in this zone is to stay small and grow low to the ground in order to survive (Marchand, 1987). Alpine zone communities include dwarf willows and birches in sheltered depressions, heaths, mosses and lichens, alpine flowers, grasses, sedges, and rushes. Of the Adirondack Park's six million acres, only 85 acres are home to alpine species; 81 of these acres are located in the High Peaks (DiNunzio, 1972). This zone contains some of New York State's rarest and most endangered plant species (Ketchledge, 1994).

In addition to naturally occurring forests, plantations were established in the wake of early forest fires. Plantations can be found at South Meadows, NYS Route 3 and the Ampersand Road, and adjacent to the Cold River. Species planted included eastern white pine, red pine, Scotch pine, Norway spruce and white spruce. These forest are gradually losing their man-made character and giving way to natural succession.

Exemplary Vegetative Communities

The HPWC has four exemplary vegetative communities that serve as outstanding examples of the biological diversity of the Adirondack Park (Adirondack Council, 1988):

AMPERSAND MOUNTAIN OLD GROWTH FOREST

COVER TYPE: Northern hardwoods; AREA: 1,400 acres

TOWN: Harrietstown; COUNTY: Franklin;

NHPC: Hemlock-Northern Hardwood Forest (National Heritage Plant Community)

Located on the northern slopes of Ampersand Mountain, south of Route 3, west of Saranac Lake, this old-growth forest is the largest known sugar maple-yellow birch-hemlock forest in the Adirondack Park. Large diameter trees reflect a forest community relatively undisturbed by man and wildfire.

MARCY SWAMP

COVER TYPE: Coniferous swamps, bogs and fens
AREA: 220 acres; TOWN: N. Hudson; COUNTY: Essex
NHPC: Northern White Cedar Swamp.

Bisected by the Elk Lake-Marcy Trail, this community is characterized by old-growth northern white cedar more than two feet in diameter and over 40 feet tall, intermixed with red spruce and balsam fir. The cover type extends on to private land.

PHELPS BROOK OLD-GROWTH FOREST

COVER TYPE: Upper spruce slope; AREA: 180 acres
TOWN: North Elba; COUNTY: Essex
NHPC: Mountain spruce-fir forest.

One of the few stands of spruce-fir timber in the HPWC that escaped early logging and the forest fires of 1903 and 1909, it is an old-growth forest of red spruce and balsam fir situated on an unnamed mountain (elevation 3,720 ft.), south of Phelps Brook above Marcy Dam.

HIGH PEAKS TUNDRA

COVER TYPE: Alpine tundra; AREA: 40 acres
TOWNS: Keene, Newcomb and North Elba; COUNTY: Essex
NHPC: Alpine Meadow

The alpine tundra contains some of New York's rarest plants. They are found in tundra-like habitats resembling those of the Arctic. This condition is encountered on the State's highest peaks and the total area covered by alpine vegetation approximates 40 acres on 19 peaks, 18 of which are in the High Peaks Wilderness.

The alpine environments are characterized by climates having cool, moist and windy conditions throughout most of the year. Summit temperatures are usually 10-20°F cooler than the lowlands and precipitation is greater. Winds exceeding 40 mph are common. These factors greatly curtail the growing season, reducing it to two months or less. This severity of climate often dictates the type and quantity of vegetation present on any one summit.

About 50 percent of New York's alpine vegetation occurs on Marcy and Algonquin. Significant amounts also exist on Haystack, Skylight, Iroquois, Boundary, Basin, Gothics, Colden and Wright. Even though Cascade and Rocky Peak Ridge are at high elevations (4,000+ feet), no alpine vegetation has been documented on these peaks due to alterations by fire.

Mosses and lichens are the simplest plants found on these summits, but the key to alpine tundra ecology is sphagnum moss. The sphagnum holds water that otherwise would be lost to cold, drying winds. It provides a seed bed for other plants and forms a matrix to which plant roots attach. Major plant species taking hold in the sphagnum include cottongrass, Lapland rosebay, leatherleaf, bog laurel, sheep laurel, Labrador tea, small

cranberry and alpine bilberry. The sphagnum complex is very fragile and is easily damaged by visitor trampling. Once the sphagnum matrix is destroyed, a near irreversible process of erosion and plant loss begins. Peaks having alpine vegetation are listed in Appendix 2 "High Peaks Alpine Ecological Zone".

Extirpated Vegetation

To date researchers have documented extirpation of the following species from the High Peaks Alpine Zone (Adirondack Conservancy 1994): *Preanthes racemosa* - rattlesnake root, *salix herbacea* - dwarf willow, *Cassiope hypoides* also known as *Harrimanella Hypnoides* - moss plant, and *Poa interior* - inland bluegrass.

WILDLIFE

Field inventories of wildlife species have not focused specifically on the HPWC. However, various inventory projects undertaken by DEC and others have included the HPWC in their scope. The species included in Appendices 16-19 were compiled by combining the results of various surveys, publications, and the reports of observers.

BIRDS

As a result of the unit's transitional character in terms of climate and vegetation, there is an overlapping of typically northern, eastern and southern bird species.

According to New York State Breeding Bird Atlas data, 152 species of birds are believed to breed within the HPWC (Appendix 16). Some species thought to occur occasionally within the unit are not shown in the Bird Atlas data.

Birds associated with marshes, ponds, lakes and streams are numerous and include the common loon, pied billed grebe, great blue heron, green heron, American bittern, a variety of ducks, Canada goose and shore birds such as the spotted sandpiper. The most common ducks include the black duck, mallard, wood duck, hooded merganser, and common merganser. Birds of prey common to the unit include the barred owl, great horned owl, red-tailed hawk, sharp-shinned hawk, and broadwinged hawk. Songbirds, such as woodpeckers, flycatchers, wrens, thrushes, vireos, warblers, blackbirds, finches, grosbeaks, and sparrows occupy one or more of the ten habitat types found in the unit.

MAMMALS

Appendix 17 lists mammals present in the HPWC. Larger mammals known to inhabit the HPWC include white-tailed deer, moose, black bear, coyote, lynx, bobcat, raccoon, red fox, gray fox, fisher, marten, mink, muskrat, striped skunk, river otter, beaver, porcupine, and varying hare.

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A variety of smaller mammals reside in the unit. They include bats, shrews, moles, and mice, along with the ermine, long-tailed weasel, eastern chipmunk, and red squirrel.

Most species are distributed relatively evenly throughout the unit, although the populations of weasel, mink, muskrat, otter, and beaver are concentrated near water, and the varying hare and red squirrel are mostly confined to stands of spruce and fir.

Although suitable habitats exist for the continued survival of all species presently occurring in the HPWC, the process of forest succession set in motion by wind, insects and disease, past logging and forest fires, continues to alter the composition of forest communities. Large areas are presently occupied by young forest stands which became established after disturbance. The current decline in upper-elevation stands of spruce and fir, and the widespread die back of beech, caused by the spread of the beech bark disease, continually creates openings in the forest canopy of the unit. Forest succession is not static and consequently, locally restores habitat conditions favorable to many wildlife species.

The populations of the varying hare at higher elevations may increase as young stands of spruce and fir grow beneath older stands of white birch and northern hardwoods. The marten thrive under habitat conditions brought about by natural forest disturbances. However, in the absence of any future disturbances, the maturation of climax forest communities may lead to reductions in hare and marten populations. On the other hand, the populations of various species of birds and mammals which require tree cavities for reproduction should increase as forest stands mature.

White-tailed deer are found throughout the HPWC. However, the habitat conditions of the unit make it one of the least productive areas for deer in New York. The size of the deer population is limited by severe winter, insufficient deer browse and few suitable deer wintering areas.

Deer wintering areas usually are lowland areas covered by forests of spruce and fir which serve as shelter when snow accumulates to depths of 20 inches or more. These same areas are used by deer nearly every winter. Severe winter weather virtually confines deer to wintering areas for long periods during which the depletion of available browse can lead to high deer mortality. Severe decline in the deer population can be traced directly to adverse winters. The carrying capacity of deer wintering areas limits the carrying capacity of the entire annual range of the deer population.

Although relatively numerous, black bears are seldom encountered in the unit by hikers on the trail, although some of the more popular camping areas, such as Marcy Dam, Lake Colden, and the shore of Long Lake attract bears in search of food.

AMPHIBIANS AND REPTILES

Relatively short summers and the long, cold winters of the HPWC limit the number of species of reptiles and amphibians. Three species of turtles, eight species of snakes, eight species of salamanders, one species of toad, and six species of frogs are believed to be residents of the HPWC (Appendicies 18 and 19). Species found in marshes or ponds and along wooded streams include the following: turtles - snapping, painted; snakes - northern water, redbelly, common garter, eastern ribbon, brown, ringneck; toad - American; salamanders - red-spotted newt, spotted, blue-spotted, spring, two-lined, mountain dusky; frogs - bullfrog, pickerel, green, wood, mink, gray treefrog.

A few species can be found under logs and leaf litter on the forest floor or in forest openings. Species listed below do not require moist surroundings to survive: snakes - ringneck, smooth green, milk, common garter; salamanders - redback; and turtle - wood.

Endangered, Threatened, Species of Special Concern and Other Unique Species

Four species which are found in the HPWC are included on the New York State endangered species list: the bald eagle, the golden eagle, the peregrine falcon, and the round whitefish. None of the eagle species has been confirmed as nesting in the unit. Peregrine falcon nesting sites have recently been located (1993). The round whitefish has been documented in biological surveys of Moose Pond (P# 221), Newcomb Lake, and Upper and Lower Cascade Lakes.

Among the threatened species of wildlife which may be residents of the HPWC are the osprey, northern harrier, red-shouldered hawk, and spruce grouse. Although the osprey population in New York has declined along with other raptors in past decades, the population now appears to be rising naturally. According to information gathered during DEC's annual osprey surveys, no nests have been found within the HPWC, although one is located on nearby Ampersand Lake (private), and several more are scattered not too distant. An osprey was observed near Duck Hole by Adirondack Lakes Survey Corporation (ALSC) field staff in 1986.

The New York State Breeding Bird Atlas shows the northern harrier as a probable breeder in one of the 60 blocks which are wholly or partially contained in the HPWC. The red-shouldered hawk was a probable breeder in three blocks and a possible breeder in five. The spruce grouse was confirmed in one block and listed as possible in two.

Species of special concern, as listed in Title 6 New York Code of Rules and Regulations (NYCRR) Part 182, which may be present in the HPWC, include the small-footed bat, common loon, northern raven, common nighthawk, Cooper's hawk, eastern bluebird, vesper sparrow, wood turtle, Jefferson salamander, and spotted salamander. In

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an extensive project undertaken to determine the status of the common loon in New York, DEC staff surveyed 557 lakes in the northern part of the state during 1984 and 1985. The survey included only six lakes located within the HPWC, and of those, one or more loons were observed only on Round Pond. Several loons were spotted on Long Lake in 1983 and 1984 by volunteers for the Adirondack Loon Preservation Project. Two loons were observed on Brueyer Pond in 1985 by ALSA field staff, who also found a pair nesting on Duck Hole in 1986. According to the Atlas, loons were confirmed breeders in seven of the unit's 60 blocks, probable breeders in five, and possible breeders in 13.

The northern raven, which has not been common in the Adirondacks since the last century, is beginning to make a comeback. Ravens have been found actively nesting within the HPWC on cliffs near Upper Cascade Lake and Avalanche Lake, and just east of the unit near Chapel Pond. Ravens were confirmed breeders in five of the unit's 60 Atlas blocks, probable breeders in three, and possible breeders in 17.

The presence of the small-footed bat, wood turtle, Jefferson salamander, or spotted salamander has not been confirmed in the unit.

Typical Adirondack Species

There are a number of wildlife species found in New York State whose habitat requirements include extensive areas of forest cover relatively undisturbed by human development. Often, like the yellow-nosed vole and the northern three-toed woodpecker, these are northern species who find the habitat conditions of the central Adirondacks similar to the boreal spruce-fir forests of Canada. A list of species whose range in New York is generally confined to the Adirondacks and which may be found within the HPWC include:

Birds:

Bald Eagle, Golden Eagle	Yellow-bellied Flycatcher
Osprey	Tennessee Warbler
Peregrine Falcon	Northern Parula Warbler
Northern Raven	Cape May Warbler
Spruce Grouse	Bay-breasted Warbler
Ring-necked Duck	Blackpoll Warbler
Common Goldeneye	Gray-cheeked Thrush
Common Merganser	Swainson's Thrush
Norther Three-toed Woodpecker	Lincoln's Sparrow
Gray Jay	Rusty Blackbird
Boreal Chickadee	Evening Grosbeak
Ruby-crowned Kinglet	
Philadelphia Vireo	
Olive-sided Flycatcher	

Mammals:

Black Bear	Marten
Bobcat	Moose
Fisher	Canada Lynx
	Yellow-nosed vole

SIGNIFICANT HABITATS

Several areas within the HPWC which have been identified as important wildlife habitats include:

- ! **Deer Wintering Areas** - Twenty-one deer wintering areas are wholly or partially contained within the HPWC: South Meadow Brook (two locations), Haystack Brook, Marcy Brook, Skylight Brook, Indian Pass Brook, Chubb River, Cold Brook - Halfway Brook, McKenna Brook, Dutton Brook, Middle Saranac Lake, Upper Saranac Lake, Stony Creek Ponds, Ampersand Brook, Palmer Brook, Cold River - Raquette River - Calkins Brook, Boulder Brook, Cold River - Moose Creek, Pine Brook (two locations), Long Lake - Round Pond, Newcomb Lake.
- ! **Historic Bald Eagle Nesting Sites** - Ampersand Mountain, Livingston Pond.
- ! **Historic Golden Eagle Nesting Sites** - Big Slide Mountain, Ampersand Lake (private land), Santanoni Preserve, Newcomb Lake.
- ! **Historic Peregrine Falcon Nesting Sites** - Wallface Mountain, Mount Colden, Indian Pass, Panther Gorge, Cascade Lakes, Mount Clinton.
- ! **Common Loon** - Round Pond, Newcomb Lake (nesting), Long Lake (edge of unit), Brueyer Pond, Duck Hole (nesting).
- ! **Northern Raven Nesting Sites** - Upper Cascade Lake; Avalanche Lake.
- ! **Great Blue Heron Nesting Sites** - Chubb River Wetlands.
- ! **Spruce Grouse** - Chubb River Wetlands, Ausable Lakes.
- ! **Northern Three-toed Woodpecker** - Indian Falls; stand of spruce and fir near Lost Pond, and Upper Chubb River watershed.
- ! **Round Whitefish** - Moose Pond (P#2 221); Newcomb Lake; Cascade Lakes.

EXTIRPATED SPECIES

The elk, timber wolf, cougar and wolverine once inhabited the HPWC. All have disappeared from the Adirondacks. The mammals disappearance was mostly a result of unregulated harvest and habitat destruction in the nineteenth century; the birds more recently as victims of pesticide abuse. However, the once extirpated moose population has

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naturally regained a foothold in the periphery of the HPWC; whereas, projects to reestablish the peregrine falcon, bald eagle, and Canada lynx have been conducted.

Moose occasionally have migrated from the north and east into the Adirondack region for decades. Since 1980, they have arrived in sufficient numbers to have established a scattered resident population, recently estimated to contain 20 or more individuals. A few sightings have been reported in the HPWC. Although moose prefer to feed on species of woody vegetation generally found in forests of earlier successional stages than those occurring in the HPWC, moose in general find later-stage forest habitats more suitable than do white-tailed deer (Garner, personal communication) and may come to occupy the unit in greater numbers in the future.

Efforts to reintroduce the peregrine falcon and the bald eagle through "hacking" programs began in 1981 and 1983, respectively. In a continuing program of yearly releases, 103 falcons were "hacked" in the Adirondacks through 1988. In 1985, two falcon nests were found, one to the north and one just to the east of the HPWC, the first Adirondack nests since 1956. In 1989 seven nests were active in the Adirondacks, producing 12 young. At present one nest is known to exist within the HPWC. Other historic nesting sites within the unit may come to be occupied as the population expands.

Between 1983 and 1985, 55 bald eagles were hacked within the Adirondack region. The first sexually mature eagles produced by the hacking program returned to nest in an area north of the HPWC in 1988. These nests fledged a total of five young to the wild in 1989. To date 20 young have fledged from these nests. Although most of the unit does not constitute suitable bald eagle habitat, two sites are known to have been used for nesting in the past and may come to be used again. Bald eagles have been observed in the upper reaches of the Chubb River (Hodgson, 1994).

The SUNY College of Environmental Science and Forestry, through the Adirondack Wildlife Program, completed an experimental project to reintroduce the Canada lynx to the Adirondack High Peaks region. Under permit from DEC, scientists based at the college's Huntington Forest campus in Newcomb planned to release up to 100 cats within the HPWC, the upper elevations of which support ideal lynx habitat. The first release of five lynx took place in January 1989; and, by the winter of 1990-1991, this number increased to 83 released animals. Several of the animals released so far have strayed from the unit, some have remained within the HPWC. Vehicle collisions have claimed a high percentage of the released animals. It remains to be seen whether the reintroduction experiment will lead to the establishment of a permanent lynx population within the HPWC. No breeding has been documented although sightings continue.

FISHERIES

GEOLOGIC FACTORS

George (1980) provides a summary of geological events which influenced the colonization of the Adirondack ecological zone by fishes. The retreat of the glaciers about 17,000 B.P. (Before Present) was closely followed by a limited number of cold-tolerant, vagile, lacustrine species. Such species presumably had access to most Adirondack waters. At about 13,000 B.P., glacial Lake Albany with a surface elevation of 350' a.s.l. (average sea level), provided a colonizing route for Atlantean and eastern boreal species into the southern drainages of the Adirondacks. Approximately 1000 years later (12,000 B.P.) a corridor opened which allowed recolonization of several lowland fish species into the northern half of the park via the Raquette, Oswegatchie and Black Rivers.

The extreme gradient, presence of barriers and impassible falls, and low fertility of many streams within the HPWC undoubtedly restricted the distribution of fishes regardless of distribution patterns in lower elevation waters. Severity of climate would act to reduce fish diversity to a few, cold-tolerant species. Reportedly, the lakes above Hanging Spear Falls on the Opalescent River (Upper Hudson watershed) were barren of fish prior to stocking efforts in the 1920's. (Greeley and Bishop, 1932).

ANTHROPOGENIC FACTORS

Approximately 300 years ago the influence of human cultures from the Old World initiated a period of rapid manipulation of the natural environment. Commercial activities precipitated substantial impacts to natural ecosystems. Slightly more than 150 years ago, canal construction opened new migration routes for fishes into the peripheral Adirondack areas. Railroads and roads were developed to support the tanning and lumbering industries, and in the late 1800's tourism rapidly expanded (George 1980).

This exploitation of pristine fisheries combined with anthropogenic environmental degradation resulted in the decline of fish populations and stimulated early management efforts consisting primarily of stocking. A variety of nonnative species were distributed into the Adirondack uplands via stocking efforts described by George (1980) as "nearly maniacal". He notes that many species were "...almost endlessly dumped upon the Adirondack upland." Nonnative species were introduced and the ranges of native species, which previously had limited distributions, were extended. The result has been a homogenization of fish communities. Certain native species, notably brook trout and round whitefish, have declined due to the introduction of other fishes. Other natives, brown bullhead and creek chubs, for example, are presently much more abundant than historically, having been spread to many waters where previously absent. Consequently,

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fish populations in the majority of waters in today's Adirondack wilderness areas have been substantially altered by the activities of mankind. Indeed, of 1,123 Adirondack ecological zone waters surveyed by the Adirondack Lakes Survey Corporation (ALSC) from 1984-1987, 65% contained nonnative species (Gallagher and Baker, 1990).

Detailed documentation of the historic fish communities is not available. Extensive fishery survey data was first collected in the 1930's, decades after the massive stockings and introductions of the late 1800's. Reviewing work by Mathers from the 1880's and others, George (1980) has summarized what is known. Appendix 11 presents information on species known to be native, native-but-widely-introduced (NBWI), and nonnative. It should be noted that the native classification does not mean those species were found in every water nor even in a majority of waters. For example, of 1,123 waters surveyed by the ALSC which contained fish, white suckers and northern redbelly dace were found in 51 and 19 percent of the lakes, respectively (Gallagher and Baker, 1990). The other species listed as native were less widely distributed. Such distributions, after a century of introductions, demonstrate that "native" does not necessarily imply a historically ubiquitous distribution.

Habitat degradation, widespread introductions of nonnative fishes, and broad dispersal of native fishes which historically had limited distributions have drastically altered the fish fauna of Adirondack waters. George (1980) states: "All of the above events have impacted the fish fauna of the Adirondack Park, often in complex and synergistic ways subverting any effort at simple explanation for changes in a particular population". Due to a paucity in early stocking records, especially for nongame species, it is impossible to determine if a particular species was native in a specific pond, even though they may have been present by the time of the first fisheries survey.

The High Peaks region is one of three major areas within the Adirondack Park which have been impacted by acid precipitation. Of the 42 ponds with chemical survey data (Appendix 10), 14 have pH levels at or below 6.0; a point at which ponds are considered to be acid endangered. Seven ponds are known to be too acidic to support fish life, including the once famous brook trout fisheries of Avalanche Lake, Lake Colden, and Upper Wallface Pond. Livingston Pond, Little Ampersand Pond, and Owl Pond are three other well-known brook trout ponds which would be sterile of fish life except for liming treatments undertaken by DEC. Recent chemical data indicates that alkalinity and pH levels in Little Ampersand Pond and Owl Pond are again declining after liming treatments in the early 1970's.

Present Day Fish Distribution (Ponded Waters)

Thirty-two of the ponded waters of the HPWC were surveyed by the Adirondack Lake Survey Corporation (ALSC) between 1984 and 1987. DEC has additional data on 14 other waters. Appendices 9 and 10 contain data for the 46 ponded waters of the unit for which information are available, plus a listing of the 71 waters which are numbered on New York State Biological Survey overlays, but have not been surveyed. Many of these unsurveyed waters are within the flood plains of the Cold River or Pine Brook. Helicopter fly-overs of these areas during the ALSC study revealed most waters to be temporary beaver impoundments, filled with dead wood, and impossible to land upon safely (Walt Kretser, personal communication). The transitory nature of such ponded waters and their remote location preclude most survey efforts.

Brook trout are the principal native salmonid within the HPWC and they exist within 25 of the 36 waters with fish species information listed in Appendix 10. Brook trout monocultures (i.e., brook trout are the only fish species in the water) occur in Little Ampersand Pond, Livingston Pond, Marcy Dam Pond and Seward Pond. Anecdotal information suggests that Calamity Pond may be a brook trout monoculture. Most brook trout waters within the HPWC are maintained through DEC stocking. There is a lack of naturally spawning populations of brook trout in HPWC lakes, which does not reflect historic conditions. Introductions of nonnative and native-but-widely-introduced (NBWI) species along with siltation have seriously impacted brook trout reproduction in HPWC lakes. Without active fisheries management brook trout would decline precipitously within the unit.

Lake trout are the second most important native salmonid in the HPWC. Natural populations of lake trout occur in Newcomb Lake and Moose Pond (P# 221) on the Santanoni Preserve. Lakers in these two waters may be an Adirondack 'heritage' strain as there is no record of this species ever being stocked. Big Pine Pond also has a naturally reproducing population of lake trout, but heritage status is questionable because lake trout were stocked at least four times historically. Lake trout also are present in Dawson Pond.

Splake, brown trout and kokanee salmon are the only nonnative, historically associated, salmonids that may be present within the HPWC. A remnant splake (a hybrid cross between lake trout and brook trout) population found in the Cascade Lakes will soon disappear. Brown trout are present in the Cascade Lakes and Big Pine Pond. Kokanee salmon may remain in Big Pine Pond if there is natural reproduction.

Northern pike are present in Lower County Line Pond, Mud Pond and Pickerel Pond. Smallmouth bass are found in good numbers in Round Pond.

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Appendix 11 lists common Adirondack upland fish species as provided by George (1980). These species are classified as either native, nonnative, or native-but-widely-introduced (NBWI). As discussed earlier in this section, not all of the native and NBWI species listed in Appendix 11 are necessarily endemic or common within the HPWC. In fact, the white sucker is the only species that sustains itself in more than 40% of the waters that contain fish. Common shiner, blacknose dace, northern redbelly dace, lake chub, longnose sucker, finescale dace, and redbreast sunfish occur in a scattering of waters. In general, NBWI species are the most common naturally sustained fishes within the HPWC: Brown bullhead occur in 14 lakes; pumpkinseed occur in 13 lakes; and, creek chub occur in 15 lakes of the 36 with known fish communities.

Yellow perch, a nonnative to the Adirondacks, are perhaps the most severe competitor with brook trout. The HPWC contains four waters with yellow perch: Corner Pond, Mud Pond, Pickerel Pond and Round Pond. None of these waters currently supports trout, although Round Pond and Corner Pond were historically good brook trout waters. A nonnative cyprinid species, the golden shiner, is found in 10 of 36 HPWC lakes with fish data. Golden shiners are also serious competitors with brook trout. Golden shiner have increased in abundance within unit waters in recent times. Prior to 1970, the species occurred in only four waters.

Present Day Fish Distribution (Streams)

Brook trout are the dominant fish species, although smallmouth bass can be found in the lower portion of the Cold River. About 111 miles of the 220 miles of streams within the HPWC are small and steep with little potential for management. Fish populations in the larger portions of streams consist largely of small, slow-growing, wild brook trout in association with native minnows and slimy sculpins.

Endangered, Threatened, Species of Special Concern

Round whitefish is the only fish within the HPWC which is listed as endangered by New York State. The round whitefish was historically abundant in many Adirondack lakes, but has seriously declined in numbers and distribution. George (1980) states that the species "...must be considered highly vulnerable to competition and predation by invading southern forms". The HPWC includes several lakes with round whitefish populations: the Cascade Lakes harbor a modest population of round whitefish, while Newcomb Lake and Moose Pond (P# 221) had sparse populations when surveyed in 1972. Lower Cascade Lake served as the brood stock water in efforts to restore the round whitefish to other lakes

in the 1970's. There are no historic or present day records of threatened or special concern species for ponded waters in the HPWC.

Heritage Strains

Adirondack ponds are home to several "heritage" strains of brook trout believed to be unadulterated by exposure to domestic strains. Horn Lake, Little Tupper Lake and Windfall Pond are examples of lakes which have provided heritage strains of brook trout. Undiscovered heritage strains of brook trout may still exist in some unsurveyed ponds. Creation of additional populations of heritage strain brook trout helps protect their genotype(s) from accidental contamination which may occur in the future in their natal waters. Refugia for heritage strains must be isolated from other waters.

Competition and predation by introduced species have greatly reduced the abundance of brook trout sustained by natural reproduction. Only about 40 of the traditional brook trout ponds in public ownership in the Adirondack Park now support viable, self-sustaining brook trout populations. The potential for successful natural reproduction is greatly enhanced when interspecific competition and predation are reduced or eliminated. Human introductions of nonnatives and natives which had limited distributions have nearly eliminated natural brook trout monocultures in the Adirondacks. Historic brook trout monocultures have been documented in the Adirondack Park (Appendix 13) and the survival of even a few such unique communities through the massive environmental disturbances and species introductions of the 19th and 20th centuries is quite remarkable. Survey data indicates that Seward Pond in the HPWC is among the ponds that were historic brook trout monocultures, and anecdotal evidence suggests that Calamity Pond may also be a historic brook trout monoculture.

Brook trout populations in combination with few other native species also occurred. The Duck Hole, Mountain Pond and Palmer Pond in the HPWC are brook trout waters with only one other species occurring in each pond.

Brook trout were particularly successful at colonizing and thrived in the relative absence of competing and predacious fishes. George (1980) states: "Under primeval conditions, the brook trout was nearly ubiquitous in the Adirondacks. Its agility, great range in size and facility in rapidly flowing water allowed it to spread widely, perhaps even concurrently with the demise of the glaciers, thus explaining its presence in unstocked waters above currently impassable waterfalls."

Watershed morphometry probably severely limited the diversity of fishes in the HPWC. The HPWC is comprised mainly of first and second order streams, and fish diversity is normally low in such headwater portions of watersheds (Hynes 1972).

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Topography would have made that lack of diversity particularly prominent in the HPWC. Individual streams draining the HPWC have extended stretches of extremely high gradients which can exceed 200 feet/mile. While these streams have not been ground checked, barriers are inevitable at such gradients. For example, the West Branch Ausable from the top of Monument Falls to the downstream end of the flume has a gradient of about 115 feet/mile and includes barriers at The Flume, at a falls upstream of the Whiteface bridge and at High Falls. Hanging Spear Falls on the Opalescent River has long been recognized as a fish barrier (Greeley and Bishop, 1932).

In general, while the Adirondacks historically had fish communities with low diversity, the HPWC would have had exceptionally low diversities. Brook trout have the extreme vagility necessary to have naturally colonized the HPWC waters and, therefore, were probably particularly abundant in the unit. Also, historic brook trout monocultures were most likely to have occurred in such headwater areas.

The decline in brook trout associated with the introduction of other fishes is a result of both predation and competition for food. Brook trout feed primarily on invertebrates. Many other fishes, including white sucker, longnose sucker, redbreast sunfish, pumpkinseed, brown bullhead, yellow perch, and the cyprinids (minnows, shiners, and dace) also feed primarily on invertebrates (Scott and Crossman 1973). In low fertility waters such as Adirondack ponds, competition for such forage can be intense. In addition to competing with brook trout for food, many fishes prey directly on brook trout. Northern pike, largemouth bass, smallmouth bass, and rock bass are highly piscivorous. Species which may feed on eggs and/or fry include yellow perch, brown bullhead, pumpkinseed, creek chub, common shiner, white sucker and longnose sucker (Scott and Crossman 1973). The relative importance of competition versus predation in the decline of brook trout is not known for individual waters, but the result is the same regardless of the mechanism.

Natural reproduction by brook trout is also very sensitive to impacts from sedimentation caused, for example, by logging, fires and other human activities. During the 1800's, the High Peaks supported a logging industry. Substantial areas were denuded and subsequently subjected to wildfires. For additional information on logging see Section III. Due to their reproduction behavior, brook trout are among the most susceptible of all Adirondack fauna to the impacts of sedimentation. Brook trout spawn in the fall, burying their eggs in gravel. Flow must be maintained through the gravel, around the eggs, until hatching occurs the following spring. Sand or fine sediments restrict flow around the eggs resulting in an inadequate supply of oxygen.

Degradation of spawning habitat and abundance of competing fish species severely limit brook trout natural reproduction. Therefore, brook trout populations in many ponds are maintained by DEC's annual stocking program. Most waters (approximately 80 percent of potential trout ponds in wilderness areas), cannot be reclaimed due to technical or logistical reasons. For instance, reclamation is precluded in ponds having extensive bog and swamp areas which provide refugia for fishes during treatment. The need for suitable barrier dam sites or natural waterfalls to prevent reinfestation is another constraint. Managing trout ponds in the HPWC which cannot sustain adequate natural reproduction serves to preserve populations of this native species and to provide opportunities for quality wilderness fishing experiences (one akin to that which primeval explorers may have encountered).

Recently, acidic deposition has impacted the aquatic resources of the Adirondacks. The ALSC surveyed 1,469 Adirondack waters, 24 percent of which had pH levels less than 5.0 (Kretser et al. 1989). Historic data and water chemistry analysis demonstrates that many of those waters were historically circumneutral and able to support fishes. Although less well studied, streams have also been impacted by acidification (Colquhoun 1984). Avalanche Lake, Lake Colden, the Flowed Lands, and the Wallface Ponds have all become too acidic to support fish life within the last three decades. Livingston Pond, Little Ampersand Pond and Owl Pond have maintained adequate pH levels only through liming efforts by the DEC. It is probable that smaller, high elevation lakes such as Lake Tear of the Clouds and Lake Arnold are acidic. Recent chemical survey data suggests that the Duck Hole and Marcy Dam Pond have declining pH and acid neutralizing capacity (ANC) values. The insidious effects of acidic deposition on the aquatic ecosystems in wilderness waters can be managed via addition of neutralizing agents to restore and/or maintain natural water quality characteristics.

Extirpated Species

There are no known extirpated fish species that were indigenous to HPWC waters.

SECTION III

MAN AND THE WILDERNESS ENVIRONMENT

HISTORY

By 1860, prior to the Civil War, New York had become a leading industrial state, yet the High Peaks Region of the north central Adirondacks was virtually unknown to outsiders. Few Europeans had explored its environs, and native Americans, most notably the Algonquins had been only occasional visitors. The high mountainous terrain and inhospitable climate discouraged most early visitors.

Both the Colonial government and the state, after the American Revolution, made large grants or patents of its so called "wild forest lands" to promote development. The present day bounds of the HPWC lie in three of these patents: Totten and Crossfield's (1770), Old Military Tract (1786), and Macomb's Great Purchase (1792). Speculators purchased these tracts and marketed them for agriculture, mining, and timbering.

Although little mining was done in the High Peaks proper, an early iron ore industry flourished in outlying communities. In 1809, an iron ore forge was erected on the Chubb River near Lake Placid. The Adirondack Iron and Steel Co. was in full operation at the Upper Works near Newcomb in 1826. One of its successors, McIntyre Iron Company owned all of the southern High Peaks region, including Lake Colden and Mount Marcy.

Closely associated with this "wild" region were the exploits of early guides such as John Cheney (Upper Works), Harvey Holt and Orson Phelps (Keene Valley), Mitchell Sabattis (Long Lake), and a host of others who introduced the public to the region. Orson Phelps reputedly blazed the first trail to Mt Marcy in 1861. Phelps had been preceded by Professor Ebenezer Emmons of the Geological Survey of New York who first recorded the ascent of Mt. Marcy in 1837. Emmons named the summit after then Governor William Marcy. He also named Seward, Dix, McIntyre, McMartin (now named Colden), and Henderson.

As timber supplies dwindled in the more accessible portion of the northern Adirondacks, timbermen soon looked to the vast forests of the High Peaks region. From the lowland swamps up to the highest slopes, any tree that was commercially valuable and accessible was harvested. Scot Pond (elevation 3,000 ft.) was used as a log holding pond and flush dam to transport logs downstream. Near the 3,700 ft. contour on Wright Peak, cut stumps and the remains of a tote road, attest to past logging (Ketchledge, 1967).

The High Peaks region is often referred to as "Colvin Country" in tribute to Verplanck Colvin, Superintendent of the Adirondack Survey (1872-79), who initiated the first detailed survey of the region. Colvin's notes, records, maps, and annual reports of

his surveys, defined the region and instilled a public awareness that in part, eventually led to the creation of the Adirondack forest preserve in 1885. Many of his original survey monuments can still be found today on High Peaks summits.

Tourism became a major Adirondack commercial enterprise by the 1890's and local hotels and mountain resorts were popular throughout the country. Adirondack Lodge (later renamed Adirondak Loj) opened its doors to the public in 1880. Henry Van Hoevenberg, its proprietor, afforded his guests with over fifty miles of hiking trails near Heart Lake. Similar accommodations were found in Keene-Keene Valley, Lake Placid, Long Lake, St. Huberts, and Saranac Lake. The Cascade House at Cascade Lakes served stage coach travelers enroute to Lake Placid. Much of the present day trail system is an outgrowth of the early "hotel trails" which followed logging roads and/or footpaths to favored destinations, usually a lake or a mountain summit.

Adirondack guides and their sports were impressed with the quality and abundance of brook trout available in High Peaks lakes. Big game hunters were drawn to the area in hopes of taking a white-tail deer or bear in a pristine setting. Even into the 1930's High Peaks' lakes such as Lake Colden, Avalanche Lake and Livingston Pond produced memorable angling opportunities for brook trout. Engels (1978) states:

"Nowhere but in the Canadian wild or the more remote waters of Maine could you have found such squaretail trout. ... Trout of one to one and a half pounds were common; we occasionally caught one of two to three, and Clint West, the state's resident ranger, had taken them to four and a half." The availability of remote hike-in trout fishing and hunting so close to the urban centers of the East Coast has been an enduring natural feature of the HPWC.

To the west, the Adirondack Canoe Route has served as a historic waterway for centuries. First used by native peoples, the route soon became a main travel route in the central Adirondacks by the 1840's. Long Lake Village, at the southernmost edge of the HPWC, was settled by 1830. Many of its village craftsmen contributed to the early development of the Adirondack guideboat.

During the summer and fall of 1903, six hundred thousand acres of forest land burned throughout the Adirondacks. (Suter, 1904). Piles of tinder dry logging slash, a 72 day drought, and unseasonably high winds contributed to the fire storms. Fires raged over Cascade, Dix, Porter, Mt. Van Hoevenberg, Big Slide, and onto the north slopes of Mt. Marcy. South Meadows and the area, surrounding and including Adirondak Loj, succumbed to flames. Keene, Keene Valley, and St. Huberts were threatened by similar engulfing fires. Fall rains and moderating temperatures finally helped to extinguish the fires. The scenario repeated itself in 1908 and 1909 when an additional 300,000 acres

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burned Park wide. Prompted by these events, the State's forest fire detection and fire fighting force was enlarged and updated. Fire towers were erected atop Ampersand Mountain and Kempshall Mountain 1911 and on Mount Adams in 1912. Reform of lumbering practices, such as enactment of the "top lopping law" to reduce logging slash, also played a significant role in reducing the spread of fires.

Hurricanes and damaging storms have also had a pronounced effect on the High Peaks. On November 25, 1950, the most destructive storm to ever hit New York State whipped across the Adirondacks with devastating force. The High Peaks region was not spared. Trees lay everywhere blown down by 50 mph winds. In the HPWC, the worst blowdown occurred along the Cold River, the west slopes of Santanoni, Panther, and Couchsachraga, northwest through the Sowards, and down along the Raquette River to Axton. Many trails were clogged with fallen trees, and interior travel was impeded until a final clean up was completed in 1955.

Following World War II, as Americans became more affluent and had more leisure time for outdoor activities, recreational use of the Adirondack forest preserve, and in particular, the High Peaks intensified and became the focus of public attention and concern. This concern led to several legislative studies and commissions. The High Peaks were often mentioned due to their valuable scenic and natural resources which attracted heavy use. One such commission, the Temporary Study Commission on the Future of the Adirondacks, recommended a classification system which incorporated wilderness designation and protection.

Affirmed later by the Adirondack Park Agency Act and its subsequent Adirondack Park State Land Master Plan (APSLMP), the High Peaks region was legally designated **wilderness** in 1972. The Adirondack Park Agency, in consultation with DEC, and with public support, concluded that significant portions of the High Peaks region were in a wilderness or near wilderness condition despite past human influences. Both agencies agreed that a new management emphasis and direction was needed.

Since the 1960's the High Peaks and several other areas in the Adirondacks have drawn the attention of environmentalists and scientists as the insidious effects of acid precipitation have taken their toll on the aquatic and terrestrial biota of high elevation ecosystems. Once famous trout fisheries in Lake Colden, Avalanche Lake, the Flowed Lands, and Upper Wallface Pond diminished and disappeared as pH levels decreased. The HPWC is a valuable natural setting for research by many disciplines on this national and worldwide problem.

HISTORIC SITES

Archaeological-historic research in the HPWC has neither been extensive nor well defined. Native peoples were believed to have traveled through the unit, but no evidence of their presence has been revealed.

Historic sites are few; the most notable include:

- ! **Adirondac (McIntyre) - Upper Works:** headquarters of the Adirondac Iron Works Co., 1826. Remnants of a blast furnace can still be seen situated on private land bordering wilderness.
- ! **Buckley Clearing:** former lumber camp site on Sanford-Marcy Trail via Twin Brook, 1880's.
- ! **Camp #4 - Santanoni:** early lumber camp site.
- ! **Colden Plaque - Lake Colden:** commemorates the purchase of the summits of Mt. Marcy, McIntyre, Seward, Indian Pass, Flowed Lands, Lake Colden, and Avalanche via a 75,400-acre land purchase with 1916 Bond Act funds.
- ! **Henderson Monument - Calamity Pond:** memorial to David Henderson, proprietor of the Adirondac Iron Works, who was accidentally killed on the site, 1845.
- ! **Long Lake - Round Pond Canal:** represents an attempt to join the Hudson and Raquette River watersheds via a canal to facilitate log driving. Approximately 0.3 miles of waterway was constructed before the project was discontinued in 1846.
- ! **Mother Johnson's Boarding House - Raquette Falls:** early hotel site at the carry around Raquette Falls, 1860-1875. Marked by a plaque to Charles W. Bryan, author of "The Raquette".
- ! **Mount Marcy Summit:** plaque commemorating the centennial of the first ascent of the summit by Professor Ebenezer Emmons and party, 1837-1937.
- ! **Noah Rondeau's Hermitage - Cold River:** campsite of the "Hermit of Cold River". Rondeau's cabin was removed to the Adirondack Museum, Blue Mountain Lake, New York, in 1957.
- ! **Ouluska Pass Brook:** early lumber camp site, 1880's-1890's.
- ! **Scotts Clearing and Lumber Dam:** early lumber camp site, flush dam, and sluiceway, 1880's.
- ! **Shattuck Clearing:** early lumber camp site and a former ranger station location.
- ! **Slant Rock - Johns Brook Valley:** traditional camping spot, the huge rock forms a natural shelter, used since the early 1860's.
- ! **South Meadows:** former lumber dam site and early village site; some foundations can still be found.

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- ! **Wright Peak:** plaque identifies the crash site of a U.S. Air Force B-47 bomber, serves as a memorial to its four crewmen killed there in 1962.
- ! **Historic Camp Santanoni:** is located just outside the HPWC boundary in the Vanderwhacker Wild Forest, Town of Newcomb, Essex Co.
- ! **Montgomery Clearing - Moose Pond, Santanoni:** subsistence farm circa 1840; later lumber camp 1950's.

CULTURAL RESOURCES

The High Peaks Wilderness Area has been an important part of the cultural heritage of the State. The area has a pristine beauty due to its deep forests, abundant lakes, streams and waterfalls, majestic mountains and the rich assortment of fish, wildlife and plant communities that abound within its borders. Although intensive use of limited areas of the High Peaks Wilderness has been a problem, the area in general, and especially specific areas of the High Peaks today, continue to reflect a wilderness quality. This quality provides the unique opportunity for visitors to better appreciate the delicate ecological balance of life. Preservation of this wilderness was a major contribution to the conservation movement of our country. The High Peaks have also provided a spiritual uplift for many generations of New Yorkers and countless others by allowing its visitors to experience tranquility and solitude in such a magnificent natural setting.

Writers, philosophers, painters and government officials have been inspired by the Adirondacks and the High Peaks. Presidents Theodore Roosevelt and Grover Cleveland took solace in the natural beauty of the area. Many writers have expounded on the importance of our natural environment to meet some of our basic human needs. Important Adirondack painters included Charles Cromwell Ingham, Thomas Cole, Asher B. Durand, Arthur Fitzwilliam Tait, Samuel Colman, Alexander Helwig Wyant, and Winslow Homer, most of whom were considered part of the Hudson River School of painters. This school was the first truly American school of painting which lasted from approximately the mid to late 1800's. Paintings of this school characteristically contained beautiful landscapes and showed a great reverence for nature.

Seneca Ray Stoddard was a popular figure from this era for the hundreds of landscape photographs he took to document the majestic beauty of the Adirondacks and the High Peaks. Although paintings, lithographs and etchings were the most popular art forms in the 1800's, advanced technology has given more prominence to photography and other forms of media in more recent times as used by Elliot Porter, Albert Gates, Nathan Farb and many others. Prominent artists, photographers and painters continue to be stimulated by the uniqueness of the area. The lack of physical development on the landscape of the

HPWC is one of its most important attributes and continues to make it the unique place it is today. This very lack of development is a magnetic force which attracts so many to the area's beauty. (O'Neil, 1994)

ECONOMICS

The impact of the HPWC on local and regional economies can be measured in a variety of ways including a review of the types of industries and jobs in the Adirondacks that are associated with the HPWC and the impact of the Forest Preserve on land values. Although exact dollar figures do not exist for all indicators of economic activity associated with the HPWC, a general picture can be drawn.

Tourism is on the rise and is one of the most important industries in the Adirondacks. Much of its success depends on the backdrop the HPWC provides for this industry. There are numerous guiding services, motels, bed and breakfasts, country inns, camps, clubs, gas stations, restaurants, grocery stores and equipment stores that depend on the attraction of the HPWC to draw customers. Hikers, campers, fishermen, and hunters, especially deer hunters, who use the HPWC spend a certain amount of money on services and lodging facilities. However, since neither public use figures nor estimates of local expenditures are available, an overall economic impact figure associated with users of the HPWC cannot be precisely determined.

Although precise figures for the HPWC are not available, the economic importance of angling to Essex, Franklin and Hamilton counties which surround the unit, was estimated during a statewide angler survey conducted in 1989 by the DEC (Connelly and Brown, 1990). In Essex county, an estimated 56,460 anglers fished 535,940 days and generated \$11,544,680 in location expenditures. Franklin county figures were 36,860 anglers fishing 399,780 days who generated \$7,037,370 in location expenditures. In Hamilton county the figures were 54,380 anglers, 403,760 days, and \$9,178,590 dollars. The total location expenditures for the three county area containing the HPWC was \$27.8 million. Although the fishery resource for these counties is by no means concentrated in the High Peaks, the unit does attract anglers via its intrinsic resources and adds significantly to the aesthetic appeal of the whole region.

Brook trout are the primary game fish species within the HPWC. Connelly et. al. (1988) estimated that anglers spent approximately \$48.10 per day fishing for coldwater gamefish. Within DEC's Region 5, which includes the HPWC, 1.39 million days were expended fishing brook trout. Angling for brook trout is obviously an important economic activity in the Adirondacks.

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The proximity of private land to the HPWC is often a selling point in real estate sales and this, coupled with road access, land availability, proximity to multiple uses and waterfront, has a beneficial impact on land values. Land adjacent to the HPWC in Keene, Keene Valley, Heart Lake and Lake Placid command some of the highest prices in the Adirondacks for these reasons. A study by Cornell University also suggests that the proximity of land to the Forest Preserve can significantly increase the value of real estate (Kay, 1985).

There are also other less tangible economic impacts provided by the HPWC. Due to the absence of industry and associated pollution on these lands, there are no polluting effects on downwind or downstream areas requiring costly mitigative measures. In fact, the HPWC enhances the quality of the environment by filtering water and transported air pollutants and by providing oxygen to the atmosphere.

It can also be pointed out that the HPWC has a beneficial economic impact on those who derive creative inspiration from the High Peaks for writing, painting, photography, and other kinds of occupations when they visit the High Peaks themselves or when they derive beneficial psychological effects by just knowing the High Peaks Wilderness exists. No dollar value can be placed on this impact.

SECTION IV

WILDERNESS USE AND USERS

A thorough understanding of wilderness use is needed before any wilderness management options are considered. Not only do many wilderness values stem from a wide range of wilderness uses, but so do most threats to wilderness, and, as a result, most management problems (Hendee and others, 1990).

INTRINSIC USES

Although recreation is the most obvious use of wilderness, the APSLMP describes with equal status a variety of wilderness purposes, specifically those that have ecological, geological or other features of scientific, educational, scenic, and historical importance. Commonly referred to as intrinsic uses, belonging to the essential nature of wilderness, they include the following:

! **Indirect Use**

Millions of people who never set foot in the HPWC, or for that matter, any wilderness, derive personal satisfaction from knowing that such areas do exist (Van Valkenburg, 1987). These people are referred to as indirect users. Their satisfaction can come from television, books, photos, films, lectures, or by the accounts of others who have been there. Indirect users also include those who see the High Peaks from afar or from the periphery and take pleasure in the natural beauty they observe or know is there. And, there are those who value keeping open the option to visit such areas if they choose to do so or wish that their children may have the same opportunity in the future. Whether or not they ever actually visit a wilderness, it is worth something to them to know they could (Hass and others, 1986).

! **Scientific Use**

One of the major values of the HPWC is its potential for scientific use and study. The unit is one of the best and most extensive outdoor laboratories in the Adirondacks, particularly for the study of biological sciences and ecology. It offers relatively natural, unmodified environments, and freely operating natural processes spread out over a large area. As New York State becomes more developed and modified by man, the contrast between wilderness and non-wilderness will increase and the values afforded by a wilderness laboratory such as this are greatly enhanced. For example, High Peaks environments are frequently used to establish scientific benchmarks and baselines to judge and evaluate the impacts of development outside wilderness. The study of any species, as for example an insect pest, in its natural habitat can lead to more intelligent management of

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that same species in a modified environment where there may be no natural controls present.

HPWC wild lands are necessary for the conservation of biological diversity. The geographical position of the HPWC and its associated variations in elevation, climate, soils, vegetation, and aquatic conditions have created a varied and fascinating flora and fauna. On a broad scale, the HPWC serves as a vast genetic reservoir to those species which are or may become rare, endangered, or threatened with extinction. Many of these species are sensitive to human disturbance and require large blocks of undeveloped wild land for all or part of their life histories. Research has shown that most of the alpine vegetative communities exhibit a low tolerance to human disturbance, and that boreal fish communities consisting of one or a few species are highly susceptible to invasion by nonindigenous fishes as a result of mans' activities. The HPWC can provide habitats for these species, communities, and ecosystems. Some disturbance-sensitive species of wildlife, such as the osprey, bald eagle, great blue heron, common loon, pine marten, and Canada lynx require vast expanses of undisturbed forest (U.S. Fish and Wildlife Service, 1982).

Introductions of nonindigenous fish species to coldwater lakes, which historically had fish communities consisting of only a few species such as brook trout or round whitefish, have frequently lead to the displacement of the original, self-sustaining population. The HPWC can serve as a refugia for these simple communities and thus, on a larger scale, serves to maintain the diversity of natural communities in New York State.

! Educational Use

The HPWC is used for educational purposes - as a site for field trips, study areas, basic research, and as a source of instructional examples. Some educational uses, based on long-term ecological processes, may be wilderness dependent, but for many topics, other areas outside the wilderness that are less fragile could be used as a substitute for this type of activity.

Many educational uses are more akin to recreational use when wilderness is used to teach woodsmanship and survival skills. Whether this use is really dependent on the HPWC as a backdrop has been questioned. (Young and DiGregoria, 1987). What does seem to be needed is a large, roadless area as found in nearby wild forest areas. Some courses teach wilderness values as well as low-impact use which are more appropriate.

! Therapeutic and Personal Development

The HPWC environment is sometimes used too as a setting for therapeutic programs designed to alleviate abnormal behavior or psychological problems. Emotionally challenged people are taken in small groups on canoe trips and backpacking trips. Some

participants seem to benefit from isolation, close contact with staff, challenge, and group support. This use may or may not be wholly wilderness dependent, but it does occur in the HPWC on a small scale.

Other programs are directed toward personal development. Working in a wilderness setting, these programs develop leadership skills, personal confidence, social interaction, and instill a respect for natural resources. It is difficult to say whether such programs really depend on the HPWC or just need large roadless areas. Some uses have religious and spiritual purposes that draw on remote wilderness settings.

! Clean Air and Water

The steady build-up of green house gases in the atmosphere and their resultant effects on global warming are a worldwide, national and state environmental issue. In the process of seeking ways to slow the build-up of "greenhouse gases," particularly carbon dioxide, HPWC trees and forests play an important role in enhancing New York's air quality. Trees through photosynthesis, convert carbon dioxide into sugars, cellulose, and oxygen. They stabilize temperatures and reduce atmospheric pollution (Weiner, 1975). When one considers the expanse of the HPWC forest (more than 192,000 acres in one block), in conjunction with the entire Forest Preserve, this indirect use is gaining greater recognition and importance.

The value of the HPWC for watershed protection is often overlooked. One of the original purposes for creating the Adirondack forest preserve was the protection of watersheds. The early concerns that led to the Forest Preserve centered around the dependence of the citizens, industry and commerce of the State on the tremendous water resources of the Adirondacks and Catskills and the need for forest cover to protect both the quantity and quality of those waters (VanValkenburg, 1985). Wilderness designation offers long-term protection of these waters at a relatively low cost to taxpayers. The DEC is committed to maintain State water resources in a high quality condition for human consumption, fish and wildlife needs, and recreational use. Wilderness watersheds fulfill an important part of this commitment.

RECREATIONAL USE

The HPWC is often a person's first, and sometimes only, encounter with Adirondack wilderness. It has historically attracted greater concentrations of visitors than any other Adirondack wilderness area. For these reasons, it is important for DEC managers to fully understand HPWC use so that visitors can be ensured a positive wilderness experience with the least amount of impact on the environment. These two dimensions pose many management challenges and opportunity necessary to achieve the

Section IV: Wilderness Use and Users

proper balance between wilderness protection and permitted uses as required by the APSLMP.

Of the 16 designated wilderness areas in the Adirondack Park, none is perhaps better known than the High Peaks Wilderness. Its recognition is world wide. As a result, the HPWC receives more visitors than any other wilderness in New York State and ranks as one of the most popular in the northeast. The reasons for such a drawing power are many. A location near dense population centers, coupled with a reputation as an easily accessible, highly attractive natural area, offering unique experiences found nowhere else in New York State, invites heavy use. Personalities and past associations contribute to its recognition. Publicity in magazines, books, films, photos, etc., add to its popularity. Wallace describes this effect in *Ecotourism - A Guide for Planners and Managers* (1993) and points out "Governmental agencies have little input or control over national advertising images about their wildlands that form visitor expectations."

Many parts of the wilderness, especially the eastern High Peaks, have areas of concentrated use where impacts on soil, water, vegetation, and fauna have resulted in unnatural changes to the environment. These effects can also alter the quality of the visitor experience.

The APSLMP requires an assessment of the recreational carrying capacity of this unit, with particular attention given to portions of the wilderness subject to overuse. Recreational carrying capacity can mean many things, but basically it is a term used to describe how much use an area can sustain within limits of acceptable change before managerial controls are necessary to offset and mitigate adverse impacts. To make this assessment, we need to know more about the dimensions of recreational use as it affects the HPWC. This topic is discussed in detail in SECTION VII: item D. Carrying Capacity Concepts.

Estimating Number of Users - Total Use

Wilderness recreational use in general is difficult to measure. The HPWC has 20 developed trailheads and numerous access points, especially along the many highways forming its borders. Use is dispersed over such a wide area, it is nearly impossible to make any sort of head count, as is done in campgrounds. Even if this were possible, it would be prohibitively expensive to observe all entry points. Therefore, a combination of techniques are employed to estimate HPWC use. These include: sample observations, electronic counters, estimates based on trail registers and camping permits, parking lot counts, staff impressions, field diaries, inventory and analysis of site conditions, and sometimes, just educated guessing. Accuracy varies from good to very poor across the

unit; some locations yield better data than others. But, there is a clear trend towards increased use. The following table shows HPWC use increasing.

HIGH PEAKS VISITATION 1983 - 1998*

<u>YEAR</u>	<u>NUMBER OF VISITORS</u>
1998	139,663
1997	136,393
1996	132,421
1995	131,110
1994	123,092
1993	114,067
1992	109,412
1991	100,751
1990	93,233
1989	89,647
1988	83,983
1987	84,774
1986	78,779
1985	67,354
1984	63,405
1983	57,016

* Source - trailhead registrations

Prior to 1983, visitation data is unreliable and not always comparable between years. Trailhead registers, the primary data source, were added, removed or changed locations frequently and reporting methods varied. Since 1983, register locations have remained fixed and reporting methods have been standardized. DEC staff estimated total visitor use exceeded 140,000 visitors in 1998, but how much higher no one knows for sure until better data collection methods are developed. Despite its limitations, DEC managers feel the data is satisfactory enough for management and planning purposes, but always to be used with caution. As Hendee and others (1990) point out in their classic textbook Wilderness Management "Visitor use data need not be perfect to be useful, and any improvement only adds to the value of the information". However, by themselves, total wilderness use figures indicate little about the pressures sustained by the resource nor the experiences of visitors.

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Distribution of Use

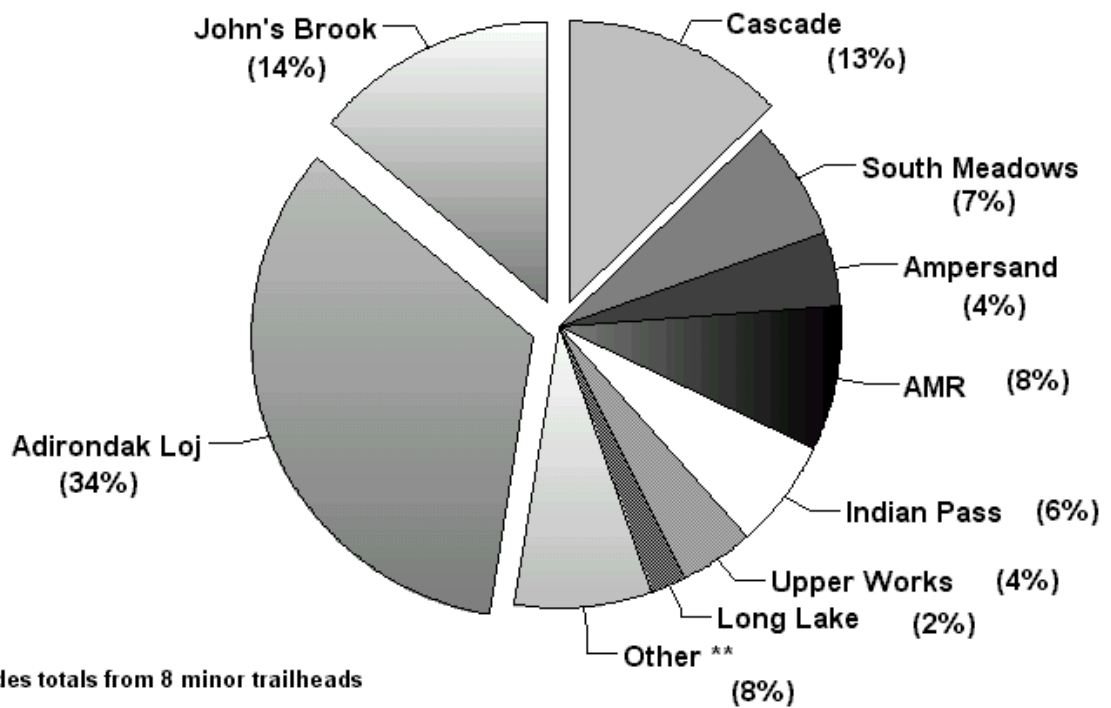
Intrawilderness use across the HPWC is largely influenced by three factors: location and concentration of natural attractions, degree of access and development, and amount of usable terrain suitable for recreation, especially hiking and camping. Most visitors are attracted to the eastern High Peaks because of easy access to trailheads and its concentration of high mountains and lakes offering unique alpine settings and experiences. Use distribution is further affected by trail and entry point distributions. Some areas, like the eastern High Peaks region are well supplied with extensive trail networks while the western High Peaks have a sparse trail system with few entry points. Another factor often overlooked is “usable terrain”. This relates to the amount of land available in the HPWC for distributing recreational use which is severely limited by steepness of slope, rock outcrops, shallow and wet soils, sensitive vegetation, and the area occupied by lakes, streams, and wetlands. It is not surprising most visitors enter the HPWC through only a few trailheads. About 72 percent of all visitors enter the unit through just five of the unit's twenty developed trailheads: Adirondak Loj, Johns Brook, Cascade, South Meadows, and Ampersand. Distribution and amount of visitor use is measured and analyzed by trailhead registration at selected entry points (see following table).

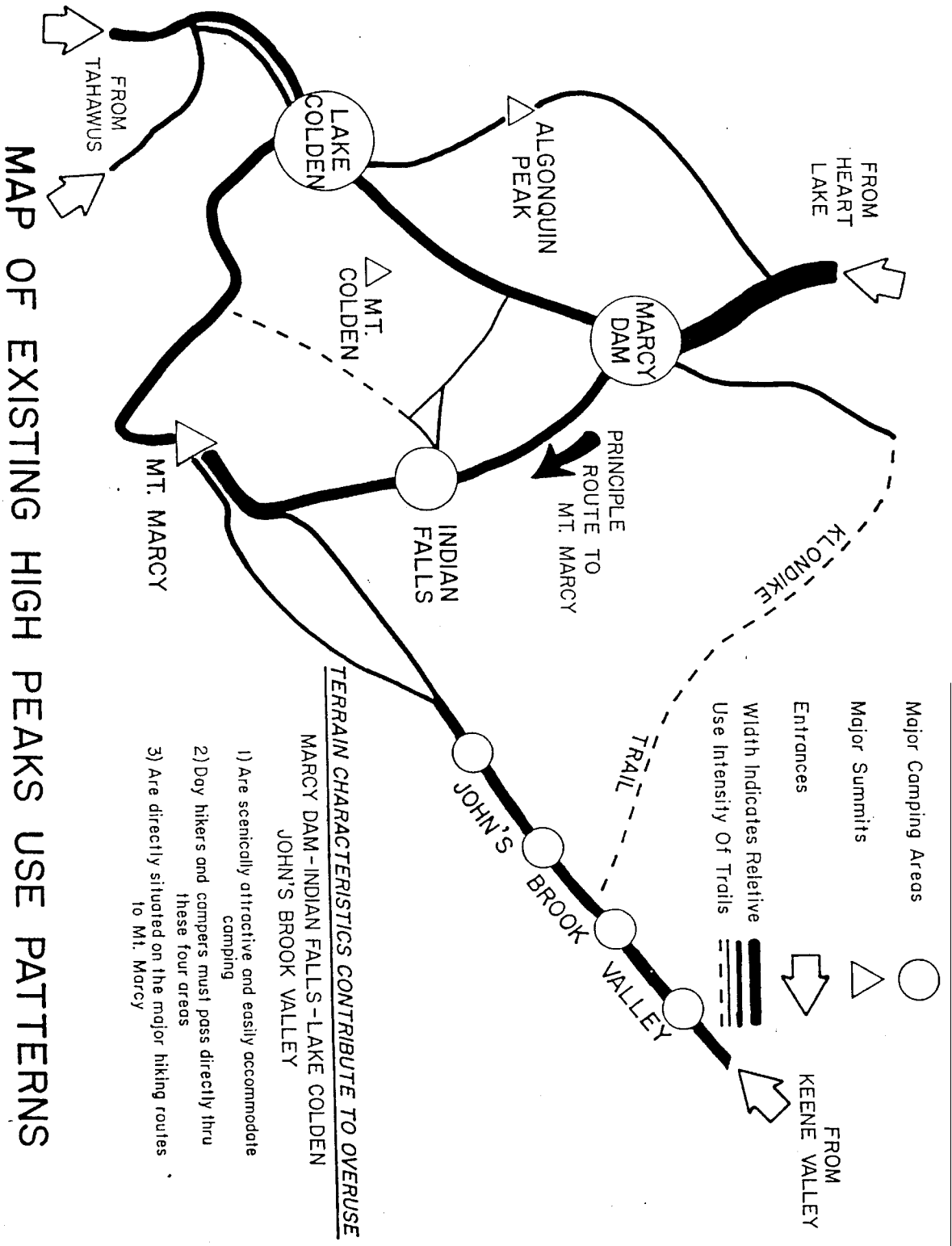
Visitor Use By Trailhead

TRAILHEAD	NUMBER OF VISITORS REGISTERED	
	1988	1998
Adirondak Loj (#1)	30,289	44,327
Adirondak Loj (#2)	1,533	2,222
Indian Pass	4,713	8,884
South Meadows & Klondike	4,492	9,745
Johns Brook	11,101	19,680
Cascade	6,045	17,893
AMR - High Peaks	***804	11,755
Long Lake Boat Launch	2,414	1,973
Northville-Placid Trail - Long Lake	1,002	1,096
Northville-Placid Trail - Averyville	1,462	1,018
Santanoni Preserve (Moose Pond)	632	1,134
Elk Lake - High Peaks	135	1,285
Upper Works	3,635	6,050
East River	797	1,207
Bradley Pond	867	1,046
Ampersand	5,135	6,084
Stony Creek	1,537	1,923
Seward (Blueberry)	1,072	2,341
TOTAL	77,665	139,663

***Data Incomplete

1998 VISITOR USE BY TRAILHEAD High Peaks Wilderness Area





MAP OF EXISTING HIGH PEAKS USE PATTERNS

The table portrays the minimum number of visitors entering through developed trailheads that can be reasonably documented. The problem is that not everyone registers. There is no regulation requiring registration. Registration is voluntary; it's up to the visitor to register or not. Use is consistently understated. Forest rangers have found young adults, large groups, sportsmen and those visitors making short trips tend to register less (Fish, 1994). Where multiple access points exist, register location also plays an important role in the frequency of registrations.

Compliance rates vary from trailhead to trailhead. For example, registration checks at Ampersand Mountain, a popular day-use trail, indicate a 50 percent rate of registration, whereas at Adirondak Loj, 96 percent of all visitors registered. It appears registration rates drop significantly in winter, especially for day-users. Register location may be a significant factor. For example, a register location for bare ground visitors may not be suitable for winter visitors when approaching on skis or snowshoes. Sportsmen, especially hunters, seldom access the HPWC via trails with registers or infrequently sign-in if they do.

Group Size

People come in all types of groups -- families, friends, groups sponsored by various organizations -- and a few travel alone. Party sizes are generally small. Approximately 75 percent of all registered groups had between two and six persons. Groups of two to three persons are the most common party size. Large groups (defined as ten or more persons per group) account for about 15 percent of total day and overnight use and have an average party size of 12. However, up to 300 persons have been documented on easy access trails like Ampersand and Cascade. While large groups do not represent a significant proportion of total use, they can create substantial adverse impact. For example, large day use groups have actually displaced smaller groups from trails and create trailhead parking problems (Middleton, 1993).

Research in the HPWC and in Federal wilderness areas indicates that large parties add greatly to overuse problems. Large groups visit the HPWC predominately in summer and fall. Even though large groups represent only a small proportion of total use, they do have a disproportionate impact on natural resources and on the experiences of other visitors (Cole and others, 1987). Many groups are composed of teens from camps, church organizations, schools, scouts, etc. Fall large group use, in September and early in October, is dominated by college groups who use the area for student orientation programs or outing purposes. On some weekends, 30-40 of these groups are present in the unit. Often novices, these groups visit the HPWC to learn outdoor skills, develop personal growth, or seek adventure. A study by Young and DiGregoria (1987), entitled Patterns and Characteristics of Large Group Use

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in the HPWC, suggests that many of these groups may not be wilderness dependent. That is, they do not require a remote-designated wilderness to accomplish their objectives of teaching outdoor skills. While many groups were cognizant of overuse problems in the HPWC, they were unfamiliar with other lesser-used wilderness or wild forest areas.

Many wilderness managers believe that large groups may also cause excessive tent site wear and tear, soil compaction, congestion on trails, generally a higher noise level, and a greater visual impact (Lime 1984, Cole and others 1987).

A DEC regulation (Title 6 NYCRR, Part 100.4) requires all overnight groups of 10 or more person to obtain a group camping permit regardless of length of stay. Starting in 1995, DEC regional wilderness managers established a maximum camping group size limit of 12 persons per group. Prior to that date, the maximum overnight size was 20 persons per group and forest rangers had been issuing more than 700 permits annually. The measure was intended to reduce environmental and social impacts. Also, this was needed to bring about a gradual reduction in overnight group size, over time, to be in compliance with the APSLMP. The APSLMP requires that all campsites be restricted to a maximum of 8 persons per site. In its first three years, the above action resulted in a reduction in permits and a decrease in large overnight groups. However, this reduction did not result in a decline in total wilderness use. It just means that groups became smaller. Many organized groups voluntarily reduced their group size in response to public concerns that large groups were adversely affecting the environment and other visitors. They also found that they had better supervision of party members.

Types of Activities

The HPWC offers many diverse, low-intensity land and water activities. Visitors take all kinds of hikes -- short day hikes, long trips, and everything in between. Some ride horses, others walk or ski. They float rivers with boats and canoes. HPWC trips are seldom single-purpose excursions; most visitors participate in two or more activities, including but not limited to, hiking, camping, canoeing, skiing, fishing, hunting, trapping, horseback riding, mountaineering, photography, and nature study. Those activities showing marked increases include cross-country and telemark skiing, rock climbing, winter camping and mountaineering, canoeing, and big game hunting. Rock climbing is the fastest growing activity in this wilderness and adjoining areas.

Mode of Interior Travel

A basic tenet of wilderness philosophy requires visitors to rely solely on muscle power by non-mechanical means as a means of transportation. Motorized use is prohibited. In doing

this, the overall carrying capacity of the unit is increased and certain protection is afforded biological and physical resources, and a basic sense of remoteness is ensured (Fege and others, 1988). The most common method of travel is hiking. Approximately 88 percent of all visitors travel by foot (hike), ten percent canoe, one percent or less travel by horse, and one percent by mountain bicycles on designated roads such as the Ampersand and South Meadows Roads, the same ones currently open to motor vehicles. Otherwise, mountain bikes are prohibited in the interior (APSLMP, 1987, DEC regulation 1994). There is also float plane use of Corner Pond, a boundary between State and private lands at the south end of the unit. It is one of the few places in the Adirondack Park where a wilderness boundary can be legally accessed by aircraft (Coon, 1987).

Periods of Use

Periods of use are extremely weather dependent. Weather is everything! Most recreational use occurs during the ice-free season -- May through October. However, fall and winter use is more common than a decade ago and shows signs of significant increases.

The busiest periods are Memorial Day, July 1 (Canada Day), July 4th, the last two weeks of July, the first three weeks of August, Labor Day, and Columbus/Canadian Thanksgiving Day. Use is heaviest on weekends and usually less mid-week (Tuesdays, Wednesdays and Thursdays). In 1998 weekday and weekend peaking, i.e. full parking and camping areas, occurred 17 weekends and 14 mid-week periods in the more accessible portions of the wilderness due to exceptional warm and sunny weather. June and early July use is often lower due to heavy insect activity. Fishermen frequent the trout ponds in the spring and again in the fall. Hunters use the area in mid to late fall. Sportsmen, in general, utilize the HPWC in the traditional "off-season" when hiking and camping activities are less.

Length of Stay

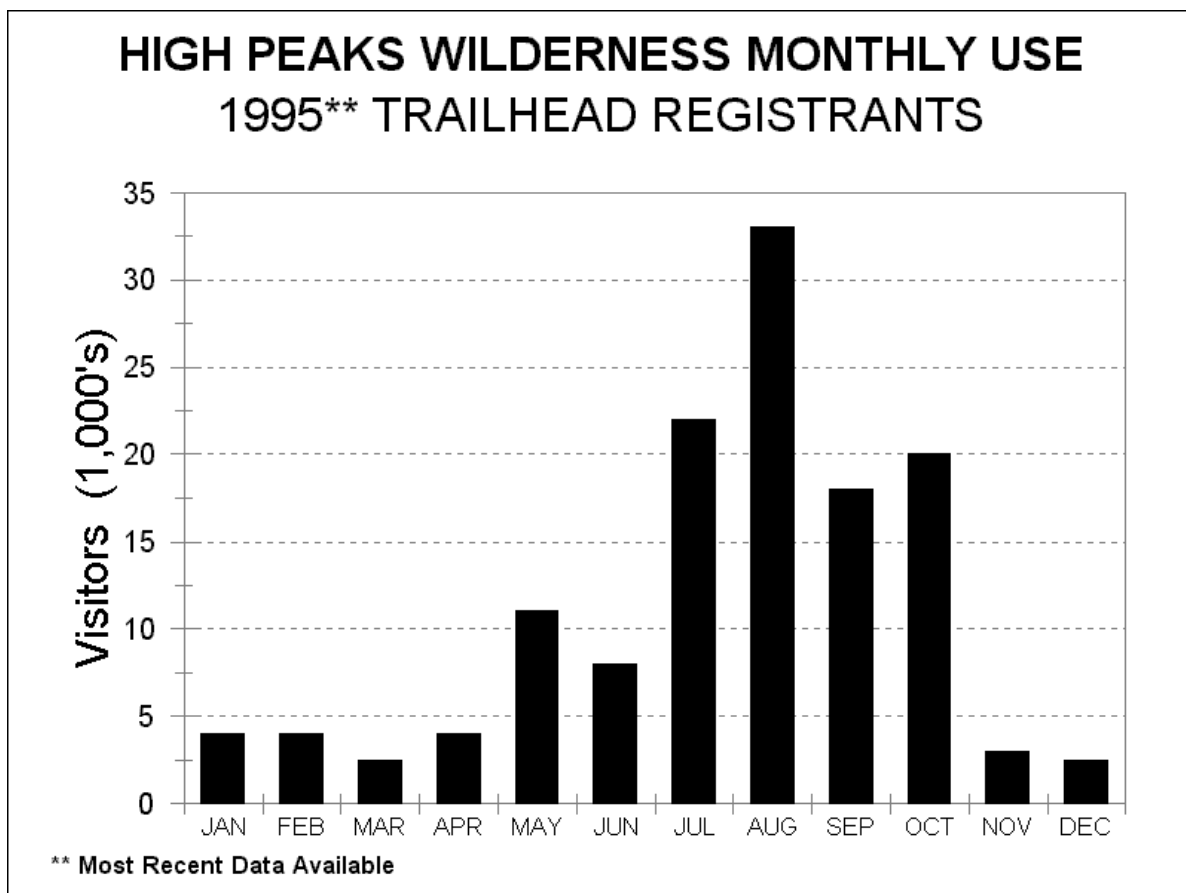
The typical HPWC visit is relatively short. Day users are the overwhelming majority. The average length of stay for campers is two days. Long visits of one week or more are few except during the hunting seasons. Day use fishing trips are common for waters within five miles of access roads. Day users are the most frequent visitors to Algonquin Mt., Ampersand Mt., Cascade Mt., the Johns Brook Valley, and Marcy Dam.

Residence of Visitors

Trailhead records in 1998 indicate the majority of visitors are New York State residents (54 percent). Canadian visitors represent 17 percent, with almost 28 percent of other visitors coming from out of state. A small minority (less than 1 percent) come from foreign countries

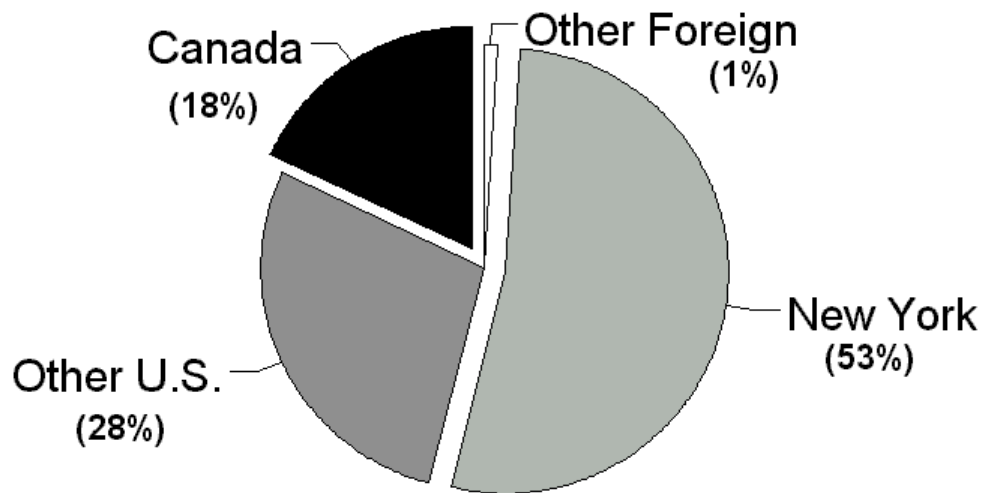
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other than Canada. These percentages compare closely to a 1992 HPWC hiker survey by Albergra (1993) in the eastern High Peaks. Each year more visitors come greater distances to the HPWC -- from the Albany-Capital District, Montreal, New York City, and especially from neighboring states and provinces (Connecticut, New Jersey, Vermont, Massachusetts, Pennsylvania, Ontario and Quebec) -- so that the percentage of non-local visitors is increasing.



VISITOR ORIGIN - 1998

High Peaks Wilderness Area



Characteristics of Users - A General Description

Few studies have been conducted to determine the characteristics of HPWC users. In the past DEC managers have had to rely on previous studies by Snowden (1976) of winter HPWC users, Bomba (1983) in the Dix, Giant, and Pharaoh Wildernesses, and Wood (1987) in the St. Regis Canoe Area. Such assessments are costly undertakings and have seldom been conducted in the HPWC.

Recent review of published literature of wilderness users across the United States, including eastern Federal wilderness areas, characterize users as young adults, male, moderately to well educated, and predominantly in professional and technical occupations (Hendee, 1990). This analysis seems to conform well to HPWC users and is supported in part by the works of Albergra (1993) and Dawson (1994) in the Adirondacks.

Current research shows most HPWC visitors are young, generally less than age 40, but not to the exclusion of older visitors. In fact, all age groups are represented. Visitors tend to be approximately 60% male and 40% female with a growing trend to more female visitors. They are from nearby population centers, slightly more likely from urban areas. Albergra (1993) found most visitors to the HPWC reside less than one full days drive (12 hours) from the unit. Income levels fall within the Federal norm between \$15,000 and \$50,000 per year for wilderness users from varied educational backgrounds.

Day Use

Day-use activities are generally preferred to overnight stays. Day hiking, picnicking and sightseeing are the most popular activities. Cross-country skiing and snowshoeing dominate the winter months. Day-use demand is almost entirely oriented to high mountaintops or to water, on routes requiring less than a day's travel. This has created heavy user concentrations on Algonquin, Ampersand, Cascade, Mount Marcy, Avalanche Lake, Lake Colden, Marcy Dam and the entire length of the Johns Brook Valley. Data on the role of day-users is sketchy, at best, as visitor use surveys and other methods of gathering user data have not been employed to date. Available data indicates that the preponderance of recreation activity within the HPWC will continue to be day-use oriented.

Use of Trailless Peaks (those peaks without maintained trails)

Trailless peaks are those mountain summits without marked or maintained trails. The term "trailless" is a misnomer because most of the summits have well-worn footpaths or "herd paths". Records supplied by the Adirondack 46'ers list hiker use for 1992 (the most current year available) as follows:

USE OF TRAILLESS PEAKS (HPWC)

MOUNTAIN	NUMBER OF VISITORS REGISTERED	
	1988	1992*
Allen	319	437
Cliff	274	391
Couchsachraga	291	370
Donaldson	350	472
Emmons	345	436
Gray	426	615
MacNaughton	unavailable	unavailable
Marshall	422	444
Nye	363	548
Panther	395	168*
Redfield	339	407
Santanoni	383	110*
Seward	375	572
Seymour	422	521
Street	375	503
Table Top	472	422*
TOTAL	5,551	6,416

*Indicates most recent available data.

Canoe Use

Canoe use significantly impacts the western boundary of the HPWC along Long Lake and the Raquette River. Use is heavy due to the popularity of the Adirondack Canoe Route (Old Forge to Saranac Lake).

Generally, canoeing along the unit's western boundary is a group activity. Organized groups account for over 60 percent of total canoe use. The remaining use is by family groups, friends, or lone travelers. Parties of 12 persons, six canoes, are common. The average length of stay is four nights. Most visitors (70 percent) are under 30 years of age. Over 50 percent of all visitors own their own canoes while the remainder rented canoes from local vendors or borrowed them from friends. Trail registers at Raquette Falls and the Long Lake Boat Launch site do little to quantify total use because of the multiplicity of access points along the waterway. However, estimates of boat and canoe use along Long Lake are calculated at 10,000 visitors, 5,000 of which are canoeists who pass through the Raquette Falls portage annually.

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Canoes or inflatable rafts are often portaged into inland waters of the unit by sportsmen. Small watercraft are also commonly utilized on the roadside Upper and Lower Cascade Lakes. Statistics are not available for canoe use on inland waters of the unit, but this a traditional wilderness activity with broad aesthetic appeal. Typically, party size for inland canoe use by fishermen consists of one or two people who sometimes camp overnight on destination waters, especially if the destination is more than about five miles from the nearest road making day trips impossible.

Horse Use

Horse camping and trail riding are traditional uses of the western High Peaks. Early roads provide the basis for the present trail system. The number of horse users is not precisely known; however, our best estimates place the number at less than 500 visitors annually. Although this number seems insignificant in terms of total visitor use, resource impacts caused by horse use are proportionately high when compared to other recreation activities.

About 60 percent of horse use is by day users (trail riders), with the remainder camping with their horses. The average length of stay for campers is usually two or three days dependent upon the amount of grain and/or hay transported, since natural forage is limited. Longer stays of a week or longer are more common during the fall hunting seasons. The most common party size is between 4 and 6 people. Much use can be attributed to guide and outfitter use who offer both trail rides and overnight camping. Favored destinations include Calkins Creek, Cold River, Moose Pond, and Raquette Falls.

Guide and Outfitter Use

In addition to general public use, there is commercial recreation use in the HPWC. Although visitor use generated by guides and outfitters is relatively minor, it supports a sizeable and growing industry. Since many guided activities are linked to fishing and hunting, they tend (like other sportsmen) to utilize the HPWC during the "off season" for hiking and camping. Outfitter and guides add to, as well as facilitate, the wilderness experience of many visitors. Their use usually promotes a specialized activity satisfying special travel requirements and equipment. Generally, their activities depend on large blocks of roadless land such as the HPWC. For example, those outfitters offering specialized transportation (horses, canoes, rafts, etc.) and a sense of remoteness in their activities would be essentially eliminated by an easy access, well-roaded area.

Other types of outfitters rely solely on equipment sale and rentals outside the unit. Almost every community near the HPWC supports this type of business dependent upon the wild character of adjoining Forest Preserve lands.

Winter Use

Winter travel offers an entirely different wilderness experience -- somewhat greater solitude, a pristine white scenery, the deep quiet of snow-covered landscape, and excellent cross-country skiing and snowshoeing. Winter use has almost doubled in the past ten years and continues to increase. It now attracts 14,000 visitors or more annually. Most winter visitors are day-users; however, more and more people are winter camping. Occupancy rates in lean-tos can be quite high, especially at Lake Colden and Marcy Dam.

Lower County Line Pond, Mud Pond, Round Pond, and Pickerel Pond are nontrout waters which contain northern pike or smallmouth bass and , therefore, remain open to angling during the late fall. Ice fishing is permitted on Lower County Line Pond, Middle County Line Pond, Pickerel Pond and Mud Pond.

This rapid rise in winter use presents many challenges. Law enforcement, information and education efforts, and maintenance must adapt to seasonal changes.

Rock Climbing

Although there are no use figures available, field reports indicate rock climbing is the fastest growing activity in the High Peaks. The rising popularity of this sport in the unit may be attributed to recent technological advances in clothing and equipment, the availability of indoor climbing training facilities in urban areas, increases in the number of commercial climbing guide operations, and the physical challenges of the sport.

The climbing season generally runs from spring through early fall, however all months of the year may provide suitable weather for climbing. Ice conditions determine the extent of winter use. Use patterns are developing in areas not previously accessed. Increased activity has been observed on the rock faces surrounding Avalanche Lake, Cascade Lakes, Wallface Mt., and the traditional rocky summits.

Rock climber impacts have not been quantified in terms of their effects on, vegetation and soils, geology and integrity of the rock, and wildlife. Rock climber rescues are more difficult which requires a higher level of search and rescue preparedness and training.

Visitor Perceptions of Use

One objective of wilderness management is to offer a user experience that is natural and primitive (APSLMP, 1987). The amount of enjoyment is purely a personal matter for the individual user to decide, based on perceptions of the wilderness visit. Visitor perceptions of HPWC use are very complex and difficult to assess. They tend to be highly subjective, impressionistic, and always debatable, much like everyone's personal definition of wilderness (Papero, 1994). Large differences of opinion exist.

We are just beginning to understand how HPWC visitors perceive natural conditions and measure the effects of meeting others in remote locations. We have little information on how visitors perceive and react to the wilderness behavior of others. Some insight may be gained by a review of the following reports: Stankey (1971), Lime (1975), and Lucas (1980) in federal wilderness areas, Wood (1987) in the St. Regis Canoe Area, and Snowden (1976), Young and DiGregoria (1987), Albergra (1993) in the HPWC, and Holmes (1990) and Dawson (1994) in the Adirondacks. Their work is comprehensive, relevant, and the user groups studied, are comparable to those presently encountered in the HPWC. The researchers found standards across wilderness areas are remarkably similar (Manning, 1994). Stankey found solitude to be a desirable and important facet of the wilderness experience in 72 percent of all visitors surveyed. This figure may be lower in the HPWC because of the lower expectation of solitude resulting from traditionally high use levels. The size of parties encountered has also been found to affect user satisfaction. Both Stankey and Lime found that users preferred to encounter several small parties rather than one large party. It was determined visitor tolerances were greatest on the wilderness periphery as opposed to interior locations. This probably does not mean that visitors enjoy meeting others on the first few trails or mountaintops, but they can at least accept it for a while. As visitors penetrate the interior, expectations of solitude rise and they become more sensitive to encounters. Wood (1987) found this to be true of wilderness canoeists as well.

The location of campsites stood out as an important element in user perception of capacity and crowding. In most of the reported studies, between 70 - 80 percent of all visitors surveyed indicated camping near several other parties would bother them to some extent. About half of those visitors surveyed indicated campsites should be out of sight and sound of each other. This same suggestion is reflected in APSLMP guidelines for campsite separation distances.

Although wilderness users were not found to clearly favor or oppose entry controls, Stankey, Lucas and Young and DiGregoria found fairly strong agreement that controls were preferable to overuse. Users indicated a strong desire to maintain the natural environment by favoring a group size limit and to redistribute use by promoting a designated campsite

program in heavily used areas. These concepts were supported by the Citizens' Advisory Committee (CAC) in 1990. Group size limits are also found in Holmes (1990).

Snowden (1976), Albergra (1993) and Dawson (1994) reported high levels of visitor satisfaction even though many visitors reported negative resource and social aspects of their trip. Collectively, the research shows that requirements of wilderness users and their personal standards of acceptable wilderness conditions vary considerably, suggesting a potential need to manage different areas within the HPWC for different user groups and experiences providing each area is managed to meet or exceed APSLMP minimum wilderness standards and guidelines.

Wildlife Use

The opportunity to encounter animals in the wild adds a dimension of excitement to a wilderness experience. Visitors to the HPWC enjoy wildlife from a number of perspectives, including observation and photography as well as hunting and trapping.

A great variety of wildlife may be observed near old meadows, beaver flows and other wetlands, lakes, and streams. The peaks above timberline make good observation points for a variety of birds particularly raptors.

According to reports by forest rangers, members of the Audubon Society frequently visit the wetlands near Round Pond and along the Chubb River to observe and photograph birds. Of 519 respondents to a 1982 High Peaks Wilderness Questionnaire, developed by the Bureau of Wildlife, 179 (34 percent) said that they had engaged in wildlife observation or photography while visiting the unit. Thirty-one (6 percent) said that they had entered the unit with the specific intention of watching or photographing birds. The questionnaire was administered mostly in the eastern zone of the unit. The survey has not been updated.

A number of mammals and birds which occupy the HPWC may be hunted or trapped during seasons set annually by DEC. The two big game species which may be hunted in the unit are the white-tailed deer and the black bear. Both may be taken during archery, muzzleloading and regular seasons. In addition, there is an early season for black bear.

Several small game species may be hunted in the unit: waterfowl, woodcock, snipe, rail, crow, ruffed grouse, coyote, bobcat, raccoon, red fox, gray fox, weasel, skunk, varying hare, and gray squirrel. Coyote, bobcat, raccoon, red fox, gray fox, weasel and skunk may also be trapped. In addition, beaver, otter, fisher, marten, muskrat and mink may be trapped.

Information on deer and bear harvest is collected by town, county and also by Deer Management Unit (DMU). Harvest figures are presented in Appendices 20 and 21.

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No survey to determine the number of hunters entering the HPWC has been taken. Past studies by DEC indicate that few sportsmen stop at trailhead registers. However, it can be assumed that the HPWC in general is attractive to those hunters and trappers desiring solitude because of its generally rough terrain, and high ratio of acres of land to miles of road (2,240:1), in spite of relatively low densities of wildlife populations. Some areas of the unit do sustain significant hunting activity.

Hunting pressure for big game originates principally from points around the perimeter of the unit, such as St. Huberts, Keene Valley, Averyville, along Route 3, and along the Ampersand Lake road. The area around Newcomb Lake and Moose Pond, South Meadows, and the eastern shore of Long Lake are popular camping places for hunting parties. Some hunters fly in to Corner Pond and set up camp nearby.

Although access is more difficult, hunting pressure is significant in the Calkins Creek, Moose Creek, and Cold River drainages. Hunters who work interior reaches of the unit either camp in the interior or gain access from adjacent private lands where they have leased hunting rights.

The popularity of the special hunting season for muzzleloading firearms, first opened in the 1977-78 season, has been on the increase throughout the Adirondacks. A legislative change in 1991 allowed successful muzzleloader hunters to purchase a second tag valid for an antlered buck during the regular season only. This legislation has significantly increased interest in muzzleloader hunting, although use of portions of the HPWC remains relatively light.

The Bureau of Wildlife monitors the populations of game species partly by compiling and analyzing harvest statistics, thereby quantifying the effects of consumptive wildlife use. In addition to deer and bear harvest statistics, information on the harvest of small game and furbearers is compiled by town, county, and Wildlife Management Unit (WMU). The HPWC is totally within DMU 22 and WMU 24. Harvest statistics for the towns of Long Lake and North Hudson, since they only contain small sections of the unit, have not been included in this plan.

The HPWC, most of which can be considered deer range, comprises slightly less than half of the total area of deer range contained in the four towns in which the bulk of the unit is situated.

Since the four towns contain a total of 720 square miles of deer range, the densities of deer harvest for each of the five years can be calculated and are found to range from 0.43 to 0.54 deer per square mile. Although it is not known how the deer harvest is distributed within the towns, it can be assumed that, because of the unit's heavily forested condition and relative inaccessibility to hunters, fewer deer per square mile are harvested within the

HPWC than in surrounding areas. The narrow range of variation in annual harvest densities, along with the recognition that regulations allowing the taking of bucks only have little impact on the reproduction capacity of a deer population, lead to the conclusion that the populations of the four towns, and within them the HPWC, are capable of withstanding current and anticipated levels of consumptive use.

An analysis of black bear harvest figures for the four HPWC towns (Appendix 20), coupled with a study of the age composition of harvested bears, has indicated that hunting within the towns has had little impact on the reproductive capacity of the bear population. Although it is not known how the bear harvest is distributed within the towns, it can be assumed that, because of the relative inaccessibility of the interior of the HPWC, fewer bear per square mile are harvested within the unit than in surrounding areas. Under existing regulations, the unit's bear population is capable of withstanding current and anticipated levels of consumptive use.

The Bureau of Wildlife monitors furbearer harvests by requiring trappers to tag the pelts of beaver, bobcat, coyote, fisher, marten, and otter. Harvest figures by town are shown in Appendix 22.

Beaver, fisher, and marten can be susceptible to overharvest to a degree directly related to market demand and ease of access. Harvest regulations are changed when necessary to protect furbearer populations.

The coyote, varying hare, and ruffed grouse are widely distributed and fairly abundant throughout the Adirondack environment. Hunting and/or trapping pressure on these species in the HPWC is relatively light. Under current regulations, these species undoubtedly are capable of withstanding any amount of hunting and/or trapping pressure likely to be brought to bear within the unit.

Despite the lack of wildlife information specific to the HPWC, no need has been identified to obtain such information for widely distributed species. It is more practical to study and manage populations over broader areas defined by ecological characteristics that extend beyond Forest Preserve Units boundaries.

Fisheries

In general, information about the numbers of anglers who visit the waters of the HPWC is not available. One survey which does provide concrete information about the use of HPWC waters by anglers is the 1982 "High Peaks Wilderness Questionnaire". Although the questionnaire was not designed specifically for the purpose of gathering information about fishing and was administered only in the eastern part of the unit, it does give some

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idea of the proportion of visitors to the unit who fish and of kinds of fishing experiences which they seek.

Of 487 respondents, 63 (13 percent) said that they had fished during their trip. Of these, 43 fished ponds, four fished streams, and 15 fished both ponds and streams (one did not respond). Forty-eight of the 63 sought brook trout, one sought warmwater fish, and 13 had no preference. Eight said that they had fished Livingston Pond and 27 reported fishing Avalanche Lake. It should be noted that, since the date of the survey, Avalanche Lake has become too acidic to support fish life.

The precise extent to which anglers use the waters of the western part of the HPWC is unknown. However, several ponded waters containing salmonids, such as the Duck Hole, Little Ampersand Pond, Moose Pond, Newcomb Lake and Big Pine Pond are known to be popular with anglers.

Several of the coldwater streams in the unit contain brook trout and are visited by anglers. The Cold River, Calkins Creek, the Chubb River, and South Meadow Brook sustain moderate fishing pressure. The use of streams located further into the interior of the unit is probably light.

The relative seasonal intensity of the use of HPWC ponds by anglers can be predicted. After the trout season opens on April 1, fishing pressure on ponded trout waters typically peaks in intensity in May when trout can still be found near the surface of a pond. Fishing activity declines from late spring throughout the summer when the formation of a thermocline draws trout to deeper water. The decline of fishing activity which occurs as the summer progresses coincides with an increase in pond visitation by hikers and campers. Angling on brook trout ponds ceases altogether after the trout season closes on September 30. Lower County Line Pond, Mud Pond, and Pickerel Pond are nontrout waters which contain northern pike and, therefore, could sustain angling pressure during the fall and winter months.

Although a number of the ponded waters of the HPWC receive large numbers of visitors during the spring and summer months, it is not known what proportion of those visitors are anglers. Nevertheless, it is believed that many of the most heavily used overnight facilities located near ponds and streams, such as Marcy Dam, Lake Colden, Flowed Lands, the east shore of Long Lake, Feldspar Brook, and Marcy Brook are primarily occupied by hikers.

DEC angling regulations are designed to preserve fish populations by preventing overharvest. In addition to angling regulations, the relative remoteness of ponds from roads serves to greatly limit use.

Round whitefish populations are protected under Section 11-0535 of the Environmental Conservation Law. Taking, importation, transportation, possession or sale of this species is prohibited except under license or permit from the DEC. Signs posted on the Cascade Lakes warn anglers of the presence of this endangered species. Round whitefish are not commonly caught by angling due to their small size (8-10 inches), preference for living in deep water, and habit of feeding on small, bottom-dwelling invertebrate species. The decline of this species in most Adirondack lakes has been linked to invasion of nonindigenous and native-but-widely-introduced fishes and habitat degradation (George 1980). The vulnerability of round whitefish to predation and competition will require special measures to restore this distinctive species.

Under existing regulations, trout populations are capable of withstanding current and anticipated levels of angler use. Decades of experience on Adirondack trout ponds have shown that the invasion of competing species is much more detrimental to trout abundance, size, and natural reproduction than is angling. Certain very heavily fished ponds provide insights in this regard.

Black Pond (P256 SLC) on publicly accessible Paul Smith's College property in Franklin County is a case in point. Black Pond sustained a high quality brook trout fishery in terms of numbers and size of fish for many years. This occurred despite extremely heavy fishing pressure and high trout harvest rates. The fishery was sustained totally by natural reproduction after reclamation in the 1970's.

Black Pond was, and still is, governed by special regulations (five fish per day, artificial lures only). Even with these departures from the standard regulations (ten fish per day, use of fish for bait prohibited) substantial harvest of trout occurred. Shortly before 1985 competing fishes became reestablished in Black Pond. Trout numbers and sizes declined rapidly and the popularity of the fishery followed suit. Natural reproduction of brook trout no longer occurs. Now the predominate species are the nonnative yellow perch and golden shiner.

In certain instances, overfishing, or more accurately, overharvest, may indeed contribute to a reduction in the numbers of large trout. However, brook trout reach sexual maturity at very small sizes (smaller than what most anglers consider "keeping" size). Consequently, we are not aware of the existence of any examples of waters in which regulated harvest has led to reproductive failure. If necessary, DEC fisheries staff have the regulatory authority to enact more restrictive harvest regulations.

Because angler use of the streams in the HPWC is generally light, the brook trout populations which they support can sustain anticipated harvest levels without impact to their

capacity to maintain themselves naturally. Existing regulations are adequate to protect the stream resource, as they are for the warmwater species found in several HPWC lakes.

Acid precipitation has rendered a number of lakes in the HPWC incapable of supporting fish life and is imperiling populations in several other waters. Altering fishing regulations in such waters will not forestall the demise of the fish community.

RECREATIONAL FACILITIES

At the time the HPWC was created in 1972, DEC inherited a vast infrastructure of man-made facilities, many oriented toward user convenience. The APSLMP acknowledges the extent of facility development and calls for rigorous management guidelines to enhance restore and protect wilderness resources in spite of those man-made facilities. The present inventory includes the following:

HPWC Facilities Summary*

FACILITY:	NUMBER:
Trails (miles)	303
Remote Campsites (tent sites)	318
Lean-tos	72
Pit Privies	107
Dams	4
Bridges	49
Road Barriers and Gates	11
Signs	300
Trailheads	20
Interior Outposts	4

* A complete listing of facilities is found in the Appendices.

Aside from preservation mandates of the constitutional amendment of 1894, early Forest Preserve managers were directed (with little guidance) to build a political constituency for the Forest Preserve by promoting it as a vast recreation area. If managers perceived the public wanted some facility or a particular use, they responded by building facilities to accommodate expected demand as well as to protect the resource.

As a consequence, foot trails were built as well to many remote locations, truck trails were constructed to provide easy and direct access for fighting forest fires (which usually never happened near where the fire truck trails were built, dams were constructed to create artificial lakes, bridges were built to keep hikers feet dry and high density campsites were

developed at interior locations. Interior caretaker cabins were needed to handle ever-increasing numbers of visitors using new back country facilities (VanValkenburg 1987). This facility and convenience orientation continued well into the mid-1960's. Thus, managers may have inadvertently aggravated undesirable impacts by responding to every increase in use with more and more facilities. This in turn attracted greater numbers of people particularly those seeking such amenities. All of the above was contrary to the belief that the Forest Preserve, and especially wilderness, was to evolve and be shaped by natural processes "...without significant improvements" (APSLMP, 1987).

This issue is identified in the APSLMP and is addressed in its basic wilderness guidelines which state "Construction of additional conforming structures and improvements will be restrained to comply with wilderness standards for primitive and unconfined types of recreation and to permit better maintenance and rehabilitation of existing structures and improvements". It further states "All management and administrative action and interior facilities in wilderness areas will be designed to emphasize the self-sufficiency of the user to assume a high degree of responsibility for environmentally-sound use of such areas and for his or her own health, safety and welfare."

The APSLMP also describes certain facilities and activities that are not allowed in wilderness nor are essential to wilderness preservation and protection. These are defined as non-conforming facilities and/or uses. Except as specifically provided by the APSLMP, DEC is mandated to permanently remove non-conformances as soon as possible. Since wilderness designation in 1972, a substantial number of non-conforming facilities and uses have been removed. The remainder are addressed below.

NON-CONFORMING FACILITIES

! Ampersand Primitive Area

Roads	3.5	miles
Snowmobile trails	3.5	miles
Overhead telephone lines	3.5	miles

The Ampersand Road is a gravel-surfaced road 3.5 miles long used to access private property enclosed by the HPWC on four sides.

DEC acknowledges a legal right-of-way and grants entrance and exit across the Forest Preserve by means historically used. The road is open to public motor vehicle use including snowmobiles up to the private land boundary. A telephone line is located in the right-of-way. Maintenance costs are borne by DEC and the private landowner. A portion of the road is closed seasonally during snowmelt or muddy weather.

! High Peaks Wilderness

Marcy Dam and Lake Colden Interior Outposts	2	facilities
Marcy Dam Overhead Telephone Lines	3.5	miles
Wild River Lean-tos	9	lean-tos
South Meadows Public Road	1	mile

Marcy Dam and Lake Colden Interior Outposts:

The Marcy Dam Interior Outpost is an administrative facility located in the most heavily used camping area and travel corridor in the HPWC. The outpost serves as a residence for an interior caretaker and as a work center for field crews. It is equipped with overhead line telephone service (3.5 miles long) from Adirondak Loj Road via South Meadows and supplemented by a battery powered radio system. The facility is not staffed during the winter. The APSLMP requires removal of the facility once peripheral control is established for the wilderness area and the overhead telephone line and poles will be replaced by an on-ground line as has already been done from Marcy Dam to Lake Colden.

Because of heavy use, particularly in winter, the Lake Colden Interior Outpost is allowed to be retained indefinitely, but its status will be reviewed periodically to determine if its removal is feasible (APSLMP, 1987). Its central strategic location has been a crucial factor in many searches and rescues. It has telephone connections to Marcy Dam via a 4.0 miles on-ground line and a battery powered radio system. The APSLMP calls for the development of alternative means of communication and the eventual removal of the on-ground line since it is a non-conforming use whose removal cannot be scheduled by a fixed deadline.

The Lake Colden Interior Outpost was destroyed by fire in March of 1998. In July, APA and DEC amended their 1985 MOU, for major projects in areas without an approved unit management plan, to address replacement of the outpost in a manner consistent with APSLMP wilderness guidelines. The amended MOU requires DEC to conduct periodic reviews every three years of the status of all interior outposts in the High Peaks Wilderness and the associated on-ground telephone lines that serve them, to see if their eventual removal is feasible. The outpost was replaced in the fall of 1998 and the amended MOU will expire when a unit management plan is adopted for the area.

Marcy Dam Lean-to Clusters:

Not listed above, the 1987 editions of the APSLMP, identified two lean-to clusters, each having more than two closely spaced lean-tos, as non-conforming. These were removed from the shoreline of Marcy Dam Pond in 1996. The APSLMP required the removal of one lean-to at each end of the pond. This requirement was designed to reduce

adverse environmental and visual impacts due to long-term camping at each site. A lean-to cluster, not identified by the APSLMP, was removed earlier at Lake Colden.

Wild River Lean-tos:

According to the Wild, Scenic, and Recreational Rivers Act (Art. 15-2707 ECL), there are 9 non-conforming lean-tos situated in the Cold River Corridor. Cold River #1-4, Calkins Creek, Northern 1 & 2, Ouluska, and Seward. Both the statutory provisions of the Rivers Act and the APSLMP require that these lean-tos be phased out and not replaced within the river zone. Extensive maintenance of these lean-tos is no longer performed.

South Meadows Road:

The South Meadows Road is the Town of North Elba public highway leading 1.0 miles into the High Peaks Wilderness from its intersection with the Heart Lake Road. It is currently open to motor vehicle traffic and dead ends at South Meadows. The road is enclosed by the High Peaks Wilderness for its entire length and as such is a non-conforming use which DEC is required to physically close to motor vehicle use. Although the road is currently under the jurisdiction of the Town of North Elba, the Department has the legal authority to close the road as per Section 212 of the Highway Law, Chapter 161. This law reads in part:

"If a highway passes over or through lands owned and occupied by the State, the location of such portion of such highway as passes through such lands may be altered and changed, or the same may be abandoned or the use thereof as a highway discontinued with the consent and approval of the State authority having jurisdiction or control over such lands by an order directing such change in location, abandonment or discontinuance. Such order shall contain a description of that portion of the highway the location of which has been changed, abandoned or discontinued, and a description of the new location thereof, if any, and shall be filed in the office of the State authority having control of such lands."

The Commissioner's authority to close such roads was upheld by the New York State Supreme Court of Essex County in the Matter of Application of John Kelly, as Supervisor of the Town of Schroon against Thomas C. Jorling, as Commissioner of the Department of Environmental Conservation, March 13, 1990.

! Johns Brook Primitive Area

Roads, private	1.3	miles
Johns Brook Interior Outpost	1	facility

This is a long narrow piece of land in the Town of Keene consisting of a right-of-way 1.3 miles long across state lands leading to 13 private parcels enclosed by the High Peaks Wilderness on three sides. The right-of-way serves as the boundary south of Johns Brook and the Phelps Trail, also known as the Northside Trail, across the brook, is the primitive area's northern boundary. It is closed to public motor vehicle use.

The Johns Brook Interior Outpost is a non-conforming facility at the southwestern end of the primitive area. Private lands extend beyond the Forest Preserve boundary well up the Johns Brook Valley. Removal of this facility cannot be scheduled by a fixed deadline until "...these holdings and/or the right of way ever be acquired by the State." (APSLMP, 1987)

Facilities Summary

As a managerial element of the HPWC, all existing facilities need to be assessed to determine the minimum amount and type of facilities required to efficiently utilize and safely administer the unit. This is in keeping with APSLMP guidelines and DEC policy that requires facilities may only be allowed when needed to attain wilderness objectives, and they should be designed and placed to minimize their intrusion upon the wilderness setting.

RECREATIONAL USE PROBLEMS RELATED TO FACILITIES

Recreation is just one of many wilderness values, but it has the potential to severely compromise all other values. Its problems can be both ecologically and sociologically oriented. Cole (1994) describes these impacts as threats or potential threats to the wilderness resource by stating "Threats come from onsite recreational users, as well as actions to manage that use (such as trail construction)." Even low to moderate recreation can cause conflicts between wilderness visitors that diminish wilderness experience. This section examines several major recreational use problems in the HPWC, relating to use of specific facilities or to specific locations in the unit.

Trailheads

Trailheads accommodate visitor needs including vehicle parking and regulatory, informational, and directional signing. Trailheads are an important factor in determining use patterns, levels of use, and visitor impacts at any given location. The size of a parking facility dictates to a great extent the amount of use a particular interior location will receive. It is no coincidence that the two largest parking facilities in the unit, Adirondak Loj and Johns Brook - the Garden, share 49 percent of all visitor entry. When parking facilities

exceed their design capacities, overuse results; both resource and social limits are broken. Detrimental impacts include high noise levels, excessive litter, air pollution, congestion, vandalism, theft, and security problems. Conflicts frequently arise with private landowners who abut wilderness boundaries near these facilities. These problem locations grew out of tradition when use levels were low.

Frequent parking problems occur at "The Garden," a parking facility at the end of the Interbrook Road in Keene. The last 0.3 miles of this road is narrow, less than 20 feet wide, and crosses several private parcels. This portion of the road is a "right-of-way in common" for adjoining landowners, including the State, and, as such, is not a maintained public road. The parking lot is a public facility and there are no reserved parking rights for private landowners in the upper Johns Brook Valley. Its present capacity is 50 vehicles. The parking lot is essentially full every weekend from Memorial Day through Columbus Day. The highest number of cars reported in the area was on Memorial Day in 1974 when 141 cars were parked along the road. In 1993, 113 cars were counted on Columbus Day. For most holiday weekends: Memorial Day, Independence Day, Labor Day, and Columbus Day, 90-120 cars are present. Illegal parking is a significant law enforcement problem extending all the way in to Keene Valley.

Visitors park everywhere. Emergency vehicles can't pass through the congestion. Vehicles have no place to turn around, private driveways are blocked, and drainage ditches are destroyed. Expansion of the present facility is limited by topography and adjoining private lands. Furthermore, an expanded facility would contribute to, and aggravate, an existing overuse situation present in the Johns Brook Valley.

Signs

Present administrative signing at trailheads and along boundaries is inadequate. Few signs actually identify the unit as the "High Peaks Wilderness". Where the unit abuts wild forest lands, the public is unaware that different regulations and restrictions may apply.

At many popular destination points and busy trail intersections, there is an abundance of signs, more than is required.

Trail Deterioration

Deterioration of constructed trails is a common problem and large sums of money have been invested annually to maintain, relocate, and rebuild trails. A 1988 DEC trail inventory indicated that over 40 percent of the unit's 303 miles of trails were substandard and required some form of relocation or reconstruction. The Adirondack Mountain Club (ADK) placed this estimate much higher stating, "Sixty-eight per cent of the one hundred

trails in the greater High Peaks region require extensive drainage work to control further erosion." (Medwid, 1990). The most common types of deterioration are related to gullying and erosion, nonfunctional drainage structures, muddiness, trail widening, multiple parallel trails, and shortcuts.

Most trail problems are the result of poor trail location and improper construction and maintenance rather than the amount of use. Some trails are over 100 years old and were initially located to achieve the shortest distance between two points or where construction was easy. Their poor location often makes erosion control difficult.

On wet and muddy trails, there is a tendency for visitors to walk along the edge of the trail rather than in the trail tread. This causes widening quagmires and/or parallel trails. Shortcuts cause similar problems and exacerbate erosion. Trails are also more prone to muddiness and widening when the ground is wet and water-saturated as is the case with many high and low elevation trails. While these conditions may occur sporadically, they are particularly prevalent at certain seasons, such as during and shortly after snowmelt.

Undesired Trails - User Created

Undesired, user-created trails, often referred to as "herd paths" are a problem that is increasing. Trails are formed by use rather than by design. They result in unplanned trail systems which are poorly located and contribute to greater erosion, even with low levels of use. Illegally cut trails are also a problem when certain individuals or user groups cut trails without DEC consent. Such an example occurred on Phelps Mountain when a ski trail, 1.8 miles long, 10-12 feet wide was cut from the summit into Pelkey Brook basin.

User-created trails on high elevation, alpine summits, have resulted from too many people deviating from the marked trails. The number of times any place can be stepped on before a trail develops depends on the fragility of the ground surface and the destructive force of the trampler. Undesired trails are more likely to develop on fragile vegetation and ground surfaces during seasons when the ground is water-saturated (Cole, 1989).

This same dilemma is more pronounced on the so-called "trailless peaks". Although the trailless peaks have no DEC marked and maintained trails to their summits, use levels are now so significant that many undesired trails have been created. Summit vegetation is being damaged and slope erosion has accelerated.

Campsite and Lean-to Deterioration

Deterioration of campsites, including lean-to areas, is a commonly reported problem. Recreation activities are highly concentrated at campsites and lean-to locations and frequently result in severe ecological impacts. (Hendee and others, 1990). Some of the

most significant resource damage takes place at these locations. The problem is widespread and not specific to any one portion of the HPWC. The nature and extent of damage is influenced by many factors. The most important factors are how frequently the site is used, the type of camping party, size of party, the behavior or attitude of the camping party, and the inherent fragility of the site.

Vegetation loss and soil compaction are the most prevalent impacts, but water pollution from human wastes is evident in many heavily used areas. For example, riparian vegetation along stream banks and shorelines is being damaged in the Johns Brook Valley and on Long Lake. Other impacts include numerous fire rings, with charcoal and partially-burned refuse strewn about, tree cutting, litter, tent trenching, and the proliferation of undesired user-created campsites. The latter occurs at popular destinations where every "campable spot" is used.

Enlargement of established camping areas is increasing site disturbance. This factor is related primarily to party size. Unless large parties can find an existing site suitable for their needs, they are likely to enlarge the site or create new ones.

Vegetation loss occurs on almost every site and is inevitable. Given sufficiently frequent use, even resistant vegetation such as shrubs and grasses will ultimately be destroyed. A 1984 inventory of 381 selected campsites revealed that 50 percent of the sites had large core areas devoid of vegetation. The most common problems were exposed tree roots that contribute to tree mortality and illegal tree cutting of both live or dead standing trees. Standing dead trees provide habitats for many cavity nesting birds and insects. Live trees show scars from axes and knives, pulled off limbs, and scorched bark from lanterns.

Campfires, particularly those not used with caution or restraint, cause some of the most obtrusive impacts. Damage comes from improper firewood collection, cutting of live and standing dead trees, runaway ground fires, burned and scorched trees, widespread charcoal and blackened rocks, and the remains of partially burned garbage. Firewood gathering in many locations has removed all woody debris from the forest floor, pruned trees, and created numerous paths as visitors are forced to search larger areas for wood. Although wood fires are prohibited in alpine and sub-alpine areas above 4,000 feet in elevation, the practice continues. On these sites, it may take over a hundred years for trees to grow to maturity.

In the western High Peaks, damage to campsites by packstock was found to be increasing, despite relatively low to moderate levels of use. Field visits in 1993 indicated resource damage in the Cold Brook, Calkins Creek and Moose Pond areas. Camping areas at Moose Pond have barren core areas with numerous fire rings, litter, and damaged trees as a result of horses being tied to the trees. Another problem observed was the hitching of

horses less than 100 feet from water sources. In one instance, the horses were kept in the immediate camp area. The disturbed areas are extremely large and trees were damaged unnecessarily.

Lean-tos

Lean-tos are one of the more prominent man-made features of the HPWC. There are more lean-tos in the HPWC than all of the other Adirondack wilderness areas combined. The lean-to evolved from early guides' and hunters' log camps. These were often three-sided structures with an open front to receive the warmth of a fire. Historical record refers to them as "open camps."

The first state-constructed lean-tos were built in 1919 on the southwest slopes of Mt. Marcy near Feldspar Brook and Four Corners. The lean-to construction program was originally designed to promote use of the Forest Preserve, supply safe shelter, and alleviate the need for heavy, cumbersome camping equipment. Presently, the unit has 72 lean-tos,.

During periods of relatively low to moderate HPWC use, the lean-to program met its objectives. However, as visitor use soared, many environmental and sociological problems arose with use. In many instances, lean-tos were poorly sited and scant attention was given to environmental consequences. Long-term concentrated camping pressures on these sites can lead to erosion, severe sanitation problems, soil compaction, destruction of vegetation, increased littering, and visitor conflicts.

These same problems were first identified by the Joint Legislative Committee on Natural Resources which concluded in its 1961 annual report: "Some of the foot trails to the more popular spots are so heavily used during the hiking season that the lean-to accommodations are inadequate. It is doubtful if enough of these structures could be built in each location to take care of all campers. This emphasizes a problem requiring consideration: How many of these structures can be clustered along the trails before the wilderness character of that locality is lost?" This is still a point of controversy today. Some of the worst sites were referred to as "back country slums" in Eleanor Brown's 1985 book, The Forest Preserve of New York State. There was also a tendency to bunch lean-tos close together in certain areas or put them astride high traffic corridors. This occurred at Avalanche Camp, Bushnell Falls, Lake Colden, Flowed Lands, Long Lake, and Marcy Dam.

It is a well established management axiom that lean-tos also attract substantial peripheral tent camping in their vicinity. In this case, the lean-tos serve as destination points acting as magnets to tent campers who utilize the same site. This creates an over use situation at the site exacerbating environmental and social impacts. The normal capacity of

a lean-to is six persons and combined with tent campers, many of these sites exceed 30 persons from more than one group.

Not normally in the context of the wilderness definition, the APSLMP considers lean-tos as conforming structures to its wilderness standards and permits their maintenance, rehabilitation and construction under strict guidelines in regard to elevations below 3,500 feet, spacing, and set backs from water. Those lean-tos not meeting these requirements are considered non-conforming by location and the DEC is mandated to remove or relocate the structures (APSLMP, 1987).

Horse Trails

The present HPWC horse trail system covers 44 miles in the western High Peaks. Much of the horse trail system was laid over old logging roads, the former truck trail network, or simply cut through the forest, often without the benefit of a firm trail bed. This was done in the early 1960's to access the remote Cold River basin and the Santanoni and Seward mountain ranges prior to wilderness designation. Before the APSLMP, maintenance was accomplished by motorized equipment including bulldozers, road graders, and dump trucks. Concrete and steel culverts and bridges were employed to cross streams.

Because the use of motorized vehicles is prohibited, maintenance of the horse trail system is difficult and expensive. Portions of the trail system have eroded and many culverts have washed out.

Dams

The HPWC has many dams, most of which were constructed in the 1890's and early 1900's to support logging before forest preserve acquisition. Typically, the dams were rock-filled crib affairs less than ten feet in height. While some have been maintained or replaced, others have been breached and returned to natural stream flow.

The current inventory lists four maintained dams: Duck Hole (2), Lake Colden, and Marcy Dam. A dam at Flowed Lands was breached by a spring flood in 1979 and not replaced. Its former impoundment has reverted to the original stream bed and beavers have returned to the stream. Remnants of former log driving dams can be found in the unit, such as the one at Scott Pond, but these are not maintained.

According to the APSLMP, no new dams except fish barrier dams will be constructed. However, existing dams on established impoundments may be reconstructed or rehabilitated provided natural materials are used wherever possible in the least intrusive manner.

Litter

Litter is a problem in the HPWC despite an extensive campaign emphasizing "pack it in, pack it out". There is some evidence that litter problems have diminished in the eastern High Peaks except in areas where bears are attracted to campers' food. If food supplies and packs are trashed by the animals, there is a tendency by the owners to leave the debris in the woods. Litter is a persistent problem in the western High Peaks and at Long Lake. This may be due, in part, to the larger quantities of durable goods (cans and bottles) carried in by horses or transported by canoe.

Human Waste Disposal

HPWC use is primarily concentrated around lakes and streams. As this use continues and increases, human waste disposal and its effects on water quality become more important.

Generally, human waste problems are serious in destination areas where use is extremely high and sanitation facilities are limited. Some hikers are now contracting parasitic diseases, such as giardiasis, from water containing pathogens that may be traced to improper human waste disposal. Researchers suggest that management of recreation use is likely to do little to reduce health hazards. The key is to properly inform and educate visitors of the hazards and to dispose of wastes properly. (Cole, 1989 and Hendee and others, 1990). The current use of pit privies on the more heavily camped areas such as Lake Colden, Marcy Dam, Indian Falls, Slant Rock and Johns Brook, is inadequate given high use levels. Soils are shallow and privies often are used as garbage pits.

Another problem is the improper use of soap and detergents near lakes and streams. These can add nutrients to area waters and upset natural chemical and biological balances. Some of the more popular lakes have soap suds and bits of leftover noodles on their shorelines.

Wildlife Impacts

There is little documented information about the prevalence and significance of recreational use impacts on wildlife in the HPWC. Disturbance of wildlife is strongly related to user behavior and when and where disturbances occur. Decisions about where to camp, where to cross-country ski, or how to approach an animal for wildlife viewing or photography can stress wildlife just as much as fishing and hunting (Cole, 1989).

Wildlife are more vulnerable to disturbances at certain times of the year than others. These may be more pronounced during the birthing season (when parents may flee at the approach of humans and, thus, leave their young unprotected), or during the winter months when animals are already stressed. Birds can abandon nests or large mammals (particularly

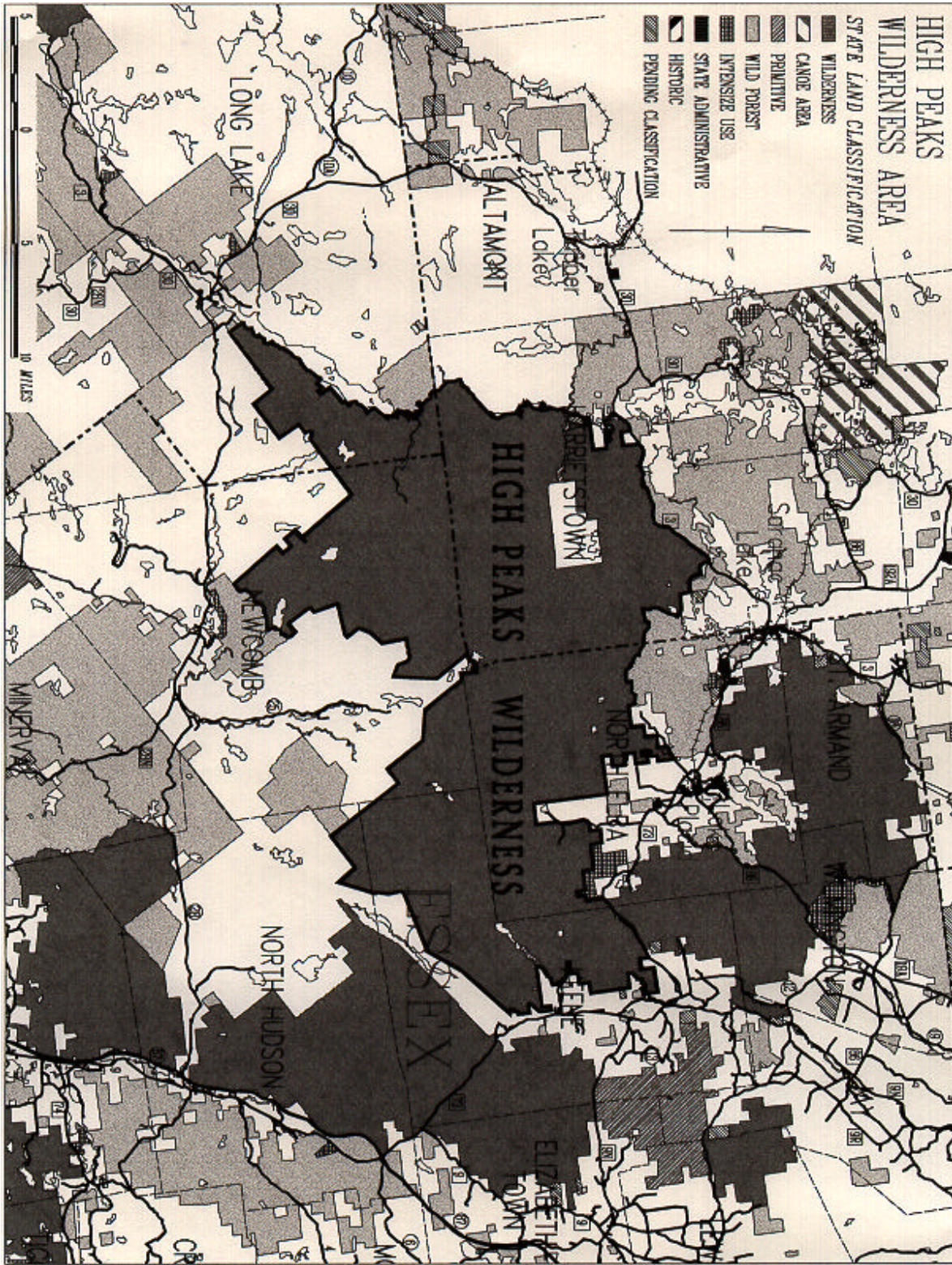
deer) can be forced to flee in winter and burn badly needed calories. While studies show the problem exists, we do not know how serious or prevalent it has become.

Disturbance of feeding habits is also related to visitor behavior. Wild animals should not be fed. Feeding animals at campsites, improper food storage, and improper food disposal introduce human and domesticated animal diseases to wildlife, cause unnatural behavior changes, and result in serious personal injury. For example, bears develop an affinity for human food and lose all fear of man which may ultimately require destroying the animal. Such cases have occurred at Lake Colden and Long Lake. Troublesome bears were destroyed as a last resort following conflicts with campers.

Animal harassment is often the result of unrestrained pets in the unit. As visitor levels rise, so does the number of pets accompanying groups. Unrestrained animals have been a problem in the Johns Brook Valley and at Marcy Dam. Strayed pets have become lost and frequently abandoned. Chasing deer is the most commonly stated problem. Restraint at campsites and along trails can effectively reduce this problem and also reduces associated visitor conflict

Section IV: Wilderness Use and Users

s between those who have pets and those who do not.



SECTION V

ADJACENT LAND USES

The HPWC does not exist in a vacuum - what goes on outside of its wilderness boundary, but adjacent to it, can have profound impacts inside the wilderness. Conversely, DEC management of the HPWC can substantially affect or impact nearby state and private lands. Both the Adirondack Park Land Use and Development Plan (APLUDP) and the APSLMP address activities on both sides of wilderness boundaries in a manner that recognizes different land management goals. The APSLMP by itself does not place any restrictions on activities on private lands outside and adjacent to wilderness lands. This interrelationship is best illustrated by examining those lands adjacent to the HPWC.

STATE LANDS

Six Forest Preserve units adjoin the HPWC. They are a mix of wilderness and wild forest areas with a combined area of 269,431 acres. Each unit provides a different range of conditions, settings, and experiences. Wilderness areas offer an outdoor experience free of motorized vehicles with a sense of remoteness, whereas wild forest areas permit a somewhat higher degree of human use than wilderness, offering a wide variety of outdoor recreation, including limited motorized use.

Wilderness Areas

The Dix Mountain, Giant Mountain, and Sentinel Range Wildernesses adjoin the HPWC. These wilderness areas offer similar experiences and require that any management action taken in the HPWC be coordinated in corresponding fashion. Area statistics are presented below.

! Dix Mountain Wilderness

State Lands	50,190	acres
Bodies of Water (12)	115	acres
Elevation (maximum)	4,857	feet
Foot Trails	36.5	miles
Lean-tos	3	
Non-conforming Uses	None	

Dix Mountain Wilderness lies in the Towns of Elizabethtown, Keene, and North Hudson in central Essex County. The unit is separated from the HPWC by the lands of the privately owned Adirondack Mountain Reserve (Ausable Club) which lies southeast of the HPWC.

Section V: Adjacent Land Uses

The terrain is of similar character to the eastern High Peaks with several mountaintops exceeding 4,000 feet. The unit has few facilities and no non-conforming uses or structures. Hikers and campers outnumber all other user groups, but there is also substantial use by hunters and fisherman. Visitor use is estimated to exceed 18,000 visitors in 1998.

! Giant Mountain Wilderness

State Lands	22,104	acres
Bodies of Water (2)	6	acres
Elevation (maximum)	4,627	acres
Foot Trails	12.5	miles
Lean-tos	1	
Non-conforming Uses	None	

Giant Mountain Wilderness lies in the Towns of Elizabethtown and Keene in Essex County. The unit is east of the HPWC and is roughly bounded by Route 9N on the north, Route 73 on the west and south, and Route 9 to the east. Area topography is steep and rocky with a considerable number of vertical or near vertical cliffs. Numerous small brooks cascade down from upper slopes. Summer and fall hikers are the primary users of the area. Hunters also make considerable use of the area. Visitor use is estimated at 14,000 in 1998.

! Sentinel Range Wilderness

State Lands	23,137	acres
Bodies of Water (5)	77	acres
Elevation (maximum)	2,893	acres
Foot Trails	13.8	miles
Lean-tos	1	
Non-conforming Uses: "Jeep Trail"	3.5	miles

This area is located in the Towns of Keene, North Elba, and Wilmington of Essex County. The unit is separated from the HPWC by Route 73, its southern boundary.

The Sentinel Mountain Range, with its characteristically steep slopes, dominates the unit. The terrain is rugged and has many near-vertical cliffs aligned in a north-northeast direction. Facilities development is modest. There are a few trails and one Lean-to. The only non-conforming use is the Old Military Road, a former town highway 3.5 miles in length, not generally passable by motor vehicles. Visitor use is primarily by hikers, hunters, and fishermen. Visitor use is estimated at 4,000 visitors annually.

Wild Forest Areas

Aside from the adjoining wilderness areas which provide recreational opportunities similar to HPWC, the greatest recreation potential lies in adjoining wild forests. These areas, as defined by the APSLMP, permit a somewhat higher degree of human use and management than wilderness. Yet, these areas still retain an essentially wild and primitive character.

Our studies and observations in the HPWC indicate that many user experiences are not wilderness dependent and could best be served by wild forest areas. However, local opportunities for such experiences outside of wilderness may be non-existent and many visitors may be unaware of alternative opportunities elsewhere. Such areas in the future could reduce the level of impact in the HPWC while meeting the needs of many users (CAC, 1992). For example, educational, mountaineering, survival schools, large youth groups, and outdoor competitive events could be better accommodated in non-wilderness areas (Hendee et al. 1990).

The following wild forests are in close proximity to the HPWC and area statistics for each unit have not been fully compiled:

! Blue Mountain Wild Forest (36,000 acres)

This wild forest is located in Essex and Hamilton Counties. It is situated south of the HPWC near Long Lake. The terrain varies from a gentle topography near easily accessible Rock Lake to steep and rocky in the Fishing Brook Range. Facilities development has been modest. However, the unit offers excellent recreational opportunities for day-use and primitive camping for family groups and novice hikers. A unit management for this area was approved in 1994.

! Saranac Lakes Wild Forest (68,000 acres)

The Saranac Lakes Wild Forest lies north and west of the HPWC and is easily accessible from Routes 3, 30, and 86. This area in northern Essex and southern Franklin Counties offers a broad network of streams, lakes, and ponds for water-oriented recreation. The unit includes the northern end of the Adirondack Canoe Route and receives many visitors. Boating access sites, camping areas, portages, and low elevation multi-purpose trails are convenient for day-users and long-distance travelers alike. There is not a completed unit management plan for this area.

! Vanderwhacker Mountain Wild Forest (70,000 acres)

Section V: Adjacent Land Uses

Vanderwhacker Mountain Wild Forest is one of the largest and most remote wild forests in the Adirondacks. It lies both east and west of Route 28N in western Essex County, south of HPWC. Primary attractions include its many lakes and ponds, the Boreas River, Vanderwhacker Mountain, and the Santanoni Preserve. The latter is a popular entrance way to the western High Peaks. The Boreas River is a designated "scenic" river with numerous white water stretches. A unit management plan for this area has not been initiated.

Olympic Regional Development Authority (ORDA)

The Olympic Regional Development Authority operates the Olympic Sports Complex at Mt. Van Hoevenberg, which adjoins the north boundary of the HPWC, south of NYS Route 73. It is classified as an intensive use area by the APSLMP. The complex occupies 1593 acres and includes bobsled and luge runs, a cross country ski center, and a biathlon range, mountain bike trails and horse trails. Two connecting trails, the Mr. Van Trail and the Mt. Van Hoevenberg Trail lead into the HPWC. Hikers accessing these trails from the Olympic facility are charged a daily parking fee. A unit management plan for this area was approved in 1999.

PRIVATE LANDS

Private lands near the HPWC boundary have the potential to both complement and complicate DEC management. Most of the adjoining properties have stable ownerships and few problems have arisen to date. However, all of these properties have the potential to be developed, which may, in future years, contribute to overuse of a particular segment of the unit by promoting access.

Large Landowners

The following discussion presents a brief overview of the principal landowners having in-holdings or lands adjacent to the HPWC.

! NL Industries, Inc.

NL Industries, Inc. borders the southern High Peaks on three sides north of Tahawus. The property covers 11,000 acres and contains steep, rugged terrain typical of the neighboring High Peaks. Approximately 7,100 acres of the tract is heavily forested and is actively managed for forest products under the terms of the "Forest Tax Law" Section 480A of the Real Property Tax Law. The terrain is dotted with low mountains, steep slopes, numerous lakes, ponds, and streams. Significant topographic features include

Mt. Adams, a former fire tower site, Mt. Andrew, Henderson Mountain, the southwestern slopes of the MacIntyre Range, and the Upper Hudson River watershed including a portion of Duck Hole, Henderson Lake, and Preston Ponds. The remaining one-third of the property is an inactive titanium strip mine.

Several trailheads are located along the public highway leading to the Upper Works, a major HPWC entry point. These include trails to Mt. Marcy, Santanoni, Duck Hole, Cold River, Flowed Lands, and the unmarked route to Allen Mountain. The Upper Works parking area and aforementioned trailheads are secured by deeded easement.

! Adirondack Mountain Reserve (AMR)

The Adirondack Mountain Reserve, administered by the privately owned Ausable Club, covers 7,000 acres along the southeast bounds of the HPWC. It separates the HPWC from the Dix Mountain Wilderness. The entire property is managed as a game preserve; neither Club members nor the public can hunt there (Goodwin, 1994).

In 1978, the state purchased 9,128 acres from the Club. The state, as part of the transaction, was given a conservation easement to the Club's remaining lands, generally below 2,500 feet in elevation. The easement limited development of these lands, while permitting public access by foot across them to nearby peaks on state land.

Public foot travel is permitted on certain designated trails. Other trails in the reserve are not open to public use. Public camping, building of fires, mountain biking, hunting, fishing, trapping, off-trail use, rock climbing, boating, swimming and bringing in pets are prohibited on Club property.

The Club provides limited public parking (20 vehicles by deed) on its lands south of the St. Huberts Road. It formerly offered a hikers shuttle bus to Lower Ausable Lake in summer which accessed many HPWC trails including routes to Armstrong, the Gothics, Sawteeth, and Wolfjaw. The bus service was discontinued in 1994.

Public use is strongly day use oriented. The legal and physical limitations of the AMR easement discourage many overnight users from entering the HPWC from this location (Albergra, 1993).

! Ampersand Lake Property

This private property forms the basis of the Ampersand Primitive Area described in Section I. The parcel consists of 3,000 acres of land completely surrounded by the HPWC in the Town of Harriestown. The Ampersand Road provides access to the property across State lands. It is maintained jointly by the private owner and DEC and is open to seasonal

Section V: Adjacent Land Uses

public use up to the private land boundary. Beyond that point, public access is not permitted except for a short section of the Blueberry trail leading to Ward Brook.

! Finch, Pruyn and Company, Inc.

Finch, Pruyn and Company, Inc. timberlands border the HPWC to the south at several locations including a large tract west of Tahawus, a tract bordering the Opalescent River, and a tract containing the Upper Boreas River watershed. Closed to public use, these properties exceed 46,000 acres and are managed timberlands with an extensive network of logging roads. Most of the lands are leased to private sportsmen's clubs.

Once many informal routes or "herd paths" crossed these lands to reach the HPWC, but are now closed to public use due to user conflicts with the landowner and/or its lessees. For example, routes leading to Allen and Santanoni Mountains were closed when users did not respect private posted land, hunted illegally on these lands, strayed from designated routes, built campfires, or camped on the property. None of the routes were ever DEC marked and maintained trails nor secured by deeded easements.

! SUNY College of Environmental Science and Forestry

The Newcomb Campus of the College is the home of the Anna and Archer Huntington Wildlife Forest and the Adirondack Ecological Center. The campus covers 15,000 acres south of the HPWC.

College lands are oriented toward research and focus on the study of Adirondack natural resources. Ongoing projects include studies on forest management, wildlife population habitats, acid deposition, freshwater fisheries, and aquatic and terrestrial ecology.

Huntington Forest is also the site of a satellite Adirondack Park Visitor Interpretive Center located on Route 28N near Rich Lake. The visitor center offers disabled access, interpretive trails, exhibits and visitor information focusing on Adirondack natural history.

The College maintains a hiking trail to its fire tower atop Goodnow Mountain, offering a spectacular view of the High Peaks, a self-guided nature trail, and a small boat/canoe access site on Rich Lake (no outboard motors). Casual public use of remaining College property is not permitted.

! Adirondak Loj - Adirondack Mountain Club

The north country facilities of the Adirondack Mountain Club (ADK) are situated on 640 acres at Adirondak Loj near the end of the Heart Lake Road in the Town of North

Elba, Essex County. The High Peaks Wilderness borders on three sides -- east, south and west.

The ADK offers its facilities to both members and the public. These facilities include lodge accommodations, a 36-site campground, 13 Adirondack style lean-tos, showers, restrooms, public telephones, and an ADK operated High Peaks Information Center, formerly named the "campers and hikers" building. The latter serves as an education center and a store. The ADK limits trailhead parking on its lands to 200 motor vehicles and charges a parking fee of \$7.00 per vehicle per day. Public trail easements to adjoining State lands were donated to New York State in 1964; however, they did not include public parking rights.

Adirondak Loj is the best known and the most popular trailhead in the HPWC. In 1998 over 44,000 visitors entered the HPWC through this point as documented by trailhead registrations. The ADK also maintains Johns Brook Lodge (JBL) situated on 15-acre in-holding within the Johns Brook Primitive Corridor. Accessible only by hiking trails across Forest Preserve, this facility offers accommodations and caretaker services from June through September. The JBL facility is further complemented by two ADK maintained rental cabins, Grace Camp, and Camp Peggy O'Brien, and 3 lean-tos located on the south side of Johns Brook. The Club maintains no parking facilities for its Johns Brook operations.

Subdivisions/Urban Areas

In addition to large land owners, the HPWC shares its boundaries with many small private holdings and urban-like subdivisions as found for example, near Averyville in Lake Placid, Keene and Keene Valley. These private parcels pose many challenges. Boundary line maintenance is more intensive and more frequent. Visitors hike and jog at the outer edge of the wilderness as if they were in a neighborhood park or a private playground. Domestic pets, bicycles, snowmobiles, all-terrain-vehicles (ATV's) and other vehicles often cross the boundary without regard to wilderness designation. Since it is impractical, costly and physically impossible to fence and patrol all boundaries, stopping these incompatible uses requires greater public involvement and education.

SUMMARY

In regard to both state and private lands adjoining the HPWC, there is no buffer between individual properties or land units that absorbs impacts and helps lessen their force. The designation of any tract of land as wilderness substantially affects the management of all adjoining areas. To best protect the HPWC from impacts originating from surrounding land use, these impacts must be addressed by comprehensive planning that anticipates potential conflict before it occurs.

SECTION VI

MANAGEMENT OVERVIEW

With the adoption of the APSLMP in 1972, many people assumed that wilderness designation alone would assure the preservation of the High Peaks region. This was not the case. Even then, it was obvious the High Peaks could not hope to accommodate large numbers of people without sustaining significant environmental and sociological change. Wilderness preservation could not exist without proper wilderness management; otherwise, wilderness designation would be meaningless. This section provides an overview of past and present management activities in the unit.

HISTORICAL PERSPECTIVE (before the APSLMP)

Early management of the High Peaks began with the creation of the Forest Preserve in 1885. Initial management activities were directed towards forest fire prevention and control, timber trespass, and fish and wildlife enforcement. Forest Preserve lands were afforded constitutional protection in 1894. County "tax lands" were conveyed to the State and attempts were made to consolidate state holdings. Significant land acquisitions occurred in the High Peaks from 1916-27, funded by the Bond Act of 1916. These purchases secured the summits of Mt. Marcy, McIntyre, and Seward; Indian Pass, Flowed Lands, Lake Colden, Avalanche Lake, Allen, and Redfield.

A formal Forest Preserve recreation plan was adopted by the legislature in 1919 which emphasized recreational development to promote visitor use (Temporary Study Commission, 1970). Increases in use were met with corresponding facility development. Forest Preserve managers were encouraged to seek ways to make the High Peaks more accessible and more convenient for users and for themselves.

This management philosophy prevailed over the next 50 years; especially in the attractive, eastern High Peaks sector which quickly assumed a heavily developed character; 100 miles of trails were added, 90 lean-tos erected, bridges were built to keep hikers' feet dry, dams were built to create lakes, and over 40 miles of roads criss-crossed the unit to provide easy and direct access for fighting forest fires. The roads were seldom required for fire control purposes; in most cases, they were used to maintain interior facilities (Van Valkenburg 1987).

As new or renewed uses appeared, they too were accommodated with expanded facilities. For instance, formal ski trails became part of the High Peaks scene in 1932. A cross country ski trail was cut across Nye Mountain for use in the 1932 Olympics. Additional trails were constructed on Wright Peak, over Whale's Tail, and on the north

slope of Mt. Marcy. A 1940 Conservation Department Report described these ski trails as "overcrowded" (NYS Conservation Department, 1941 and Brown, 1985). In a similar context, a horse trail system was inaugurated in the 1960's that accessed the Cold River country. Horse barns, bridges, corrals, hitching posts, and concrete culverts were placed in the more remote areas of the unit. Heavy motorized equipment, bulldozers, dump trucks, etc. were used to maintain the trails.

In summary, past management programs emphasized visitor numbers, conveniences, and enhancement of scenic views rather than the wilderness experience. Managers may have inadvertently aggravated undesirable conditions by responding to every increase in use with more facilities to accommodate it.

TRANSITION

The Adirondacks and especially the High Peaks region experienced a great surge in recreational use during the 1950's and 1960's. This was due, in part, to increased leisure time, greater publicity, rising incomes, ease of access via Interstate 87, and accompanying population growth in nearby metropolitan areas. Public concern about the ecological and social changes associated with this rate of growth were addressed in public hearings held by the Joint Legislative Committee on Natural Resources. This committee issued two reports focusing on the High Peaks. Its 1960 report entitled: A Study of Our Wilderness, Our Forest Preserve, and Our Forests, called for the designation of 12 wilderness areas in the Adirondack Park and four in the Catskills. The report characterized the High Peaks as "the most extensive tract of wilderness land in the Adirondacks" (1960 Legislative Document No. 33). This was followed by a second report a year later which expressed concerns about the extent of facility development and growing public use of the High Peaks. It stated "From all indications the proposed High Peaks Wilderness Area will continue to attract increasing numbers of recreationists and will probably lead in providing the problem of how to accommodate large numbers of people without a simultaneous destruction of the wilderness character of the area" (1961 Legislative Report No. 41).

The extent of facility development, coupled with increasing use, continued to be issues of concern throughout the 1960's and 1970's. Wilderness enthusiasts recognized early that too many people could easily over saturate an attractive area and spoil it for generations. Hardin (1968) reflected this public sentiment in his paper The Tragedy of the Commons, which describes "the loss to all caused by the natural tendency of individuals to overuse a resource owned by all."

ADIRONDACK PARK STATE LAND MASTER PLAN

Following a 1967 proposal to create an Adirondack National Park from state and private lands, Governor Nelson A. Rockefeller appointed a Temporary Study Commission of the Future of the Adirondacks to address both state and private land issues within the Adirondack Park (VanValkenburg, 1985). It published a report in 1970 containing numerous recommendations, the most significant of which was the call to the legislature to create an independent bipartisan Adirondack Park Agency with general powers over the use of private and public land.

In its Public and Private Land No. 1, Volume B the Commission proposed a definition of wilderness applicable to the Adirondack Park, delineated 15 wilderness areas, and outlined a detailed management plan for state Forest Preserve lands. The report identified heavy use areas in the High Peaks particularly Marcy Dam: "heavy public use at Marcy Dam already threatens to destroy the wilderness character of this spot if appropriate management systems are not applied soon."

Commission recommendations led to the Adirondack Park Agency Act of 1971 and subsequently, to the Adirondack Park State Land Master Plan in 1972. The APSLMP classified state, or public lands in the Park according "to their characteristics and capacity to withstand use." The High Peaks was accorded wilderness designation to which emphasis is on maintaining "a primeval character without significant improvements or permanent human habitation, where man is a visitor who does not remain." Guidelines for use and management of wilderness were established closely paralleling those governing the National Wilderness Preservation System established in 1964. It marked a new era in Forest Preserve Management. Prior to the APSLMP, the response to greater use was to merely build more facilities and increase user convenience. Since then, the trend has been towards the reduction of user facilities and greater control over user activities in order to preserve and restore wilderness resources and values.

In wilderness, the APSLMP imposed stricter controls than had previously existed. With certain exceptions, structures-like fire towers, ranger cabins, telephone lines, and permanent roads were scheduled for removal. The use of motor vehicles, powerboats, and landing of aircraft within the wilderness were prohibited. In addition to the phase out of these non-conforming structures and uses, DEC was directed to limit use of the eastern portions of the High Peaks during certain periods (APSLMP, 1987).

REMOVAL OF NON-CONFORMANCES

Non-conformances are defined as those structures, facilities, or uses not compatible with the concept of wilderness. It is not a new definition or concept. An early non-

conformance pre-dating the APSLMP was the MacDonald Storm Shelter constructed in 1928 atop Mt. Marcy. The structure was later removed by the Conservation Department (predecessor to DEC) in 1962. Its original purpose had been subverted by its de facto use as a garbage dump and latrine. With few exceptions, the APSLMP requires DEC to remove certain structures and facilities and terminate uses and activities that are not essential to wilderness management.

As funds permitted, the following non-conforming uses were removed from the area: 2 obsolete steel fire towers, 2 observer cabins, 2 ranger cabins and 34 miles of associated telephone lines, four tent platforms, 4 horse barns and corrals, and 10 lean-tos above 4,000 feet in elevation, and one lean-to cluster at Avalanche Camps, and two lean-to clusters at Marcy Dam. Twenty miles of fire truck trails (roads), and 35 miles of "jeep type" roads were gated or barricaded, closed to motor vehicle use and maintenance of such roads and trails curtailed to encourage revegetation in order to permit their conversion to foot trails and where, appropriate, horse trails.

In addition, the APSLMP mandates the removal of 3.5 miles of overhead telephone line (South Meadows to Marcy Dam), the Marcy Dam interior outpost, and closure of the 1.0 mile South Meadows Road. These last two items will not be removed until DEC has an approved policy and implementation schedule for achieving a peripheral control system of its trailheads for the South Meadows/Adirondack Loj corridor. This aspect is addressed in Sections IX and X.

HIGH PEAKS ADVISORY COMMITTEE (1974-1977)

In 1974 APA requested DEC review its interior management policies and investigate ways to best implement the APSLMP. A 15 member independent committee was formed and met over a three year period culminating in a published report issued in 1979. The committee examined a variety of issues, but its principal focus was on recreational overuse. The Committee, in part, concluded:

- ! Use is excessively concentrated in the eastern High Peaks as contrasted to other segments.
- ! There was not enough trail maintenance funds or crews to correct trail deterioration.
- ! Summit trampling and erosion was severe due to high concentrations of hikers.
- ! Most of the pressure on the eastern High Peaks comes from campers rather than day hikers.
- ! Group use, e.g. groups of 10 or more, cause more impact than smaller groups.
- ! Camping needs to be commensurate with an area's carrying capacity.
- ! Camping should be prohibited above 4,000 feet in elevation.

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- ! Numerous public recreation alternatives exist outside the HPWC; these should be identified.
- ! Winter use is increasing; a high number of winter users are inexperienced and ill-equipped; the DEC should respond accordingly.

NEW RULES AND REGULATIONS

In response to the Committee's report, DEC adopted new rules and regulations addressing their concerns. These were considered "the minimum tool" necessary to help preserve wilderness values. Excerpted from State Land General Rules and Regulations (6 NYCRR 190), the following apply:

- ! Visitors are required to carry out all refuse, trash, garbage, litter, or any other offensive material.
- ! Camping above 4,000 in elevation between April 29 and December 20 is prohibited.
- ! All open fires are prohibited above 4,000 feet elevation.
- ! Camping is prohibited within 150 feet of any road, trail, spring, stream, pond, or other body of water except at camping areas designated by DEC.
- ! Camping permits are required if a location is used four or more nights or if there is a group of 10 persons or more camping in any one location regardless of length of stay.

INFORMATION AND EDUCATION

Information and education programs directed towards High Peaks users emphasize trailhead and/or interior contacts. Education has been particularly important, where the DEC has tried to avoid regulation and where its management objective has been to seek minimal impact. Messages are targeted to specific user groups, individual locations within the units, and to specific seasons of the year.

Visitors who choose to enter the unit through its 20 developed access points are greeted at trailhead stations which convey information on low-impact use techniques, visitor safety concerns, rules, and regulations. Four of the unit's most heavily used entrances have open front trailhead shelters with a bulletin board and register. Lesser used trailheads may only have a register and a few signs. Messages are focused to deal with a few critical problems and desired behavior rather than trying to overwhelm the visitor with huge quantities of material.

Personal contact, in many cases, has been the preferred option and is often considered the most effective means of communication. Where they exist, visitor information centers have been effective places to deliver educational messages. DEC currently has no such facility and has instead, had to rely on the services of the Adirondack Mountain Club at Adirondack Loj which serves the most heavily used trailhead in the

HPWC. There, demonstrations and field programs have been employed to reach the right audience and have the advantage of being tailored to specific groups and have provided information during the planning and initial stages of a trip.

Aside from one assistant forest ranger stationed in the parking lot of Adirondak Loj, most DEC contacts are made by forest rangers, assistants, and interior caretakers on a one-to-one basis in the back country. They stress appropriate wilderness behavior, minimum impact use, and wilderness safety. Maps and brochures are available at DEC offices. General area and low -impact use information is increasingly being added to guidebooks and maps. DEC personnel regularly contribute to and review material for books and maps depicting their respective districts.

Some visitors are contacted at home if they request information or are required to obtain a camping permit.

ASSISTANT FOREST RANGER PROGRAM

In 1974, the Adirondack Mountain Club, with DEC support, initiated the High Peaks Ridge Runner Program to assist DEC's education program within the eastern High Peaks. The program promoted low-impact use and provided general information to visitors. The program began with three seasonally-employed positions. It was succeeded by a Wilderness Ranger Program in 1975 which added two forest rangers to the High Peaks on a full-time basis. Their duties entailed wilderness information and education, search and rescue, and law enforcement. A regional realignment of ranger districts in 1978 reduced the program to one position. To fill this gap, in view of increasing use, seven Park Rangers, now called assistant forest rangers, and six Park Attendants were added on a part-time basis. The information and education effort was expanded and DEC was able to maintain a high level of presence at trailheads and at heavily used interior locations.

Serious budget cutbacks and inflation reduced the program significantly in the 1980's. In 1995, the program had four assistant forest rangers in the eastern High Peaks and one in the western zone.

CAMPSITE DESIGNATION PROGRAMS

High levels of use concentrated in the Lake Colden basin caused significant resource and social problems in the 1970's. Commencing in 1979, DEC began a designated campsite program there to disperse use. Visitors were required to camp at designated sites only. No impromptu camping was permitted unless it was 150 feet or more away from a trail, water, or designated site. This technique was used to increase the

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distance between parties and to avoid concentrated use around Lean-to locations. Certain sites, those poorly located or heavily damaged were closed and rehabilitated. Large group use-parties greater than ten persons were excluded on weekends.

Similar projects were applied to Indian Falls (1983), the lower Johns Brook Valley (1985), and the length of the Ampersand Primitive Corridor (1993). All programs were designed to keep impacts from proliferating and to redistribute use.

Campsite designation worked well when DEC had a strong presence in those areas. As long as there were alternative places to camp, there were few problems. With greater numbers of campers, many of the designated sites, coupled with non-designated impromptu sites, have coalesced into large heavily impacted sites. Large, impacted sites can be found near the Indian Falls, Johns Brook interior outpost, Lake Colden and Marcy Dam. Ultimately, these campsite designation programs did not work because of increasing numbers of campers far above the designed camping capacity of each area. There was no effective way to turn people back when the camping areas were full.

PARKING FACILITY MANAGEMENT

All HPWC parking facilities were designed in the 1970's to accommodate a desired capacity commensurate with interior use and to also, alleviate off-highway parking problems. For example capacities were set for "the Garden" (Keene Valley) at 50 vehicles, 20 vehicles at the Ausable Club (easement), and 200 vehicles at Adirondak Loj (private). This is a passive-indirect management approach to control interior use by balancing road access with the desired carrying capacity of the contiguous wilderness.

However, visitor demand exceeds these capacities and the problem of unrestricted and illegal parking on adjoining state and private lands, and town, county, and state roads continues. This has caused conflicts with adjoining owners in terms of trespass and noise. Restricted traffic flow has caused safety problems for local municipalities. As one parking facility fills up, the problem is transferred to the next and so-on. This "ripple effect" follows the entire eastern boundary of the HPWC. Parking problems routinely occur at the Garden, South Meadows, the Ausable Club, and along NYS Route 73. In each case, the number of parked cars is often triple the desired capacity. For example, on Labor Day, 1995, 206 cars were parked on either side of the narrow Adirondak Loj Road outside of designated parking areas. The Adirondak Loj Road is a Town of North Elba public highway with established "No Parking" zones. Enforcement of the no parking ban is the responsibility of the Town of North Elba. The road is patrolled by the New York State Police. With the exception of Adirondak Loj, which controls its own parking, there is no DEC presence to control parking at any of the developed entry points.

WILD AND SCENIC RIVER MANAGEMENT

In accordance with the Wild, Scenic, and Recreational Rivers Act of 1972 which designated Ouluska Pass Brook and the Opalescent and Cold Rivers as "Wild Rivers" and Ampersand Brook and the Raquette River as "Scenic Rivers", DEC inventoried the streams and established a ½ mile wide corridor on each side of the stream as a protective measure. Within the wild river corridors, major maintenance of non-conforming structures (i.e. lean-tos) has been suspended in order to phase-out incompatible facilities as required by the Act. No direct management actions have been taken on the two aforementioned scenic rivers.

FISHERIES

Prior to incorporation within the HPWC, several lakes were privately owned and managed for fisheries. Upper and Lower Cascade Lake were property of the Lake Placid Club, while the Tahawus Club is thought to have introduced brook trout to Avalanche Lake in the 1920's (Greeley and Bishop, 1932). The Ausable Club also controlled several waters in the High Peaks and may have stocked fish in them historically. Newcomb Lake and Moose Pond on the Santanoni Preserve were privately owned until the early 1970's and Newcomb Lake was stocked at least once with brook trout prior to public ownership. It is unfortunate that stocking records are not available from all of these private owners, as they might satisfy questions on the genetic background of what may be heritage strains of brook trout or lake trout in some waters.

Stocking records are also incomplete for New York State efforts prior to the first biological surveys of the 1930's. Until those surveys, much haphazard and biologically unwise stocking took place which introduced many nonnative species to HPWC waters and increased the range of other native species.

Fish management in the HPWC has emphasized the native brook trout through an active reclamation, liming and stocking program. Lake trout are native to several waters, but are not currently stocked within the unit. Brown trout, splake and kokanee salmon are species historically associated with some lakes. Kokanee salmon may no longer be stocked within the HPWC in accordance with wilderness fishery management guidelines.

Lower Cascade Lake was utilized as a brood stock water for efforts to restore round whitefish to several Adirondack lakes in the early 1970's. Round whitefish were trapnetted during their late autumn spawning period. Fertilized eggs from the parental stock were raised in a private facility and fry were stocked in Cat Lake (not in HPWC). Propagation of round whitefish proved to be relatively easy and some fry were raised to adults within the private facility. Round whitefish did become established in Cat Lake and persist in low

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numbers there today (Leo Demong, personal communication). The success of hatchery propagation efforts bodes well for restoration of round whitefish.

The use of fish as bait has been prohibited entirely in the unit in order to curtail "bait-pail" introductions of competing and/or nonnative fish species.

Most of the named waters (about 40) within the unit have received at least one biological survey since the 1930's. Between 1984 and 1987, the Adirondack Lakes Survey Corporation conducted thorough biological and chemical surveys on 29 ponds within the HPWC (Appendix 10). Section II.-K. discusses present day fish distribution within the HPWC based on the most recent ALSC and DEC surveys.

In recognition of the fact that competing fish species are detrimental to native brook trout populations, the Conservation Department undertook a program to reclaim certain Adirondack lakes with rotenone in the 1950's. Rotenone is a piscicide developed from the roots of certain southern hemisphere plants (and used in raw form by the natives there for millennia to collect food fish) which biodegrades within days in the aquatic environment at summer temperatures. Scientific studies have demonstrated that reptiles, mammals and birds are not harmed by rotenone applications and that the few invertebrate and amphibian species effected by rotenone rebound quickly to original population levels. Within the HPWC, 27-acre Rock Pond (P# 196) was reclaimed in 1951 and 13-acre Little Ampersand Pond was reclaimed in 1954 and 15-acre Owl Pond in 1967. Brook trout still survive in the three ponds. A 1984 ALSC survey of Rock Pond indicated that the nonnative golden shiner was present and that other competing species are resurging in numbers and biomass.

The application of calcium based alkaline materials to mitigate acidity has been practiced by the DEC since 1959. DEC's liming policy restricts treatments to ponded waters with certain physical, chemical and biological characteristics. Only four waters within the HPWC have received liming treatments: Little Ampersand Pond, Livingston Pond, Owl Pond and Avalanche Lake.

Little Ampersand Pond was first treated with lime in 1963. A follow-up application was made in 1967. Since that time, pH levels have decreased to 5.1-5.3. Brook trout still survived in the pond as of a 1983 survey, but recent reports from fishermen suggest the population is declining.

Livingston Pond was limed in 1978 and continues to maintain good pH levels near 6.5. This small, high elevation lake proves that liming is feasible in appropriate HPWC waters despite continued high levels of acid precipitation. Livingston Pond supports a brook trout monoculture and has been a famous fishery for generations.

Avalanche Lake was limed in 1979 and had a pH of 6.7 in the summer of 1980. By 1983, however, the pH had declined to 5.0. Calculations of the lakes flushing rate

(how many times the lake's water volume is replaced each year) indicated that further liming treatments would be similarly short-lived and the program was terminated.

Owl Pond was treated in 1970 with 450 pounds of hydrated lime. Liming improved the water quality sufficiently to permit over winter survival of brook trout. A summer 1993 pH reading was 4.92. Brook trout are believed to be still surviving in Owl Pond, but this cannot continue for much longer.

SCIENTIFIC RESEARCH

DEC encourages scientific research within the HPWC. However, individual research projects must contribute to the existing knowledge of the unit's resource base, have practical application to wilderness management problems, or employ the HPWC where no viable alternatives exist. Research projects are initiated by a detailed written proposal submitted to DEC. Following a review process, written authorization in the form of a Revocable Permit is issued. The permit specifies the conditions upon which approval is contingent. Researchers are required to report to DEC in writing on the findings of each research program.

A number of restrictions are applied in order to minimize the impact of the research project on both the resource base and other users. The collection and removal of biological and physical specimens must be authorized by the State Science Director. The construction of permanent structures to facilitate research projects is not permitted.

NEW YORK NATURAL HERITAGE PROGRAM

The New York Natural Heritage Program is a cooperative effort between the Nature Conservancy and DEC to inventory and manage the occurrence of rare plants, and animals, exemplary natural communities in New York State. It is closely related in scope and purpose to DEC's Significant Habitat Program. Natural Heritage and Significant Habitats jointly issue reports and maps assessing resource conditions. These are used as important management planning tools.

A concerted effort is underway to inventory and maintain those plant and animal species indigenous to the HPWC.

NATURAL AREAS REGISTRY

In another cooperative effort, DEC is a participant in the Nature Conservancy's Natural Areas Registry Program. This program promotes the preservation of unique natural areas by identifying the presence of rare species and habitats on public and private lands. Eleven HPWC sites were added to the registry in 1987. The sites include areas at

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or near Moose Pond, MacIntyre Range, Indian Pass, Iroquois Peak, Lake Colden Basin, Opalescent River, Panther Gorge, Wright Peak, Boundary Peak North and South, and Cascade Lakes. Inventories, technical assistance, and management summaries are given to DEC to guide preservation and protection efforts.

REHABILITATION OF ALPINE SUMMITS

DEC supports independent efforts to rehabilitate its alpine summits damaged by hiker trampling. The summits contain many of New York State's rarest plant communities. Constant wear-and-tear by hikers' boots puts this vegetation in jeopardy of extinction.

Scientists Drs. Edwin Ketchledge, Ray Leonard, and Norman Richards devised an approach to rehabilitate summits by seeding and fertilizing exposed soil layers. When protected from trampling, native plant succession is encouraged. This is an on-going program supported, largely by volunteer efforts, most notably by the Adirondack Forty-Sixers.

SUMMIT STEWARDS PROGRAM

The program, begun in 1989, is a cooperative effort of the Adirondack Nature Conservancy/Adirondack Land Trust, the Adirondack Mountain Club, and DEC to place uniformed summit stewards on alpine summits. Stewards teach hikers about alpine ecology and urge them to stay on designated trails and bare rock surfaces and off vegetation to prevent erosion and damage. Since its inception, summit stewards have personally contacted over 82,000 visitors on the summits. Four stewards greeted over 18,000 visitors in 1998 on 5 High Peaks summits: Marcy, Algonquin, Wright, Colden, and Haystack. Funding has come largely from sources outside DEC.

ADMINISTRATION

The HPWC is administered by DEC's Region 5, headquartered in Ray Brook. The Divisions of Lands and Forests, Fish and Wildlife, and Operations, all have management responsibilities in the High Peaks.

Day-to-day Lands and Forests activities are the responsibility of the Regional Forester. Forest Preserve lands within the Ray Brook working circle (Clinton, Essex, and Franklin Counties) are administered by a Supervising Forester and a Forest Preserve Forester/Planner. The latter is responsible for planning and implementation of Forest Preserve programs in eleven separate forest preserve units.

Two forest rangers, headquartered in Keene and St. Huberts are assigned to the eastern High Peaks. Five other forest rangers share collateral duties in the HPWC and adjoining Forest Preserve units. They are located in Keene Valley, Lake Placid, Long Lake, Minerva, Keene and Tupper Lake.

Interior maintenance is performed by the Division of Operations. Work is accomplished by paid crews within the Division, supplemented by personnel from the Department of Corrections (DOC), contractual agreements, and volunteers. The Division staffs the interior outposts at Marcy Dam, Johns Brook, Lake Colden, and Raquette River. Lake Colden is the only facility manned year-round due to existing heavy use and projected winter use in the eastern High Peaks. A significant amount of interior maintenance is accomplished by interior caretakers at Johns Brook, Lake Colden, Marcy Dam, and Raquette. The latter also supervise a significant amount of volunteer labor. DOC personnel employ inmates under DEC supervision during periods of low use. Work crews from the Gabriels and Moriah Correctional Facilities are used for trail, bridge, and lean-to repair. DEC maintains contractual agreements with the Adirondack Mountain Club and the Adirondack Trail Improvement Society to perform trail maintenance and assist in coordinating volunteer activities. Volunteers maintain trails and lean-tos, collect trash, assist in resource inventories, dispense information to visitors, and assist forest rangers in search and rescue, and forest fire control.

In accordance with Article 9, ECL all wildfires are suppressed in the HPWC. There is no "let burn" policy to permit fire to take its natural course. With each fire start, DEC managers consider the most appropriate response and tactics which result in minimum cost and resource damage consistent with wilderness designation.

There is no administrative use of motor vehicles except in cases of "sudden, actual, and ongoing emergencies involving the protection or preservation of human life or intrinsic resource values--for example, search and rescue operations, forest fires, . . ." (APSLMP, 1987). The use of motorized equipment or aircraft, but not motor vehicles is confined to "off-peak seasons" (DEC Commissioner's Directive, 1976, APSLMP, 1987). Such use is restricted only to major administrative, maintenance, rehabilitation, or construction projects involving conforming structures or improvements or the removal of non-conforming structures.

All DEC personnel, associates, contractors, and volunteers are required to follow APSLMP wilderness guidelines, rules and regulations, and permit procedures as expected of the public.

FUNDING

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All HPWC wilderness management programs, except for fish and wildlife related activities, are funded by the state's general fund. Fish and wildlife functions are supported by the Conservation Fund, a dedicated fund generated by the sale of hunting, fishing, and trapping licenses.

Under DEC's present accounting system, the total costs associated with managing the HPWC cannot be precisely calculated. All costs are lumped into a regional account. Only capital improvement projects (major construction) are assigned a specific cost center.

Additional funds are needed for priority items such as information and education, fish and wildlife management, law enforcement and resource protection.

The chart below presents a general overview of 1998 expenditures allocated to the HPWC:

1998 DEC HPWC OPERATING BUDGET

ITEM	AMOUNT
Interior Caretakers (4) and trail crews	\$110,000
Forest Rangers (2), full time*	70,000
Assistant Forest Rangers (5) seasonal	30,000
General Administration and Planning	42,000
DEC Trail Projects; supplies and materials	25,000
ADK/ATIS Trail contracts and volunteer programs	30,000
Summit Steward Program; DEC contribution	<u>1,000</u>
TOTAL	\$313,000

* does not include 5 collateral forest ranger positions from adjoining districts.

SECTION VII

FUTURE MANAGEMENT DIRECTION

This section is intended to lay the foundation for DEC managers, with public assistance, to develop specific management practices necessary to attain the wilderness goals and objectives of the APSLMP. An important part of this discussion includes a set of wilderness management principles largely derived from the APSLMP and the Federal Wilderness Act of 1964 which was used, in part, as model for the original 1972 APSLMP. These principles attempt to introduce professional wilderness management to the decision making process, so that proposed management practices can be "fit" to the special ecological and sociological characteristics of the HPWC.

HIGH PEAKS CITIZENS ADVISORY COMMITTEE (1990-1992)

The need for a formal plan, a road map that prescribes specific actions necessary to meet wilderness goals and objectives, has been clearly documented in the preceding pages.

DEC recognized early in this planning process that public participation was essential in managing the HPWC. General policy states "the public must have an opportunity to help formulate unit management plans if these documents are to have credibility and general acceptance". Formal public participation in the development of the HPWC plan began in June of 1990 by the appointment of a 26 member citizens advisory group.

The High Peaks Citizens' Advisory Committee (CAC) represented a variety of interest groups, local governments, scientists, and users. Its purpose and structure were much like its predecessor, the High Peaks Advisory Committee, that had met 16 years earlier. The committee elected a chairman and organized itself into ten subcommittees to develop and analyze issues, and to present agenda items and management proposals. Although the committee acted as an independent group outside of DEC, the group received background and technical information from a DEC multi-discipline planning team. APA staff was brought in to discuss APSLMP issues. From the onset, the CAC was counseled that its role was strictly advisory; final decision making was to rest with DEC.

To initiate discussions at the CAC's first meeting, DEC posed the following questions to the group to identify management concerns and issues:

- ! What special features, experiences, or qualities need to be preserved; what items need attention most?

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- ! What management problems or concerns, by priority, should be formally addressed over the next five years?
- ! In essence, how should the DEC best manage the HPWC as an **enduring resource**?

The CAC held 15 group and numerous subcommittee meetings over a two year period ending in June of 1992. In July of that same year, the committee submitted a detailed report to DEC. The report listed 186 recommendations to bring the HPWC into compliance with the APSLMP, to manage visitor use, and to protect High Peaks soils, waters, vegetation, fish and wildlife, and trail systems.

ISSUE IDENTIFICATION

The overall issue and concern identified was: "At what level should the DEC manage the wilderness resources of the HPWC?" Facets of this issue, examined by the CAC, are listed below. Almost all the issues are interrelated.

- ! **Removal of Non-conforming Uses and Structures:** The APSLMP mandates DEC to remove the Marcy Dam Interior Outpost and close the South Meadows town road to motor vehicle traffic in order to achieve peripheral control, What level of perimeter facilities development is then required if these actions take place. What impact will this have on adjoining private facilities?
- ! **Land Acquisition:** How can the HPWC best be protected through acquisition of interior and adjoining lands; either through fee acquisitions or conservation easements in accordance with the Open Space Plan and Environmental Protection Act.
- ! **Protection of Native Flora and Fauna:** How can rare, threatened, and endangered species be protected from recreational overuse?
- ! **Wildlife Management:** How can quality fishing and wilderness big game hunting be maintained? How can the frequency and variety of wildlife sightings be increased? What is the acceptable level of impact caused by recreation, hunting and fishing use on the wilderness wildlife resource?
- ! **Water Quality:** How should DEC ensure the water quality of lakes, rivers, and streams is protected?
- ! **Campsite Numbers and Condition:** What will be an acceptable density of campsites in the different management zones of the HPWC and what will be an acceptable level of campsite impacts? What are the advantages and disadvantages of a campsite designation program?

- ! **Trailhead Facilities:** How can trailhead facilities be relocated to mitigate adverse effects on adjoining private lands in the absence of adequate buffers?
- ! **Trail Conditions:** Will a trails classification system be instituted to improve trails and better protect the resource and provide a more aesthetic experience for all users?
- ! **Public Use:** What is an acceptable group size limit for both day and overnight users to reduce environmental and sociological impacts? Will permits be used to control and redistribute use? How can indirect methods be used to redistribute use to avoid excessive user concentration in the eastern High Peaks? Will seasonal use limitations be placed on high elevation trails during prolonged periods of wet weather to protect resources?
- ! **Information and Education:** How can information and education efforts be improved to reach potential visitors before they get to the HPWC, at the trailhead, and while in the back country? What information is needed to promote wilderness ethics, minimum impact techniques, and improve visitor self-sufficiency?
- ! **Administration:** What is the acceptable level of administrative presence necessary to manage the HPWC?

The issues and concerns listed above are addressed in this UMP. Where applicable, CAC recommendations were incorporated in subsequent sections.

PLANNING CONSTRAINTS

Section 816 of the Adirondack Park Agency Act directs DEC to develop, in consultation with APA, individual unit management plans for each unit of land under its jurisdiction classified in the APSLMP. The APSLMP further directs DEC to manage wilderness as "**an enduring resource**" which is a fundamental directive that DEC takes as its primary responsibility in the HPWC. The APSLMP acknowledges all Adirondack wilderness areas are not the same. In one wilderness, human influences may be minor; in another, human influences can cause major disturbances. In the particular case of the HPWC, the number and intensity of these influences causes a gap between attainable legal wilderness, as defined by the APSLMP, and current conditions. Therefore, an inherent goal of this plan is to attain the highest level of purity of its wilderness character within the legal constraints of the APSLMP. In addition, future management direction for the HPWC must take into consideration the following four categories of real-world constraints:

Governmental

The mix of governmental entities that share responsibilities for particular aspects of the planning process for the HPWC includes a variety of perspectives on management policies. DEC must operate within the framework of the APSLMP, Article XIV of the state's Constitution, the Environmental Conservation Law, and existing rules and regulations. It must also work with county, town, and local governments who control the access roads leading to the HPWC before any management proposal can be implemented, the environmental and social impacts of alternative management actions must be assessed under the terms and conditions of the State Environmental Quality Review Act (SEQRA).

Ecological

Ecological conditions within the HPWC place natural limits on management. The HPWC, topographically and ecologically, is one of the most diverse units in the Adirondack Park. Its high elevation and relief help to create three ecological zones (mixed woods, spruce-fir, and alpine). Each zone has a different physical carrying capacity for recreational use and these differences must be considered. On the more level landscapes (mixed wood) surrounding the peaks, standard trail-building practices are generally appropriate because of deep, well-drained soils which can sustain heavy foot traffic. On steeper slopes (spruce-fir) a high level of management is required. On those slopes, the removal of running water from the trails is a major consideration where soils are thinner and mainly organic and where few rocks are available for stabilizing trail sides. On the fragile summits (alpine), characterized by very short growing seasons and thin, peaty soils, all hiker traffic must be confined to maintained trails. Acceptable management practices thus vary with elevation and steepness of slope and other ecological variables.

Historical Legacy

The HPWC is characterized by numerous historical impacts that have affected the natural landscape. The first of the historical complications is the environmental damage that occurred during the logging era prior to the creation of the Forest Preserve. By the 1920's most of the mountain sides had been harvested of spruce and fir, the two species that dominate the steep slopes. Most of the original forest cover was removed and its softwood component significantly reduced. Wild fires swept over much of the landscape in the early part of this century consuming the logging debris. Much of the residual forest was later struck down in the 1950 hurricane. The present day HPWC forest consists largely of second growth that will require two centuries or more to achieve natural maturity.

Sociological

A sociological complication involves the fact that the extent of facility development, especially the trail system, has largely been inherited before wilderness designation. DEC similarly inherited allowable use patterns and practices that were acceptable in terms of low use, but which now require a different management approach in the eastern High Peaks, the western High Peaks, and along the HPWC portion of the Adirondack Canoe Route.

The ownership patterns of private lands adjacent to, and located within the HPWC boundary, must be accepted as they are today for many types of management recommendations. Ownership patterns are of particular concern when considering trailhead locations and management.

A long established DEC administrative system that includes budgetary and staffing levels that were appropriate 40 years when use was low, has also been inherited. These budgets and staffing levels are need to be reviewed and upgraded to cope with present levels of high use and accompanying rates of environmental and sociological change.

CARRYING CAPACITY CONCEPTS

The HPWC has a limited capacity to absorb the impacts of visitor use and still retain its wilderness qualities. When use increases and damaging patterns appear at specific locations and times, the absorptive capacity of the resource has been exceeded. Wilderness qualities and experiences can often disappear, either gradually or swiftly in unintended ways. These factors relate directly to the definition of carrying capacity, the type and level of visitor use an area can sustain without unacceptable change.

The term "carrying capacity" has its roots in range and wildlife sciences. As defined in the range sciences, carrying capacity means "the maximum number of animals that can be grazed on a land unit for a specific period of time without inducing damage to vegetation or related resources (Arthur Carhart National Wilderness Training Center, 1994). The concept has been modified to address recreational uses as well; however, its basic assumptions proved to be false.

After many years of study, basic research showed that there was no linear relationship between the amount of use and the resultant amount of impact (Krumpe and Stokes, 1993). For many types of impacts, most of the impact occurs with only low levels of use. In some cases, such as trail erosion, once the soil starts to wash away, additional foot travel on the trail does not cause the amount of impact to increase proportionately. This research revealed that visitor behavior, site resistant/resiliency, type of use, etc. may be more important in determining the amount of impact than the amount of use, although the total amount of use is still a factor (Hammit and Cole, 1987).

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The shortcomings of the carrying capacity approach, as applied to wilderness management, soon became apparent. It became clear that searching for one single carrying capacity was probably next to impossible, since it is dependent on many variables as noted above. By focusing on determining how many visitors an area could accommodate, it was found that managers often lost sight of basic wilderness goals and objectives - the very things they were trying to achieve. This changed the question "How many is too many?" to "How much change is acceptable?"

Viewed in this context, carrying capacity can be used to prescribe what kind of resource and social conditions are acceptable, compare them to on-the-ground conditions, and identify the management policies and actions needed to maintain or restore the desired wilderness condition.

Establishing appropriate conditions is dependent on clearly stated management objectives. They are based on value judgements derived from experience, research, inventory data, public input (dialogue with users), careful analysis, and common sense. The objectives dictate how much change will be allowed to occur, where it occurs, and what management actions are needed to control it. Once in place and functioning, limits of acceptable change (LAC) are used as measuring tools to alert DEC to unacceptable changes within the HPWC before it is too late to react.

Because the HPWC is a large diverse wilderness with many varying physical and ecological resources, social and managerial elements, no single carrying capacity can be applied to the unit as a whole. For example, an established carrying capacity for the heavily used eastern High Peaks sectors may not be suitable for the lesser visited portions of the wilderness. To fully meet plan goals and objectives, a wide range of carrying capacities for each component, may be more appropriate.

Carrying capacity does not always require use limitations; rather use limitations are viewed as one of many management actions that can be taken in response to a specific problem. When past efforts have proved ineffective, a use limit may be the only option available when standards are exceeded. Monitoring provides the feedback necessary to periodically modify management actions, standards or objectives.

In summary, defining carrying capacity in terms of limits of acceptable change, requires a decision on what kinds of wilderness conditions are acceptable, then prescribing actions to protect or achieve those desired conditions. They are applied through a planning framework that expresses management objectives based on careful considerations of resource conditions, inherent constraints, and the needs and wants of its users. An important objective of this management plan is to carefully document the limits of acceptable change and improve our current inventory of existing resource and social

conditions. This is a critical step to knowing where and what future management actions will be needed beyond the five year life of this plan.

MANAGEMENT PRINCIPLES

Management of the HPWC will be always complex. Hendee and others (1990) put it best by stating "When a problem arises, many solutions might be possible; seldom are there single unequivocal answers at hand. Instead managers must often devise and choose from a set of alternatives." It is important that any decision-making rationale must conform to the APSLMP. The following principles attempt to introduce professional wilderness management guidelines in writing long-term policy and day-to-day problem solving for the HPWC. They only provide guidance; not direct answers. No directive system can answer all the questions that arise in managing wilderness.

THE PRINCIPLES:

! MANAGE WILDERNESS AS A COMPOSITE RESOURCE, NOT AS SEPARATE PARTS.

Wilderness is a distinct resource producing many societal values and benefits. One of wilderness's distinctive features is the natural relationship between all its component parts: geology, soil, vegetation, air, water, fish and wildlife - everything that makes up a wilderness. In most cases, separate management plans will not be developed for vegetation, fish, wildlife, recreation, etc. Rather, one plan must deal simultaneously with the interrelationships between these and all other components (APSLMP, 1987).

! MANAGE THE USE OF OTHER RESOURCES AND ACTIVITIES WITHIN WILDERNESS IN A MANNER COMPATIBLE WITH THE WILDERNESS RESOURCE ITSELF.

All proposed management actions must consider their effect on the wilderness resource so no harm comes to it. For example, recreation should be managed and kept within acceptable levels that maintain the HPWC's wilderness character, including opportunities for solitude or a primitive and unconfined type of recreation emphasizing a quality visitor experience. (APSLMP, 1987; USDA, 1972; Blodel, 1990; Hendee and others, 1990).

! ALLOW NATURAL PROCESSES TO OPERATE FREELY IN WILDERNESS.

This principle is derived in part from the APSLMP (1987) definition of wilderness in dealing with the term "natural conditions." According to the APSLMP, the primary wilderness management guideline will be to achieve and perpetuate a natural plant and animal community where man's influence is not apparent. It means not introducing exotic plants and animals not historically associated with the Adirondacks nor manipulating vegetation to enhance one resource over another (Article XIV. State Constitution, 1894; APSLMP, 1987; Blodel, 1990).

! ATTAIN A HIGH LEVEL OF WILDERNESS CHARACTER WITHIN LEGAL CONSTRAINTS.

An important APSLMP wilderness goal is to retain and make where necessary, Adirondack wilderness areas as wild and natural as possible. Examples of this principle include efforts to rehabilitate alpine summits, closing roads to motor vehicle use, or restoring severely eroded trails (APSLMP, 1987; Article XIV State Constitution, 1894; and the Environmental Conservation Law.

! PRESERVE AND ENHANCE WILDERNESS AIR AND WATER QUALITY.

Wilderness air and water quality bear testimony to the general health of our environment. Federal and state laws are designed specifically to protect air and water quality. In wilderness, internal pollution sources such as human and animal wastes must be controlled.

! SAFEGUARD HUMAN VALUES AND BENEFITS WHILE PRESERVING WILDERNESS CHARACTER.

Wilderness areas are not just designated to protect natural communities and ecosystems; they are also for people. The APSLMP (1987) states "Human use and enjoyment of those lands (meaning state lands within the Adirondack Park) should be permitted and encouraged, so long as the resources in their physical and biological context and their social and psychological aspects are not degraded." This is especially true for wilderness.

! PRESERVE OUTSTANDING OPPORTUNITIES FOR SOLITUDE OR A PRIMITIVE AND UNCONFINED TYPE OF RECREATION.

This principle comes directly from the APSLMP (1987) definition of wilderness. Levels of solitude within any given wilderness will vary; sometimes substantially. However, each wilderness should have places and times within where visitors can find little or no contact with others. Management strategies to protect the wilderness resource should strive to minimize the amount of contact or control over visitors once they are in the unit. (USDA, 1978; Hendee and others, 1990; Blodel, 1990).

! CONTROL AND REDUCE THE ADVERSE PHYSICAL AND SOCIAL IMPACTS OF HUMAN USE IN WILDERNESS THROUGH EDUCATION AND MINIMUM REGULATION.

When human use must be controlled to prevent misuse and overuse, it is best to do so by education followed by minimum degree of regulation necessary to meet management objectives. The latter option is sometimes called the **minimum tool rule** - application of the minimum tools, equipment, regulations, or practices that will bring the desired result (USDA, 1978).

! FAVOR WILDERNESS DEPENDENT ACTIVITIES WHEN MANAGING WILDERNESS USE.

Wilderness is a distinct resource, and many recreational or other activities taking place there can be enjoyed elsewhere. Not all outdoor activities require a wilderness setting. Examples are large group use, orienteering schools, competitive events, and other organized events (DEC policy, 1972-present). A DEC management goal is to refer these activities to Wild Forest Areas.

! REMOVE EXISTING STRUCTURES AND TERMINATE USES AND ACTIVITIES NOT ESSENTIAL TO WILDERNESS MANAGEMENT EXCEPT FOR THOSE PROVIDED BY THE APSLMP.

"A wilderness area is further defined to mean an area of state land or water having a primeval character without significant improvements or permanent human habitation...."(APSLMP, 1987). Except for those conforming structures, uses, and administrative actions specifically identified by the APSLMP, DEC is mandated to remove all non-conforming structures and uses not compatible with a wilderness environment as soon as possible.

! ACCOMPLISH NECESSARY WILDERNESS MANAGEMENT WORK WITH THE "MINIMUM TOOL."

This principle requires every management action to be scrutinized to see first if it is necessary, then plan to do it with the "minimum tool" to accomplish the task. Its goal is to have the least possible impact on the environment and the visitor experience (USDA, 1978; Blodel, 1990; Hendee and others, 1990).

! ESTABLISH SPECIFIC MANAGEMENT OBJECTIVES, WITH PUBLIC INVOLVEMENT, IN A MANAGEMENT PLAN FOR EACH WILDERNESS.

Working together within the constraints of the APSLMP, managers and the public need to define acceptable levels of use and specific management practices for each Adirondack wilderness. These need to be clearly stated in management plans available for public review and comment. It is essential visitors and other users understand wilderness values, and managers clearly know their management

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responsibilities. (APSLMP, 1987; DEC policy 1972-present; Blodel, 1990; Hendee and others, 1990).

! HARMONIZE WILDERNESS WITH ADJACENT LAND USES.

Wilderness management should be coordinated with the management of adjacent state and private lands in a manner that recognizes differing land management goals.

! MANAGE WILDERNESS WITH INTERDISCIPLINARY SCIENTIFIC SKILLS.

Because wilderness consists of complex relationships, it needs the skills of natural resource professionals and social scientists that work as an interdisciplinary team focusing on preserving wilderness as a distinct resource. Environmental and social sciences are used to replace nostalgia and politics in decision-making.

! MANAGE SPECIAL EXCEPTIONS PROVIDED BY THE APSLMP WITH THE MINIMUM IMPACT ON THE WILDERNESS RESOURCE.

The APSLMP (1987) provides for certain conforming uses and structures that differ from the wilderness definition. These exceptions, in part, include interior outposts, existing dams on established impoundments, existing or new fish barrier dams, trails, bridges, signs, trail shelters (lean-tos), etc. Construction of additional conforming structures and improvements will be restrained to comply with wilderness standards, and all management and administrative actions will be designed to emphasize the self-sufficiency of users in an environmentally sound and safe way.

STRATEGY

Given the diversity of wilderness environments and experiences in the HPWC, not withstanding its real world constraints, no single planning approach is appropriate for all issues of concern. Rather, DEC's long-term management strategy uses a combination of three generally accepted wilderness planning methods: (1) goal-achievement method, (2) zoning and (3) the Limits of Acceptable Change (LAC) adopted by the U.S. Forest Service, and Visitor Experience and Resource Protection (VERP) model employed by the National Park Service.

Goal-Achievement Process

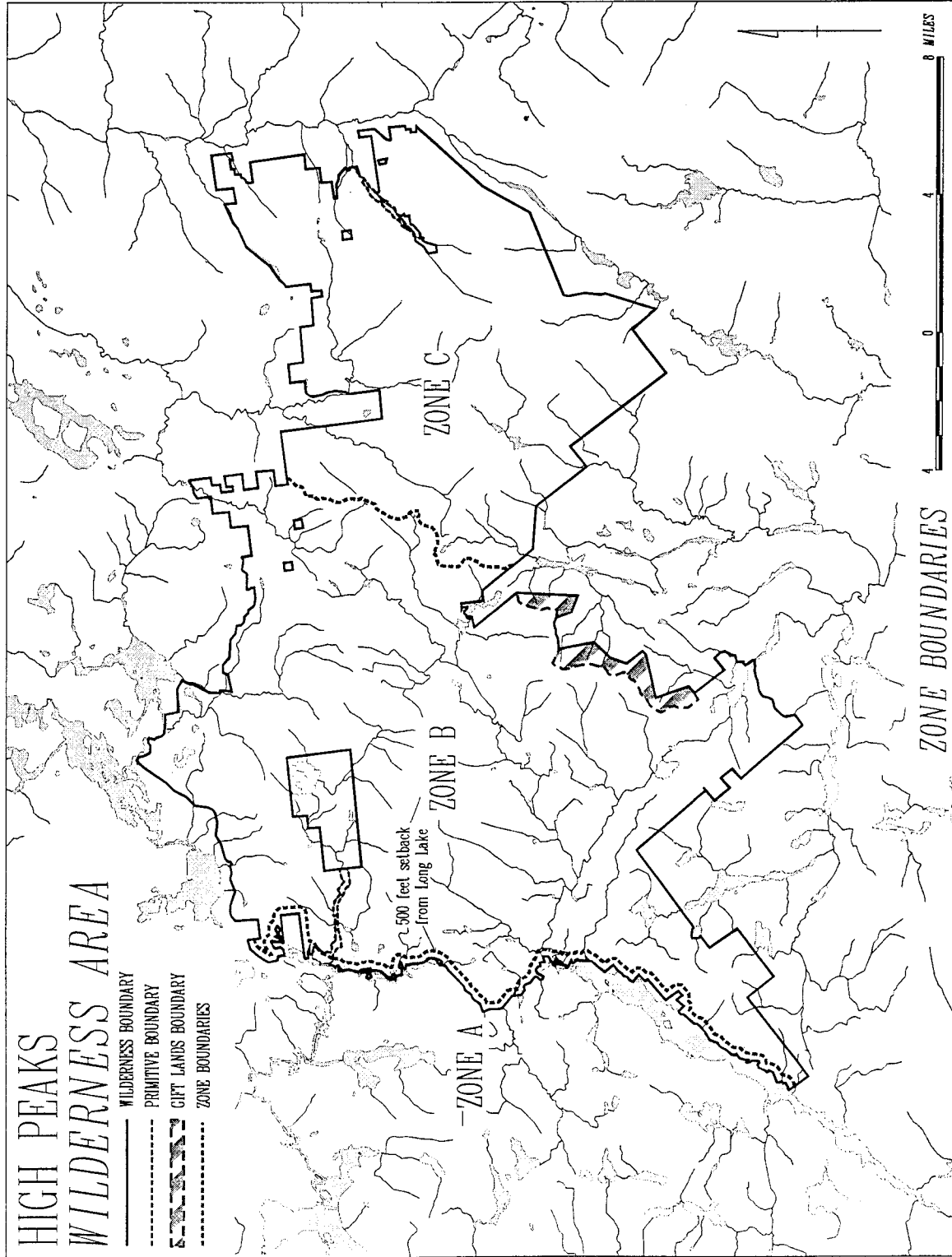
The goal achievement process method develops management by objectives that describe the wilderness conditions (goals) outlined in the APSLMP. DEC is mandated by law to attain these goals. Each objective item requires an assessment of the current management situation and a list of assumptions about future trends before a management recommendation is made.

Zoning

Acceptable uses of the HPWC can be determined not only by the APSLMP and DEC policies, but also by the specific conditions that are found across the unit. Because of its typical diversity, uses, and conditions, it would be cumbersome to manage the HPWC under a uniform management prescription. Although some management actions and standards may be applied in an umbrella-like fashion for the entire wilderness, not all sections of the HPWC need to be managed in the same way or intensity so long as the minimum wilderness requirements of the APSLMP are met. This would suggest the HPWC be divided into different sections or zones to provide a spectrum of resource conditions and recreational opportunities with each zone having different degrees of management.

To do this, the HPWC has been divided into three zones: Zone A - the Adirondack Canoe Route Zone B - the western High Peaks, and Zone C - the eastern High Peaks. The particular nature of canoeing, sets the Adirondack Canoe Route apart from the other two zones. The heavily used and severely affected areas in the eastern High Peaks need to be managed to higher standards that will improve conditions to acceptable levels, while the western High Peaks with high-quality wilderness conditions and experiences need a different management approach to perpetuate these features.

The height of land immediately west of the Indian Pass Trail is used as the dividing line between the western and High Peaks zones and a 500 feet wide strip of land east of Long Lake and the Raquette River delineates the Adirondack Canoe Route from the western High Peaks. Zone boundaries are portrayed on the accompanying map. General management guidelines and policies for each zone are found in Appendix 4.



Limits of Acceptable Change and Visitor Experience and Resource Protection Models (LAC) and (VERP)

These two formats employ carrying capacity concepts, not so much as a prescription of the total number of people that can visit an area, but as a prescription of the desired environmental and social conditions that should be maintained to minimum wilderness standards regardless of use. Such prescriptions, coupled with research and long-term monitoring can give managers the necessary information and rationale to make sound management decisions.

Combined with zoning, LAC and VERP apply four factors to identify potential management actions for each zone:

- ! The identification of acceptable resource and social conditions as defined by measurable indicators
- ! An analysis of the relationship between existing conditions and those desired;
- ! Determinations of the necessary management actions needed to achieve desired conditions; and
- ! A monitoring program to see if objectives are being met. Selecting appropriate parameters for each zone is the key to measuring and evaluating **acceptable change**.

DEC chosen parameters include:

- ! Diversity and distribution of plant and animal species,
- ! Condition of vegetation on alpine summits, in camping areas, and riparian areas near lakes and streams,
- ! Air and water quality,
- ! Extent of soil erosion on trails and campsites,
- ! General campsite condition,
- ! Campsite solitude - sight and sound spatial characteristics,
- ! Noise on trails, in campsites, and on summits,
- ! Conflicts between differing user groups, and
- ! Encounters with large groups - while hiking and camping.

Ecological standards can be readily set based on scientific data at hand. However, sociological standards, beyond those stated in the APSLMP, require extensive sociological data collection and analysis which may not be available within the five year planning window.

All three methods described above require monitoring and flexibility. Aside from APSLMP mandates, management actions are not fixed. Knowledge gained by initial implementation of the HPWC unit management plan will be used to refine and revise management programs if monitoring shows that desired conditions are not attained. They

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should be considered only the first step in a long-term process that extends well into the horizon. The five year UMP must show progress towards attainment of APSLMP goals.

Activity and/or project identification occurred through integrated area-wide analysis of existing conditions. The plan's Management Principles, addressed in this section, provide the basis for reviewing and evaluating all potential management actions. When visitor use must be controlled to prevent misuse or overuse in a particular zone, DEC prefers a course of actions that follows an order of increasing control by: (1) education and information in proper wilderness travel and camping; (2) indirect control methods, such as dispersing use; and (3) the minimum degree of regulation required to meet management objectives. Where overuse is occurring, specific steps need to be taken to reduce impacts and retard unnatural change. Tighter, temporary or long-term constraints through permit system in some areas may be necessary in the future. Restoration of damaged sites through natural or active management may be justified (DEC general policy 1972 to present; USDA, 1978; Blodel, 1990; Hendee and others, 1990; NPS, 1993).

SECTION VIII

MANAGEMENT PROPOSALS

This section describes the specific management objectives, policies, and proposed management actions for administering the HPWC, as well as an overview of the current situation and assumptions of future trends. The objectives apply the plan's goals to a particular management issue as identified by DEC staff, the High Peaks Citizens' Advisory Committee, oral testimony received at five public meetings held across the state and over 500 pages of written public comments. The management policies and actions are the means that will be employed to reach management objectives. When writing management proposals, DEC managers are guided by Article XIV of the State Constitution and the APSLMP and their respective legislative histories, the Environmental Conservation Law (ECL) and DEC Rules and Regulations.

LAND ACQUISITION AND OWNERSHIP

Current Situation and Assumptions:

A land acquisition plan, under the conceptual framework of the Open Space Plan and the Environmental Protection Act (1993), specific to the HPWC has not been completed. This task is commonly referred to as a "needs assessment." Assessing needs for protection of wilderness resources, including open space are difficult to determine. Each wilderness resource and open space view shed has its own characteristics and is usually found in only one or a few specific locations. However, this needs assessment must be completed before an acquisition list is developed. The High Peaks CAC (1990) list of recommended properties to be acquired in fee and/or easement can be used as a basis for review and determination.

The State of New York has expressed an interest in acquiring private parcels enclosed by the HPWC (General Policy Guidelines, EQBA's of 1972 and 1986, and Open Space Plan of 1998). In addition, there has been a desire to purchase deeded easements or right-of-ways to certain trails and trailheads to which there is no or guaranteed public right of access. Places with verbal permission for access cannot be guaranteed and are recommended for purchase. These areas include portions of the Northville-Lake Placid Trail (Long Lake), Johns Brook, The Garden (Keene Valley), Twin Brooks Trail (Newcomb) and approaches to Allen and Santanoni Mountains. Few conservation easements protect the HPWC's open space character from outside development pressures on adjoining private lands; only the lands of the Adirondack Mountain Reserve (AuSable

Section VIII: Management Proposals

Club), Elk Lake Lodge, and one 40 acre in-holding (Burton) are protected by deeded conservation easements.

Aside from public roads and riparian boundaries, the unit has 162 miles of boundary lines that must be maintained on a regular basis. Unit designations; the High Peaks Wilderness, Ampersand Primitive Area, and the Johns Brook Primitive Corridor, are not well defined on the ground.

Objectives:

- ! Complete land acquisition needs assessment task for the HPWC in accordance with the Open Space Plan.
- ! Acquire private lands which lie within the wilderness through negotiated sale with willing sellers.
- ! Acquire permanent rights-of ways or easements to private trails and trailheads that serve the HPWC for which no recorded easements exist.
- ! Locate and post all boundary lines on a scheduled basis.
- ! Physically identify wilderness, primitive area, and corridor unit designations on the ground for administrative and public use.

Management Policies and Actions:

- ! Develop a wilderness-wide fee and conservation easement acquisition priority list. Determine if landowners express selling an interest in their properties. Acquire properties through negotiated sale with willing sellers under established guidelines, as opportunities arise and funds are available.
- ! Physically inspect the boundary to determine resurvey and maintenance needs; assign a priority to each. Brush, paint, and sign all boundary lines at least once every five years or sooner. Especially mark boundaries where they cross a trail, road, or stream. Monitor boundaries for unauthorized activities, such as illegal motor vehicle and mountain bike entry and timber trespass.
- ! Sign unit boundaries and entrances to the High Peaks Wilderness, Ampersand Primitive Area, and the Johns Brook Primitive Corridor so that both DEC personnel and the public know individual unit designations; especially where and when different rules, regulations, and recommendations apply.

BIOPHYSICAL RESOURCES

SOILS

Current Situation and Assumptions

Detailed soil maps are not available for the wilderness. Broad soil types (accurate to an area about 40 acres in size) were delineated on aerial photographs. Interpretations have not been completed for each soil type. Little information has been documented on wide-spread soil loss and deposition, except that there are many sites where soil disturbances on trails, summits, stream sides, and campsites require rehabilitative actions. Trail widening, trail use during wet weather, camping too close to sensitive riparian areas, and summit trampling are contributing factors. The so-called "trailless peaks" have multiple unmarked herd paths to their summits; none of which are receiving maintenance or erosion control. Trail maintenance funds to control erosion are needed.

Objectives:

- ! Keep soil erosion caused by recreation use within acceptable limits that closely approximates the natural erosion process.
- ! Prevent soil compaction resulting from human activity where natural plant establishment is precluded (except at trailheads and on developed trails).

Management Policies and Actions:

- ! Inventory, map, and monitor soil conditions affected by recreation use.
- ! Correct undesirable conditions by rehabilitating the area and/or relocating use to more durable sites.
- ! Relocate trails, designated campsites, and lean-to that are less than 100 feet from water to reduce sedimentation and/or contamination of water resources.
- ! Continue to target trail maintenance to heavily eroded trails; develop a priority list based on resource need rather than on user convenience. Include trailless peaks as well.
- ! Request voluntary compliance in seasonal closures of high elevation trails and certain low elevation trails during period of wet weather; usually from November 1- December 15 and April 1- May 15, or at appropriate times set by the area manager.
- ! Any future recreation site developments should include a site specific soil survey which will require information on soil capability to withstand recreation use, characteristic plant communities, and wildlife habitat.

AIR RESOURCES

Current Situation and Assumptions:

One of the most important features of the Adirondacks and the HPWC is clean air. Federal Clean Act Standards rate Adirondack air Class II (ratings are from Class I to IV, with I being the cleanest). Air quality problems tend to originate outside Adirondack Park boundaries. No known pollution activities within the Adirondack Park have affected HPWC line of sight visibility to mountains, valleys, lakes, rivers, and open space in general. However, interior caretakers at Lake Colden have reported periods of dense smoke, close to the ground, related to campfires during summer and fall temperature inversions.

Objective:

- ! Achieve Federal Class I air standards.

Management Policy and Actions:

- ! Cooperate with other air-related agencies and scientific researchers in developing baseline data to identify the effects of potential air pollutants on HPWC wilderness resources.
- ! State-wide and regional air quality objectives will be presented for consideration in external land-use decisions that may potentially have an impact on HPWC air quality.
- ! Research and monitor air quality at interior locations.

WATER RESOURCES

Current Situation and Assumptions:

Water quality studies have been conducted by the Adirondack Lakes Survey Corporation (ALSC), researching the effects of acid deposition, and the Bureau of Fisheries routinely conducts biological surveys of area waters. No studies have been conducted to determine the effects of recreation use on water quality. As focal points for visitation, streams, springs, lakes, ponds, and wetlands are on the receiving end of more human disturbance. With continued high levels of use, the potential for deterioration of water quality, from a biological standpoint, must be anticipated. And, at a minimum, visitors must be advised that HPWC water ought not to be considered potable and must be properly treated before consumption.

The HPWC has four functional and maintained dams (Duck Hole - 2 dams, Marcy Dam, and Lake Colden). Two legally designated "Wild Rivers" are found in the unit, portions of the Opalescent and the entire length of the Cold River below Duck Hole Dam. Inventories of these rivers were conducted in 1976 and 1978 to determine non-conforming uses and structures as directed by the APSLMP.

Objectives:

- ! Stabilize and improve water quality.
- ! Inventory all riparian areas, including **wild river** corridors, within the unit to identify potential impacts on water resources.
- ! Reduce the potential for pathogenic contamination (especially giardiasis) from all water sources.
- ! Allow lakes with maintained dams to stay at existing water levels.

Management Policy and Actions:

- ! Aquatic and riparian habitats will be maintained and/or improved. Any use which could prove damaging to the pristine character of riparian vegetation will not be allowed to occur.
- ! Relocate lean-tos, pit privies, and non-designated campsites away from water. Lean-tos must be set back at least 100 feet, minimum setbacks for non-designated campsites and pit privies are 150 feet. All lean-tos located in Wild River Corridors will be phased out (removed) when their useful life has ceased (APSLMP, 1987). The latter may be replaced by designated campsites.
- ! Close and rehabilitate lake shore and streamside areas that have been impacted by bank erosion caused by recreation use.
- ! ALSC and biological survey work will be incorporated in all water related planning activities.

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- ! Continue to monitor activities under existing DEC rules and regulations on adjacent lands; especially timber harvesting and road building, that have the potential to impact HPWC waters.
- ! Advise the public through DEC education and information programs to treat all water for protozoan parasitic bacteria (i.e. giardia and naegleria) prior to consumptive use.
- ! Inspect functional water control dams regularly and repair when necessary.
- ! Allow all nonfunctional dams to deteriorate naturally to normal stream flow.
- ! Seek outside funding or encourage research from academic institutions to determine the effects of recreational use on water quality. Such research will strengthen assessments of the limits of acceptable change on area waters.

VEGETATION

Current Situation and Assumptions:

Much of the HPWC's vegetated landscape has been altered by wind, fire, insects and disease, pre-Forest Preserve logging, and recreational use. Despite these influences, the unit has several unique ecosystems requiring special attention. These areas include the rare flora and tundra vegetation found atop alpine summits, small portions of old growth forest, wetland communities, and those areas not yet identified.

The High Peaks area is known world-wide for harboring an unusually large number of rare, threatened, and endangered species protected by federal and state law. Vegetation has been severely impacted by concentrated human activity in areas such as trail corridors, riparian areas, lake shores, mountain summits, and camping areas. On alpine summits, trampling by people and pets is a major cause of species decline. Continued winter camping above 4,000 feet elevations, atop thin wind-blown snowpacks, places an added stress on alpine environments. Recreation during wet weather (late fall and early spring), at high elevations and on some low lying trails, exacerbates erosion and plant loss. Vegetation on some severely disturbed sites is not sufficient to naturally revegetate them.

Despite special designation, protective measures, and programs, such as the Nature Conservancy's Natural Area Registry, the New York Natural Heritage Program, and the Summit Stewards Program, many species remain in jeopardy and are near extinction due to heavy and sustained visitor use. The Summit Stewards' education program has contacted more than 121,000 summit visitors since its inception in 1989. The extent of

exotic, non-native, or weedy species introductions that compete with indigenous vegetation is not known. Plant inventories and ecological mapping are on-going; however, not all areas have been inventoried.

Ground cover loss and the illegal cutting of standing live and dead trees is excessive in many heavily visited areas, particularly Lake Colden and Marcy Dam. Dead and down vegetative material in the vicinity of traditionally used camp areas is fast disappearing, and annual natural accumulation of debris, necessary for soil nutrient recycling, is not keeping pace with utilization by visitors for firewood.

Annual trail maintenance has focused on visitor safety and resource protection rather than on user convenience. Trees are cut, by permit, for construction and maintenance of authorized improvements when suitable materials cannot be brought in from sources outside wilderness.

Objectives:

- ! Allow natural processes to play out their roles to insure that the succession of plant communities is not altered by man.
- ! Maintain existing diversity of species and age composition in areas where natural plant associations are relatively undisturbed by man.
- ! Preserve and protect known locations of sensitive, rare, threatened, and endangered species.
- ! Continue and enhance programs to identify and map sensitive, rare, threatened, and endangered species.
- ! Assist natural forces in restoring natural plant associations and communities where they have been severely altered by man.

Management Policy and Actions:

- ! All vegetation protection and restoration programs will emphasize information and education as the primary means to reduce impacts and slow unnatural change.
- ! Maintain a new designation system for areas meeting criteria based upon the rarity and ecological significance of species and natural communities that warrant special management attention.
- ! Conduct botanical examinations to produce a more complete inventory of rare, threatened, and endangered species.

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- ! The current citizen-sponsored alpine education and information, summit stewardship, and vegetation restoration efforts will continue and be enhanced as funds permit.
- ! All proposed scientific research projects in special ecological zones must be covered by a standard revocable permit issued by DEC.
- ! Ecological inventories and maps will be correlated with recreation, and fish and wildlife project plans to prevent unintended and undesirable impacts to sensitive, rare, threatened, and endangered species.
- ! A marker or unobtrusive sign may be developed and placed on the approaches and outer bounds of sensitive areas to inform the public of such significance and advise them of special precautions. For example, the public needs to know where the 3,500 feet in elevation contour is encountered because camping above that elevation is only permitted in designated sites up to 4,000 feet as per APSLMP guidelines.
- ! Camping above 4,000 feet will be prohibited all times. This action, required by the APSLMP, is necessary to protect sensitive upper elevation spruce-fir ecotypes, subalpine and rare summit vegetation.. This will require a regulation change in section (d) Part 190.3 of Title 6 New York Code of Rules and Regulations governing the use of state lands. This also eliminates camping on exposed ridges above 4,000 feet prone to thunderstorms and severe winds.
- ! Seasonal voluntary trail closures, to protect vegetation and reduce erosion, may be employed on all trails, when the ground is wet; usually November 1- December 15 (frost-in) and April 1- May 15 (frost-out). Time frames may be altered at the discretion of the area manager. A list of alternative trails on drier sites will be provided. If voluntary seasonal trail closures are ineffective in reducing damage to soils and vegetation during these seasons, mandatory restrictions may be emplaced.
- ! There will be no cutting of summit vegetation to improve scenic vistas in keeping with wilderness policy which allows natural processes of succession to operate freely in wilderness.
- ! Minimum impact techniques will be used to revegetate sites where structures or concentrated use has destroyed natural vegetation. Native seedlings, trees, shrubs, and grasses will be planted to accelerate return to natural conditions when necessary.
- ! Visitors will be encouraged to use portable cook stoves and refrain from building campfires. Such messages will be prescribed in LEAVE-NO-TRACE wilderness

education and information programs. Seasonal or year-round campfire prohibitions will be considered in specified areas where fuel wood use has outstripped natural accumulations of dead and down material.

- ! As an additional protective measure for summit vegetation, no person shall ignite or maintain a fire at elevations of 4,000 feet or higher, at any time.

- ! Vegetation will be monitored annually or more frequently as required so that changes can be detected before unacceptable conditions arise.

WILDLIFE

Current Situation and Assumptions:

A number of changes have occurred over the past several decades that have impacted a variety of wildlife species within the HPWC. Habitat changes have resulted from pre-forest preserve logging, wildfires, acid precipitation, recreation use, natural plant succession, protection of the forest and wildlife species through legislation, reintroduction of extirpated species of wildlife and immigration of extirpated species to the area. These factors tend to place HPWC wildlife into three categories: (1) wilderness-dependent wildlife, (2) wilderness-associated wildlife, and (3) common wildlife found. Most wildlife management activities have been directed to improving knowledge of the wildlife found in the unit.

One of the original attractions to the Adirondacks in general was the vast array of hunting, fishing and trapping opportunities. The APSLMP acknowledges these uses as legitimate and compatible with wilderness concepts. DEC policy encourages these activities as part of a larger wilderness experience, not just a quest for game (Doig, 1976).

The number of people/wildlife conflicts has risen proportionately to the number of visitors in the HPWC. Habitat areas heavily used by wildlife are often also choice locations for human trails and campsites. (Hendee and others, 1990) Where people habitually camp, such as at Lake Colden and Marcy Dam, bears often scrounge for food and garbage. Domestic pets, mainly dogs, may harass and stress wildlife.

Objectives:

- ! Re-establish self-sustaining wildlife populations of species that are extirpated, endangered, threatened or of special concern in habitats where their existence will be compatible with other elements of the ecosystem and human use of the area.

- ! Monitor and afford extra protection, where warranted, to species which are endangered threatened or of special concern that are currently using the HPWC.

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- ! Maintain and perpetuate annual hunting and trapping seasons as legitimate uses of the wildlife resources compatible with wilderness recreation.
- ! Provide information, advice and assistance to individuals, groups, organizations and agencies interested in wildlife whose activities and actions may affect, or are affected by, the wildlife resources or the users of wildlife.
- ! Develop and implement protocols, procedures and philosophies designed to minimize, alleviate and respond to nuisance wildlife complaints in wilderness areas.

Management Policies and Actions:

- ! Study the feasibility of reintroducing spruce grouse into historical range and if habitat conditions are favorable and a suitable source for birds is found, commence with a reintroduction and monitoring program.
- ! Monitor peregrine falcons and bald eagles for nesting activity. Produce informational materials and signs to educate rock climbers that falcon nesting is occurring in certain sites and that climbing will be prohibited at these sites during nesting.
- ! Monitor osprey nesting to assess success and production.
- ! Monitor moose that enter the area through visual observation, reports from the public and by radio collaring moose whenever the opportunity presents itself.
- ! Continue pelt sealing of species to determine level of harvest, guarding against over harvest for species especially vulnerable to trapping (marten and fisher).
- ! Stress the wilderness aspect of hunting in the HPWC by refraining from developing programs that would attract additional hunters to high use areas.
- ! Promote education efforts according to High Peaks CAC recommendation stressing multiple use and hunting seasons that are concurrent with other anticipated uses of the area. Advise non-hunters of the fact that there is hunting in the wilderness area so that they may dress and act accordingly during the hunting season.
- ! Advise visitors to the HPWC that the potential for conflict with wildlife exists and suggest means of avoiding conflicts.
 - P Distribute information regarding avoidance of wildlife conflicts.
 - P Train interior staff of nuisance avoidance procedures so that they may inform HPWC visitors.

- P Provide assistance to operations unit regarding water control structures used to address beaver flooded trails.
- P Require wilderness users to store their food and toiletries properly in order to minimize attracting wildlife, ensure a high quality wilderness experience for visitors, and prevent personal injury and property damage.
- ! Develop a plan and protocol for addressing nuisance bear problems in the unit.

FISHERIES

Fisheries objectives and activities in this plan conform to the 1993 DEC document titled "Fishery Management in Wilderness, Primitive and Canoe Areas - Amended 11/02/93." These guidelines were to assist with interpreting the intent of APSLMP language on this topic. Numerous citizen groups provided input (see Appendix 14).

BROOK TROUT

Current Situation

Wild populations of brook trout exist in Beaver Pond, Brueyer Pond, Moose Pond (R-P 221), Newcomb Lake, Seward Pond, Little Pine Pond, Unnamed Pond (R-P 5163), and in an unknown number of the small, unnamed, beaver ponds in the Cold River and Calkins Brook watersheds. Wild brook trout are also common in small streams of the area. Historically, brook trout were indigenous to most of the unit's waters. Wild populations began to decline in the late-1800's, which spurred widespread stocking efforts by the state and private sector. Due to these stocking efforts, it is uncertain whether any wild trout populations in the HPWC can be regarded as unadulterated native strains.

Nonnative fish species introductions have contributed to the elimination of historical brook trout populations from Round Pond, Corner Pond, Big Pine Pond, and Little Ampersand Pond. Long Lake was once famous for its brightly-colored, large brook trout. The introduction of yellow perch, smallmouth bass and northern pike to Long Lake resulted in a notable decline of brook trout by 1880 (Engels, 1978). It is likely that Pickerel Pond, Rock Pond (R-P 196), Lower County Line Pond, Mud Pond and the other small ponds in the Raquette River watershed (downstream of Long Lake) supported native populations of brook trout. However, these waters were also invaded by nonnative species in the late 1800's and no record exists of their prior fish community.

Nonnative species introductions continue to jeopardize populations of brook trout in the HPWC. The wild trout population in Brueyer Pond is threatened by the recent establishment of nonnative golden shiner in Upper Brueyer Pond. Competition from nonnative species and native but widely-introduced (NBWI) species has reduced the

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abundance of wild brook trout in Little Pine Pond. Recent anecdotal accounts suggest that poachers have introduced nonnative species to Palmer Pond.

Brook trout populations in many ponds now depend upon annual stocking. Siltation, beaver activity, interspecific competition and predation reduces spawning success in these waters. It is not technically feasible to reclaim many of these ponds due to the presence of large wetlands, long tributary systems, numerous springs and/or lack of a fish barrier dam site. Nevertheless, stocked brook trout survive and such waters contribute to maintaining the tradition of angling for brook trout in remote Adirondack ponds. Stocking, therefore, helps preserve the ecological integrity of the unit and can provide excellent angling that reduces pressure on native populations.

Angler harvest does not threaten brook trout. Season and bag limit regulations restrict harvest to levels commensurate with maintaining adequate population levels. Use of fish as bait is prohibited in trout waters, which slows the spread of undesirable bait species.

Acid precipitation has extirpated brook trout from Avalanche Lake, Lake Colden, Upper Wallface Pond and the Flowed Lands. Liming has helped preserve trout populations in Owl Pond, Livingston Pond and Little Ampersand Pond. See Appendix 15 for detailed discussions concerning all these waters.

Wild brook trout populations in ponds have declined drastically from their historical status throughout the Adirondacks. This decline is apparent in the High Peaks, but is not as severe as most other units. As compared to more accessible ponds at lower elevations, the rate of nonnative species introductions has been moderately low. The remoteness of many HPWC ponds contributes to the reduced rate of undesirable species introductions. Remoteness also enhances the chances that management actions specified in this UMP will reduce the frequency of future actions needed to restore wild trout populations.

Assumptions

Without proactive management actions nonnative and NBWI fish species will continue to accrue within the unit, to the detriment of wild brook trout populations.

As usage of the HPWC increases, and as usage is directed away from the core area around Mt. Marcy, more people will utilize remote brook trout ponds. Awareness of the wild trout resource will increase via distribution of this UMP and other informational packages.

Degradation of spawning habitat, and an abundance of competing and predacious fish species, severely limit natural brook trout reproduction. Therefore, the populations of many of the unit's brook trout ponds require maintenance by an annual stocking program.

Pond fishing for brook trout is the main angling activity in the HPWC. Maintenance of as many ponds as is practical as quality, wilderness fisheries will distribute angling pressure and reduce chances of anglers focusing on a few "blue ribbon" fisheries.

Objective:

- ! To preserve, enhance and restore populations of native brook trout in the area.

Management Policies and Actions:

- ! Efforts will be made to increase the abundance of the depressed native brook trout, through reduction in the distribution of nonnative and NBWI species, while maintaining the security of all other native fishes. Such efforts also may include special fishing regulations, prohibition on the use of bait fish, stocking, liming, and reclamation. Although it is known that beaver activity can inhibit brook trout spawning success, active beaver control measures will not be attempted on HPWC ponds.
- ! Heritage strains of brook trout will be stocked initially in HPWC ponds that are reclaimed or newly limed.
- ! Fish barrier dams will be constructed, as necessary, to prevent the spread of undesirable fish species from downstream waters to reclaimed ponds.
- ! Rock Pond (R-P 196) will be reclaimed to eliminate the nonnative golden shiner and to greatly reduce or eliminate the abundant NBWI populations of brown bullhead, creek chub, and pumpkinseed. There is no need to reintroduce other native species, as any species that may be eliminated from Rock Pond is common throughout the unit.
- ! Brook trout were eliminated in Corner Pond (UH-P 686) and its adjacent, unnamed pond (UH-P 686A) when the nonnative yellow perch were introduced. Reclamation is contingent upon the presence of a natural barrier or a suitable site for barrier dam construction. Permission to reclaim these ponds must be obtained from SUNY ESF. Longnose dace, captured in a 1963 survey of Corner Pond, prefer flowing water habitats. The species probably occurs in many unit streams. The one-time capture of longnose dace in Corner Pond is considered an anomaly and the species would not be reintroduced after reclamation.
- ! The brook trout population in Brueyer Pond is jeopardized by the presence of the nonnative golden shiner. A barrier survey will determine whether reclamation is technically possible. If these ponds are reclaimed, northern redbelly dace would be reintroduced along with brook trout.

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- ! Brook trout populations in Latham Pond and Little Pine Pond are reduced due to high levels of interspecific competition from NBWI species. Barrier site surveys will determine whether reclamation is technically possible. If Little Pine Pond is reclaimed, northern redbelly dace would be reintroduced along with brook trout (see section on Native Fish Communities). Finescale dace would be stocked along with brook trout in Latham Pond in order to maintain the population of that species within the unit.
- ! Brook trout and lake chub populations in Palmer Pond were threatened by the activity of poachers during the winter of 1993/94. If future survey work confirms suspicions that nonnative or NBWI species are now present, Palmer Pond will be reclaimed. Brook trout and lake chub will be reintroduced after the reclamation.
- ! Liming will be conducted on Upper Wallface Pond, provided that water body meets all the criteria specified by DEC's FEIS on liming. Liming will improve water chemistry conditions sufficiently to permit stocking of brook trout. Thereafter, routine water chemistry monitoring will determine when maintenance liming will be necessary to sustain adequate pH levels.
- ! Liming will be conducted on Livingston, Owl and Little Ampersand Ponds to maintain current populations of brook trout. Owl Pond will be limed provided that it meets all the criteria specified in DEC's FEIS on liming. Livingston Pond and Little Ampersand Pond are listed on page 6 of DEC's FEIS as being exceptions to the flushing rate criterion of 2 times/year or less. These two ponds will be limed provided they meet other DEC liming criteria. Water chemistry monitoring will be conducted periodically to determine when pH levels drop below 6.0 and maintenance liming will be required. These ponds will be retreated as necessary consistent with the guidelines found in the Policy statement on Fisheries Management in Wilderness, Primitive and Canoe Areas. See Appendix 14.
- ! Trailhead signage will be posted to advise anglers of the prohibition of the use of fish as bait in unit trout waters. Bait fish signs will also be posted at the Cascade Lakes, Newcomb Lake and Moose Pond (R-P 221).

ROUND WHITEFISH

Current Situation

Round whitefish are listed as an endangered fish species by New York State. They are known to occur in only six waters statewide, four of which are located in the High Peaks Wilderness. The largest known population in the unit occurs in Lower Cascade Lake, with minor populations occurring in Upper Cascade Lake, Newcomb Lake and Moose Pond. Round whitefish were historically widespread in the Adirondacks, particularly in larger, deeper lakes. Known as "frostfish", the species was widely stocked

around the turn of the century as natural populations began to disappear. The decline of the species is most likely attributable to nonnative species introductions and habitat degradation. Round whitefish are a common, holarctic species. They coexist with lake trout and brook trout in northern Canadian waters. New York state is part of the extreme southern range of this species.

Assumptions

The four remaining round whitefish populations in the High Peaks are vulnerable to continued introductions of nonnative and NBWI species.

It is known that the species is relatively easy to propagate in hatcheries and can be successfully introduced into other water bodies (see Appendix 15, Lower Cascade Lake).

Subspecies or distinct strains of round whitefish have not been described or mentioned in the technical literature. Given the above, and the fact that there were widespread stocking efforts around 1900, it is unlikely that genetically distinct populations of this species exist in New York.

Objective:

! To preserve, enhance and restore round whitefish to selected High Peaks ponds.

Management Policies and Actions:

- ! Round whitefish are protected under New York State law and cannot be harvested by fishermen. This regulation will remain in effect until the species is delisted by New York.
- ! Where practical, round whitefish populations will be enhanced and restored in suitable waters in the HPWC. In waters where enhancement or restoration is not feasible, preservation efforts will focus on maintaining current population levels.
- ! Survey work will be conducted on Upper Cascade Lake to assess the current status of the round whitefish population. If this population is now extirpated or exists only in low numbers, Upper Cascade Lake will be reclaimed with rotenone and round whitefish will be reintroduced. The source of the round whitefish will be fish captured or propagated from Upper Cascade Lake or from Lower Cascade Lake. When round whitefish have re-established in sufficient numbers, native strains of brook trout, lake trout and lake chub will also be reintroduced.
- ! The round whitefish population in Lower Cascade Lake will be utilized as an egg source for other waters. Trapnetting of spawning fish in December 1992 established that the species is thriving in Lower Cascade Lake. However, if

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competing species threaten or eliminate round whitefish in the future, Lower Cascade Lake will be reclaimed with rotenone and round whitefish will be reintroduced.

- ! Newcomb Lake and Moose Pond will be periodically monitored to assess the status of native species. These lakes are too large to reclaim in the event a deleterious species becomes established. Management efforts will focus on preserving adequate population levels of round whitefish. The regulation prohibiting use of fish as bait will be continued.
- ! Big Pine Pond will be considered as a possible round whitefish raftage in the event that management efforts fail in the Cascade Lakes, round whitefish would be stocked in an effort to establish a new population. Big Pine Pond is not a reclamation candidate because it is desirable to maintain the native lake trout population.
- ! Another candidate raftage for round whitefish is Heart Lake. This lake is located on property owned by the Adirondack Mountain Club near their Adirondack Loj adjacent to the HPWC. Heart Lake was surveyed by the ALSC in 1985. It's maximum depth is 55 feet, dissolved oxygen and pH are suitable for fish at all depths, and the substrate varies from boulder to sand. Heart Lake's native fish community consists of brook trout, brown bullhead, white sucker and lake chub. Permission to stock round whitefish will be sought from the Adirondack Mountain Club.
- ! Signage warning anglers that it is illegal to harvest round whitefish will be posted on area waters with the species. These signs will be informative in nature and include a picture of the species.

LAKE TROUT

Current Situation

Native lake trout populations currently exist in Big Pine Pond, Moose Pond (R-P 221) and Newcomb Lake. Apparently, lake trout were introduced into Dawson Pond sometime after 1931 from an unknown source. Lake trout were present in Upper Cascade Lake in 1951, but have not been caught in subsequent survey efforts. The four waters which now contain lake trout appear to have stable populations. Big Pine Pond is a popular fishery for the species. Other than the lakes already mentioned, no other HPWC waters appear to have suitable habitat for this species.

Historically, lake trout were found throughout the Adirondacks in the larger, deep water lakes. The species has suffered some declines due to chemical contaminants and deleterious trends in water quality. Lake trout are not as threatened by the introduction of

nonnative species as brook trout. However, the introduction of warm water predators such as small mouth bass and northern pike into some waters around the turn of the century resulted in a diminishment of the average size and number of lake trout (or their extirpation). This may have occurred due to predation on young lake trout and/or the elimination of native forage minnows (Plosila, 1977).

Assumptions

Lake trout population levels will remain stable in HPWC waters due to wilderness restrictions which will maintain suitable water quality.

Angling pressure on lake trout will remain at or near present day levels. Unanticipated increases in fishing pressure can be managed via regulation changes.

Objective:

! To preserve and enhance indigenous populations of lake trout.

Management Policies and Actions:

! Lake trout will be managed to preserve current population levels in unit waters.

! Lake trout will be restored to a water where the species has been extirpated. Reintroduced lake trout will be propagated from a native Adirondack strain.

! Lake trout will be reintroduced to Upper Cascade Lake, if that water body is reclaimed to restore a round whitefish population. Lake trout would be stocked after the round whitefish have established a stable population.

! Lake trout populations in other unit waters will be monitored during routine fishery survey efforts.

FISHLESS PONDS

Current Situation

Lake Arnold, Lake Tear of the Clouds, Lost Pond, Rock Pond (R-P 231), Scott Pond, unnamed pond (CH-P 263), and unnamed pond (CH-P 5138) are examples of naturally barren waters in the HPWC. These seven waters (totaling about 18 acres) are remote, high altitude, shallow ponds with natural barriers on their outlets. Such water bodies are prone to winterkill and most are acidic. None of these waters has a stocking history, all have been surveyed or are known to be historically fishless. It is likely that other ponds in the HPWC (including Moss Pond, Black Pond (UH-P 696) and several unnamed ponds) also fall in this category, but have never been surveyed to confirm that assumption.

Assumptions

Naturally barren waters may support populations of invertebrates or amphibians which are suppressed or extirpated in ponds with fish communities. Maintaining examples of these communities enhances the diversity of the High Peaks Wilderness.

Naturally barren waters were historically uncommon in the Adirondacks. Chemical/physical characteristics and remoteness continue to sustain such waters despite the natural dispersal behavior of fishes and the long history of deliberate or unintentional introductions by man.

Objective:

- ! To preserve waters found to be naturally barren of fish species. These are historically fishless waters that have no known stocking history.

Management Policies and Actions:

- ! Naturally barren waters will not be stocked with brook trout nor with other depressed native fish species.
- ! Unit-wide prohibitions on the use of fish as bait will guard against inadvertent introductions of baitfish species.
- ! The seven known fishless waters will continue to be managed to preserve the ponds as naturally barren waters.

NATIVE FISH COMMUNITIES

Current Situation

The High Peaks, as compared to most other wilderness and wild forest areas in the Adirondacks, has a high proportion of native fish communities. Of 36 ponds with known fish communities, 22 (61%) are comprised solely of native species. It is likely that many of the 71 unknown ponds in the unit contain native fish assemblages. Native species found in the unit are brook trout, lake trout, round whitefish, white sucker, lake chub, blacknose dace, northern redbelly dace, common shiner, redbreast sunfish, longnose dace, longnose sucker, finescale dace, creek chub, pumpkinseed and brown bullhead. The latter three species have been labeled as native-but-widely-introduced or NBWI. Creek chub and pumpkinseed have been commonly introduced via the bait pail to many ponds. The brown bullhead is popular with anglers and is particularly hardy and prolific. Besides brook trout, the NBWI species and white sucker are the most widely distributed native fish in the HPWC. The latter four species are found in 13 to 15 waters apiece. Other native species mentioned above occur within 1 to 5 waters in the unit. A detailed ecological analysis for each species will appear in Appendix 12. In general, NBWI species continue

to accrue within unit waters. The number of waters with NBWI species has increased by roughly 50% since 1970. White sucker are also more common than historically, pre-1970 data indicates the species was found in 14 waters, while today it is present in 16 waters. Other native species have remained stable within the unit.

Nonnative species occur in 14 of 36 known fish communities in the HPWC (39%). Native cyprinid populations are depressed or extirpated in many of the communities containing nonnatives. As with native communities, however, the NBWI species continue to accrue within such mixed communities. Reclamation activities listed in the section on brook trout could severely reduce the abundance of northern redbelly dace and finescale dace within the unit unless mitigative actions are taken. Reclamation of Upper Cascade Lake (for round whitefish) and Palmer Pond would cause a moderate reduction in the abundance of lake chub (from 4 lakes to 3) in the unit. Reclamation would also reduce the abundance of NBWI species within the unit to levels commensurate with their historical occurrence. Successful reclamations and limings would also increase the number of native fish communities within the unit from 22 to 27 by elimination of nonnative species and/or establishment of native species in acidified waters.

Assumptions

Nonnative and NBWI species will continue to accrue within unit waters to the detriment of native cyprinids, brook trout and round whitefish.

Proactive management actions are required to slow the spread of undesirable species to additional native fish communities and to rehabilitate a limited number of waters which possess attributes necessary for successful reclamation.

Selected native cyprinid species can be stocked in conjunction with brook trout without adverse effect on either species.

Objective:

- ! Maintain the native fishes within the unit. There should be no net loss of native species to the entire unit, although fish community composition in individual waters may vary from no fish to polycultures.

Management Policies and Actions:

- ! Reclamation and liming activities listed in the section on brook trout and round whitefish can serve the dual purpose of maintaining selected native species. Finescale dace, northern redbelly dace and lake chub will be reintroduced in some waters after reclamation.

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- ! Northern redbelly dace will be reintroduced to Brueyer Pond and Little Pine Pond if these waters are reclaimed.
- ! Finescale dace will be reintroduced to Latham Pond if that pond is reclaimed.
- ! A native fish community consisting of round whitefish, lake chub, brook trout and lake trout would be reintroduced to Upper Cascade Lake after reclamation.
- ! Lake chub will be reintroduced to Palmer Pond if that pond is reclaimed.

FIRE MANAGEMENT

Current Situation and Assumptions:

DEC is required by law (Article 9 ECL) to suppress all human-caused or natural fires. There is no "let burn" wildfire policy in effect. The law, written over 75 years ago, does not recognize that fire is a natural process necessary to perpetuate certain plant and animal communities in wilderness. Consequently, managers are required to suppress all fires, natural or man-caused. Fire activity in the HPWC has been historically low since the wildfires of 1903 and 1908 which were partially fueled by several thousand acres of pre-Forest Preserve logging debris. Precipitation is abundant throughout the unit, although short-term droughts do occur. Thunderstorms are frequent and are generally accompanied by heavy rains. Forest fuels tend to decompose rapidly in the humid environment of the HPWC. The high elevation vegetative types are not conducive to frequent fire activity. However, there are charred charcoal logs, stumps, and scars on trees which attest to past fires. A significant change in forest composition from a predominately coniferous forest to a hardwood forest has lessened the likelihood of major fires. Unattended and improperly located campfires are commonly encountered.

Objectives:

- ! Detect and suppress all fires in the HPWC as required by law.
- ! Reduce, to acceptable levels, the risks and consequences of fires escaping from the HPWC to adjacent lands.
- ! Adopt light handed, "minimum tool", fire suppression tactics and methods that accomplish fire suppression with the least environmental impact on wilderness resources.
- ! Reduce or eliminate campfires in the HPWC.

Management Policies and Actions:

- ! Aerial detection patrols will be flown on days of very high and extreme fire danger.
- ! During period of very high or extreme fire danger, the Governor or his designee may close all or portions of the wilderness to public use (ECL §9-1101).
- ! Suppression strategy and tactics employed for all fires shall contain strong consideration for impacts on wilderness.
- ! Helicopter and fixed wing aircraft, chain saws, portable pumps, and other necessary equipment are appropriate for fire suppression by the authority and approval of the Commissioner or his designee.
- ! Fire suppression and mop-up tactics will be commensurate with the fire's potential or existing behavior, yet leaves minimal environmental impact after application.
- ! Fires will be suppressed using natural control features (ridges, rivers, vegetation changes) whenever possible.
- ! After-fire measures should include rehabilitation of fire lines with native species, water bars on steep slopes, removal of flagging, equipment, litter, and obliteration of fire camps and staging areas.
- ! Continue to emphasize fire prevention in education and information programs and explain the role of natural fire as it relates to past fires and present day HPWC ecosystems.

SEARCH AND RESCUE

Current Situation and Assumptions:

DEC's forest rangers have back country search and rescue responsibilities as prescribed by law. The High Peaks region has a moderately busy search and rescue workload given the number of people using the area, its terrain, and weather. Search and rescue (SAR) arises whenever people go into remote areas to seek recreational pursuits. It is especially true in the High Peaks when people visiting the area are generally from urban areas and bring with them preconceived ideas about wilderness and what will happen to them if there is an injury. Most visitors don't consciously think about the consequences of a mishap, and in their minds, most assume that they will be rescued immediately if there is a problem.

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There is no characteristic pattern or time frame of occurrence; however, many take place during periods of cool-wet weather when visitors are prone to hypothermia. Search and rescue operations are costly. Most unpleasant situations can be avoided if visitors take personal responsibility for their own safety.

Established policy commensurate with the APSLMP, states conditions under which motorized use, equipment, and mechanical transport may be used in cases of sudden, actual, and ongoing emergencies involving the protection or preservation of human life or intrinsic resource values. These conditions lists emergencies where the situation involves inescapable injury, need for speed beyond that available by foot. Categories include health and safety, removal of injured or deceased persons. Special considerations are given for using the "minimum tool" to accomplish the job.

Aside from these general policy guidelines, there is no written preplan to guide the specific search and rescue needs of the HPWC. A preplan helps to bring order in any situation, reduce confusion in the initial stages of search and rescue and makes for more efficient response time. A HPWC preplan should envision every type of emergency that could possibly happen in the area and give reference to the past history of similar search and rescue incidents in the area. Its core elements can apply to any situation whether it involves a mountain rescue, a fisherman stranded by high water, a lost person, or a hiker on a trail after dark without a light.

There is a growing need to address greater attention to preventative search and rescue through information and education materials and by personal contact with visitors.

Objectives:

- ! Recognize the legitimate need for search and rescue activities in wilderness.
- ! Provide for more efficient response time to search and rescue incidents.
- ! Increase back country safety education and awareness to prevent the need for rescues.
- ! Reduce or eliminate impacts to the wilderness from search and rescue operations.
- ! Develop a "light-handed" approach to search and rescue operations; do the minimum necessary to effectively complete the mission.

Management Policies and Actions:

- ! Pursuant to the APSLMP (1987) present policy on wilderness intrusion during search and rescue operations will remain in effect.

- ! Prepare a detailed search and rescue preplan for the HPWC as an appendix to this plan.
- ! Maintain and improve level of preparedness for search and rescue.
- ! After search efforts will include removal of plastic flagging, string, or other evidence from search areas following termination of the search in order to reduce visual and physical impacts. Use biodegradable string and flagging.
- ! Safety precautions will be included in all DEC information and educational materials. All DEC staff will communicate back country safety practices to visitors in order to prevent the need for rescues. Place emphasis on prevention; greater visitor preparedness and awareness, and user responsibility.

HUMAN IMPACT

CULTURAL RESOURCES

Current Situation and Assumptions:

No large scale inventories of historical sites have been completed. Few cultural resources have been identified to date.

Objectives:

- ! Preserve cultural resources.
- ! Locate and inventory known historical sites.
- ! Cooperate with other agencies that may have cultural resource interests in the HPWC.
- ! Educate users about the significance of HPWC cultural resources by means outside the HPWC.

Management Policy and Actions:

- ! Initiate inventories of known and potential cultural sites. Survey and document known locations. Establish and maintain a cultural resource information data base.
- ! There will be no new commemorative features, such as interior signs, plaques or markers depicting cultural sites. Existing ones may remain in place.
- ! With the exception of on-site interpretation by forest rangers and staff, interpretation of cultural resources shall be done outside of the wilderness.

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- ! Coordinate all activities affecting these cultural resources through the regional office, DEC's principal archeologist, the State Museum, and the NYS Office of Parks, Recreation, and Historic Preservation.

SPECIAL EVENTS AND CONTESTS

Current Situation and Assumptions:

Many segments of the HPWC have been used for foot, ski, and snowshoe races, orienteering contests, survival contests, large gatherings, Olympic training exercises, and other activities of this nature. No military exercises are permitted in the unit. Such events and activities are not compatible with APSLMP direction to preserve natural conditions and wilderness character. These activities do not depend on a wilderness setting, and may cause impacts that degrade wilderness character adversely affecting wilderness-dependent uses and users.

Objective:

- ! Refer non-dependent wilderness activities to suitable wild forest areas outside the HPWC.

Management Policies and Actions:

- ! No permits will be issued for organized or large group contests, training programs, or events in the wilderness.
- ! Suggest and provide information about suitable wild forest alternatives for organized activities and address same through applicable Revocable Permit procedures.
- ! Continue prohibition on military exercises in wilderness.

LAW ENFORCEMENT

Current Situation and Assumptions:

DEC attempts to control and reduce the adverse physical and social impacts of human use in the HPWC through education and minimum regulation. If the latter approach does not achieve desired user behaviors, direct restrictive law enforcement measures are employed. The most common violations deal with illegal motor vehicle entry (ATV's), tree cutting, littering, camping too close (less than 150 ft.) to water, trails, or roads except in designated sites, failure to obtain required permits, or violating group size requirements. Many minor violations are due to unskilled actions and/or uninformed behavior rather than maliciousness.

Objectives:

- ! Provide for wilderness resource protection through law enforcement activities when education and information efforts fail.
- ! Provide law enforcement at a level commensurate with wilderness objectives and situations.

Management Policies and Actions

- ! Promote greater education and information to reduce violations and improve visitor behavior and understanding.
- ! If indirect educational management techniques do not achieve desired results, use more direct restrictive measures at the lowest level of enforcement to achieve compliance.

RECREATION MANAGEMENT

WILDERNESS EDUCATION AND INFORMATION

Current Situation and Assumptions:

Many of the foregoing resource and social impacts listed in this plan suggest a combination of wilderness education and information programs are needed to gain cooperation of wilderness users in helping solve management problems and to reduce impacts and improve visitor experiences. By themselves, education and information programs are not a panacea for all wilderness ills; instead they become a foundation on which other programs are built and incorporated.

Demand for information on the High Peaks is great. A majority of inquiries about the Adirondacks in general are directed towards the HPWC. This is because the High Peaks region has become synonymous with the Adirondacks for many potential and first-time visitors. Aside from international attention gained from the 1932 and 1980 Olympics, nearby Lake Placid was a popular resort by 1900, and the first hiking guides to the Adirondacks by the Marshalls, O'Kane, and of course the Adirondack Mountain Club focused only on the High Peaks when describing "Adirondack Trails" (Goodwin, 1994). The DEC has found that the majority of HPWC visitors did not receive basic wilderness information prior to a planned trip. Instead, many visitors after arriving at the doorsteps of the HPWC, had to rely on trailhead information bulletin boards, private sources, and chance interior contacts with other hikers or roving DEC staff on patrol. This is a critical issue because compliance with rules and regulations and safety requirements is higher if potential visitors are properly informed before entering the HPWC. This is because

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information provided outside of the wilderness in the pre-trip planning phase allows visitors to adjust to recommended guidelines and restrictions early in the decision process.

Many of today's visitors lack a basic understanding of DEC rules and regulations and are unaware of minimum impact procedures. Thus, they do not realize what effects their activities are having and what traces of their visit are left behind. A more active visitor education program is needed to minimize impacts, not just on the resource, but also on other visitors. For example, users need to understand ahead of their visit why they should be camping at least 150 feet or more from water, roads, or trails, except at DEC designated sites, or why they should not build wood fires above 4,000 feet in the alpine zone, or why they need to travel in small groups. People need to know what happens when they pollute a stream and how to prevent it. The success of the "pack it in - pack it out" litter control program is a good case in point (Hendee, 1990). Wilderness education and information lessens the impact on the resource and saves tax dollars (United States Forest Service (USFS) - Wilderness Ranger Field Guide, 1993). There is a need to foster "LEAVE-NO-TRACE" ethics and techniques on proper wilderness use; education and information to change old habits and shape new ones (Hansen, 1993). Regulations are most often used as the tool of last resort when education has failed to gain compliance or users choose to ignore the rules.

DEC relies primarily on personal contacts by staff, trailhead bulletin boards, signage, and a limited number of maps and brochures to meet this challenge. Overwhelmed by demands for information, DEC also relies on the many education and information services afforded by cooperating state agencies such as the Adirondack Regional Tourism Council (ARTC), Adirondack Park Visitor Information Centers, organizations like the Adirondack Mountain Club, guidebook authors, and a multitude of private individuals. This has been done without the benefit of a formal wilderness education and information plan targeting the incredible gamut of High Peaks visitors ranging from first timers to repeat visitors. As a preliminary step in education and information, DEC is preparing a draft Adirondack Forest Preserve Public Use and Information Plan to address many of these issues.

Visitors who do request information often face many challenges. Since DEC offices are only open weekdays during normal business hours, it is difficult to get information on weekends or after hours. There is no central telephone number to get up-to-date accurate travel and safety information. Information that can be easily referenced is not always available to DEC support staff who greet and talk to visitors on a regular basis. Trailhead information bulletin boards which many staff consider the best avenue to reach

someone short of personal contact, vary in design and in the type and quality of information presented. A growing number of French-speaking and Hispanic visitors, who represent almost one-fifth of all visitors, have requested DEC communicate wilderness information and education materials in French and Spanish. Chambers of Commerce, travel agents, and local businesses frequently request High Peaks information and a list of alternative forest preserve areas for their clients.

Maps, brochures, bulletin boards, etc. (written information) should be considered complementary to the existing personal educational programs now in effect and must not replace the need for interactive field and outreach programs performed by DEC staff.

Objectives:

- ! Develop an information and education strategy that uses a combination of techniques to provide good useful information, at the right time, to the right audience, by reputable sources.
- ! Emphasize educating the public before they enter the HPWC
- ! Reduce impacts on the HPWC through proper education and information.
- ! Promote wilderness ethics, "LEAVE-NO-TRACE" techniques, and gain acceptance and understanding of applicable wilderness restrictions and regulations.
- ! Help visitors decide how their needs are best met by a trip to the HPWC or elsewhere.
- ! Divert non-dependent wilderness activities and users to alternative areas through better information and education materials that explain the range of opportunities and experiences available on state land.
- ! Coordinate education and information efforts with outside groups, organizations, resorts, outfitters, regional tourism councils, Chambers of Commerce and other interested parties.

Management Policy and Actions:

- ! Develop a strategic education and information plan for the HPWC in coordination with the pending draft Adirondack Forest Preserve Public Use and Information Plan.
- ! Fully inform the public of pending rule and regulation changes relative to High Peaks use at least one year in advance of enactment through DEC's Office of Public Affairs.

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- ! Create information systems that allow visitors to easily receive information needed prior to a planned trip. As part of this system, establish a central DEC clearinghouse for HPWC information connected by a "1-800" or self-sustaining "1-900" telephone system and expand DEC's Internet Connection.
- ! In the pending draft Adirondack Forest Preserve Information and Public Use Plan, provide information on lesser used portions of the HPWC, lesser used wilderness areas, and wild forest areas.
- ! Develop a general location map with a reverse side of the map portraying travel tips, minimum impact techniques, and essential regulatory and safety information for public distribution. Persons seeking detailed trail information will be referred to appropriate USGS maps and guidebooks.
- ! Standardize trailhead information shelters to the minimum necessary to include all of the pertinent information without being so small that the presentation of the information is cluttered. Shelter design will be commensurate with the access point's degree of development and use.
- ! Use shelter designs flexible enough to allow information materials to be changed and updated seasonally.
- ! Do not use shelters to dispense large quantities of pamphlets or other materials that will pose a litter problem; however, they should provide a list of available literature and contact source for that information.
- ! Visitor educational and information programs, signs, and poster boards will normally be located outside or near the wilderness boundary. An exception to this general rule is that informational and/or regulatory signs may be temporarily placed at interior locations as a management tool to correct site specific problems. These signs will meet "minimum tool" standards.
- ! Train front desk personnel, assistant forest rangers, interior caretakers, summit stewards, and trail crews to provide accurate and consistent information responsive to public needs. In conjunction with this, develop a basic wilderness education/information sheet and individual supplemental sheets which address LEAVE-NO-TRACE principles. This will include information to be used with specific user groups, such as day hikers, campers, rock climbers, etc..
- ! All information materials, including maps, should have accompanying French and Spanish translations.

- ! A pocket size HPWC information card will be printed for "carry-in-hand" distribution for visitors and staff.
- ! Information packets will be presented with all required permits.
- ! Meet with and coordinate delivery of education and information materials through partnerships with cooperating state agencies; especially the Adirondack Park Visitor Interpretive Centers, the Adirondack Regional Tourism Council (ARTC), chambers of commerce, organizations, and the private sector.
- ! Set up semi-annual meetings with State and outside providers to evaluate effectiveness of education and information programs. Determine if the right message is getting across to the right audience at the proper time.

FACILITIES

TRAILHEADS

Current Situation and Assumptions:

The HPWC is served by 20 entry points, 8 of these are situated on private land. A trailhead is defined as the starting or termination point of one or more designated trails at a point of entrance to state land which may contain some or all of the following: vehicle parking, trail signs, and peripheral registration structures (Van Valkenburg, 1986). A trailhead classification system was adopted in 1986 to provide for consistency in their location and development. Class I trailheads are the most developed and are found at the major entrances to the HPWC such as at Adirondack Loj and The Garden. Class II and Class III are encountered at lesser used trails with correspondingly less development. Trailheads located at Adirondack Loj, Ausable Club, Elk Lake, and NL Industries have deeded easements. The trailhead at Adirondack Loj is a special exception in that the State's easement only addresses public trail access; it does not grant deeded public parking rights. Its associated parking facilities are owned by the Adirondack Mountain Club (ADK/DEC, 1964 easement) and the public is charged a daily parking fee. The remaining private trailheads are a legacy of earlier times when the former Conservation Department engaged in temporary easements or verbal agreements for access.

Managing parking at trailheads is a problem particularly at popular trailheads on peak weekends and holidays. When parking lots reach capacity, visitors take to roadsides, trespass on private lands, restrict rights-of-ways, and cause traffic jams and hazards. Illegal, improper and unsafe parking is a problem shared by DEC, the Department of Transportation (DOT), town governments, State Police, and adjoining landowners. Proper

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parking and safe traffic flow is essential to assure access for emergency vehicles. Changes to these facilities or traffic patterns must be coordinated with all affected parties. Both the Towns of Keene and North Elba have established “No Parking” zones on town highways leading to popular trailheads such as at the Ausable Club and The Garden in Keene and on the Adirondak Loj Road in North Elba.

Attempts were made to balance trailhead parking with the carrying capacity of the High Peaks Wilderness (DEC, 1973). However, increased visitation and the absence of enforceable parking controls on many trailhead access roads makes this difficult. This is contributing to undesirable user concentrations at many entry points. This is happening on highways leading to Adirondak Loj, Ausable Club, the Cascades, Elk Lake, The Garden, and South Meadows. These trailheads serve about 80% of all HPWC users and by their geographic location, they indirectly channel many users to the same interior locations. It is necessary to make adjustments and/or restrict entry through some trailheads to reduce crowding and improve safe traffic flow.

Litter is picked up by volunteers and DEC personnel. Adjunct facilities, such as pit privies, trailhead shelters, and signs are provided at the more popular trailheads.

Objectives:

- ! Provide and manage adequate trailhead facilities to protect resource values and to accommodate visitor needs.
- ! Indirectly manage interior use by balancing parking lot capacities to interior visitor capacities.
- ! Prohibit parking on access roads adjacent to parking facilities.
- ! Mitigate parking problems with affected parties.

Management Policies and Actions:

- ! Obtain deeded easements to all private trailheads; include provisions for adequate and safe parking.
- ! Revisit, analyze, and update existing easements to determine improvement needs.
- ! Develop individual special parking plans for Elk Lake, South Meadows, The Garden, Adirondak Loj, and the Ausable Club that incorporate the issues and concerns of all affected parties. Foster cooperation between same. Access roads to these facilities need to be carefully managed if analysis shows overuse and restricted traffic flow.

- ! Establish a DEC presence at all popular entry points during peak use periods.
- ! Schedule routine maintenance of trailheads and litter removal.
- ! Encourage partnerships with local governments and outside volunteers to maintain and snowplow roadside trailhead parking facilities.

TRAILS

Current Situation and Assumptions:

The facilities inventory lists over 303 miles of wilderness trails that have been developed during the past 150 years. It is a complex ribbon-like network that traverses three ecological zones and three management zones. Stewardship of trails across this matrix requires a management approach with distinct maintenance policies and practices applicable to each zone. In this context, trails are viewed as a recreational opportunity spectrum providing different visual settings and experiences for visitors through all seasons. Trail management involves not just the trail itself, but also the corridor it occupies. Trails are not self-sustaining. Once developed, all trails must receive a degree of maintenance; otherwise nonmaintained trails will deteriorate and cause resource problems.

An inventory of HPWC trails was completed in 1984 and 1990 and has been incorporated into a trails classification system, patterned after the U.S. Forest Service's Nationwide Trails Program as endorsed by the U.S. General Accounting Offices, 1989. DEC has incorporated this system into its HPWC trails program and each trail has been assigned a classification number based on its present condition and level of use. Five trail classifications are used in the HPWC ranging from unmarked footpaths (Class I) on through to intensively maintained trunk trails (Class V), such as the Van Hoevenberg trail to Mount Marcy. Trail standards and maintenance prescriptions, reflecting different types and levels of use, are defined for each class in the Appendices. The classification system acknowledges the fact that all trails do not require the same degree nor frequency of maintenance.

Several sections of the HPWC trail network are poorly located, with long stretches of grade three to four times steeper than present acceptable design standards. As grades approach 50 percent, the point of being able to control erosion is passed. Summit trails, with these long steep grades, tend to channel water and create gullies accelerating erosion (Trapp and others, 1994). These are "weak links" in the system and require extensive work and investment. On some summits, such as Ampersand, attempts to find a better route have shown that even if starting with a "clean slate", it's not always possible to find an ideal route (Goodwin, 1994).

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Cables, ladders, and other devices have been used to assist users over difficult routes when trail relocations were not possible. These devices afford some degree of resource protection to curtail trail widening. Questions have been raised concerning liability, high maintenance requirements, and their legitimacy in wilderness.

Undesired trails - illegally cut trails pose problems when certain individuals or user groups cut trails without DEC consent. This occurred on Phelps Mountain when a ski trail, 1.8 miles long, 10-12 feet wide was cut from the summit into Pelkey Brook Basin.

In July of 1996 the Adirondack Trail Improvement Society (ATIS), the Town of Keene, and a private landowner requested the Department relocate the Rooster Comb Trail to a new location south of Keene Valley on Route 73. A project plan was approved by the APA and the trail was completed in 1998 by ATIS with private donations. The new location affords better parking, reduces adjoining landowner concerns, and places the trail on more durable terrain.

Despite significant improvements in the HPWC trail system over the past 20 years, DEC still faces a backlog of unmet trail maintenance and reconstruction on approximately 40% of the unit's trails. DEC uses volunteers and trail contractors to close the gap. Trail maintenance contracts for 1998 exceeded \$50,000. User groups, clubs, and other organizations raise monies for trail work. Contributions come in terms of labor, materials, and planning assistance. Other programs, such as cost-sharing and "Adopt-A-Trail" also help. The use of volunteers and contractors, though effective, has associated costs and other limitations. For example, DEC personnel must devote time to planning and coordination, training, supervision, and logistical support to volunteers. A stipend is given to the Adirondack Mountain Club to partially fund a volunteer trails coordinator in that organization to address volunteer activities on state land. Trail planning is conducted semi-annually between staff, potential trail contractors, and volunteers.

The National Park Service has proposed a 3200 mile North Country Scenic Trail be built, with individual states' support, connecting the Lewis and Clark Trail (North Dakota) with the Appalachian Trail in Maine. One proposal is to route this trail through the High Peaks Wilderness, across the Adirondacks to connector links in the Finger Lakes. APA and DEC have opposed this trail in the HPWC given the unit's high level of visitor use.

One-way trails have been suggested as a means to reduce visitor encounters and ease trail bed burden on the unit's heavily used trunk trails. Field staff state this would not significantly reduce congestion nor ease trail maintenance and would require additional signage and administration.

Large segments of the western zone are not covered by trails, for example the Sawtooth Range covers an extensive area with no developed trails or facilities. Its remoteness and high degree of solitude could be lost if major trail development occurs.

Objectives:

- ! Provide visitors with a trail system that offers a range of wilderness recreational opportunities in a manner that keeps physical and visual trail and resource impacts to a minimum.
- ! Maintain and reconstruct trails to appropriate wilderness standards.
- ! Identify need for trail relocations and/or need for new trails.
- ! Identify potential "trail less" areas to preserve a sense of remoteness and solitude.

Management Policies and Actions:

- ! Formally adopt, as a matter of regional policy, the trails classification and standards system proposed in the Appendices for all trail management activities. Under this system, all developed trails will be maintained, relocated, or reconstructed to specified standards. Wilderness trail maintenance will emphasize resource protection and visitor safety rather than user convenience or comfort.
- ! Trail construction, relocation, or reconstruction activities will not be undertaken in the absence of an approved trail project plan.
- ! Trail maintenance will include removal of downed trees, ditching, clearing of brush, water bar construction and cleaning, bridge repairs and reconstruction in accordance with annual work plans and availability of funds. Bridge repair and construction will occur only in cases where public safety and/or resource protection is jeopardized.
- ! Trail management activities in wetlands and in areas adjacent to wetlands will require consultation with the Adirondack Park Agency to determine if an agency wetlands permit is required.

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- ! Trail sections, vulnerable to excessive damage, which cannot be relocated, will be designated and closed during wet seasons. Postings will be done at trail heads and through the media. Voluntary compliance will be the first strategy employed; mandatory regulation and enforcement will be the actions of last resort.

- ! Ladders may be used to assist users over trails on certain slopes in order to protect soils and vegetation if no alternatives exist . Devices such as cable and ropes are non-conforming improvements (APSLMP, 1987) and will not be added to the HPWC. However the existing cable on Gothics Mountain may remain in place for resource protection, to prevent trail widening, and provide hiker safety until an alternative route is located and developed.

- ! The illegal trail to Phelps Mountain via Pelkey Brook Basin will be closed, brushed-in, signed as a closed route, and allowed to revegetate.

- ! Contractual and volunteer trail maintenance agreements, approved by DEC, will be renewed annually and additional volunteer agreements will be sought.

- ! The North Country National Scenic Trail will not be routed through the High Peaks Wilderness. The NYS Office of Parks, Recreation and Historic Preservation (OPRHP), as lead agency, has suggested it be routed through less congested areas in the southeastern Adirondacks.

- ! Designation of one-way trails will not be used to reduce visitor congestion on popular routes.

- ! Marking informal trails with plastic ribbons, paint, or blazes or other devices without DEC approval will be prohibited.

TRAILLESS PEAKS

Current Situation and Assumptions:

The High Peaks Wilderness has 16 trailless peaks with elevations of 4,000 feet or more. None of these peaks have a DEC designated marked trail to their summit nor do they receive any scheduled maintenance. The peaks have special significance to the Adirondack 46'ers, an association of climbers who have ascended all Adirondack Peaks

above 4,000 feet. The 46'ers have placed canisters with sign-in registration forms on top of many summits to verify ascents. These are illegal under DEC Rules and Regulations, Part 190.8, and non-conforming to the APSLMP. Heightened recreation use and the popularity of being an aspiring Adirondack 46'er is increasing visitations which has led to a proliferation of "herd paths" up, down, and across these summits. The term "trailless" peak is a misnomer due to today's heavy use and impact.

A pilot program, begun in 1997, in cooperation with the 46'ers and the Adirondack Mountain Club to reduce undesired trails on the aforementioned summits was very successful. The most environmentally sound route up Tabletop Mountain was selected, minimally marked with rock cairns, and all extraneous routes were closed and brushed-in. The latter also helped reduce impacts at nearby Indian Falls which was traditionally the point of departure from the Van Hoevenberg Trail to Tabletop. Similar efforts were undertaken on Street and Nye Mountains in 1998.

Objective:

- ! Continue to provide for a unique recreational experience distinctive to the back country of the High Peaks, yet keeps physical and visual trail and resource impacts to a minimum.

Management Policies and Actions:

- ! Maintain the cooperative effort with the Adirondack 46'ers to designate the most environmentally durable route up each peak and close all others to public use.
- ! Designated routes will be assigned Class II status, a marked foot path, with intermittent marking and due consideration given to appropriate layout based on drainage, and occasional blowdown removal to define the route. Remedial maintenance will be employed as required to stem erosion and vegetation loss.
- ! Closed routes will be barred with brush to obliterate unwanted paths and erosion control devices will be put in place where necessary.
- ! Collect better use data and monitor site conditions on so-called "trailless peaks".
- ! Remove summit canisters to comply with ECL and the APSLMP, as trails are upgraded to Class II standard trails.
- ! Continue information and education efforts to promote safety and reduce impacts.

SIGNS

Current Situation and Assumptions:

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Signs are provided to mark trails, minimize impacts, and provide safety information. Signing is kept to a minimum to avoid interfering with wilderness values and guidelines. A sign inventory is maintained for the HPWC; it is updated annually. Currently, Lands and Forests, Operations, and Fish and Wildlife all use signs in the unit. Entrance signs identifying major access points exist at the Adirondak Loj Road, Johns Brook, Upper Works, and Corey's Roads; however, less developed trailheads and much of the wilderness boundary is not well identified. Trailhead signing includes bulletin boards at Adirondak Loj, South Meadows, Long Lake, and The Garden (Keene Valley). The bulletin boards portray topographic maps detailing trail systems, use regulations, minimum impact suggestions, and other pertinent visitor information. Efforts are underway to coordinate trailhead bulletin board signing to be consistent and relevant to resource and user needs. Less developed entrances have register boxes which provide minimal information. Interior signing is limited to trail junctions and special information and regulatory signs.

Progress is being made to reduce overall signing and to use smaller sign boards (6"x 16"). Sign theft and vandalism is a major problem near wilderness boundaries.

Objectives:

- ! Provide for the minimal use of signs necessary to manage and protect the wilderness resource.
- ! Bring current signing into compliance with wilderness standards.

Management Policies and Actions:

- ! Update and maintain sign inventory annually.
- ! Coordinate and review all sign needs through a single area manager.
- ! Signs will be provided for visitor safety and resource protection, not for the convenience of the user.
- ! Signs may be erected at trail junctions, showing directions with arrows; wording will be reduced to the minimum necessary.
- ! No new memorial trail signs or plaques of any kind will be placed in the unit. However, existing ones may remain in place. It will not be the responsibility of DEC to maintain these signs or plaques that have had private sponsorship.

- ! Minimize regulatory signs at interior locations in favor of signs posted at trailheads or access points and published, where feasible, in brochures and maps or otherwise made available to users prior to entry into the unit.

CAMPSITES

Current Situation and Assumptions:

Prior to wilderness designation in 1972, areas were cleared for campsites and lean-tos. Many sites had substantial man-made improvements such as pit privies, picnic tables and stone fireplaces, and garbage disposal areas. Often facilities were clustered together and put adjacent to trails to facilitate access and maintenance. As visitation rose, there was a corresponding rise in campsite construction to meet user demand.

Despite the HPWC's huge size, the land area for environmentally suitable camping is quite small. High elevation eco-types, steep mountains, rock outcrops, wetlands, poorly drained soils, etc., severely restrict camping and intensify the demand for available campsites in valley floors and lakefront locations. For example in the HPWC, campsite suitability diminishes with an increase in elevation due to shallow, highly erodible soils, with poor drainage, and a coniferous tree over story that tends to hold moisture. The APSLMP limits camping to designated sites at elevations between 3,500 and 4,000 feet and prohibits all camping above 4,000 feet because of fragile site conditions.

In some areas, particularly in the eastern High Peaks zone, site density has reached the point where visitor crowding is an issue. Many sites, both designated and impromptu, have been located in areas not capable of sustaining repeated and heavy use. Inexperienced campers have damaged many sites by digging trenches, building rock walls, constructing numerous fire rings, tables, bough beds, and even dammed small creeks near their campsites. Ground vegetation has been cleared and standing trees have been cut for firewood. Several camping areas, such as in the lower Johns Brook Valley, Lake Colden, and Marcy Dam, are located in the same areas used by day hikers - where main travel corridors run through heavily used camping areas.

Demand often exceeds the availability of environmentally suitable sites. When all the designated sites are full, visitors tend to create new sites. It is difficult to keep visitors from using closed sites that have been put to "rest" for recovery or from keeping them from developing new sites immediately adjacent to the closed sites. When this happens designated, closed, and user created sites coalesce into large impacted areas. Such areas can be found at Lake Colden, Marcy Dam, the Johns Brook valley, and near popular lean-to locations where significant resource change has occurred due to long-term concentrated use.

Camping regulations require camping to be at designated sites or locations that are at least 150 feet or more from a road, trail or water. The latter is referred as the "150 foot rule" which permits "at-large" camping subject to those requirements. Currently camping is prohibited on sites above 4,000 feet from April 30 to December 15 of each year to

protect fragile alpine environments. This does not comply with APSLMP requirements that prohibits camping above 4,000 feet at all times. There are no regulations to restrict tent camping or provide separation distances at or near lean-tos.

Without stricter camping controls, it may be difficult for DEC to satisfy its legal mandates to protect wilderness resources as required by the APSLMP. A camping permit system may be eventually required to disperse and limit use in heavily used areas. Camping permits were first suggested by the High Peaks Advisory Committee of 1974. A 1976 DEC report entitled "A Report on Wilderness Nonconformances" supported the 1974 proposal and recommended camping permits for Flowed Lands, Indian Falls, Lake Colden, Marcy Dam and other interior locations if overnight visitation caused over crowding and/or resource damage.

Objectives:

- ! Reduce, eliminate, or mitigate the adverse effects on HPWC resources that result from improperly located campsites.
- ! Comply with the APSLMP campsite standards to disperse use by locating campsites out of sight and sound from each other and generally not less than 500 feet from any other campsite.
- ! Eliminate all camping above 4,000 feet at all times to comply with the APSLMP.

Management Policies and Actions:

- ! An on-going campsite and lean-to inventory and evaluation study in the eastern High Peaks will be expanded to cover all management zones. This study will be used to identify and designate campsites that comply with APSLMP standards by YEAR THREE of this unit management plan. Campsites will be selected on both the physical criteria and the sight and sound criteria of the APSLMP.
- ! Camping will be restricted to designated sites in heavy use travel corridors extending from South Meadows to Flowed Lands, including Marcy Dam and Lake Colden, and at elevations between 3,500 and 4,000 feet. Campers must camp at designated sites in these areas.
- ! A designated campsite is one identified by a DEC permissive sign or disk and campers may not camp in excess of 15 feet of such signs or disks in that particular

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area. Campsites are designated to direct campers to previously used disturbed areas, to define proper camp locations, to disperse use, or limit adverse impacts to resources and other campers.

- ! Outside of the designated camping areas, where visitors select their own place to camp, so-called “at-large” camping will be permitted in accordance with NYCRR, section (b) Part 190.3. This regulation prohibits camping within 150 feet any road, trail, spring, stream, pond, or other body of water except at camping areas designated by the department.
- ! “At-large” camping will not be permitted above 3,500 feet in elevation.
- ! Where terrain permits, designated campsites shall be properly screened and a minimum of 150 feet from water and trails. In no case should they be less than 50 feet from such features regardless of site durability.
- ! All closed sites will be restored. Fire rings, tree stumps and other evidence of past use will be removed.
- ! Annual work plans shall emphasize campsite maintenance and rehabilitation.
- ! Campsites in popular areas will be monitored annually; all campsites throughout the wilderness will be reinventoried every 5 years.
- ! Designated campsite programs for the South Meadows - Flowed Lands corridor and at elevations between 3,500 and 4,000 feet will be monitored and evaluated to determine their effectiveness in reducing resource damage and dispersing use. Results will be included in DEC’s annual progress report to the APA and Forest Preserve Advisory Committee on the implementation of this unit management plan and will be available for public review and comment.
- ! If at-large camping continues in the South Meadows - Flowed Lands Corridor and at elevations above 3,500 feet, or if the designated campsite program is not effective, then additional peripheral controls may be implemented sequentially in the following order after opportunity for public comment.

- (1) Reduce, or otherwise limit, overnight parking to be consistent with the number of available interior campsites.
- (2) Overnight camping permits for all visitors may be considered in the South Meadows - Flowed Lands Corridor and at elevations between 3,500 and 4,000 feet for which a designated campsite program has been implemented. Any permit system would be keyed to designated campsites and initially limited to the high use season, May 15-October 15.

! The department will form a working group in YEAR THREE to develop the structure and implementation process for a camping permit system. The working group will afford opportunity for public input and comment. Final recommendations to the Commissioner of Environmental Conservation will be made no later than YEAR FIVE. The decision to implement a permit system will require an amendment to this plan and will afford opportunity for public review and comment.

LEAN-TOS

Current Situation and Assumptions:

The former Conservation Department erected its first official lean-to in the High Peaks near Feldspar Brook in 1919. Prior to the advent of light weight backpack tents, lean-tos were erected for user convenience and to provide shelter from inclement weather. Over the next 50 years, 93 lean-tos were added to the High Peaks region. The current inventory lists 73 lean-tos. Most of the unit's lean-tos are in the eastern High Peaks, since that area receives the most visitation. The structures were often built immediately adjacent to trails and close to water and firewood sources. They were clustered in scenic areas to accommodate increased visitor demand and to facilitate maintenance. Many were afforded stone and concrete fireplaces, pit privies, and picnic tables.

Lean-to use is heaviest in a range of 1-4 miles from trailheads and declines towards the interior. During the summer season, these sites are generally dominated by novice users and/or large groups. Many do not bring tents nor possess adequate camping gear. This lack of proper equipment and personal shelter causes serious safety problems when all the lean-tos are full and visitors are forced to seek shelter elsewhere. Lean-tos located close to roads and/or having easy access tend to be the focal point of parties and bonfires. Since many lean-tos are situated in clearings or at destination points, they attract tent camping in their immediate vicinity which leads to undesirable user concentrations.

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The APSLMP of 1972 acknowledges lean-tos as conforming structures, provided they meet minimum setback distances (100 ft.) from water and have proper sight and sound separation distances from adjoining campsites or other lean-tos. The APSLMP defines lean-to clusters as non-conforming when more than two closely spaced lean-tos are located within sight and sound of each other and generally separated by less than ¼ mile. The Wild, Scenic, and Recreational Rivers Act deems lean-tos as non-conforming structures in wild river corridors and mandates their eventual removal. Most replacement lean-tos now require air drops of materials which has raised concerns about increased intrusions into the wilderness by aircraft.

From a philosophical perspective, many argue that lean-tos, as a work of man, do not have a place in wilderness. They contend that the variety of light weight backpack tents now available provide reasonable alternatives to lean-tos, afford sufficient protection, and encourage campers to disperse and not to concentrate use in one spot. Others argue that lean-tos represent a cultural legacy and are needed for safety.

Objectives:

- ! Limit existing lean-tos to appropriate locations as prescribed by the APSLMP.
- ! Prohibit the erection of additional lean-tos to comply with wilderness standards for primitive and unconfined types of recreation and to permit better maintenance and rehabilitation of existing structures.

Management Policies and Actions:

- ! Schedule the phased removal of all lean-tos mandated to be removed by the APSLMP and the Rivers Act.
- ! Inventory and evaluate all other lean-tos on a case by case basis as to whether they should be maintained in place, relocated, or eliminated. These decisions will be based on prescribed management criteria and will include consideration of the following: distance from water and trails, soils and drainage, topography, existing use patterns - especially in relation to sight and sound separation distances from other campsites and/or lean-tos, distance from roads and/or trailheads, and strategic locations for safety protection based on past histories of search and rescue efforts in a particular geographic location. If a lean-to cannot be relocated to a legally acceptable site within 1/4 mile of its present location, it will be removed and not replaced.
- ! Relocated lean-tos will be set back a minimum distance of 100 feet or more from the water as required by the APSLMP. This same minimum setback will also apply to trails where feasible.

- ! The maximum capacity of any lean-to site (including associated tent camping) shall not exceed 8 persons in the eastern and western High Peaks zone and shall not exceed 12 persons along the Adirondack Canoe Route.
- ! Communicate facility changes to the public through the media, the unit's information and education programs, trailhead messages, and personal contact.

SANITATION

Current Situation and Assumptions:

Improper waste disposal can affect the environment and the health and safety of wilderness visitors. Water quality protection of area waters is a major concern. Most HPWC use is concentrated around headwater lakes and streams. As this use increases, water quality protection becomes increasingly important. Some hikers have reported contraction of protozoan parasitic diseases, such as giardiasis, from contaminated drinking water sources. Improper disposal of human waste in the back country, coupled with high concentrations of users, compounds this problem. Soaps, shampoos, and other wastes affect the delicate chemical/biological balance of area waters. Soap suds and leftover food scraps can be found on the shores of many lakes and streams.

The "pack it out" policy for litter removal has helped considerably due to public cooperation. However, litter still remains a problem in some areas, i.e. trailhead parking facilities, popular campsite and lean-to locations, shorelines, and in most fire rings. Broken glass and unburned refuse take much expense and time to clean-up.

Proper human waste disposal is of critical importance in regularly visited places. DEC uses pit privies (outhouses) in areas where use levels are usually very high and adequate dispersal of "catholes" - buried wastes - is difficult. The APSLMP requires that all pit privies be located a minimum distance of 150 feet from water. Aside from high elevation sites (above 3,500 feet) having cool, wet, and shallow soils inhibiting decomposition, pit privies can be effective in minimizing health risks and water contamination if they are properly located and maintained. Chemical, vault and composting toilets have not been used in the wilderness. The appropriateness of these toilets in wilderness is questioned (Cole, 1989). Decisions about appropriateness involves tradeoffs about increasing the number and extent of toilet facilities or reducing levels of use in problem areas.

Objective:

- ! Prevent or mitigate the adverse chemical/biological and visual effects that result from the improper disposal of human waste.

Management Policies and Actions:

- ! Information and education efforts and LEAVE-NO-TRACE programs will stress proper treatment of drinking water and the need for proper human waste disposal.
- ! Areas where human waste problems occur will be identified. Use of pit privies in these areas will be reviewed. The alternative of reduced levels of use will be considered.
- ! The "pack it out" policy for litter will be given renewed emphasis. All litter will be bagged and packed out. Users will be encouraged not to burn garbage in fire rings.
- ! Use of any soap or detergent, or the disposal of food scraps in any waters will be prohibited.
- ! Locate campsites where waste disposal will not be a problem (for example, where soil is deep).

CAMPFIRES

Current Situation and Assumptions:

Even though the number of visitors using portable gas stoves is increasing, there are hundreds of campfire rings in existence throughout the HPWC. The proliferation of fire blackened rocks, charcoal, and partially burned garbage, melted and broken glass, hacked trees, and litter has scarred many campsites. With the exception of the alpine and subalpine zones where fires are prohibited above 4,000 feet, campfires can be built almost anywhere. They are being improperly built in parking lots, in the middle of trails, inside lean-tos and trailhead registration shelters, along the immediate shorelines of rivers, lakes and ponds. "There is no question that camp fires have substantial environmental impacts" (Cole and Dalle-Moll, 1982).

Although actual fire sites are quite small, a more serious aspect involves firewood gathering which by itself causes widespread and often severe impacts. This activity greatly increases the area of disturbance around campsites. The disturbed areas can be 10-20 times greater in size than the actual devegetated zone around the campsite. Campfires consume wood which would otherwise decompose and replenish soil nutrients. Excessive firewood gathering has resulted in the removal of all dead and down material, fostered the cutting of live and standing dead trees. The latter are habitats to many cavity nesting birds and insects; pulling off limbs scars campsites for other users. On some popular sites in the Marcy Dam and Lake Colden corridors more than ¼ of the standing trees have been cut for firewood. Unburned refuse left in fire rings has attracted wildlife in search of food and leads to increased human/wildlife conflicts; especially with bears. Officials at Grand Teton

National Park noticed a tremendous improvement in campsite conditions when campfires were prohibited in sensitive areas (Krumpe, 1994).

DEC has attempted to build fire rings in popular locations to concentrate fire use in order to avoid excessive damage. Campfires have been prohibited from the immediate shorelines and beaches of Long Lake to reduce physical and visual impact. DEC staff routinely advocate the use of small portable gas stoves. Overall, there are currently few DEC rules and regulations that address fire use.

Objective:

- ! Reduce, mitigate, or eliminate the effects of recreational use of campfires on HPWC natural resources and the natural scene as viewed by visitors.

Management Policies and Actions:

- ! The unit's information and education and LEAVE-NO-TRACE programs will stress proper fire use in appropriate locations, encourage greater use of portable gas stoves, and explain the rationale for campfire restrictions. It is important that this information be provided outside of the wilderness prior to a trip. For example, it is best to inform visitors not to build campfires in the wilderness before they arrive rather than direct them not to build a campfire once they are at an interior campsite.
- ! Document campsite areas where serious ecological and/or visual impacts due to fire use are occurring. Restrict or prohibit fires by regulation in severely impacted areas.
- ! The entire eastern High Peaks zone will be closed to all open fires. Only portable gas stoves will be permitted. DEC will obliterate all fire rings, fireplaces, etc. and allow natural processes to restore damaged areas. No person shall ignite or maintain a campfire in the eastern High Peaks zone at any time. In addition, no person shall ignite or maintain a campfire at an elevation of 4,000 feet or higher, at any time, regardless of zone location. The following will be used to inform visitors of the closure and the rationale behind it: the unit's overall information and education program, media announcements, permit attachments, maps, and signs. This ban will be supported by regulation.
- ! Campfires will still be permitted in the western High Peaks zone and along the Adirondack Canoe Route in safe locations except as noted above.
- ! Campfires, outside of closed or designated fire areas, will only be allowed in safe locations at least 150 feet from any road, trail, or water. This will require the promulgation of a new rule and regulation.

SOUND ISSUES AND AUDIO DEVICES

Current Situation and Assumptions:

Many visitors bring portable audio equipment with them and use this equipment while on trails, atop summits, and at campsites. DEC staff have encountered radios, televisions, cassette players, and cellular phones in the wilderness. Loud noise at campsites is a frequent complaint; especially at or near water locations where the sound is accentuated. Large groups often contribute to the noise problem while traveling en masse.

Forest rangers first reported the use of cellular telephones in 1993. These high tech devices allow one to call home from the top of Mt. Marcy and other high elevation summits via cellular towers located outside the Adirondack Park. However, the phones do not always work well in valleys or low spots where an effective relay cannot be achieved. Although there have been few "in wilderness" telephone calls to DEC offices to date, these have been used to request on-the-spot information rather than the cell phone user employing an appropriate guidebook and map. Limited application has been used to facilitate rescues when phones were in effective communication range. DEC staff have expressed concern that new technologies may encourage visitors not to learn basic outdoor skills which adds to a false sense of security. There is also the concern that new technologies will impair the wilderness experience of a sense of remoteness, silence, and mystery (Waterman, 1994). Complaints have been registered regarding the use of cellular telephones; especially the ringing of telephones in hunting areas, campsites and lean-tos, on trails, and on remote mountain summits.

Objective:

- ! Reduce excessive noise levels across the wilderness.

Management Policies and Actions:

- ! Camp activities and the use of audio devices may not be heard outside of the immediate campsite.
- ! Quiet hours must be observed between 10 pm and 7 am.
- ! Campsite designation shall incorporate sufficient sight and sound separation distances as required by the APSLMP.
- ! Discourage the frequent and non-emergency use of cellular telephones in the HPWC by informational and educational messages.
- ! Monitor and study the use of new technological equipment as it arises.

BRIDGES

Current Situation and Assumptions:

The unit has 49 major bridges. They include standard wood stringer, cable suspension and steel beam foot bridges, cross country ski bridges, former truck trail bridges, and horse trail bridges. Most were built prior to wilderness designation, not all are appropriate to a wilderness setting. Historically, many bridges were provided for the convenience of the user. Not all trails require bridges to be passable at all seasons. Efforts have been made to reduce the number of small bridges and replace them with stepping stones or minor trail relocations to safer stream crossings. The latter policy keeps trails more natural in appearance and reduces maintenance costs.

Current policy requires replacement bridges to be constructed of native materials wherever possible; however, pressure-treated material is used when suitable natural materials are not available. Bridge replacements are incorporated in the High Peaks trails classification system to match the minimum degree of maintenance and facility construction required for resource protection and visitor safety.

A major bridge at Ouluska Pass Brook on the Northville-Lake Placid Trail, 6.1 miles from Shattuck Clearing washed out in 1991. The loss of the bridge makes the stream crossing difficult and at the high water mark, unsafe and impassible. This section of the Northville-Lake Placid Trail is rated a Class IV Trail and meets the criteria for bridge replacement. Replacement requires the air-lift of materials.

Objective:

- ! Reduce the number of interior bridges to the minimum necessary to provide visitor safety and afford resource protection.

Management Policies and Actions:

- ! Maintain and update bridge inventory, map all bridges, include design sketches and material construction details.
- ! Conduct safety inspections and identify maintenance needs. Develop priority lists.
- ! Assess replacement needs in coordination with all DEC units.
- ! Bridge replacement or relocation will consider the following:
 - P Safety of the user; consider time of high water in primary use seasons.
 - P Resource protection to reduce stream deterioration and erosion.

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- P Purpose of the trail--for example, foot bridges are more suitable to high-use trunk trails than on lesser used secondary routes.
- P Minimal future maintenance--a bridge requiring expensive maintenance because of location, size, and design will not be put in place. Seek other less-problematic alternatives. For example in the case of horse trail bridges, first look at relocation to fords with stable stream banks and stream beds.

- ! Bridges will be constructed of natural materials wherever possible; pressure treated dimension lumber may be used where natural materials are not suitable or available. Use of pressure treated materials will be kept at the minimum necessary for abutments, footers, and stringers. Natural materials are preferred for decking and railings.

- ! Structures and beams of damaged or obsolete bridges will be removed or obliterated.

- ! Replace Ouluska Pass Brook bridge by YEAR TWO of this unit management plan. Bridge design will be appropriate to Class IV standards (Appendix 5).

DAMS

Current Situation and Assumptions:

The HPWC has four maintained dams (Duck Hole - 2 dams, Marcy Dam, and Lake Colden). The APSLMP permits retention and replacement of these dams as needed. The decision to reconstruct or rehabilitate wilderness dams must be based on established DEC policy considering such factors as (1) need to maintain water frontage on and/or water levels along upstream land, (2) need to maintain fishery and wildlife habitats and resources, (3) need to maintain upstream wetlands, and (4) need to protect vistas and other aesthetic values (Van Valkenburg, 1986). With the exception of fish barrier dams, no new dams may be placed in the unit. New fish barrier dams may be necessary to support efforts to maintain or restore indigenous fish populations when natural barriers will not suffice to restrict invasion by competing species. Fish barrier dams must also be constructed of natural materials and must be designed to be maintenance free and as unobtrusive as possible.

A cursory inspection of the Duck Hole Dams in 1995 revealed significant deterioration of the superstructure. A request has been filed with DEC's Dam Safety Unit to have a thorough examination of dams conducted and completed in 1999. The results of

that inspection will determine whether or not to replace or de-water the two impoundments. The present Marcy Dam superstructure and bridge is inappropriate for a wilderness setting; it is basically an "over-built" structure. The former dam at Flowed Lands was seriously damaged by flood in 1979 and intentionally breached in 1984 for safety reasons. Stream flow soon reverted back to the natural channel and the former impoundment site naturally revegetated itself and beavers returned to the stream channel to create new dams.

Objectives:

- ! Maintain the four functional dams listed above in a safe condition.
- ! Construct fish barrier dams in support of identified fishery actions.

Management Policies and Actions:

- ! Conduct routine inspections annually by the Division of Operations supplemented by formal inspections if warranted by the Dam Safety Unit.
- ! Planning and design criteria shall require all dams including replacement and/or reconstructed dams, to be the minimum necessary to meet the objective(s). They will be constructed with minimal disturbance to the wilderness setting, natural appearing, suitable to maintain existing water levels, and require minimal maintenance. Design considerations will require structure walls to be camouflaged and arranged with rock to make a natural cascade or rapids. This technique has been used successfully in the Boundary Waters Canoe Area Wilderness of northern Minnesota with minimal impact (USFS Boundary Waters Canoe Area, 1994).
- ! Request an engineering inspection of the Duck Hole Dams and conduct an assessment to determine whether or not to replace or de-water the dams. Any replacement of the dam(s) must be addressed by SEQRA and APA wetlands regulations.

VISITOR USE

PARTY SIZE LIMITATIONS

Current Situation and Assumptions:

Many visitors consider large groups inappropriate and undesirable in wilderness. Aside from behavioral factors, the potential to cause impact varies with party size and the type of user. Large parties, defined as more than 8 persons in a group, have been documented to cause greater impacts to certain environmental and sociological resources than smaller groups (Cole, 1987, 1989, Hendee, 1990, Krumpel 1994, and Federal Interagency "LEAVE-NO-TRACE Program", 1994). Although large party use in the unit represents only about 15% (22,000 visitors) of total users, they contribute a disproportionate amount of impact when compared to smaller parties.

Regardless of activity (overnight or day use), large groups commonly create congestion problems in trailhead facilities, on trails, shorelines, and mountain summits. It is very difficult to control and confine large groups in vulnerable locations, such as on alpine summits or riparian areas. The rate of unacceptable change on a particular resource can be accelerated by large group occupancy of a site over a short period of time. Higher noise levels and sound issues are associated with large groups.

Large camping groups require greater campsite space and often clear areas to accommodate additional tents, store equipment, or make room to eat and congregate. Large groups cooking with wood fires generally consume greater amounts of fuel wood and extend firewood gathering areas. Impacts tend to be more spread out and extend well beyond campsite boundaries. DEC regional policy requires a group camping permit and camping groups are limited to a maximum of 12 persons per permit. Forest rangers issue the permits and are given the authority to lower this ceiling depending on campsite suitability, time of desired use, and location. Given the high number of requests in the eastern High Peaks, group permits have not been successful in controlling use. Some voluntary reduction in large organized group size has been noted. This may be attributed to education and that group leaders are responding to public concerns to reduce environmental and social impacts (Fish, 1994).

There are no restrictions limiting day use. Groups of any size may enter the HPWC. Day use groups of 60-80 persons are common; on the extreme side, groups of 300 in a single party have been encountered on popular use trails, such as Ampersand and Cascade Mountains. It is a major source of visitor dissatisfaction when large groups, just by their sheer size, displace other users. There is also a problem when groups from one organization split into several smaller groups and then rejoin at interior locations.

Many wilderness managers agree with Cole (1996) that greater attention be given to the management of day users - the particular problems day users create and the varied recreation opportunities they seek which may or may not require a wilderness setting.

Selecting a specific group size regardless of activity requires judgement; no magic formula exists to calculate an ideal number. The situation is parallel to setting speed limits to control use on highways. Research indicates that the size of a group should be low, ideally 4-6 people per group, but generally less than 10 persons per party to be effective in reducing environmental and sociological impacts (Cole, and others, 1987).

Objective:

- ! Manage visitor use to keep impacts on the resource and experiences of all visitor at an acceptable level consistent with the concept of wilderness as described by the APSLMP.

- ! Encourage both overnight and day users to keep parties small and establish desirable maximum party sizes.

Management Policies and Actions:

- ! Adopt a rule and regulation to limit the maximum number of persons per campsite to eight as required by the APSLMP. This will be implemented over a three year period. The first step is to inform the public of the impending change through an intense information and education effort commencing in YEAR ONE. In YEAR TWO, the issuance of group camping permits as per section(e) Part 190.4 NYCRR will be discontinued in the eastern and western High Peaks management zones. The number of people per campsite will thereby be reduced to nine eliminating the need for a group camping permit. Adoption of a specific regulation in YEAR THREE to conform with the APSLMP will reduce the maximum number of persons per campsite to eight. The actions for YEARS ONE and TWO, listed above, are consistent with established policy as prescribed by the following adopted wilderness unit management plans: Ha-De-Ron-Dah (1992), Pharaoh Lake (1992), Pigeon Lake (1992), and Five Ponds (1993).

- ! Pending a use assessment of the entire 90 mile Adirondack Canoe Route, which passes through four wild forest areas, two wilderness areas, and two DEC administrative regions, an interim number of no more than 12 persons per campsite will remain in effect for that portion passing through the High Peaks Wilderness (Regions 5 and 6). Group size limits in this zone may be subject to further

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adjustment. All groups camping along the canoe route are subject to permitting requirements under section(e) Part 190.4 NYCRR.

- ! A camping permit is required if any person or group desires to camp in one location exceeding three consecutive nights pursuant to section (a) Part 190.4 NYCRR in the western and Adirondack Canoe Route zones of the HPWC.
- ! In the eastern High Peaks zone, camping is restricted to a maximum length of stay of three nights in one location. The latter does not require a permit, except during the big game hunting season when a permit is required for extended stays as defined in section (a) Part 190.4 NYCRR.
- ! A maximum day use limit of 15 persons per party will be set for the eastern and western High Peaks zones. No maximum day use limit will be set for the Adirondack Canoe Route at this time pending an assessment of the entire route which traverses several wilderness and wild forest areas.
- ! When larger groups split up to meet size limits, each subgroup must be equipped as a self-sustaining group. Each division of a larger group must have the ability to treat their own water, cook their own food, etc. and must camp and travel at least one mile apart from other divisions of the group so as not to violate group size limits. Day use groups must adhere to this same requirement and not congregate into larger groups on trails or at destination points.
- ! Information about limits must be disseminated through the unit's information and education and LEAVE-NO-TRACE programs and regulations must be enforced. Informing visitors of limits during trip planning and/or prior to arrival is essential.
- ! Those groups requiring a larger group size for day and overnight activities will be referred to appropriate Wild Forest areas outside the High Peaks where a higher degree of recreational use can be sustained and is permitted by the APSLMP.

LENGTH OF STAY RESTRICTIONS

Current Situation and Assumptions:

The average stay for overnight users is usually two days. However, some popular sites are occupied for periods up to two weeks. During peak use seasons and extended

holidays, campsite and lean-to demand often exceeds available facilities. This is especially true in the eastern High Peaks zone. Temporary camping in one location for four or more nights requires a permit. Except during the big game hunting season, no camping permits are issued in excess of 14 consecutive nights. No temporary camping permit may be renewed, or a new permit issued, to the same person or group for the same location in the same calendar year (State Land General Rules and Regulations, part 190.4). Part 190.6 of the same regulation stipulates open camps (lean-tos) may not be occupied by the same person or persons for more than three consecutive nights or for more than ten nights in any one calendar year provided others wish to use such camps. These regulations are designed to avoid homesteading, a practice where one party takes over a particular site for extended periods.

Objective:

- ! Provide fair and equitable access to interior camping facilities.

Management Policies and Actions:

- ! The length of stay at any campsite or lean-to in the eastern High Peaks zone will be limited to a maximum of three consecutive nights, except during the big game hunting season when a permit is required for extended stays as per part 190.4 Rules and Regulations. This limitation will not apply to the Adirondack Canoe Route or the western zone at this time, but adjustments may be necessary in the future.
- ! Enforce existing rules and regulations applicable to lean-tos (open camps) and general camping.
- ! Provide and disperse proper information in regard to the above policies.

WILDERNESS ACCESS FOR PERSONS WITH DISABILITIES

Current Situation and Assumptions:

Since the adoption of the APSLMP, some people maintain that wilderness designation discriminates against the rights of persons with disabilities because wilderness designation prohibits the use of motorized vehicles and mechanical transport. On the surface, the concurrent goals of accessibility and the preservation of wilderness seem at odds; however, it is not a question of one goal or the other taking precedence. Instead, it

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is question of finding the best ways of providing access with consistent with wilderness experience and the environmental setting.

Wilderness accessibility questions for the disabled were specifically addressed by Congress with the passage of the Americans With Disabilities Act (ADA) of 1990. Congress reaffirmed that nothing in the Federal Wilderness Act of 1964, much of which is found in the APSLMP, " is to be construed as prohibiting the use of a wheelchair in wilderness. Nor is any agency required to provide any form of special treatment or accommodation, or to construct any facilities or modify any conditions of lands within a legally designated wilderness area to facilitate such use." Motorized wheelchairs are fully permitted in wilderness areas. The term wheelchair means a device designed solely for use by a mobility-impaired person for locomotion, that is suitable for use in an indoor pedestrian setting.

As part of the planning process, DEC personnel identified potential locations which could accommodate use by the disabled consistent with the wilderness experience. Although the unit's steep slopes and surfaces offer more challenging levels of accessibility than desired by the general disabled population, potential sites are at Cascade Lakes, Marcy Dam, South Meadows, and the Ampersand Primitive Area Adirondack Canoe Route (Long Lake-Raquette River) and Moose Pone. In the course of implementation of this unit management plan, these opportunities will be further evaluated for implementation consistent with the Americans with Disabilities Act.

Objective:

- ! Provide a high level of access for the disabled consistent with the recreational setting of the HPWC to the extent that it does not require modification of the natural environment.

Management Policies and Actions:

- ! Study potential areas for providing access for the disabled that provide a range of experiences and challenges consistent with wilderness.
- ! Provide "universal access information" to potential users that describes the types of obstacles and challenges that a disabled person may encounter so that disabled wilderness users can make informed decisions in accordance with their physical limitations.

- ! Inventory and assess existing facilities to determine their degree of accessibility for the disabled.

- ! Monitor use, gather feedback from user groups, assess effectiveness and make changes as necessary.

WILDERNESS PERMITS

Current Situation and Assumptions:

Until recently, DEC primarily based use estimates on voluntary self registration at trail registers. The problem with this system is that some people (or many) do not register. Use estimates tended to be understated and had the potential for a large, but usually unknown margin of error. Given the fact that visitor use rose by over 40,000 visitors in just the past five years, it is now imperative for managers to raise registration rates and gather better data to adequately assess the effects of increased use on natural resources and the experiences of visitors.

This issue was addressed by the High Peaks CAC in its 1992 final report which recommended "Registration shall be required when a visitor passes, or is in close proximity to, a registration facility. Compliance of mandatory registration should be developed through educational contacts." The CAC further suggested this would also be a good opportunity to educate visitors when they register and/or obtain a mandatory self-issuing permit.

Mandatory self-issuing permits, commonly called "trip tickets," are currently in use by the U.S. Forest Service and the National Park Service in many Federal wilderness areas. These are usually free, self-issued at the trailhead and are most convenient to visitors because they eliminate the need to drive to issuing offices. Visitors fill out a permit, deposit one copy of the permit in a register box, and take a second copy with them. The visitor's copy of the permit provides information on rules and regulations, safety, and general back country guidelines to lessen impacts. Enforcement is not heavy-handed. Interior personnel usually issue permits on the spot rather than write a citation for non-compliance. The important thing is to increase registration and increase visitor awareness to protect wilderness resources.

One primary drawback is that these permits do little to divert users from overused areas unless the permits are accompanied with a strong informative and educational component to suggest alternative areas.

Objectives:

- ! Collect better data on the amount, kind and location of use through the use of self-issuing permits in the heavily used portions of the HPWC so that DEC can better manage wilderness resources and experiences.

- ! Use permits as a vehicle to provide visitors with information about rules and regulations, the rationale behind management actions, safety, and low impact use.

Management Actions:

- ! A regulation is needed to require possession of a self-issuing travel permit, whenever a visitor (or group leader) passes, or is in close proximity, to a DEC registration facility in the eastern High Peaks zone. This action is not intended to be a rationing nor reservation type permit system.
- ! The above proposed regulation shall apply to entry and travel only. Standard group camping permits for parties of 10-12 persons along the Adirondack Canoe Route and/or camping on the same site in any management zone for three or more nights in succession regardless of group size, will remain in effect.
- ! Trailhead registration stations will be redesigned to accommodate self-issuing permits.
- ! Forest rangers and interior personnel will issue permits on the spot to those in non-compliance. Enforcement will not be heavy-handed.
- ! All visitor permits will convey information on rules and regulations, safety, and information on low impact back country use.
- ! Back country users not using the developed trail system will not need an entry/travel permit.
- ! Self-issuing permits will not be required in the western High Peaks zone nor along the Adirondack Canoe Route. Standard trail registers will be used in these zones; however, visitors entering the eastern High Peaks from these zones will be subject to a permit as soon as they encounter a self-issuing permit station or meet DEC personnel.
- ! Compliance rates will be checked periodically to assess effectiveness and to determine if proper information is communicated.

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- ! Data collected from permits will be used to schedule trail and campsite maintenance, measure use and assess impacts, and plan wilderness management budgets.

- ! Data collected from the self-issuing permits will be used in coordination with a formal assessment of resource and social conditions to ascertain if additional user controls are required.

SPECIAL USE RECOMMENDATIONS

Current Situation and Assumptions:

DEC personnel, through the unit's information and education program, trailhead messages, and personal contacts, routinely provide information to visitors to lessen environmental and social impacts and to foster safe wilderness trips. This policy is designed to keep rules and regulations to the minimum and urge voluntary compliance. There are a variety of ways to use the wilderness and a variety of suggestions that apply to each user. Major emphasis is placed on the application of LEAVE-NO-TRACE principles and guidelines and specific messages are targeted at pets in the backcountry, precautions with bears, the use of proper clothing and equipment, and the use of glass containers.

PETS:

The number of pets, particularly dogs, brought into the back country is increasing. Dogs are encountered on trails, in campsites, along shorelines, and atop summits. Some dogs are well controlled; others are not. DEC receives complaints of barking dogs, dog fights, dog bites (to humans and other dogs) threatening actions as dogs establish territories in and around campsites, summit trampling by unleashed dogs, and fecal contamination of water resources, conflicts with bears, and harassment of deer and other wildlife. A serious encounter with a dog off a leash can result in a lawsuit as well as fines. Forest rangers also receive requests to rescue injured pets and search for lost animals.

BEARS:

Because of the availability of food brought into the wilderness by humans, many bears have changed their natural feeding habits in response to this easily garnered supply. Bears are too often rewarded with improperly stored or disposed of food.

LACK OF OR IMPROPER USE OF CLOTHING AND EQUIPMENT:

Rangers strive to prevent costly and needless rescues by encouraging visitors to be properly prepared for sudden changes in weather and be ready for any emergency. For example, skis and/or snowshoes are required when snow covers the ground. DEC personnel indicate numerous encounters with visitors not having basic back country clothing and equipment nor the knowledge to prevent accidents.

GLASS CONTAINERS:

DEC staff and volunteers remove large quantities of broken glass from the HPWC each year. It is an environmental problem (litter) as well as a safety issue. Glass fragments are found on trails, in fire rings, at lean-tos and shorelines, in area waters and on mountain summits. Clean-up is time consuming, costly, and sometimes injurious.

Objectives:

- ! Keep the effects of visitor use on resources to a minimum.
- ! Increase visitor self-sufficiency and knowledge of personal protection.

Management Policies and Actions:

- ! Communicate positive messages through a combination of strategies preferably outside the wilderness to improve wilderness conditions and increase visitor safety. Follow up with trailhead messages, and personal contacts inside the wilderness.
- ! Promote nationally adopted LEAVE-NO-TRACE ethics and principles.
- ! Request owners voluntarily leave their pets at home.
- ! All pets, except hunting dogs in appropriate hunting season under the control of a licensed hunter, must be leashed on designated trails, campsites and lean-tos, at elevations above 4,000 feet, or at areas where the public has congregated. No dog may be left unattended at any time and must be under the complete control of the owner or handler at all times.
- ! Visitors will be required to keep their food from bears and keep a clean camp. This will help keep bears from becoming accustomed to obtaining people food and therefore retain their dependence on natural food sources. It will also keep visitors from having to cut their trip short due to bears having taken or destroyed their food and will reduce the potential for personal injury.
- ! Strengthen information and education efforts stressing proper clothing, equipment, and safety .

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- ! Prohibit glass containers in the HPWC. No person shall bring glass containers into the High Peaks Wilderness at any time.

AIRCRAFT USE

Current Situation and Assumptions:

The use of aircraft for emergency operations including fire suppression, search and rescue and medical emergencies is considered appropriate under established policy and guidelines. Helicopters are also used for administrative support functions in the back country such fish stocking, biological surveys, etc. DEC fixed wing and helicopter flights, except in emergencies, are restricted to periods of low visitor use to reduce sound and visual intrusions. The "off-peak" period ranges from October 16 to May 24 annually. Aircraft use requires pre-approval by the Commissioner or by his designee (as defined by Chapter 8410 of DEC Policies and Procedures Manual, adopted 1974).

Noise exists over the wilderness due to commercial and private flights from nearby airports as well. All airspace is under the jurisdiction of the Federal Aviation Administration (FAA); the states do not have the power to regulate their own air space. In cooperation with the Department of Defense and the State Office of Military and Naval Affairs, military overflights have been discontinued over much of the wilderness. However, a narrow flight path exists parallel to Long Lake and the Raquette River. Private flights are required to maintain a minimum horizontal and vertical clearance of 500 feet above or near natural obstructions such as mountaintops. In contrast, the FAA requires a 2,000 feet clearance above the terrain in federally designated wilderness areas. These specially defined areas, are clearly depicted on National Oceanic and Atmospheric Administration (NOAA) aeronautical charts.

Objective:

- ! Reduce DEC aircraft use to the minimum necessary to protect wilderness resources and to preserve solitude of the interior as required by the APSLMP.

Management Policies and Actions:

- ! No change in current policy required. All administrative aircraft use shall conform to the APSLMP.
- ! Where possible and appropriate, cooperate with area airports, pilots, and scenic flight operators to reduce low level flights. Report low-level flight violations to the FAA.
- ! Administrative use of helicopters and fixed wing aircraft shall be reflected in all work plans and be supported by individual flight requests.

- ! A summary report and log of all flight operations, by each DEC unit, will be submitted to the unit manager annually for review and forwarded to the APA as required by the APSLMP.

HIGHWAY PERIMETER DE-ICING

Current Situation and Assumptions:

The use of road sand and road salt as a highway de-icing agent along wilderness perimeter roads has a serious adverse effect on roadside plant and animal life and on ground water and surface water bodies outside the highway right-of-way. This is most visibly evident along NYS Routes 30, 73, and 86 as evidenced by die-back and mortality of white birch, scotch and white pine trees. The most serious damage has occurred along the wilderness boundary near Cascade Lakes resulting in heavy tree mortality between Route 73 and the two lakes.

Objective:

- ! Reduce the use of highway road sand and road salt, or find acceptable alternatives, to the minimum amount necessary for traffic safety in order to protect roadside vegetation, animal life, and water courses.

Management Policy and Actions:

- ! Participate in discussions with the Adirondack Park Agency and the Department of Transportation to reduce, mitigate, or eliminate the problem.
- ! Promote the use of less damaging alternative highway de-icing agents such as calcium magnesium acetate.
- ! Remove hazardous trees when they pose a safety threat to pedestrians and traffic along roadsides.
- ! Monitor roadside vegetation and streamsides for sodium overload and streambeds for sediment accumulation.
- ! Coordinate highway perimeter de-icing concerns with the Draft Route 73 Scenic Highway Corridor Plan (1998).

SCIENTIFIC STUDY

Current Situation and Assumptions:

The HPWC provides many opportunities for scientific study and observation in a more or less natural setting. In the past, the HPWC has been studied by numerous colleges and universities and a myriad of scientific researchers. These studies have concentrated on the flora (especially alpine communities), fauna, geomorphology, and the effects of acid precipitation on HPWC forests and waters. This type of research has been compatible with the area's natural resources and consistent with APSLMP guidelines. Future proposals and studies are anticipated. All studies require a Revocable Permit issued by DEC. Collection of specimens requires prior approval by DEC and the Director, State Science Service of the NYS Museum.

Objective:

- ! Encourage scientific research projects that will aid in preserving wilderness character, benefit the scientific and educational communities, and improve DEC's stewardship of the area.

Management Policies and Actions:

- ! Permit valid forms of research and scientific study provided such projects comply with the APSLMP and DEC policies and procedures, and contribute to the existing knowledge of the HPWC's resource base. They must have practical application to wilderness management problems or use the wilderness as a reference where no viable alternative exists. The wilderness will not serve as a general laboratory for all types of scientific research.
- ! Revocable permits will be required for all research projects.
- ! Researchers, as part of the permit process, will be required to report to the DEC in writing on the findings of each research program. These reports will be added to the HPWC's data base.

PARTNERSHIPS AND VOLUNTEERS

Current Situation and Assumptions:

Partnerships and volunteers play an important role in helping the DEC fulfill its management responsibilities in the HPWC. DEC has used a variety of partnerships and volunteers to protect resources, educate users, and maintain HPWC facilities. Because of rapid growth in visitation, limited time and managerial resources, and expanded responsibilities beyond recreation to include such things as clean air and water,

biodiversity, cultural resources, and other values as well, DEC has had to rely on outside interests to leverage state resources to get the job done. Current activities include efforts to protect and rehabilitate alpine summit vegetation, provide information to a multitude of user groups, conduct scientific research, inventory plant and wildlife species, identify cultural resources, and maintain trails and lean-tos. Using partnerships and volunteers can be innovative and reduce in part the need for a large management infrastructure. On the other hand, as Wallace points out in *Ecotourism - A Guide for Planners and Managers (1993)*, the tendency in recent years by government agencies to use partnerships and volunteers as a cost saving measure has resulted in a reduced management presence in a particular area so that the managing agency appears weak to many outside visitors. Wallace also states, "Outside interests can provide an important complement to management, but should not supersede or replace government administrators, rangers, etc." Since the number of partnerships and volunteer programs is increasing, the important thing for DEC is to establish clear guidelines and responsibilities so that partnerships and volunteers can be truly effective in achieving wilderness goals and objectives. Improved coordination between partnerships/volunteers means there will be an improvement in on-the-ground wilderness conditions.

Objective:

- ! Through partnerships and volunteerism, encourage, establish, and sustain a diverse and balanced range of resource protection, educational, and recreational services for the purpose of creating a lasting improvement in wilderness conditions.

Management Policies and Actions:

- ! Appoint a partnership/volunteer coordinator at the regional level to supervise projects in the HPWC by outside interests.
- ! Develop a list of potential projects that can be undertaken by outside interests to complement HPWC management programs.
- ! Meet with interested parties to define mutually shared goals so that resources may be combined to reach those goals.
- ! Formalize the relationship (partnership or volunteer program) with written agreements, contracts, or memorandums of understanding. This is necessary to define goals, objectives, contributions, responsibilities, and term of service.
- ! The DEC partner or volunteer must clearly understand DEC wilderness objectives. Yet at the same time, the DEC partner must be given reasonable assurance of security and opportunity to satisfy their own particular objectives.

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- ! Regardless of the relative share of investment by the partners and/or volunteers as compared to DEC's contribution, each party must be viewed on equal terms.
- ! Each partner or volunteer must be flexible and be prepared to make adjustments.
- ! Partners and volunteers should not expect to share preferential treatment in future management decisions by becoming a partner or volunteer.
- ! Partners and volunteers are not to exceed nor act beyond their stated agreements and assume no legal authority.
- ! Partners and volunteers will not monopolize a particular management activity.
- ! All partnership and volunteer activities will be closely monitored and evaluated annually, or sooner if warranted, to determine if they are effective in meeting DEC's wilderness goals and objectives.

ADMINISTRATION AND MANAGEMENT

Current Situation and Assumptions:

The High Peaks is administered by two DEC divisions and several bureaus. There is an established umbrella framework under the guise of the Regional Forestry Manager who is in charge of implementing Lands and Forests policy and who also serves as a review person for all activities considered not routine. On-site programs are administered by seven forest rangers. Two are assigned to the eastern High Peaks; the other five share collateral duties in other Forest Preserve units. These rangers come from three zones; A,B, and D. In 1998, four seasonal assistant forest rangers were assigned to the eastern zone and one to the western zone, including portions of the Adirondack Canoe Route. There is a problem in adequately staffing the Lake Colden interior outpost year-round. There is a need for additional staff presence during winter use periods, and during hunting and fishing seasons. Personnel have had to concentrate their activities at one or two main trailheads, on primary trunk trails, and at popular campsites which does not allow them to service other areas. There is a need to upgrade all DEC programs in the HPWC: especially in staff training, education and information, search and rescue, maintenance and rehabilitation, research, monitoring, law enforcement, and planning.

Objectives:

- ! Appoint a unit manager in the Ray Brook working circle to oversee and coordinate all wilderness management activities in the unit.

- ! Ensure all administrative uses and activities are directed toward, and consistent with, accomplishing the stated goals and objectives of this plan, Department policy and the APSLMP.

Management Policies and Actions:

- ! Appoint a unit manager with the responsibility for both public contact and the coordination of all activities in the unit, including volunteer programs.
- ! The unit manager will serve as review person to post a "red flag" if proposed activities are inconsistent with the department policy and/or the APSLMP, and the goals and objectives of this plan.
- ! Increase communication between various units in DEC, APA, the public, and other interested groups and agencies.
- ! Conduct semi-annual meetings with staff (before and after heavy use seasons) to assess and discuss accomplishments, problems, planning needs, proposed projects, progress in plan implementation, cooperative programs, and volunteerism.
- ! The unit manager shall prepare an annual report on DEC's management of the unit and its progress in implementing the unit management plan. Submit same to the Commissioner, the Forest Preserve Advisory Committee, and the APA.
- ! Develop wilderness management budgets in order to meet unit management plan goals and objectives.

ANNUAL WORK PLANS

Program plans, actually sub-components of this document, will be prepared annually during the five year term of this plan. These include:

- ! General plan administration to include staff needs and coordination between DEC administrative units, divisions, and bureaus and liaison with the Adirondack Park Agency.
- ! Office support and visitor information services.
- ! Basic monitoring of human use and its impacts on natural resources and the experiences of visitors.

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- ! Development and maintenance of effective education and information programs for High Peaks users.
- ! Overall facilities maintenance and safety inspections of bridges, dams, ladders, etc.
- ! Rehabilitation and restoration of impacted areas.
- ! Staff and volunteer training.
- ! Needed support services for partnerships, contractual and volunteer programs.

PROPOSED RULES AND REGULATIONS

Many of the management proposals outlined in this section require the promulgation of new rules and regulations in accordance with DEC policies and procedures, the State Environmental Quality Review Act (SEQRA), and the APSLMP. Statutory authority for regulatory change is found in the Environmental Conservation Law and in section 816.1-3 of the Adirondack Park Agency Act. Section 816.3 of the act directs DEC to develop rules and regulations necessary to implement the APSLMP. In summary, these include the minimum necessary to assure APSLMP compliance and directly influence visitor behavior to protect resources and the experiences of visitors:

- ! Prohibit camping above 4,000 feet in elevation all times of the year to protect upper spruce-fir ecotypes, subalpine, and rare alpine vegetation. Required by the APSLMP.
- ! Limit all camping to designated campsites between 3,500 and 4,000 feet in elevation because of the fragility of high elevation environments. Required by the APSLMP.
- ! Require all winter visitors to possess and use skis or snowshoes when the terrain is snow-covered with eight or more inches of snow. This is a safety measure, not only to the visitor in case of sudden snow-related emergencies, but also necessary to maintain safe trail conditions for all users.
- ! Limit the number of persons per campsite to 8 for overnight camping in the eastern and western High Peaks zones, and to 12 persons per campsite along the

Adirondack Canoe Route in order to reduce environmental impacts and visitor crowding. Required by the APSLMP.

- ! Require a minimum separation distance of one mile between both affiliated camping and day use groups so that group size requirements are not exceeded at interior locations.
- ! Limit the size of day use parties to a maximum number of 15 persons per party in the eastern and western High Peaks zones to reduce environmental impacts and crowding. This proposed regulation will not apply to day use activities along the Adirondack Canoe Route.
- ! Subject overnight camping to only designated sites in areas of relatively high user concentrations as specified and identified by the department. No at-large camping will be permitted in these areas.
- ! Restrict camping structures to only tents, tarps, lean-tos, or those composed of snow in the wilderness. Required by the APSLMP. This is necessary to eliminate travel trailers, “pop-up” style campers, tent trailers, or structures of similar fashion brought into the interior by horses.
- ! Restrict campfire use, outside of closed or designated areas, to safe locations at least 150 feet from any road (including parking facilities), trail, or water.
- ! Prohibit all campfires in the eastern High Peaks zone and at all locations above 4,000 feet in elevation in the western High Peaks zone. This will protect sensitive environments and is required by APSLMP.
- ! Ensure audio devices are not audible outside of the immediate area of a campsite. Necessary to reduce noise and improve campsite solitude.
- ! Establish quiet hours between the hours of 10 pm and 7 am.
- ! Prohibit glass containers throughout the entire High Peaks Wilderness.

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- ! Leash all pets while on DEC marked trails, designated camp and lean-to sites, in congregated areas, and at elevations above 4,000 feet. This will not apply to hunting dogs under the control of a licensed hunter during appropriate hunting seasons. Pets are not to be left unattended and must be under the control of the owner or handler at all times.

- ! Prohibit the use of all motorized craft on any "Wild River" passing through state forest preserve, with specific reference to the Cold River located in this unit. Required by the Rivers Act and the APSLMP.

- ! Require mandatory trailhead registrations applicable only to the heavily used eastern High Peaks zone. Required to gain better user information and to help educate visitors. Good information is needed so that proper recreation management decisions can be made.

- ! Prohibit the use of all motorized equipment (i.e. chainsaws, generators, etc.) by the public anywhere in the wilderness except by Department permit.

- ! Establish a regulation that defines and describes a "Lawful Order" in which no person shall fail to comply with a lawful instruction or order by a uniformed employee of the department.

- ! Amend §190.5, Section (e) NYCRR to prohibit all tent platforms in designated wilderness areas. Tent platforms in wilderness are listed as a non-conforming structure (APSLMP, 1987).

SECTION IX

SPECIAL AREA PLANS (selected maps at end of section)

To deal specifically with recreation impact management, the HPWC has been divided beyond its APSLMP classifications (units) and its three management zones into smaller subdivisions called **special area compartments**. These are areas of major concern and require special attention. Factors considered in defining compartment boundaries include: significant biological and physical features, existing recreational use patterns, and the desired resource, social, and managerial settings for each area to prevent unacceptable change as prescribed by APSLMP.

AMPERSAND PRIMITIVE AREA

Management Area: Designated primitive area; low to moderate use.

Special Features:

This area consists of a small tract of Forest Preserve between the Ampersand Road and Ampersand Brook in the Town of Harrietstown, Franklin County. The Ampersand Road, used as an access road to a large private parcel enclosed by the High Peaks Wilderness, is seasonally open to public motor vehicle use, horses, and mountain bikes. The road provides important trailhead access to Raquette Falls, Pickerel and Rock Ponds, and the Seward Mountains, and water access to Ampersand Brook and Stoney Creek. Ampersand Brook is a picturesque white water stream popular with fishermen. There is the potential to develop limited facilities for persons with disabilities within this area.

Current Situation:

This is an ideal area away from the heavy user concentrations of the eastern High Peaks. Its modest facilities provide a range of long and short hiking, horse, and cross country ski trails. The terrain is ideal for campers seeking level terrain and easy access. The road has 10 designated campsites allowing drive-in camping by motor vehicle. These sites are not permanent, but are reviewed periodically and some sites may be closed for rest and rehabilitation if excessive damage occurs. The area serves a variety of users; hikers, campers, horse users, hunters, fishermen, and cross country skiers. Trail and camp encounters seldom exceeds 10-15 other persons per day. Four-wheel-drive trails leading into the HPWC were barricaded in 1994. Two similar roads were barricaded in 1993 to discourage illegal motor vehicle use. Litter is a problem along the road, in campsites and trailheads, and at Pickerel and Rock Ponds. Mountain bikes have left the road and used

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the Raquette and Seward Trailheads to gain illegal entry to the former interior fire truck trail system in the High Peaks Wilderness. Certain parties are driving through Campsite No. 7, into the gravel stream bed of Ampersand Brook, to wash motor vehicles. Area boundaries were signed and posted in 1994.

Management Actions:

- ! Gate access road to Campsite #7 at least 100 feet from Ampersand Brook to keep motor vehicles out of the brook. A gate is needed to facilitate fish stocking directly from the hatchery truck.
- ! Schedule routine maintenance and litter pick-up of all campsites, trailheads, and the shores of Pickerel and Rock Ponds.
- ! Identify and evaluate specific sites to provide access for the disabled, including parking, fishermen access, and camping, consistent with APSLMP guidelines and the Americans with Disabilities Act.
- ! Monitor use.

CASCADE LAKES

Management Area: Eastern High Peaks Zone; heavy use.

Special Features:

Cascade Lakes is a highly scenic area along Route 73, a principal highway connecting Keene and Lake Placid. This compartment consists of the two lakes, a small day use area located between the two lakes, and the Cascade Mt. trailhead; all are located within 500 feet of the wilderness boundary. Cascade Mountain, at 4,098 feet in elevation provides an impressive backdrop to the lakes. Both lakes support round whitefish, an endangered species in New York State. The species is vulnerable to introductions of nonnative and NBWI species.

Current Situation:

This is a heavily visited area. Cascade Mountain, one of the easiest 4,000 foot peaks to access, registered over 17,000 visitors in 1998. Its trailhead has a recommended parking capacity of 10 vehicles; yet the actual number of parked vehicles quadruples on weekends and holidays as motorists park and walk up and down the narrow shoulders of the highway. This is creating serious traffic problems restricting traffic flow and endangering pedestrians (Draft Route 73 Scenic Highway Corridor Plan, 1998). There is no room to expand the parking lot due to terrain. However, there is the potential to

relocate trailhead parking to a safe "off-road" location on more gentle terrain situated on the Mt. Van Hoevenberg Intensive Use Area to the west.

One option is to enter into an agreement with ORDA and construct a 50 vehicle parking lot in the intensive use area to serve both the Cascade and Pitchoff trail heads. The latter trail head is located in the Sentinel Wilderness north of Route 73 and has no parking facilities. Illegal parking and heavy pedestrian use along this section of highway is a concern. The proposal includes provisions for safe off-road parking and a minor relocation of the Cascade Trail.

The Cascades Day Use Area is a popular picnic spot between the lakes. It is used by senior citizens and disabled persons. Illegal camping in the day use area is a common problem. Highway runoff, road salt and sand, has caused tree mortality between Route 73 and the lakes.

Management Actions:

- ! Coordinate planning activities with the Route 73 Scenic Highway Corridor Management Plan Steering Committee.
- ! Initiate discussions and coordinate planning efforts with NYS DOT and ORDA to determine the feasibility of relocating the Cascade/Pitchoff Trailhead and the development of an associated 50 vehicle parking lot. The intent is to provide safe parking and build a parking lot at a capacity consistent with desired interior use levels for Cascade and Pitchoff Mountains. Consultation with APA is required for APSLMP conformance.
- ! Work cooperatively with the NYS Dept. of Transportation to post pedestrian warning and trailhead parking signs at proper sight distances. Request "No Parking - Tow Away" zones be placed along Route 73 above and below the designated parking areas for greater vehicle and pedestrian safety.
- ! Identify and evaluate specific sites to improve access for the disabled consistent with the APSLMP and ADA.
- ! Make the 2 vault toilets in the day use area handicap accessible.
- ! Post and enforce "No Camping" in the day use area.
- ! Enlist support from other agencies to seek less damaging highway de-icing alternatives to preserve and protect roadside vegetation and riparian resources.
- ! Assess current populations of round whitefish in the Cascades Lake to determine if stocking is necessary.
- ! Post regulatory signs prohibiting the use of bait fish along the shores of the two lakes.

COLD RIVER (Wild River Management)

Management Area: Western High Peaks Zone; low use.

Special Features:

The entire length of the Cold River (14.0 miles) is a designated "Wild River," under the State's Wild, Scenic, and Recreational Rivers Act of 1972. The Cold River is a free flowing stream with no dams or impoundments. Few trails access the river and there are nine lean-tos located along its course. The river is wholly enclosed by the HPWC and is located in one of the most remote locations in the unit. Outboard and electric motor use on the river is prohibited by the Act.

Current Situation:

The APA administers the Rivers Act on private lands in the Park, and DEC administers those rivers or portions thereof, on State lands. The Rivers Act, and its special provisions are addressed in the APSLMP and in the ECL, Article 15, title 27. DEC inventoried the river and established a ½ mile wide protective riparian corridor on each side of the stream as required by the Act. The Act further mandates DEC to remove all non-conforming structures (lean-tos) from the river corridor. A horse barn was removed from the corridor in 1983 to comply with the Act and APSLMP.

Management Actions:

- ! All major maintenance, including the replacement of any of the following: roof, floor, deacon seat, base and side logs, will be suspended on all lean-tos located in the wild river corridor to comply with the APSLMP. This will affect Cold River Nos. 1,2,3,4, Calkins Creek, Northern 1&2, Seward, and Oulaska lean-tos. When no longer useable, these lean-tos will be phased out and not relocated within the corridor as required by the Rivers Act.
- ! Promulgate a regulation to specifically prohibit all motorized watercraft use on the entire length of the Cold River. Sign accordingly at the point where the Cold River joins the Raquette River.
- ! Monitor river and corridor use in accordance with the Rivers Act.

COLD RIVER HORSE TRAIL SYSTEM

Management Area: Western High Peaks Zone; low use.

Special Features:

The Cold River Horse Trail System accesses one of the most remote regions in the state. The Cold River area provides a study in contrasts between the high peaks of the Seward and Santanoni Ranges and the lowlands of the Cold River as it winds towards the Raquette River. The trail system has two main loops; one is 12.7 miles, the second is 32.1 miles. Connecting routes lead to Raquette Falls, Moose Pond, Newcomb Lake, and the Santanoni Preserve (Vanderwhacker Wild Forest).

Current Situation:

The horse trail system was built prior to the 1972 wilderness designation. The horse trails utilized old log roads, former fire truck trails, and some new sections that were cut through the forest as connecting links. This was at a time when heavy equipment; bulldozers, backhoes, dump trucks, etc. were used to maintain the trail bed and surface. Bridges and steel and concrete culverts were employed to accommodate both horses and motor vehicles. Since wilderness designation, no motorized equipment has been used for maintenance. Despite relatively low use, portions of the system have deteriorated. The biggest problem has been maintaining adequate drainage. Campsite and stream bed damage has been reported when horses are kept in the immediate vicinity of camp areas or too close to water. Very little information has been provided to wilderness horse users regarding trail conditions, safety, and minimum impact horse use prior to pre-planning and visiting the area. The system is popular with guides and outfitters.

Management Actions:

- ! Inventory and evaluate the entire horse trail system.
- ! Develop, working cooperatively with known horse users and equestrian groups, a horse trail maintenance plan consistent with APSLMP guidelines, by YEAR ONE. Consider rerouting trails around wet areas, seek alternative stream crossings not requiring bridges, remove washed out culverts in favor of stable broad-based dips, etc.
- ! Separate horse and camping areas; install hitching posts at all camping areas to reduce trampling and damage to trees. Horse users will be restricted to designated campsites identified by sign or disk.

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- ! Intensify information and education efforts to specifically address wilderness horse use.
- ! Solicit and promote volunteer support in planning and maintenance activities.

INDIAN FALLS

Management Area: Eastern High Peaks Zone; use heavy to intense.

Special Features:

Sitting near 3,700 feet in elevation, Indian Falls is a relatively small flat area located in the deep "U" shaped valley of Marcy Brook. Its most prominent feature is the falls themselves and the view of the MacIntyre Range from the top of the falls. Nearby heights of land afford scenic views of Mt. Marcy. The area straddles the Van Hoevenberg Trail, the main route to Mt. Marcy and is an important trail junction for the Lake Arnold Crossover Trail. Soils are thin, less than 24 inches deep sitting atop bedrock, moist and easily saturated by moderate to heavy rains. Valley walls confine visitors to the corridor immediately adjacent to the brook.

Current Situation:

Day use is extremely heavy due to its central location. Forest rangers estimate more than 20,000 visitors pass through here annually. A campsite designation program was instituted in 1982; several campsites were closed and large group camping (more than 10 persons per party) was prohibited. Despite these efforts, significant unavoidable resource impacts occurred. Serious impact resulted from the improper disposal of human waste exacerbated by wet soils and fecal runoff into the brook. Suitable pit privy locations were soon exhausted and 150 feet water quality setbacks (APSLMP, 1987) from the brook were not achievable. Campers were frequently found camping on wet-soggy ground. Other detrimental factors include compacted soils, trampled vegetation, and illegal tree cutting. Designated sites coalesced with user-created campsites and created a large impacted area. DEC closed the area to camping in 1996 and closed all user-created side trails and herd paths. Natural site restoration has been significant since closure. Day users are directed to dry soil and bare rock areas near the trail and falls. It is difficult to keep visitors off closed sites and from camping illegally.

Management Actions:

- ! Maintain camping prohibition at Indian Falls and sign accordingly.

- ! Pit privies will be used to accommodate day users. Chemical and/or composting toilets will not be employed because of their structural size and high maintenance requirements.
- ! Use education and information to convey closure orders and the justification behind them.

AUSABLE CLUB - ADIRONDACK MOUNTAIN RESERVE

Management Area: Eastern High Peaks Zone; heavy use.

Special Features:

This spectacular scenic area sits between the Dix and High Peaks Wildernesses Areas. The Club is privately owned; however, a portion of its lands are open to public use. An easement affords public parking on its lands south of St. Huberts and foot travel is permitted on designated trails leading to state land. The Club restricts public camping, building of fires, hunting, fishing, trapping, off-trail use, mountain biking, boating, swimming, and pets.

Current Situation:

This a high density day use area because of its easy access from Interstate 87 and its connecting trails to high elevation peaks with outstanding scenery. Over 13,000 visitors passed through here in 1998. As a result of the Club's restrictions, the area has not suffered many physical impacts due to specific provisions in the easement. However, several serious social issues have evolved associated with visitor crowding. Increased use beyond the area's desired capacity has created parking problems and encouraged motor vehicle and pedestrian trespass on private property. The easement restricts parking to 20 vehicles and provides limited space for off-road parking. On peak weekends and holidays it is common to find over 100 vehicles parked on private property once the designated parking area is filled. Double row and shoulder parking have "plugged" the St. Huberts Road, a Town of Keene highway, restricting traffic flow and impeding emergency vehicles. The problem is further compounded by bus parking, and large groups of pedestrians on the narrow road. "No Parking" zones and private property signs are commonly ignored. Overflow visitors from this area are impacting the nearby Dix and Giant Wildernesses Areas and adjacent private lands. The Club has requested an increased DEC presence on the easement lands and has asked Town of Keene officials enforce parking restrictions on the St. Huberts Road.

Management Actions:

- ! Convene a working group consisting of the Ausable Club, Town of Keene, and DEC to address public parking issues in this vicinity, commencing in YEAR ONE. The working group is expected to produce the following:
 - # A listing of parking alternatives and other actions necessary to alleviate the problems.
 - # Clearly identify the role and legal authority of each party to address parking issues.
 - # A written agreement in principle will define the role of each party.
 - # This group will provide a draft parking plan subject to public input and comment by YEAR TWO.
 - # Finalize the parking plan and begin initial implementation by YEAR THREE.
- ! The DEC and the Club have agreed, in principle, to revisit the overall management aspects of the easement lands in regard to parking as noted above, signing, improved information and education distribution to the public, and law enforcement.
- ! DEC will establish a "uniformed presence" on the Ausable Club trailheads during peak use periods in addition to routine forest ranger patrols until a parking plan is finalized.
- ! Public use will be monitored by trailhead registrations, on-site visits, and communication with the Club and the Town of Keene. This will help assess education and information needs.

MOOSE POND - NEWCOMB LAKE

Management Area: Western High Peaks Zone; low use.

Special Features:

This area surrounding and located between Moose Pond and Newcomb Lake is highly scenic and remote. Newcomb Lake, at 506 acres, is the largest lake in the HPWC and is complemented by 173 acre Moose Pond. The compartment lies north of the Village of Newcomb, and west of historic Great Camp Santanoni. The latter is located in the Vanderwhacker Wild Forest abutting the wilderness boundary. A draft unit management plan is in preparation to address Camp Santanoni's historic significance. Access to the lakes is through the Camp Santanoni gate house north of Route 28. Newcomb Lake is

accessible via the Newcomb Lake Road; the Moose Pond Road leaves the aforementioned road and heads in a northwesterly direction towards the Cold River.

Current Situation:

The area offers outstanding opportunities for hiking, camping, fishing, horseback riding, remote big game hunting, and cross country skiing. Use is increasing as more visitors are attracted to Camp Santanoni and discover the surrounding area. Commercial outfitters use this area for guided horseback trips and big game hunting. There is an opportunity to identify potential sites for access by the disabled traveling by horse and wagons. Cross country skiers appreciate the area's abundant snowfall. Newcomb Lake has two lean-tos and numerous non-designated campsites along the shore. Both Moose Pond and Newcomb Lake attract heavy spring fishing. Moose Pond has several designated campsites at the south end of the pond. Improperly located campfires have led to ground fires. Horse damage is evident near many sites. Portions of the Moose Pond hiking/horse trail have washed out leaving its steel and aluminum culverts "high and dry" in the road bed. Illegal motor vehicle and mountain bike entry is reported inside the wilderness. Most visitors are unable to distinguish the wilderness/wild forest boundary on the ground once they leave the Newcomb Lake Road. This is important because visitors must know when and where different rules and regulations apply.

Management Actions:

- ! Coordinate planning activities with the Camp Santanoni unit management planning team and citizens' advisory committee.
- ! On both lakes, all campsites, lean-tos, and potential site locations will be inventoried, mapped, and evaluated. A campsite plan will be developed and selected campsites designated in accordance with DEC policy and APSLMP guidelines. It is important that DEC establish the sites rather than have them created by users. Each site will have a designated fire ring. Pit privies will be installed commensurate with the amount of use a site is expected to receive. No new lean-tos will be established on or near the two lakes.
- ! This same procedure will be applied to the Moose Pond Trail from its junction with the Newcomb Lake Road through to Moose Pond.
- ! Hitching posts will be erected at all horse staging areas and/or camping areas frequented by horse users to reduce trampling damage to trees and shrubs. A hitching post is needed at the end of the old road southwest of Moose Pond.

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- ! Washed out culverts will be removed and replaced with broad base dips where suitable soils exist. If this is not possible, wooden box culverts or small wooden bridges will be employed.
- ! A stockpile of aluminum culverts between Moose Pond and Ermine Brook will be removed from the wilderness by helicopter in accordance with DEC aircraft use policies in wilderness.
- ! The wilderness boundary will be posted at all road and trail crossings. A sign "Entering the High Peaks Wilderness" is needed on the Moose Pond just beyond its junction with the Newcomb Lake Road, the dividing line between wilderness and wild forest.
- ! Identify and evaluate specific sites to improve access for the disabled consistent with the APSLMP and ADA.
- ! Motor vehicle and mountain bike prohibitions will be enforced.
- ! Monitor public use.
- ! Restrict camping structures to only tents, tarps, lean-tos, or those composed of snow in the wilderness. This is necessary to eliminate travel trailers, "pop-up" style campers, tent trailers, or structures of similar fashion brought into the interior by horses.

UPPER WORKS - TAHAWUS

Management Area: Eastern and western High Peaks Zones; moderate use.

Special Features:

This area is often referred to as the "back door" of the High Peaks Wilderness since it affords the southern approaches to Mt. Marcy, Flowed Lands, and Lake Colden. A hike up Mt. Marcy, via the Calamity Brook trail requires a 10.3 miles one-way trip compared to the Van Hoevenberg Trail which is almost three miles shorter when coming from Adirondak Loj. In addition to the Mt. Marcy trail, other trails lead to Flowed Lands-Lake Colden, Indian Pass and the Duck Hole; all begin at or near this important trailhead. The trailhead, its three associated parking lots, and travel routes to state land are located on the lands of NL Industries. The State of New York has deeded easements for parking and trail access only. No camping, hunting, fishing, or fires are permitted on NL lands.

Current Situation:

Visitor use is moderate, about 8,000 visitors annually and is increasing. Part of this increase may be attributed to visitor crowding at other locations. Parking is restricted by the terms of the easement and can accommodate 30 vehicles in the three designated lots.

Overflow parking on town roads and NL lands is experienced on peak weekends and holidays.

Management Actions:

- ! Monitor recreation use by trailhead registrations, parking lot counts, and on-trail visits.
- ! Any attempts at controlling or reducing use in northern and eastern section of the High Peaks, should consider the "ripple effect", i.e. planned or unintended shifts in use towards this trailhead and its limited ability to handle extra parking and trail use.
- ! Properly sign all parking areas and trails identifying them as an easement across private lands posted to "no camping, hunting and fishing, and no fires". Sign the wilderness (state land) boundary so that visitors know when they have left private land.

LONG LAKE - EAST SHORE

Management Areas: Adirondack Canoe Route and Western High Peaks Zones; heavy use.

Special Features:

The wilderness boundary follows the east shoreline of Long Lake and continues along the east bank of the Raquette River. The Long Lake shoreline is rocky with interspersed sandy beaches, has many sheltered bays, and is heavily wooded. Its miles of scenic shoreline, with the western High Peaks in its background, and its ease of access are outstanding features.

Current Situation:

Characteristic of all easily accessed water-based areas in the Park, use is extremely heavy by boaters and canoeists. The lake's central position on the 90 mile Adirondack Canoe Route from Old Forge to Saranac Lake, adds to its popularity. Large organized canoe groups are the predominate users; however, the area is also popular with family groups. The 132 mile Northville-Lake Placid Trail follows the shoreline for 7.5 miles and attracts many hikers. A separate management zone, 500 feet wide parallel to the lake was established, because of its location, low lying topography, and its particular user groups. Long Lake has 15 lean-tos and 80 campsites; most were created prior to wilderness designation in 1972. These facilities were built in response to heavy visitor demand for water based recreation activities and do not comply with APSLMP sight and sound separation distances. A lean-to inventory has been completed and current policy requires

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that replacement lean-tos be moved back from the lake a minimum distance of 100 feet to comply with the APSLMP. The last campsite inventory was conducted in 1984 and needs updating. The 1984 inventory revealed a preponderance of sites too close to the water and too close to each other. A ban on all campfires on beaches and the immediate shoreline has helped reduce many environmental and visual problems. Prior to the removal of its fire tower, nearby Kempshall Mountain once afforded many fine views of surrounding country; without the tower, there is no view. However, a portion of the trail could be relocated to nearby Blueberry Mt. to take advantage of views from rock outcrops. There is potential to develop canoe-accessed handicapped sites in some bays.

Management Actions:

- ! Pending an assessment of group use along the 90 mile Adirondack Canoe Route, which passes through several wild forest and wilderness areas, the maximum number of persons per campsite will be limited to 12. This is an arbitrary number based on the special circumstances of canoe groups traveling through wild forest and wilderness areas via a single route and has been in effect since 1995.
- ! The Long Lake campsite inventory will be updated and a campsite designation plan developed. As part of the campsite plan, potential access sites for the disabled will be identified. Campsites will be designated by sign.
- ! Closed campsites and former lean-to locations will be posted and all fire rings and/or fireplaces obliterated. These same sites will also be closed to day use for an adequate rest and rehabilitation period.
- ! Continue the campfire ban on beaches and immediate shorelines will continue. This has significantly reduced litter, broken glass, charred debris and rocks, and tree cutting from the lake-shore.
- ! Identify and evaluate specific sites to provide access for the disabled, traveling by boat or canoe, consistent with the APSLMP and ADA.
- ! A portion of the former Kempshall Mt. trail will be relocated to Blueberry Mt. to take advantage of views afforded by Blueberry's rock outcrops. This will require less than 1200 feet of new trail to be built. Beyond the Blueberry turn-off, all maintenance of the Kempshall Mt. trail will be discontinued and the markers removed.
- ! Public use will be monitored by on-site visits and assessments of resource condition.

THE GARDEN - KEENE VALLEY

Management Area: Eastern High Peaks Zone & Johns Brook Primitive Area; heavy use.

Special Features:

The Garden is a major trailhead and parking facility at the eastern edge of the High Peaks Wilderness. It is the second most popular trailhead in the High Peaks Wilderness. The parking facility is situated on a deeded easement at the end of a private road 1.6 miles from the village of Keene Valley. The first 1.3 miles of this road is a Keene town highway; the remaining 0.3 miles are private road. State lands abound south and west; private lands (homes) lie north and east. The easement was acquired in 1968 to address parking problems associated with increased recreational use in the Johns Brook Valley. A 50 car parking lot was constructed in 1970 atop a former vegetable garden. The easement grants public parking privileges only; it does not grant specific reserved parking rights to private property owners in the Johns Brook Valley.

Current Situation:

1998 trail registrations exceeded 20,000 visitors. Winter use is increasing significantly. The 50 vehicle parking capacity is routinely surpassed throughout the summer and fall weekends and holidays in September and October. Vehicles are parked everywhere imaginable when the lot is full. They park illegally on private land, in ditches, off-road in between trees, in residential driveways, and across barricades. A car or bus parked in the wrong location can inadvertently close the road to all traffic including fire trucks and other emergency vehicles. Guard rails were installed on the north portion of the private road in 1993 to protect private property. DEC forest rangers are stationed on Inter Brook Road, the main access road to The Garden during peak weekends and holidays to control parking and direct the overflow visitors to alternate locations. The Town of Keene has established a "no parking" zone on the upper section of this road, but requires enforcement by the State Police. The Town of Keene operated a shuttle bus on Columbus Day weekend of 1998 on a trial basis to alleviate parking problems. DEC managers, Town of Keene officials, private landowners, and other interested parties desire to seek a cooperative approach to resolve this problem.

Management Actions:

- ! Convene a working group consisting of adjoining private landowners, Town of Keene, and DEC to address public parking issues in this vicinity, commencing in YEAR ONE. The working group is expected to produce the following:

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- # A listing of parking alternatives and other actions necessary to alleviate the problems.
- # Clearly identify the role and legal authority of each party to address parking issues.
- # A written agreement in principle will define the role of each party.
- # This group will provide a draft parking plan subject to public input and comment by YEAR TWO.
- # Finalize the parking plan and begin initial implementation by YEAR THREE.
- ! Pending a development of a comprehensive and cooperative parking plan by DEC and the Town of Keene, it will be necessary for DEC to continue a "uniformed" staff position at The Garden during busy weekends and holidays.
- ! In addition to the Town of Keene's parking ban on the Interbrook Road leading to The Garden Road, request the town also make this section of road a "No Parking - Tow Away" zone.
- ! The present capacity of the parking facility will be held at 50 vehicles. Expansion of the facility is not feasible due to steep terrain nor is it desirable given the already high visitor use in the Johns Brook Valley.
- ! Potential visitors should be made aware of alternate parking locations or alternate trailheads to avoid overcrowding at this location as prescribed by future parking plans.

JOHNS BROOK PRIMITIVE AREA

Management Area: Johns Brook Primitive Area; use heavy.

Special Features:

This is a long sliver of land in the Town Keene consisting of a right-of-way 1.3 miles in length across state lands to several private parcels enclosed by the High Peaks Wilderness. The right-of-way serves as a boundary south of Johns Brook. The Phelps Trail, also known as the Johns Brook or Northside Trail, is the primitive area's northern boundary. It is a high use trail, beginning at The Garden and ending at Mt. Marcy's summit 9.1 miles away. This trail is the main access route to Johns Brook Interior Outpost (3.1 miles) and to the Adirondack Mountain Club's Johns Brook Lodge (3.5 miles), which offers overnight accommodations, food and drinks, and information to hikers. The Club does not provide any parking facilities for its John Brook properties and does not have deeded parking rights to The Garden. The aforementioned right-of-way is an unimproved road, referred to locally as the Southside Trail, or simply as the "tractor road" and is not

open to public motor vehicle use. The lower approaches of this road, towards Keene Valley have been closed to general public use by private landowners. DEC no longer maintains this portion and has recommended deletion of this route in area guidebooks. The Adirondack Mountain Club deleted reference to the trail in its guide books and maps years ago (Goodwin, 1994). DEC has attempted to purchase private properties in the primitive area in order to consolidate State lands.

Current Situation:

The primitive area, which is essentially a travel corridor, sustains high hiker use from the Phelps Trail. Visitor use of this trail surpasses 20,000 hikers annually. Use south of the brook is undocumented, but is substantially less. Motorized vehicle use of the right-of-way is a permitted non-conforming use and is restricted to interior deeded landowners. The Johns Brook Interior Outpost is a DEC facility staffed seasonally by an interior caretaker. Although identified as a non-conforming use and structure by the APSLMP, its removal cannot be scheduled by a fixed deadline until such time when the private lands lying above it might be acquired (APSLMP, 1987). Three lean-tos (Bear Brook, Deer Brook and Howard) are located in the narrow confines of the primitive corridor and violate APSLMP setbacks from water. All three pose potential human waste problems. Bear Brook is 0.9 miles from The Garden trailhead, lies less than 35 feet from water and 30 feet from a high use trunk trail. Its close proximity to the trailhead makes it a favored party spot. Deer Brook lean-to, located farther up the valley at 1.3 miles from The Garden, is located too close to water (less than 100 feet) and sustains heavy use. It can be relocated to more favorable sites in order to conform with APSLMP guidelines and DEC policy. Howard lean-to sited near the Johns Brook Interior Outpost is just 15 feet from Johns Brook.

Management Actions:

- ! Continue acquisition efforts, under the terms of the Open Space Plan and the Environmental Protection Act, to acquire those private inholdings in the Upper Johns Brook enclosed by the High Peaks wilderness.
- ! Identify, mark, and sign boundary lines between state and private land.
- ! Retain and staff the Johns Brook Interior Outpost for an indefinite period or until such time the aforementioned private inholdings are acquired by the State and the area is reclassified to wilderness.
- ! Discontinue major maintenance on Bear Brook and Howard lean-tos. They will be phased out and not replaced at the end of their useful life.

- ! Relocate Deer Brook lean-to to conform with the APSLMP and DEC policy guidelines.

MARCY DAM

Management Area: Eastern High Peaks Zone; intense use.

Special Features:

Marcy Dam is a relatively easy 2.1 miles walk from the Adirondack Loj. It is highly scenic location with a three acre pond which adds to its aesthetic quality. The Van Hoevenberg Trail, the shortest route to Mt. Marcy, passes through Marcy Dam. In fact, every hiker leaving Adirondack Loj for the High Peaks interior, not going to Indian Pass or Algonquin Peak, will pass through Marcy Dam. It is an integral part of a high use corridor extending from South Meadows through Lake Colden and Flowed Lands.

Current Situation:

Total visitor use crossing Marcy Dam bridge, from Adirondack Loj, is estimated at 40,000 visitors annually, another 10,000 visitors converge on Marcy Dam from South Meadows. Visitor use is non-stop from May to October and picks up again mid-winter. It is an area popular with all user groups, and especially first-time campers and novices. It is common to have 150 people camped here a night during the summer. Demand for lean-tos and campsites is intense most weekends and holidays. Marcy Dam is often used as a destination point and as an "overflow" camping area when all other interior locations are full. With no way to turn back potential campers, DEC personnel have had to let people camp illegally on site. A seasonal interior caretaker is employed to perform maintenance and provide education and information.

Prior to wilderness designation, this area was managed as a developed recreation facility and has a legacy of many man-made improvements in a wilderness setting. The Joint Legislative Committee on Natural Resources expressed concern about the extent of these facilities in 1960 and their effect on visitation (1960 Legislative Document No. 33). Although there has been a reduction in facilities, the area currently has four lean-tos; one able to accommodate 16 people, a picnic area with tables and fireplaces, a registration booth, 30 campsites, 7 pit privies, 4 major trail junctions, an interior outpost and garage, telephone lines, and a former truck trail (road) from South Meadows. The pond is impounded by a large dam.

All facilities sustain heavy use. Over 60% of the campsites violate APSLMP sound and sight separation distances and are too close to water. There is little or no privacy between campsites. It is an area where main trails pass through main camp areas. Some

sites, as little as 15 feet from the Van Hoesenberg Trail, may have 400 or more visitors pass by in a single day. All sites show soil compaction, trampling, and vegetation loss. Dead and down firewood is non-existent within a 500 foot radius of the pond; the actual firewood gathering area now exceeds 1,000 feet in all directions. Illegal tree cutting for firewood is a major problem. Sanitary facilities (pit privies) require constant maintenance. Numerous user-created paths leading to the pond contribute to shoreline loss.

The APSLMP acknowledges the heavy use at Marcy Dam exceeds wilderness guidelines and mandates the elimination of illegal and improperly located campsites. In conjunction with this guideline, one lean-to cluster (more than two closely spaced lean-tos) was removed in 1996; one lean-to was removed and the other was relocated from Marcy Dam Island. This reduced a sense of crowding and improved the visual center of attraction (the pond). The APSLMP also requires DEC to phase out the interior outpost (and garage), once DEC has achieved peripheral control of its most heavily used trailheads leading into this area. This requires a significant reduction and redistribution of use throughout the South Meadows, Marcy Dam, Lake Colden -Flowed Lands corridor. DEC, given the current high level of use the area sustains, has deferred removal of the Marcy Dam Interior Outpost until a peripheral control plan is formulated and implemented.

Management Actions:

- ! Inventory and map all campsites and potential campsites.
- ! Identify and designate campsites that are consistent with the APSLMP.
- ! Delineate, via map, the bounds of the Designated Camping Area. This will become part of the campsite plan.
- ! In the Designated Camping Area users may not select at-large campsites but must use designated sites.
- ! Closed campsites in the designated area will be left to recover from past use; they will be identified by sign and their closure enforced.
- ! Identify and evaluate specific sites to improve access for the disabled consistent with the APSLMP and ADA.
- ! The above will be incorporated in an overall designated campsite plan for the South Meadows - Marcy Dam - Lake Colden - Flowed Lands corridor by YEAR THREE.
- ! Removal of the Marcy Dam interior outpost and garage will be coordinated with the above campsite plan and the construction of the 100 car parking lot and the Visitor's Service Facility (VSF) at the junction of South Meadows and the Adirondack Loj roads. The latter is scheduled for completion in YEAR TWO.

Section IX: Special Area Plans

Once these peripheral control facilities are in place the Marcy Dam Interior Outpost will be removed.

- ! Marcy Dam lean-tos will be considered for replacement and relocation at the end of their useful life in accordance with APSLMP requirements and DEC policy.
- ! Open campfires will be prohibited in the eastern High Peaks zone including Marcy Dam. Many years of campfires in this location have caused severe damage to the ecosystem. This requirement is intended to halt further damage to vegetation and reduce debris, garbage, broken glass, charred stumps, and rocks left in fire rings. All fire rings and fireplaces will be removed. This prohibition will be addressed in the unit's information and education program, in trailhead messages, by sign and map, and through staff contact. All messages must clearly communicate the rationale behind this restriction. Camp stoves are recommended at all wilderness locations.
- ! All pets will be leashed on designated trails and in the designated camping areas. No pets will be left unattended at anytime and must be under the complete control of the owner or handler.
- ! Marcy Dam (the structure) will be left "as is" until time for replacement. DEC's Dam Safety Unit will conduct periodic inspections of the structure.
- ! Marcy Dam will always be a major attraction requiring a high level of DEC management and presence. This must be considered in all work and staffing plans.
- ! The overhead telephone line and poles to Marcy Dam, 3.5 miles in length, will be removed and replaced with an on-ground line by YEAR TWO as has been done between Marcy Dam and Lake Colden.

LAKE COLDEN - FLOWED LANDS

Management Area: Eastern High Peaks Zone; intense use.

Special Features:

Lake Colden and Flowed Lands lies in the heaviest used travel corridor in the HPWC. The corridor runs from South Meadows, Marcy Dam, Avalanche Lake, Lake Colden, Flowed Lands, and on to the Upper Works. This travel corridor accommodates in excess of 100,000 visitors annually, about 75% of all HPWC use.

Lake Colden and Flowed Lands occupy a small and extremely narrow basin enclosed by many of the unit's highest mountains. Seven major trails provide direct access to the basin. Lake Colden is the largest water body in the eastern High Peaks Management zone. It offers spectacular scenery, and serves as an ideal base camp for climbing the surrounding peaks. Flowed Lands is a former man-made lake whose dam was breached by

flood in 1978. The dam was not replaced and the impoundment site has reverted to natural vegetation and its feeder stream, the Opalescent River, has returned to its natural stream bed. Few "camp able" spots are available beyond the basin due to steep terrain. A unique feature of Lake Colden is its interior outpost which is manned year round.

Current Situation:

Lake Colden and Flowed Lands and especially the area between the two, is a main destination point for overnight users. This area has suffered heavy physical and social impacts, mostly at campsites. Past designated campsite programs have proved ineffective due to low level of implementation and enforcement. The camping area is routinely over capacity 18-20 times a year during the snow-free season. Use "mushrooms" on weekends and holidays through to Columbus Day. Over 250 campers have been counted in a single night (Merritt, 1994). This number greatly exceeds the number of designated campsites and lean-tos. Campers, on these occasions, occupy almost every bare spot in the basin. DEC, for visitor safety reasons, has had to let people camp illegally when all sites are full. This usually happens in mid to late afternoon when it is too late to disperse users. When Lake Colden and Flowed Lands are at capacity, it means the "hotel is full" throughout the travel corridor. Personnel attempt to avert this situation by detouring potential campers at trailheads and intermediate locations to more alternative sites and are directed to close the Eastern High Peaks Zones to further camping when all interior locations and parking lots are full.

A 1993 site inventory showed significant reduction in ground cover, soil compaction, heavy tree cutting, campfire damage and debris, evidence of dish washing, broken glass and garbage in streams, improper human waste disposal, re-occupancy of closed sites, and further coalescing of designated and user-created sites. The latter has greatly expanded the impacted area to cover much of the basin. Most campsites and lean-tos are located too close to water, in most cases less than 60 feet. Few satisfy APSLMP requirements.

Social Indicators:

This area, as it currently exists, does not meet APSLMP criteria for a "primitive and unconfined type of recreation". It is an area where day and overnight users intermix - main trails pass through main camp areas. Day use during August accounts for 40% of use while overnight use was 60%. Encounters between parties can easily exceed 50 per day. Almost all campsites are within sight and sound of each other. Excessive noise and visitor crowding is a major concern of many visitors. Illegal tree cutting for firewood has further reduced screening. Some sites are separated only by rocks or boulders. Interior

Section IX: Special Area Plans

caretakers refer to the camping area on the southeast shore of Lake Colden as "day-glow city" in reference to the number of nighttime campfires and lanterns. Availability of people food and garbage have attracted bears to the area on a regular basis; they are active day and night and easily lose fear of humans. Pet problems are common; threatening gestures, bites, dog fights, barking, conflicts and harassment of wildlife, and fecal contamination of water sources and campsites.

Management Actions:

All management actions in this section are designed to reduce use, misuse, and abuse in the Lake Colden-Flowed Lands Basin. These actions are considered the minimum necessary to bring this area in to conformance with the APSLMP.

- ! Inventory and map all campsites and potential campsites.
- ! Identify and designate those that are consistent with the APSLMP.
- ! Delineate, via map, the bounds of the Designated Camping Area. This will become part of the campsite plan.
- ! In the Designated Camping Area users may not select at-large campsites but must use designated sites.
- ! Closed campsites in the designated area will be left to recover from past use. Closed sites will be identified by sign and the closure will be enforced.
- ! The above will be incorporated in an overall designated campsite plan for the South Meadows - Marcy Dam - Lake Colden - Flowed Lands corridor by YEAR THREE
- ! Information and education will be provided to potential visitors so that they can make intelligent choices as to whether to camp or not camp in this area. Information will be provided on visitor densities, availability of campsites, peak use periods, and problems likely to be encountered, such as bears. A variety of formats will be used from written messages on trailhead registration cards, to signage, and personal contacts. Guidebook information will be screened; additions and deletions will be suggested to guidebook authors. It is important to provide pre-trip information to all visitors.
- ! All lean-tos will be relocated to APSLMP setbacks or removed at the end of their "use" life. If suitable relocation sites cannot be found as per DEC policy, they will not be replaced.
- ! Site rehabilitation of closed sites will continue and be expanded.
- ! Limited signing will be used at entry points, intermediate locations, and in the basin to alert users of administrative changes in this area.

- ! Pets will be leashed at all times on designated trails, campsites and lean-tos. No pet may be left unattended at any time and must be under the complete control of the owner or handler at all times.
- ! All campfires will be prohibited. Camp stoves will be required and their use addressed in all information and education programs. All fire rings and fireplaces will be removed.
- ! All programs, to be effective will require more employees for a high level of DEC presence and management to ensure a high level of compliance. Greater communication will be needed to inform potential campers early in their trip when all the campsites are full so they can make adjustments in their travel plans and seek alternative areas. This will require coordination with DEC personnel throughout the unit; especially those stationed at Adirondak Loj, Marcy Dam, and Johns Brook.
- ! Managers should be aware that any change in administration of this area will cause resultant shifts in use and impacts elsewhere; especially the proliferation of undesirable campsites in other locations. Visitors entering through the Upper Works Trailhead at Tahawus must be considered in all management decisions and actions.

LAKE COLDEN INTERIOR OUTPOST

Management Area: Eastern High Peaks Zone; intense use.

Special Features:

The APSLMP acknowledges the unique and necessary features of this facility; particularly its strategic location in a high use/high risk area for search and rescue needs. The latter has been demonstrated numerous times and has saved lives. The interior outpost (cabin) burned in March of 1998. In July, APA and DEC amended their 1985 MOU for major projects in areas without an approved unit management plan to address replacement of the outpost in a manner consistent with APSLMP wilderness guidelines. The amended MOU also requires DEC to conduct periodic reviews of the status, of all interior outposts in the High Peaks Wilderness and the associated on-ground telephone lines that serve them, every three years, to determine if their removal is feasible. The outpost was replaced in the fall of 1998 and the amended MOU will expire when a unit management plan is adopted for the area. The outpost is staffed year round by caretakers and has telephone and radio communication and stored emergency equipment. Attempts to establish cellular telephone communication links to replace the cable line telephone have been unsuccessful. A nearby clearing adjoining Lake Colden is used for a helicopter landing spot. The caretakers are

Section IX: Special Area Plans

responsible for back country maintenance of the Lake Colden-Flowed Lands basin. The caretakers also provide on-site information and education to interior visitors and assist the forest ranger force, but have no law enforcement authority.

Current Situation:

Demands on this facility and the caretaker have grown tremendously with increasing use, especially in winter. The facility is supplied by helicopter during periods of low visitor use. Both the Division of Operations and the Division of Lands and Forests have had to reduce or suspend interior programs in order to maintain and staff the outpost. Without a manned facility at this location, all management, maintenance, and safety programs in the eastern High Peaks would be seriously compromised. It currently costs \$70,000 per year to staff and maintain the facility.

Management Action:

! Maintain and staff the Lake Colden Interior Outpost consistent with the APSLMP.

DUCK HOLE

Management Area: Western High Peaks Zone; low to moderate use.

Special Features:

The Duck Hole is a 61-acre body of water in a highly scenic, narrow basin, rimmed by MacNaughton, Santanoni, Sawteeth, and Seymour Mountains. The basin serves as a main trail intersection for four trails: the Bradley Pond Trail, the Lake Placid-Northville Trail, the Henderson Lake Trail, and the Ward Brook Trail. Its remoteness, 6.9 miles from the nearest trailhead and any public road, is one of its outstanding features.

Current Situation:

This area is a main travel corridor accessing the western High Peaks and serves as an important camping area adjacent to a highly attractive body of water. An interior outpost (formerly a ranger station) was sited there until removed as a non-conforming use in 1977. Duck Hole Pond is maintained by two small rock and wood crib dams, both have sustained extensive ice damage and require replacement. Two lean-tos are situated on the northwest side of the pond; Duck Hole Lean-to #2 was relocated in 1997 to a 100 foot setback from water as required by the APSLMP.

Management Actions:

- ! Request the DEC's Dam Safety Unit conduct a thorough structural inspection of the Duck Hole Dams. The results of this inspection will be used in an overall environmental assessment, cost benefit study as to whether or not to replace or de-water the dams.

- ! Site conditions will be monitored to detect unnatural changes in the Duck Hole basin on an annual basis.

AVERYVILLE

Management Area: Western High Peaks Zone; low use.

Special Features:

Averyville Road is at the northern terminus of the 132 mile Northville- Lake Placid Trail. The Averyville trailhead is 1.2 miles from Lake Placid. The trailhead is located near the Chubb River bridge; there is a small turnout at this point to park 2-3 vehicles.

Current Situation:

This section of the Northville-Lake Placid Trail serves less than 1,000 visitors annually. The trailhead was rehabilitated and expanded to 7 vehicles with APA concurrence in conjunction with a NYS Department of Transportation project to reconstruct the Chubb River bridge in 1997. There is also a second, lesser used parking area located 0.1 mile west of the main trailhead. The latter facility is located 75 feet off the Averyville Road and is fully screened by vegetation. The semi-secluded location of this parking area, near the village, invites illegal dumping and is used as a nighttime party spot. Hiker vehicles have been vandalized and burglarized. The area forest ranger and local police have requested the parking lot be closed in favor of the Chubb River parking lot. Canoeists, to avoid the Chubb River Rapids above the bridge, also park along the road near this location.

Management Actions:

- ! Close and barricade, and revegetate the upper parking area. Expand the off-shoulder parking at this location to provide canoeists' access to the Upper Chubb River.

- ! Monitor public use by trailhead registrations, on-site inspections and routine patrols.

WALLFACE MOUNTAIN

Management Area: Western High Peaks Zone; low use.

Special Features:

Wallface Mountain, elevation 3,700 feet, is the main feature of this compartment. It lies just west of Indian Pass. Wallface's huge cliff faces have a well deserved reputation for rock climbing. For mountaineers, the exposed rock faces and rocky approaches can be a difficult and challenging climb. The mountain is also home to many rare, threatened, and endangered plant species. Nesting peregrine falcons, an endangered species, have been confirmed. The steep cliffs provide natural protection to these birds from unnatural threats.

Current Situation:

Wallface Mt. is a designated Nature Conservancy Natural Areas Registry Site and has been studied by the New York Natural Heritage Program. Ecological boundaries have been mapped and field studies are continuing. Researchers and rock climbers are the ones most likely to impact the site. The steep, forbidding terrain is not likely to attract heavy recreational use. Current use is not known. Adirondack rock climbers have assisted the Bureau of Wildlife in providing peregrine sightings and in helping to identify rock climbing routes which should be closed to protect breeding birds. Five closure routes have been identified.

Management Actions:

- ! Rare, threatened, and endangered species research programs will continue.
- ! More extensive inventory and monitoring programs will be developed to gather data on the location and use of climbing and access routes.
- ! Route closures will remain in effect from April 1 to August 15 to protect the peregrine's period of sensitivity for nesting and rearing of young.
- ! Closure signs will be posted at trailheads, departure points from main trails, and at access route approaches. Route closures and the rationale for these restrictions will be addressed by an extensive information and education effort conducted by the Bureau of Wildlife.
- ! Cooperative working agreements with the rock climbing community will continue.
- ! Implement management restrictions only if use exceeds limits of acceptable change.
- ! Except for signs, no facility development will occur on Wallface Mountain.

SOUTH MEADOWS AND SOUTH MEADOWS ROAD

Management Area: Eastern High Peaks Zone; heavy use.

Special Features:

South Meadows is a small clearing accessible by South Meadows Road, a dirt road open to motor vehicles one mile east of the Adirondack Loj Road. The South Meadows Road is totally enclosed by the HPWC; it provides no access to private property. Thirty primitive campsites are located on both sides of the road and many are clustered at its terminus on a small height of land above the Ausable River. The road also provides trailhead access to the Mt. Van Hoevenberg Trail, the Klondike Trail, and the South Meadows- former Marcy Dam truck trail. The latter is closed to all motor vehicles including DEC vehicles except in case of "sudden and on-going" emergencies as prescribed by the APSLMP. The former fire truck trail is a 2.6 mile long gravel road leading to Marcy Dam.

Current Situation:

This complex is a high use travel corridor and camping area at the base of the High Peaks. The actual number of persons using the road is not known, but is significant given the number of motor vehicles parked in two small parking areas that accommodate a total of 50 vehicles and along the shoulders of the one mile long road. DEC staff routinely count over 100 vehicles parked in the South Meadows area on peak visitor days and holidays. 190 vehicles were parked there on October 11, 1994 at the height of the Columbus Day Weekend. A 1998 Columbus Day vehicle count indicated 126 cars parked along the road. Traditionally this area has served as an "overflow" parking area when Adirondack Loj's parking lots (capacity 200 cars) are full. Campsite occupancy is high. It is a favored camping area for organized groups, families, and novices. Winter use is heavy by cross-country skiers because of its trail connections to the High Peaks interior, Adirondack Loj, and ORDA's Mt. Van Hoevenberg Winter Sports Complex.

The APSLMP lists South Meadows Road as a non-conforming use constituting an intrusion into the HPWC and mandates DEC, under its legal authority, to close the road to motor vehicle use at its intersection with the Adirondack Loj Road which forms the wilderness boundary. Closure of the road is to be accomplished in concert with measures to control or limit use in the most heavily used northern portions of the HPWC (APSLMP, 1987). South Meadows Road is a Town of North Elba maintained highway and does not provide access to private property. Although DEC has the legal authority, under section 212 of the NYS Highway Law, to close the road atop lands under its administrative authority, DEC prefers to close the road in cooperation with the Town of North Elba.

Section IX: Special Area Plans

Total closure of South Meadows Road will cause a significant redistribution of use throughout the HPWC and have the potential to impact the recreation facilities of the Adirondack Mountain Club's Adirondak Loj, one mile away. The High Peaks Citizens Advisory Committee (CAC) in July of 1992 recommended the construction of a new 40-50 vehicle parking lot near the intersection of the Adirondak Loj and South Meadows Roads, the same point where the APSLMP requires South Meadows Road to be closed to motor vehicles. CAC recommendation was intended to keep the parking lot size consistent with the current capacity of the two off-road parking lots found near the end of the road. DEC reviewed this proposal in 1993 and recommended parking capacity be increased to 100 vehicles. This number was derived from the total capacity of the two aforementioned off-road parking lots plus an additional 50 vehicles that routinely park along the sides of the road. The larger parking capacity was presented to the public in the 1994 draft unit management plan and comments were received. A decision to retain the 100 vehicles parking lot capacity was made after review and analysis of the public comments.

Over 60,000 wilderness visitors pass by the proposed site each year. DEC forest rangers use this location on busy weekends and holidays as a control point to turn back late visitors once all designated and roadside parking areas beyond the intersection are full.

The CAC further recommended DEC establish a greater presence at its most heavily used trailheads by providing an on-site visitor service facility near the main gateway(s) to the High Peaks. The lack of an on-site DEC permanent presence has become more noticeable as visitor use increases with accompanying communication problems between visitors and the Department. Much of this communication void to date has been assumed by private organizations, stores, outfitters, guidebook authors, etc. to disperse High Peaks information. The assistance is gratefully accepted; however the CAC felt DEC should take a greater lead in this endeavor on-site; especially to meet visitors before they enter the wilderness. Studies have shown that the presence of DEC forest rangers and staff at entrances, on duty, and visibly managing resources have a positive impact on visitors (Manning, 1986). DEC managers also requested an administrative facility be built nearby to service interior management programs, and provide a base for search and rescue operations.

Management Actions:

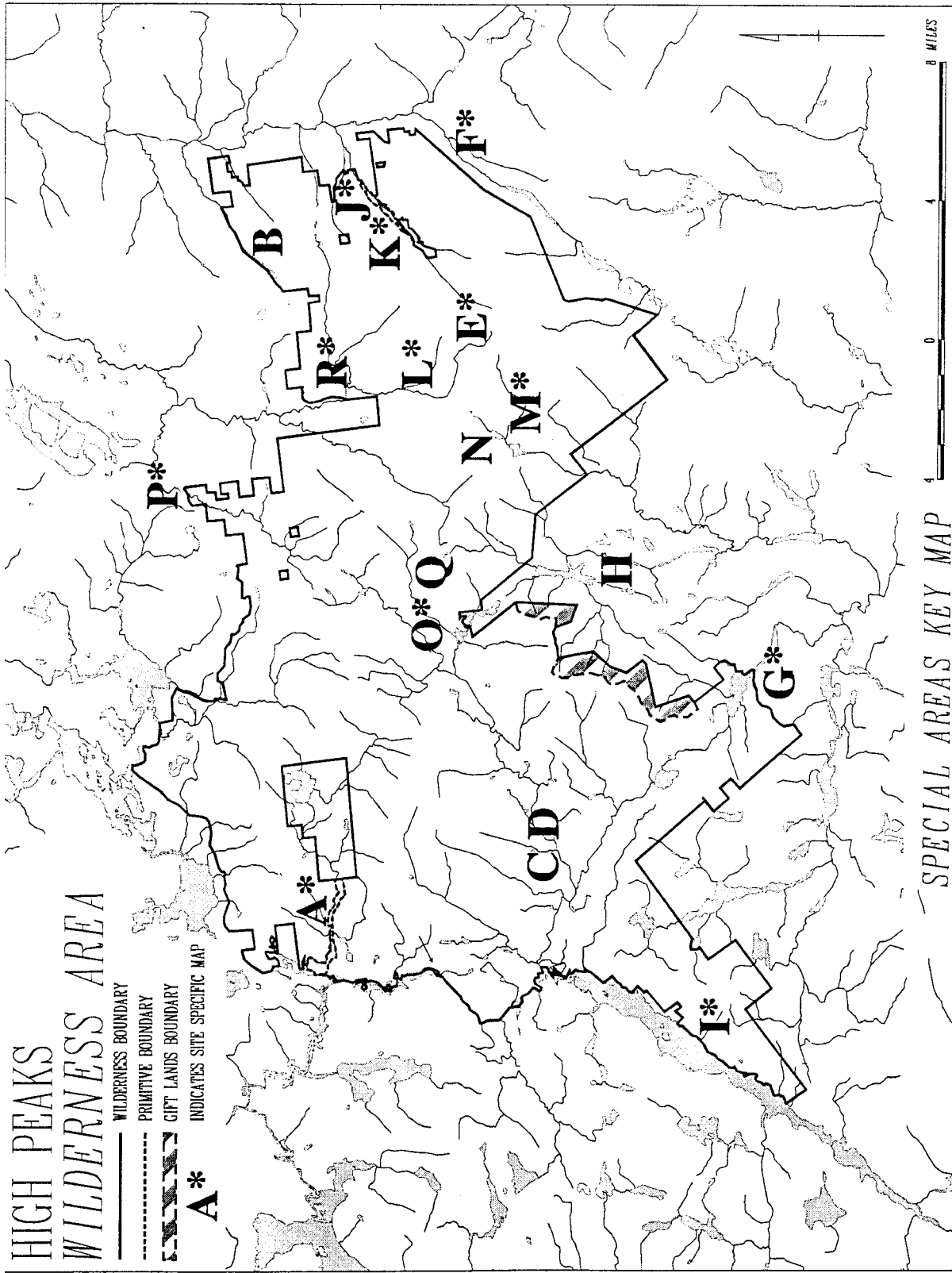
All management actions in this special area require a cooperative effort and concurrence of all affected parties: the DEC, Adirondack Mountain Club, and the Town of North Elba. All events must be planned in advance and done sequentially, working from interior wilderness locations toward the wilderness boundary in order to bring this area into compliance with the APSLMP.

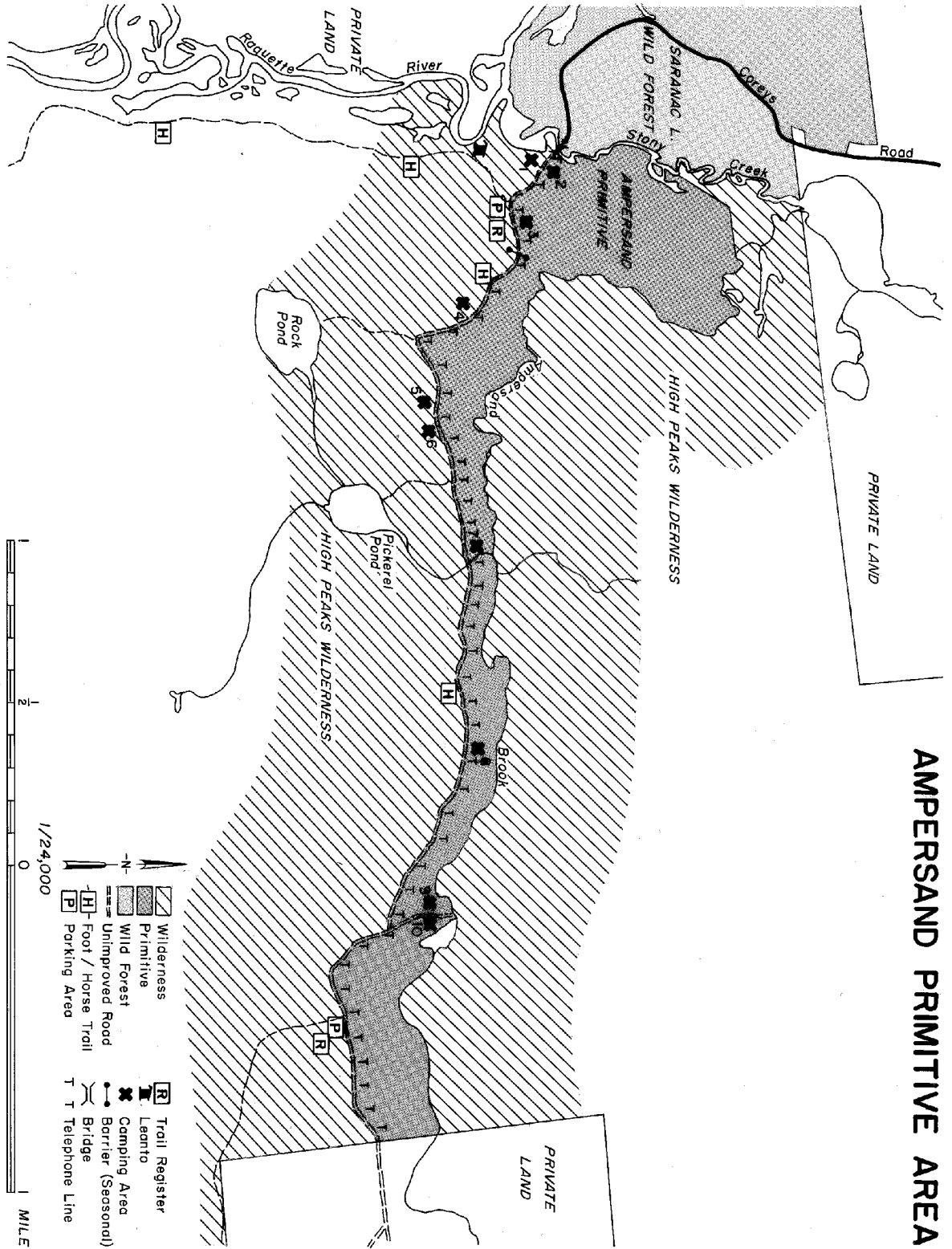
- ! In coordination with a planned reduction and redistribution of interior campsites for the entire eastern High Peaks zone, a campsite designation plan will be developed for the South Meadows -Marcy Dam - Lake Colden - Flowed Lands corridor. This plan will address closure of heavily impacted and illegal campsites, restoration of closed sites, disbursement of campsites to comply with APSLMP guidelines. The Designated Campsite Plan will also identify potential new campsites that meet APSLMP criteria; particularly to that area north of South Meadows road and those areas along the entire length of the former Marcy Dam Truck Trail. This action must be completed by YEAR THREE.
- ! Concurrently, DEC will construct a new 100 vehicles South Meadows parking facility near the intersection of Adirondack Loj and South Meadows Roads within 500 feet of the wilderness boundary as permitted by the APSLMP, making this the main point of entry into the HPWC. In conjunction, DEC will request the Adirondack Mountain Club voluntarily hold their parking lots to a maximum capacity of 200 vehicles. A coordinated effort is required and reference is made to ADK's Heart Lake Property Master Plan (1992) for the Club's position. The South Meadows parking lot will be constructed by YEAR TWO.
- ! A visitor service facility (VSF) will be constructed at the above location to establish an on-site administrative presence in the high use eastern High Peaks zone. Conceptually, the VSF will include the following: an administration building with restrooms, handicap access, potable water, offices, a lobby-information area, and be supported by "1-800/888" toll free or "1-900" self-sustaining telephone service. The VSF's function would, in part, ameliorate the removal of the Marcy Dam interior outpost.
- ! Identify and evaluate specific sites to improve access for the disabled consistent with the APSLMP and ADA.
- ! DEC and the Town of North Elba will post and enforce a "No Parking" zone along the entire length of the South Meadows Road with the present end-of-road turn around left as an interim "drop off - pick up" point.
- ! In addition, DEC will continue to work with the Town of North Elba to address illegal parking issues and enforcement along the Adirondack Loj Road in order to maintain safe traffic flow and insure the safety of pedestrians.
- ! Following construction of the parking lot and visitor service facility, posting of the South Meadows Road against parking, and development of a designated campsite plan, camping along the South Meadows Road will be managed by assignment of campsites. Campers will be required to register at the VSF.

Section IX: Special Area Plans

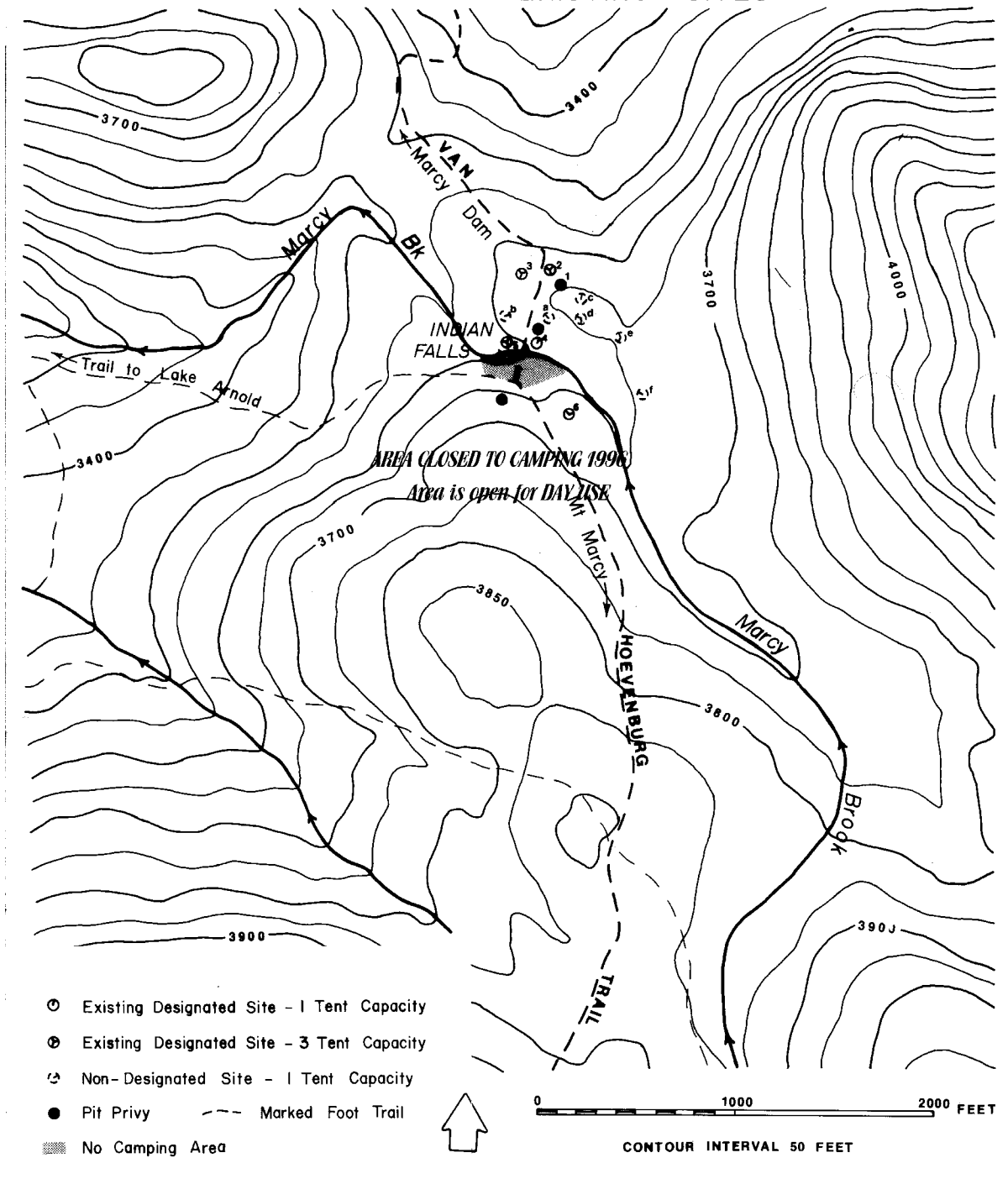
- ! Further discussions will be held with the Town of North Elba to address the future status of South Meadows Road. Within the five year life of this Unit Management Plan, said discussions will result in actions which bring the status of South Meadows Road into conformance with the State Land Master Plan.
- ! All actions will be in accordance with the APSLMP, New York State Highway Law, and the State Environmental Quality Review Act (SEQRA).
- ! All actions will be fully communicated to all users, user groups, and local government officials of impending changes. The legal requirements and intent of these actions to improve wilderness quality will be explained through multi-media approaches to request public support and understanding.

SPECIAL USE AREA MAPS







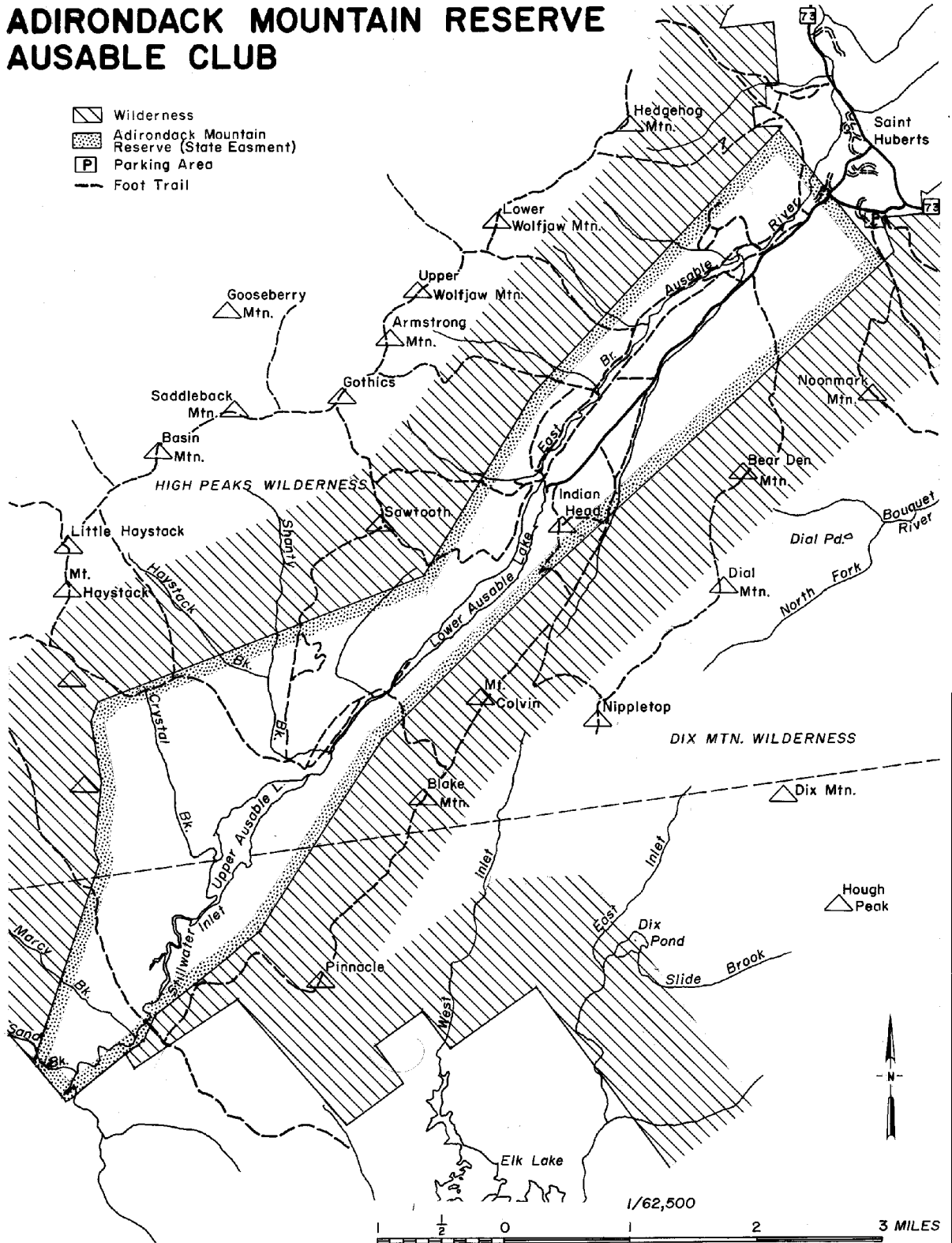


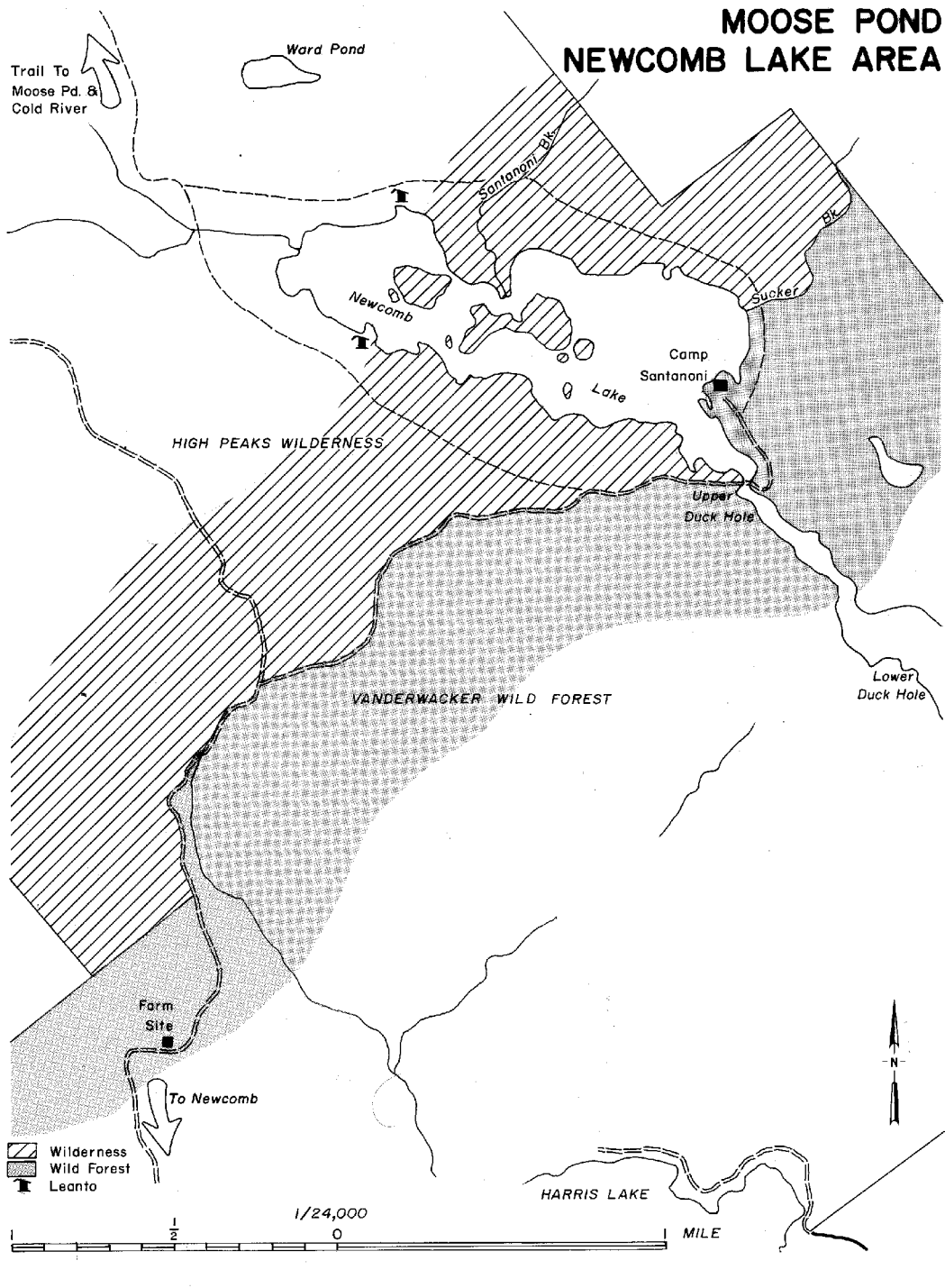
INDIAN FALLS CAMPING AREA EXISTING SITES





ADIRONDACK MOUNTAIN RESERVE AUSABLE CLUB

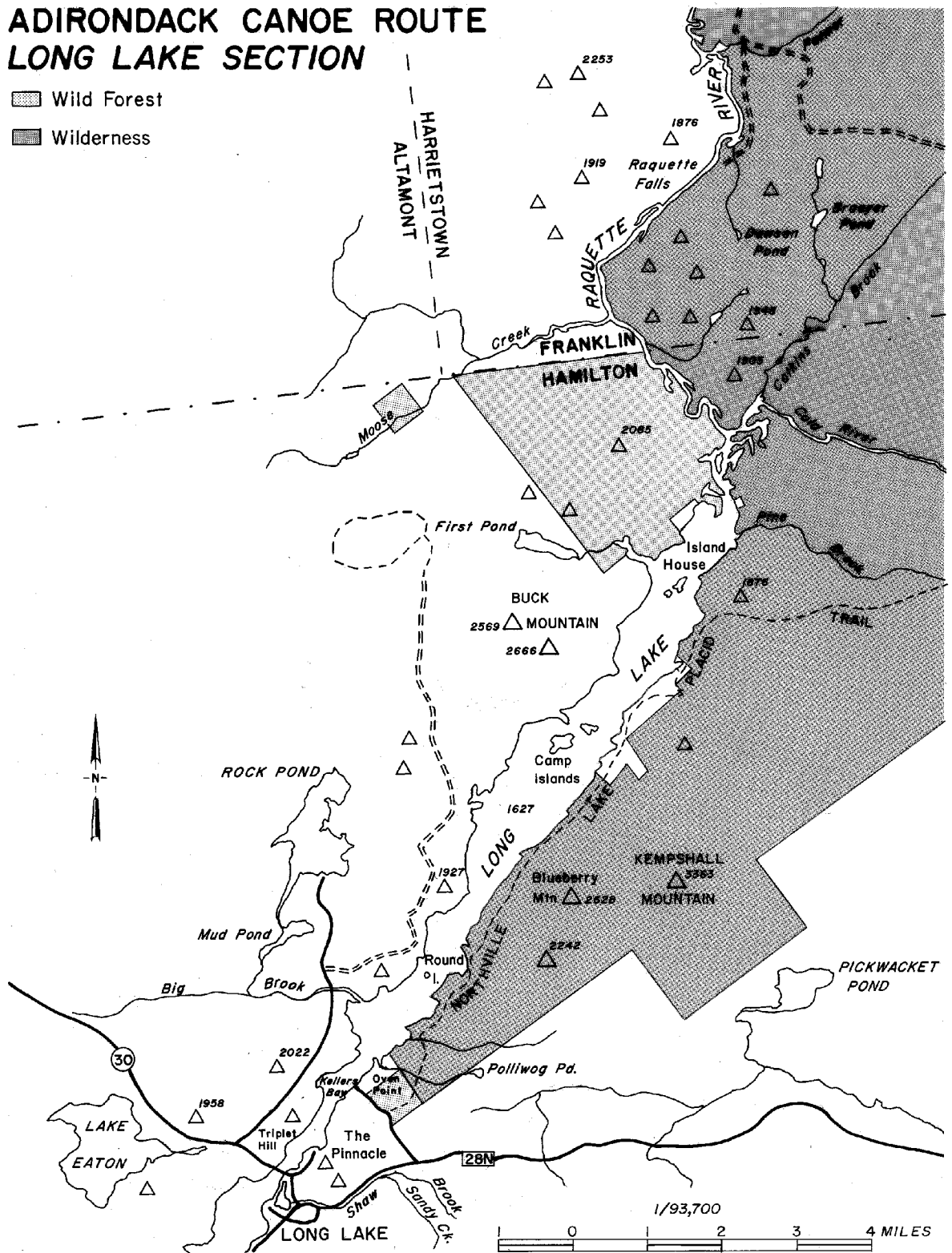
-  Wilderness
-  Adirondack Mountain Reserve (State Easment)
-  Parking Area
-  Foot Trail





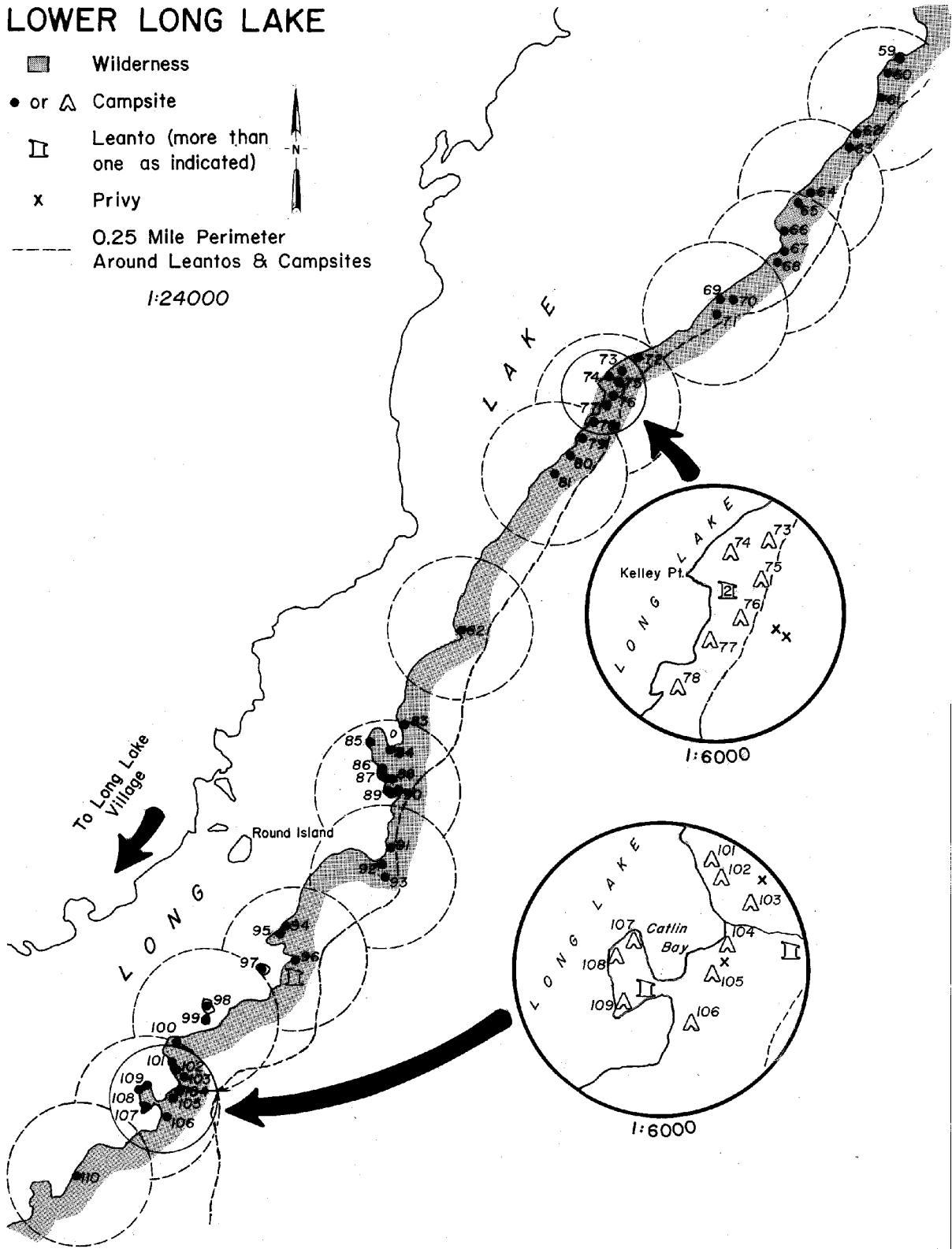
ADIRONDACK CANOE ROUTE LONG LAKE SECTION

-  Wild Forest
-  Wilderness

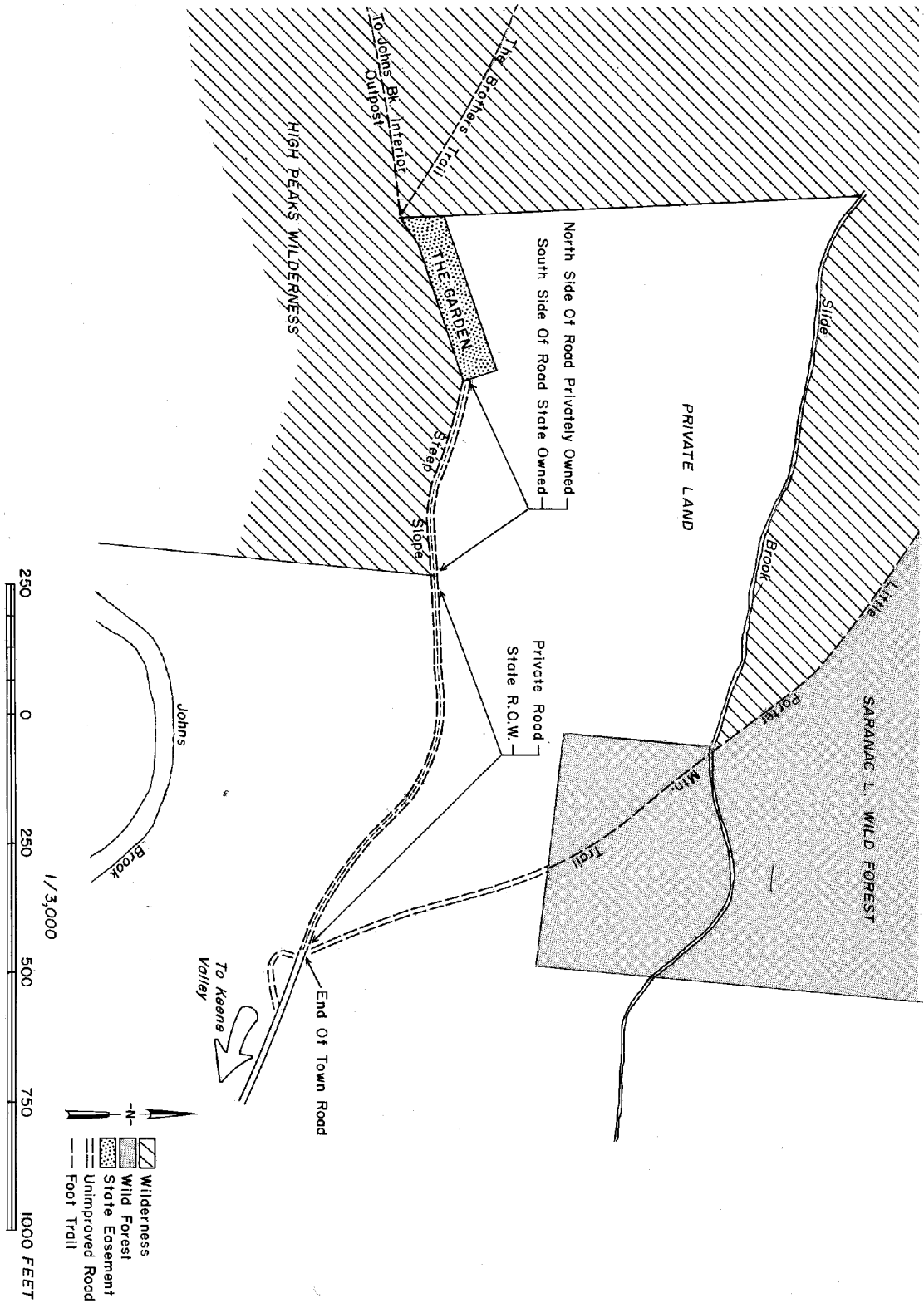


LOWER LONG LAKE

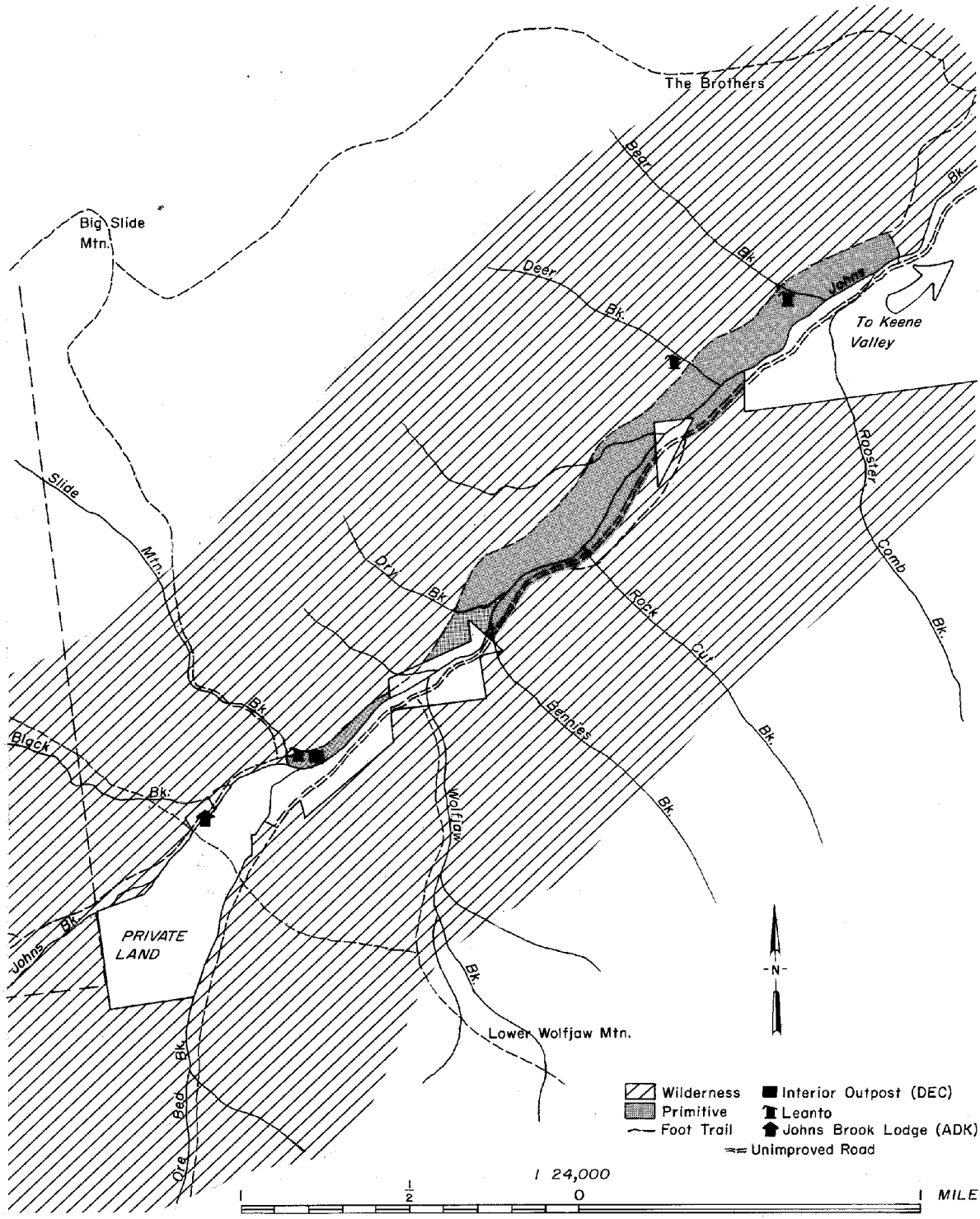
- Wilderness
 - or ▲ Campsite
 - Leanto (more than one as indicated)
 - x Privy
 - 0.25 Mile Perimeter Around Leantos & Campsites
- 1:24000

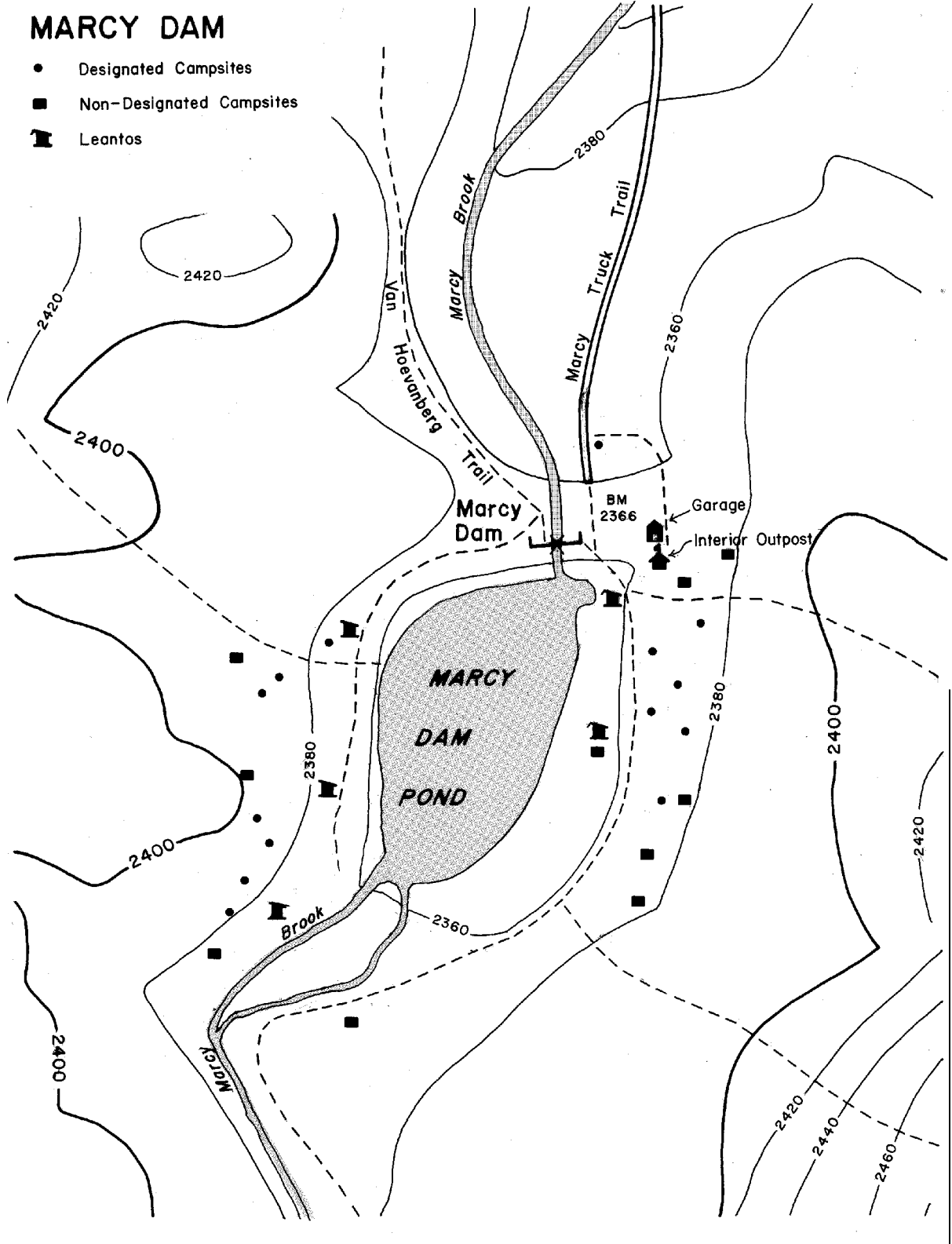


THE GARDEN PARKING AREA



JOHNS BROOK PRIMITIVE AREA

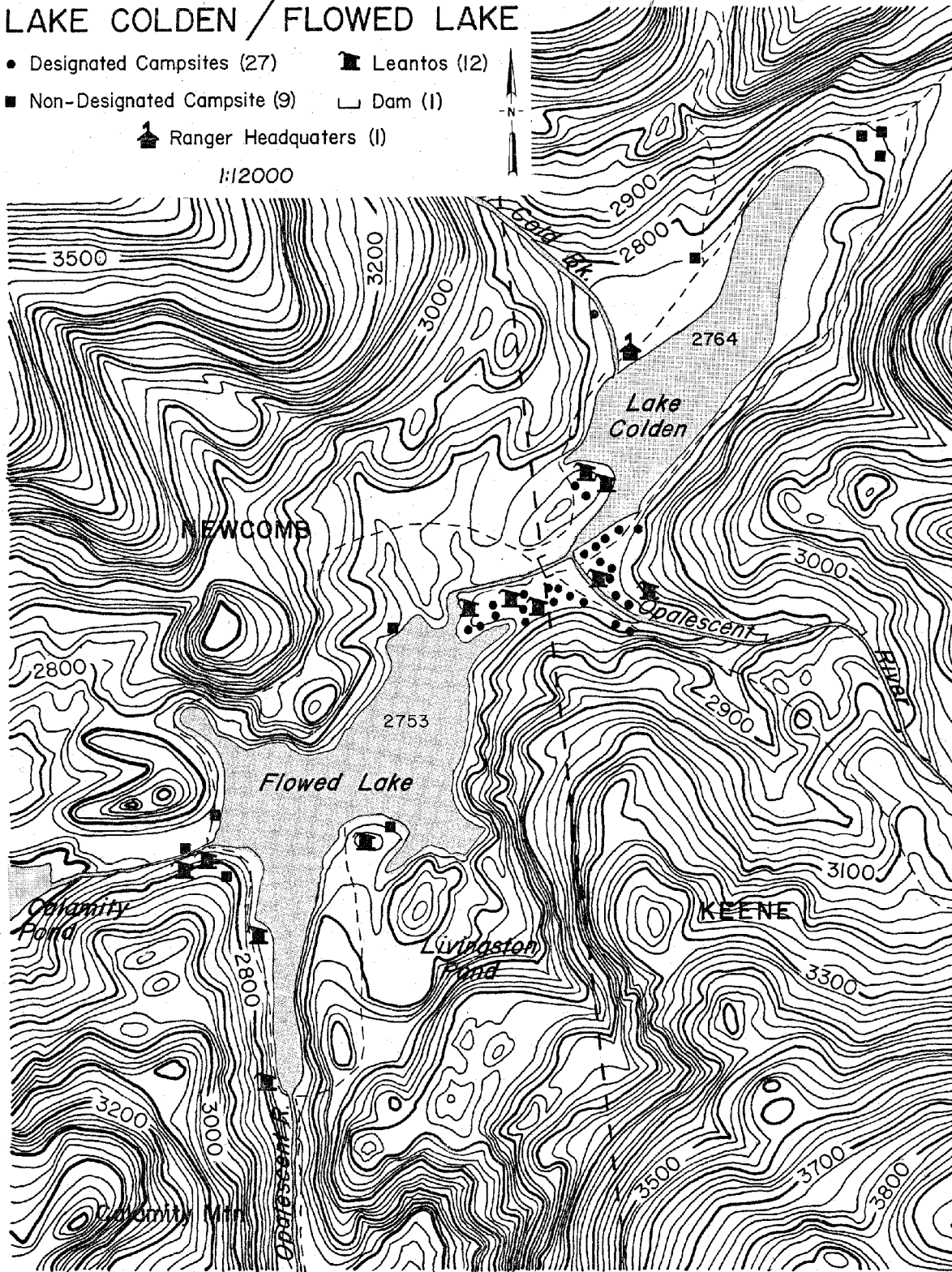


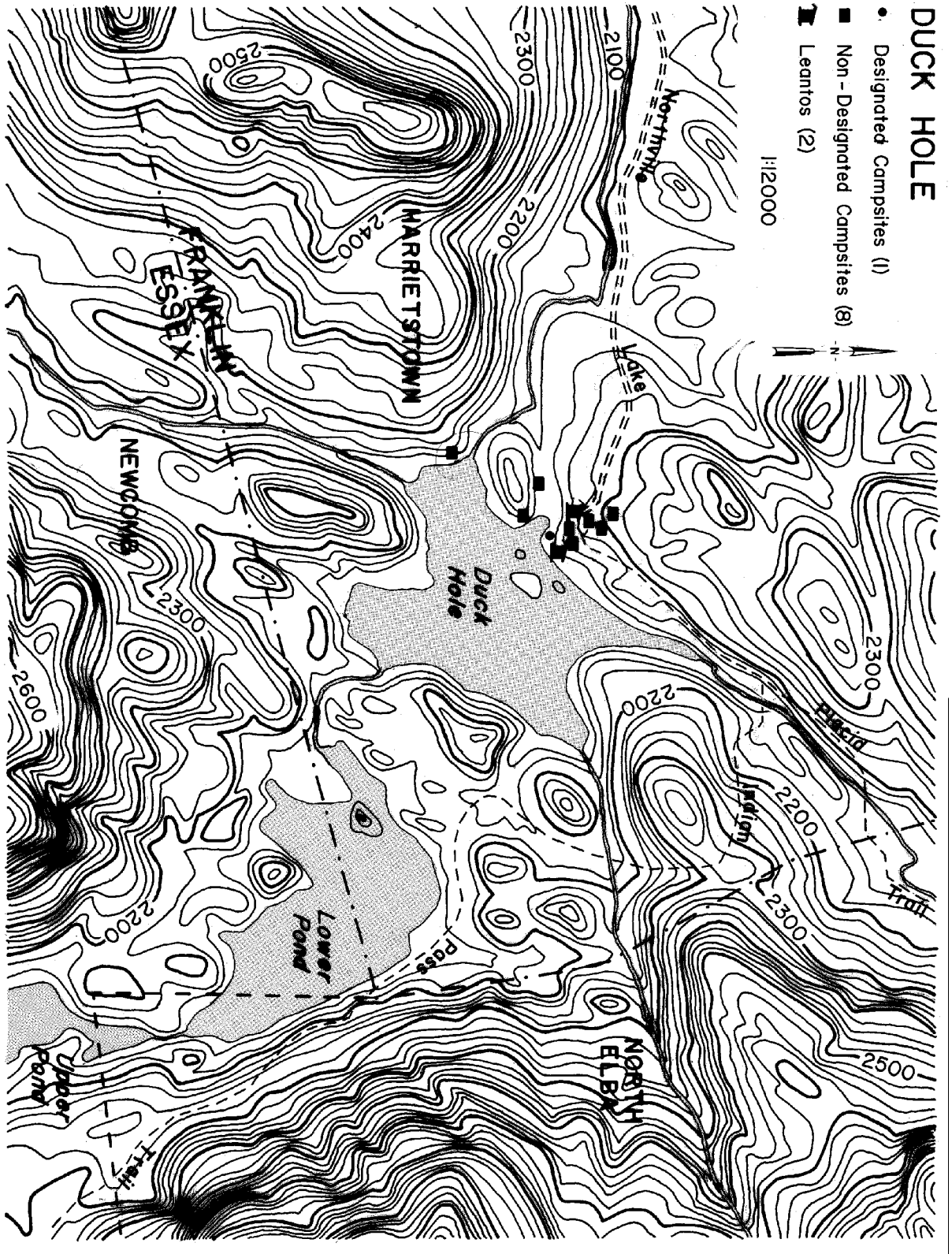


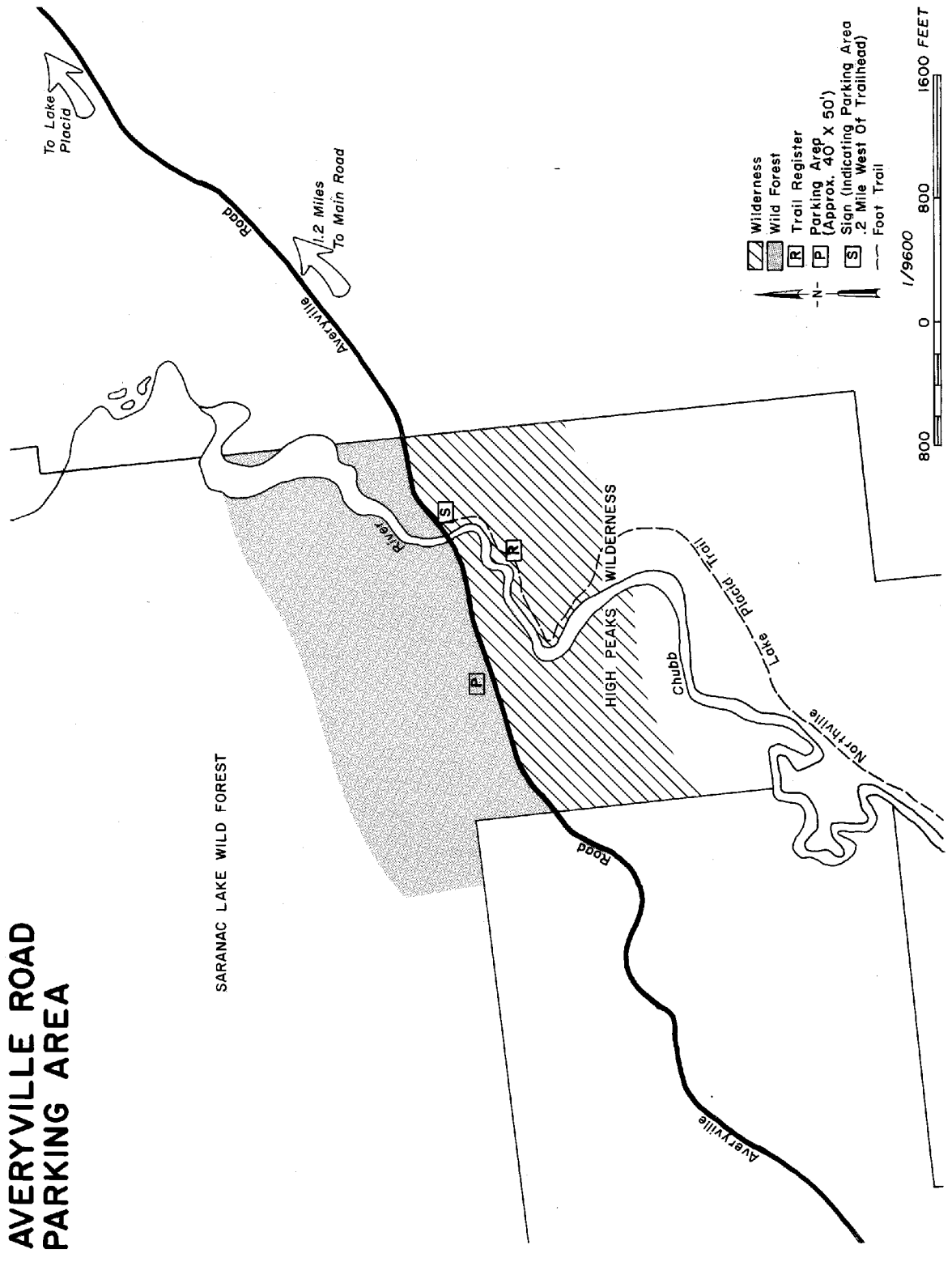
LAKE COLDEN / FLOWED LAKE

- Designated Campsites (27)
- Non-Designated Campsite (9)
- 🏠 Ranger Headquarters (1)
- 🏠 Leantos (12)
- ▭ Dam (1)

1:12000







**AVERYVILLE ROAD
PARKING AREA**

SARANAC LAKE WILD FOREST

HIGH PEAKS
WILDERNESS

Averyville
Road

Road

Chubb

Lake Placid Trail

Averyville
Road

1.2 Miles
To Main Road

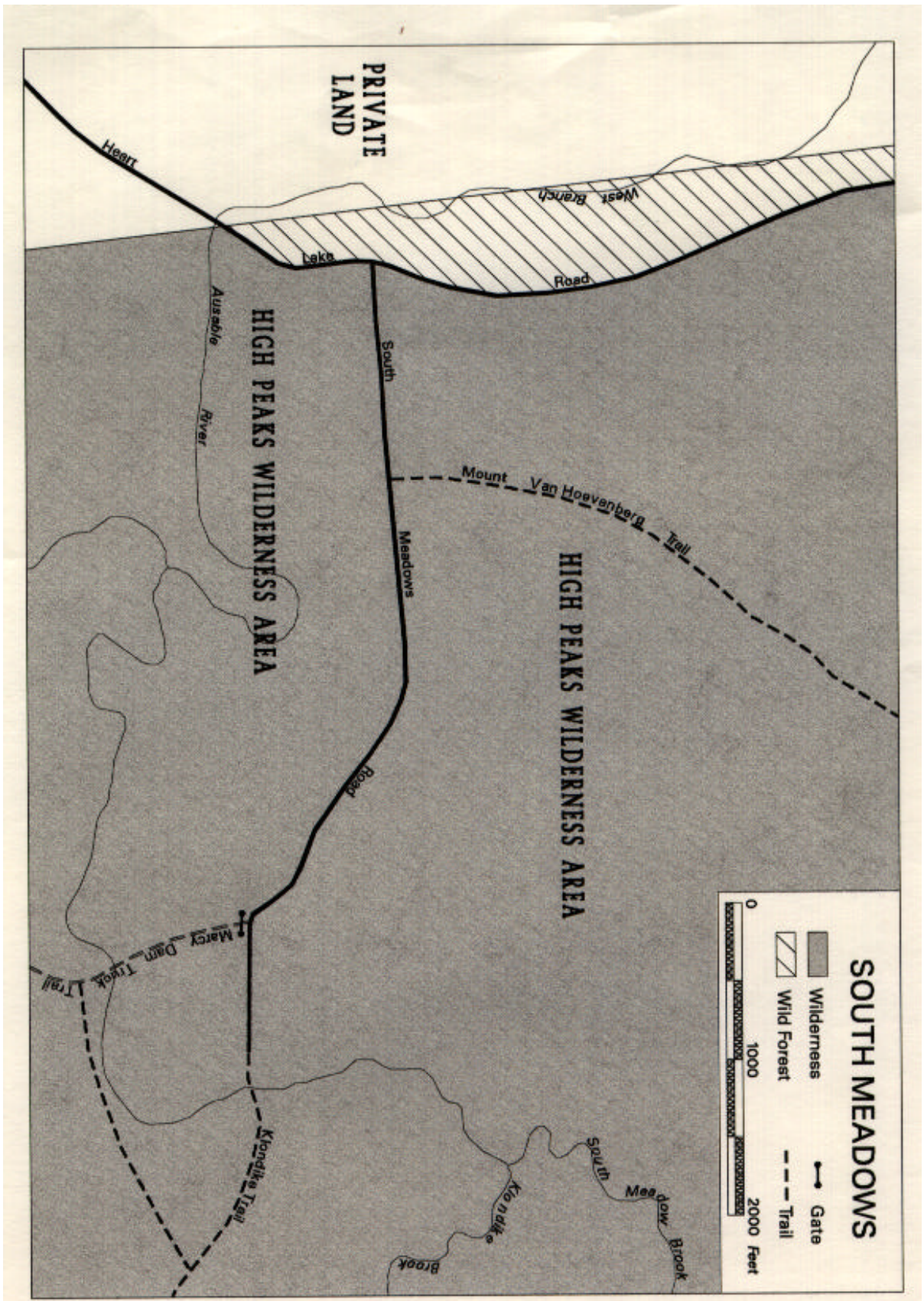
To Lake
Placid

Legend:

- Wilderness
- Wild Forest
- Trail Register
- Parking Area (Approx. 40' X 50')
- Sign (Indicating Parking Area .2 Mile West Of Trailhead)
- Foot Trail

Scale: 0, 800, 1600 FEET

North Arrow



SECTION X

SCHEDULE FOR IMPLEMENTATION AND BUDGETING

The wilderness management program detailed in Sections VIII and IX will be implemented through a five year time frame based on available resources. Minimum staff requirements are projected for the first year only. The target date(s) for implementing each management action will be arrived at by considering priorities for long-term protection and preservation of the HPWC's wilderness character, Region 5's manpower/workday capabilities, and time frames which govern DEC's budget process (tables follow). The fact that some actions are prerequisites for others was also a primary consideration in deriving this schedule.

It is possible that not all actions planned for a particular year can be implemented on schedule. Under such circumstances, implementation priorities may have to be adjusted. Priority will be given to actions required to continue resource protection programs. Any action delayed will be undertaken as funding becomes available. All estimates are based on 1998 labor, materials, and equipment costs.

The plan specifically does not identify funding sources. These processes are beyond the scope of the unit management planning process.

STAFF REQUIREMENTS

Minimum staff requirements to begin implementing this plan for the first year are presented below. Thereafter, staffing needs will be assessed annually based on the plan's rate of progress toward achieving its goals.

- ! **Area Manager:** "The air traffic controller" to oversee and coordinate all management activities in the HPWC so that wilderness goals and the objectives are attained. To be appointed by the Regional Director.

- ! **Assistant Area Manager(s):** "In-the-field" managers. To be appointed by Area Manager from existing Region 5 staff.

- ! **Fish, Wildlife, Lands and Forests, and Operations (interior maintenance):** Staff requirements have been factored into projects costs in the **Schedule for Implementation** program area with the exception of the following:

Section X: Schedule for Implementation and Budgeting

- P Forest Rangers: Two (2) additional full-time positions to be added to existing staff.

- P Assistant Forest Rangers: Five (5) additional to be added to existing staff (area wide):

- P Interior Caretakers: (2) Lake Colden (to include winter operation), and (1 each) for seasonal operation of Marcy Dam, Johns Brook, and Raquette Falls

**SCHEDULE OF IMPLEMENTATION
YEAR ONE**

ACTIVITY	COST
1. Appoint Unit Manager from existing staff.	\$ -0-
2. Inventory all campsites and lean-tos. Develop campsite designation plan for whole unit.	12,000
3. Develop comprehensive HPWC information and education program in coordination with the pending Adirondack Forest Preserve Public Use and Information Plan.	5,000
4. Promulgate new rules and regulations.	-0-
5. Prepare, print, and distribute HPWC brochure; general location map; new guidelines, etc.	5,000
6. Redesign and update trailhead bulletin boards (all locations) and trail registers.	8,000
7. Develop LAC guidelines and standards to monitor environmental and sociological conditions.	-0-
8. Request voluntary trail closures during wet weather.	-0-
9. Conduct safety inspections of the Duck Hole and Marcy Dams.	-0-
10. Develop wilderness search and rescue preplan.	-0-
11. Implement trails classification system and maintenance schedules.	-0-
12. Rehabilitate 5 miles of Cold River Horse Trail System.	15,000

Section X: Schedule for Implementation and Budgeting

13.	Fund contractual trail rehabilitation projects:	
a.	Indian Falls - Lake Arnold	2,000
b.	Mt. Colden	2,000
c.	Ampersand Mountain	6,000
d.	Big Slide Mountain	2,000
e.	Feldspar Brook Bridge Rehab	3,000
f.	Northville-Lake Placid/Moose Pond Trail	2,000
14.	Fund volunteer Project: Wright Peak, Ampersand, Avalanche Pass, Northville-Lake Placid Trail/Long Lake, and Duck Hole.	6,000
15.	Fund ATIS projects.	4,000
16.	Support summit steward program and co-sponsor alpine vegetation restoration project with outside partners.	6,000
17.	Fund annual routine maintenance of facilities; interior outposts, trails, campsites, lean-tos, privies, litter removal, bridges, signs, etc.	125,000
18.	Maintain 20 miles of boundary lines.	10,000
19.	Reclaim Rock Pond (R-P196).	6,300
20.	Survey six potential reclamation/liming candidate ponds.	3,000
21.	Sign Cascade Lakes, Newcomb Lake, and Moose Pond prohibiting the use of baitfish.	-0-

(Year One)

SCHEDULE OF IMPLEMENTATION YEAR TWO

ACTIVITY	COST
1. Construct 100 vehicle parking facility at junction of Adirondack Loj Road and South Meadows Road.	\$125,000
2. Request Town of North Elba parking ban - entire length of South Meadows Road (1.0 mile) and establish additional "No Parking" zones along the Adirondack Loj Road where warranted.	-0-
3. Construct High Peaks Visitor Service Facility.	100,000
4. Remove 3.5 miles of overhead telephone line and poles from South Meadows Road to Marcy Dam; replace with on-ground cable as prescribed by APSLMP.	24,000
5. Reconstruct Ouluska Brook footbridge.	12,000
6. Rehabilitate 5 miles of Cold River Horse Trail system.	15,000
7. Fund contractual trail rehabilitation projects:	
a. Ampersand Mountain	6,000
b. Mt. Colden	3,000
c. Avalanche Pass	2,000
d. Panther Gorge	2,000
e. Shorey Cut-off	2,000
8. Fund ATIS projects.	6,000
9. Fund volunteer assisted projects.	8,000
10. Support summit steward program and co-sponsor alpine vegetation restoration projects with outside partners.	6,000

Section X: Schedule for Implementation and Budgeting

11.	Support information and education programs.	6,000
12.	Request voluntary trail closures during wet weather.	-0-
13.	Maintain 20 miles of boundary lines.	10,000
14.	Annual routine maintenance of facilities; interior outposts, trails, campsites, lean-tos, privies, litter removal, bridges, signs, etc.	130,000
15.	Lime Owl Pond if meets criteria.	3,000
16.	Lime Little Ampersand Pond.	2,700
17.	Lime Upper Wallface Pond - if meets criteria.	3,000
18.	Reclaim Palmer Pond - if warranted.	5,000
19.	Assess mandatory registration program in eastern zone.	-0-

(Year Two)

**SCHEDULE OF IMPLEMENTATION
YEAR THREE**

ACTIVITY	COST
1. Support information and education programs.	\$ 8,000
2. Support summit steward program and co-sponsor alpine vegetation restoration projects with outside partners.	-0-
3. Fund contractual trail rehabilitation projects:	
a. Ampersand Mountain	6,000
b. Shorey Cut-Off	3,000
c. Range Trail (Wolf Jaws)	3,000
d. Maintain past work	3,000
4. Fund volunteer assisted projects.	6,000
5. Fund ATIS projects.	6,000
6. Rehabilitate 5 miles of Cold River Horse Trail system.	15,000
7. Annual routine maintenance of facilities; interior outposts, trails, campsites, lean-tos, signs, bridges, pit privies, litter removal, etc.	135,000
8. Maintain 20 miles of boundary lines.	10,000
9. Reclaim Corner Pond - if barrier dam site present on ESF property.	10,000
10. Reclaim Brueyer Ponds.	3,000
11. Complete designated campsite program for South Meadows to Flowed Lands Corridor; sign conforming sites, construct new campsites, close and rehabilitate worn and/or illegal campsites.	10,000
12. Monitor and assess campsite conditions across the entire unit - all zones; select samples in each zone.	5,000
13. Evaluate plan effectiveness to date - comprehensive review.	-0-

**SCHEDULE OF IMPLEMENTATION
YEAR FOUR**

ACTIVITY	COST
1. Support information and education programs.	\$ 8,000
2. Support summit steward program and co-sponsor alpine vegetation restoration projects with outside partners.	7,000
3. Fund contractual trail rehabilitation projects: a. Range Trail (Wolf Jaws) b. Range Trail (Haystack) c. Indian Pass Trail d. Maintain past work	2,000 3,000 2,000 3,000
4. Fund volunteer assisted projects.	8,000
5. Fund ATIS projects.	6,000
6. Rehabilitate 5 miles of Cold River Horse Trail system.	15,000
7. Annual routine maintenance of facilities; interior outposts, trails, campsites, lean-tos, signs, bridges, pit privies, litter removal, etc.	140,000
8. Maintain 20 miles of boundary lines.	10,000
9. Reclaim Latham Pond - if surveys warrant	2,500
10. Reclaim Little Pine Pond - if barrier possible.	1,000

**SCHEDULE OF IMPLEMENTATION
YEAR FIVE**

ACTIVITY		COST
1.	Support information and education programs.	\$ 8,000
2.	Evaluate need for camping permits based on assessments of campsite conditions and visitor crowding.	-0-
3.	Fund contractual trail rehabilitation projects:	
a.	Range Trail (Haystack)	6,000
b.	Indian Pass Trail	3,000
c.	Northville-Placid Trail	4,000
d.	Maintain past work	3,000
4.	Fund volunteer assisted projects.	8,000
5.	Fund ATIS projects.	6,000
6.	Support summit steward program and co-sponsor alpine vegetation restoration projects with outside partners.	7,000
7.	Annual routine maintenance of interior facilities; interior outposts, trails, campsites, lean-tos, signs, bridges, pit privies, litter removal, etc.	145,000
8.	Maintain 20 miles of boundary lines.	10,000
9.	Reclaim Upper Cascade Lake - if surveys warrant.	20,000
10.	Evaluate plan effectiveness to date - comprehensive review, begin preparation for 5 year revisions of UMP.	-0-

SECTION XI

PLAN REVIEW AND EVALUATION

The HPWC unit management plan must be sensitive to change and must be kept current and relevant. The review and evaluation process provides a mechanism for modifying management policies and actions as may be necessary. The results of this review helps to evaluate the effectiveness of current wilderness management programs and improve future ones. DEC's Region 5 inter-disciplinary task force will conduct annual evaluations of the plan to:

- ! Document completed management actions and adjust work schedules for the following year(s) if necessary.
- ! Monitor resource and sociological conditions to determine if plan objectives are being met consistent with the APSLMP.
- ! Recommended new management actions if needed.
- ! Determine if the plan needs to be revised.
- ! If revisions are warranted, specific proposals will be available for public review and comment, and APSLMP scrutiny before being implemented.

Ordinarily unit management plans are revised every five years after their initial approval (APSLMP, 1987). However as noted above, the plan may be revised sooner when the management actions prescribed no longer meet wilderness management objectives or when a change in the existing situation warrants a new approach. For example, if vegetative conditions continue to show deterioration, the effectiveness of the management actions to preserve and/or enhance naturalness will require reevaluation and lead to implementation of corrective action. Other indicators, such as trail conditions, camping locations, encounters and visitor feedback will be monitored annually. In most cases continued minor impacts can be coped with through different management actions and alternatives. Any material modification in adopted unit management plans will be made following the procedures for original unit plan preparation (APSLMP, 1987).

Annual operating plans, designed to enable the orderly implementation of policy objectives, will be reviewed and updated every year.

ACRONYMS

ADA	American with Disabilities Act
ADK	Adirondack Mountain Club
AFR	Assistant Forest Ranger
ALSC	Adirondack Lakes Survey Corporation
AMR	Adirondack Mountain Reserve, the Ausable Club
ANC	Acid neutralizing capacity
APA	Adirondack Park Agency
APLUDP	Adirondack Park Land Use Development Plan
APSLMP	Adirondack Park State Land Master Plan
ARTC	Adirondack Regional Tourism Council
ATV	All Terrain Vehicle
ATIS	Adirondack Trail Improvement Society
BP	Before Present
CAC	Citizens' Advisory Committee
DEC	Department of Environmental Conservation
DMU	Deer Management Unit
DOC	Department of Corrections
DOT	Department of Transportation
ECL	Environmental Conservation Law
EIS	Environmental Impact Statement
EPA	Environmental Protection Act of 1993
EQBA	Environmental Quality Bond Act
ESF	College of Environmental Science and Forestry
FAA	Federal Aviation Administration
FEIS	Final Environmental Impact Statement
FR	Forest Ranger
HPW	High Peaks Wilderness
HPWC	High Peaks Wilderness Complex
JBL	Johns Brook Lodge
LAC	Limits of Acceptable Change
NBWI	Native-But-Widely-Introduced
NHPC	Natural Heritage Plant Community
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NYCRR	New York Code of Rules and Regulations
NYS	New York State
ORDA	Olympic Regional Development Authority
OSP	Open Space Plan
PPM	Bureau of Forest Preserve, Protection, and Management

Acronyms

SEQRA	State Environmental Quality Review Act
SUNY	State University of New York
TNC	The Nature Conservancy
UFAS	Uniform Accessibility Standards
USGS	United States Geological Survey
UMP	Unit Management Plan
USFS	United States Forest Service
VERP	Visitor Experience and Resource Protection
VSF	Visitor Service Facility
WMU	Wildlife Management Unit

APPENDICES

PLAN PARTICIPATION

PUBLIC INVOLVEMENT

Opportunities for the public to document concerns and identify planning issues were presented in the spring of 1990, through a mailing requesting participation in developing a unit management plan for the HPWC. Ultimately, a 25 member public Task Force was selected from interested people. The Task Force, later renamed the High Peaks Citizens' Advisory Committee represented various organizations, local governments, and individuals in monitoring the planning process, identifying and assessing issues, making recommendations, and reviewing preliminary draft material.

In addition to attending committee meetings, individual members participated on various occasions in conducting inventories and with monitoring wilderness conditions. The time, effort, and patience contributed by the members has been greatly appreciated. Members of the CAC and the interests they represented are listed below:

High Peaks Citizens Advisory Committee, 1990-1992

James C. Dawson, Chair	Professor of Environmental Science, State University of New York Plattsburgh, New York
Jules Comeau	Adirondack 46'ers
Charlotte Demers	The Wildlife Society-NY Chapter
Mark Dollard	Association of Adirondack Scout Camps
William Endicott	Adirondack Conservation Council
John Fontana	Cold River Ranch
David Gibson	The Association for the Protection of the Adirondacks
Tony Goodwin	Adirondack Trail Improvement Society and guidebook author
Roger Gray	Sierra Club - Atlantic Chapter
Harold Heald	Town of Keene
Richard Hunkins	Town of North Elba
Don Jones	Jones Outfitters
E. H. Ketchledge	Educator, Forest Ecologist
Jack LeNoble	Saranac Lake Fish and Game Club
(resigned November, 1991)	
Raymond Masters	Town of Newcomb
Barbara McMartin	Interested citizen and guidebook author

David Nettles	American Fisheries Society- NY Chapter
Dan Plumley (1990-91)	The Adirondack Council
Michael DiNunzio (1991-92)	The Adirondack Council
Kathy Regan	Adirondack Nature Conservancy
Robert J. Ringlee	Adirondack Mountain Club
James D. Rogers	Trout Unlimited
Gail Rogers-Rice (1990)	Town of Harrietstown
Roy Rosenbarker (1991-92)	Town of Harrietstown
John Siau	Interested Citizen
Wesley Suhr	Society of American Foresters, New York Chapter
George Turk	Essex County Federation of Fish and Game Clubs

STATE INVOLVEMENT

Adirondack Park Agency

Charles Scrafford	Supervisor of Regional Planning
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NYS Dept. of Environmental Conservation

James Papero - Project Leader

* Member of the Region 5 Task Force

Kurt Armstrong*	Senior Wildlife Biologist; Ray Brook
Bruce Barnard	Senior Forester; Ray Brook
Clyde Black	Forest Ranger I; Tupper Lake
John Chambers	Forest Ranger I; Minerva
Bruce Coon	Forest Ranger I; Long Lake
Brian Dubay	Interior Caretaker; Lake Colden
John English	Associate Forester; Northville
Richard Fenton	Associate Forester; Albany
Brian Finlayson*	Cartographic Tech. III; Ray Brook
Peter Fish*	Forest Ranger I; Keene
James Giglinto	Forest Ranger I; Rainbow Lake
Lt. John Gillen	Forest Ranger II; Zone A
Dave Gray	Senior Forester; Herkimer
Gary Hodgson	Forest Ranger I; Lake Placid
Keith Hollenbeck	Assist. Forest Ranger; High Peaks
Dale Huyck	Retired; Bureau of Real Property

Philip Johnstone*	Conservation Operations Supervisor, Interior Maintenance Program
Ken Kogut	Senior Wildlife Biologist; Ray Brook
John Kramer	Associate Forester; Canton
Fred LaRow	Forest Ranger I; Keene
Elizabeth Lowe	Citizen's Participation Specialist
Lt. Robert Marone	Forest Ranger II; Zone A
Richard Merritt	Former Interior Caretaker; Lake Colden
Wendy O'Neil	Consultant; Adirondack Forest Preserve, Public Use and Information Plan
James Papero*	Senior Forester; Forest Preserve
Richard Preall*	Senior Aquatic Biologist; Ray Brook
Michael Sheridan	Interior Caretaker; John's Brook
Michael Vilegi	Interior Caretaker; Marcy Dam
Thomas Wahl*	Regional Forester; Region 5
Ben Woodward	Interior Caretaker; Raquette Falls

SUPPORT SERVICES

Mary Buckley	Natural Resources; Ray Book
Diana Fortune	Natural Resources; Ray Book
Louise Johnson	Natural Resources; Northville
Gail Stiffy	Natural Resources; Northville
Cindy Trummer	Natural Resources; Ray Brook

HIGH PEAKS ALPINE ECOLOGICAL ZONE

(Adapted from DiNunzio, 1972)

PEAK	ALTITUDE feet	TOTAL ACRES	VEGETATED ACRES
Marcy	5,344	15.2	6.6
Algonquin	5,114	21.6	13.5
Boundary I	4,840	3.4	1.6
Boundary II	4,780	0.8	0.4
Northwest Algonquin	4,100	1.3	0.7
Northwest Algonquin, Bluff I	3,900	0.2	0.1
Northwest Algonquin, Bluff II	3,740	0.1	0.1
Haystack	4,960	18.5	6.5
Little Haystack	4,700	2.7	0.9
Skylight	4,926	3.6	1.9
Iroquois	4,840	4.6	2.4
Southwest Iroquois	4,500	0.3	0.2
Basin	4,827	1.0	0.6
Gothics	4,736	1.0	0.8
Colden	4,714	0.8	0.6
Northeast Colden	4,560	0.5	0.3
Wright	4,580	5.5	2.8
Northwest Wright	3,840	0.2	0.1
TOTALS:		81.3	40.1

MANAGEMENT ZONE

DESCRIPTIONS, GUIDELINES AND POLICY

ADIRONDACK CANOE ROUTE (High Peaks Portion)

Resource Setting:

Characterized by a predominantly unmodified natural environment where ecological and natural processes in many locations are substantially affected by users. Environmental impacts are generally quite high near lake shores and riparian areas. Impacts often persist from year to year and at some sites there may be moderate loss of vegetation and soil. Impacts are readily apparent to most visitors. However, impacts can be substantially reduced through user controls and greater emphasis on education.

Social Setting:

Moderate to low opportunities for exploring and experiencing isolation from the sights and sounds of man, with the probability of encountering other area users being moderate to high. The user has the opportunity for a high degree of interaction with the natural environment, often with low or moderate challenge and risk. Some parties will camp out of sight and sound of other parties, but this will not be common during July and August.

Managerial Setting:

Management will be oriented to sustaining and enhancing the natural environment. There will be frequent opportunity for visitor contact with management personnel. In addition to on-site contacts with DEC personnel, necessary rules and regulations will be communicated to visitors outside of the area. Information concerning wilderness management objectives, avoidance of user conflicts, fire use, and other pertinent subjects will be presented. Formal and informal user education programs will be initiated to inform users about what to expect and how to use the area with minimal impact on the environment. Additional rules and regulations may be necessary to achieve management objectives and permits may be considered only when light-handed, less restrictive measures have failed to achieve desired goals and objectives. Facilities will be kept to the minimum necessary for resource protection and user safety. Facilities, when constructed, will emphasize the use of natural materials. All facilities should harmonize with the natural environment.

EASTERN HIGH PEAKS

Resource Setting:

Generally characterized by a predominantly unmodified natural environment; however, ecological and natural processes in many locations are substantially affected by the actions of users. Environmental impacts are generally quite high in areas near major entry points, on main trunk trails, at campsites, along stream sides and lake shores, and on mountain summits. Impacts often persist year to year and at some sites there may be moderate to heavy loss of vegetation and soil. Impacts are readily apparent to most visitors. However, on most sites impacts can be substantially reduced through user controls and greater emphasis on education.

Social Setting:

Moderate to low opportunities for exploring and experiencing isolation from the signs and sounds of man with the probability of encountering other area users moderate to very high. The user has the opportunity for a high degree of interaction with the natural environment, often with low to moderate challenge and risk. Some parties will camp out of sight and sound of each other, but this will not be common during the main-use season, May through October.

Managerial Setting:

Management will be oriented to sustaining and enhancing the natural environment. There will be frequent opportunity for visitor contact with management personnel. Necessary rules and regulations will be communicated to visitors before they enter the area. Emphasis will be on pre-trip planning and minimum impact hiking and camping. Formal and informal education programs will be initiated to inform visitors about what to expect and how to use the area safely with minimal impact on the environment and themselves. Additional rules and regulations maybe necessary to achieve wilderness management objectives and permits may be considered only when light-handed, less restrictive measures have failed to achieved desired goals and objectives. Signs in the interior will be minimally placed to aid in dispersing use and for resource protection purposes. Trails will normally be constructed, maintained and managed to accommodate heavy traffic for the majority of the use season. Some heavily used trails may be closed during wet weather. Trails will be designed and maintained to blend in with the natural features of the area. Facilities and improvements will be limited to those necessary for resource protection, and user safety.

WESTERN HIGH PEAKS

RESOURCE SETTING:

Characterized as an essentially remote unmodified natural environment where ecological and natural processes only in a few areas are affected by the actions of users. Environmental impacts are low to moderate with many areas along trails, stream crossings, and at campsites showing moderate loss of vegetation and soil. Impacts in some areas often persist from year to year and are apparent to most visitors.

SOCIAL SETTING:

Moderate opportunities for exploring and experiencing isolation from the signs and sounds of man, with low probability of encountering other visitors once in the interior. The user has moderate to high opportunities for experiencing independence, closeness to nature, solitude, and self-reliance through the application of primitive recreational skills. These opportunities occur in a remote natural environment that normally offers a moderate to high degree of challenge and risk. Contact with other visitors both on the trail and at campsites will be low to moderate.

MANAGERIAL SETTING:

Management will emphasize sustaining the natural environment and preserving a sense of remoteness and solitude. On-site contact with management personnel will be minimal. Necessary rules and regulations will generally be communicated outside the area at trailheads and through written materials. Information concerning protection of site-specific wilderness resources will be presented. Formal and informal user education programs will be initiated to inform users about what to expect and how to use the area safely with minimum impact. Greater education and information efforts need to be directed towards visitors using horses in this zone. Additional rules and regulations may be necessary if monitoring shows that desired goals and objectives are not met. Permits may be considered in the future only when light-handed, less restrictive measures have failed to improve wilderness conditions. A large portion of the area will be set aside as a permanent "trail-less" area to preserve a sense of remoteness and solitude. Existing trails will be maintained to accommodate moderate use for the majority of the snow-free use season. Facilities will be limited to those necessary for the protection of the wilderness resource and the user.

FACILITIES INVENTORY HIGH PEAKS WILDERNESS COMPLEX

NON-CONFORMING USES AND STRUCTURES

Interior Outpost, 1	Marcy Dam
Telephone Lines	South Meadows to Marcy Dam
Roads, public	1.0 mile - South Meadows Road
Lean-to Cluster	1 Cluster
Wild River lean-tos	9 lean-tos, Cold River

CONFORMING STRUCTURES

REMOTE TENT SITES (1984 Inventory)

Eastern High Peaks Zone	# of Campsites
Lake Colden	30
South Meadows	30
Marcy Dam	28
Marcy Dam to Indian Falls	15
Indian Pass to Adirondac Loj	14
Lake Sanford to Flowed Lands	6
Bushnell Falls	6
Lake Colden to Feldspar Junction	6
Feldspar to Avalanche Camp	6
Calamity Brook	5
Ore Bed Brook	5
Flowed Lands	5
Panther Gorge	5
Upper Works to Indian Pass	4
Marcy Dam to Lake Colden	4
Upper Range Trail	4
Slant Rock	4
Algonquin	3
The Brothers	3
Phelps to Johns Brook	3
Klondike	1
Lake Colden to Indian Pass	1
Hopkins Trail	1
TOTAL	189

Western High Peaks Zone	# of Campsites
Duck Hole	9
Long Lake to Duck (N-P Trail)	6
Moose Pond Horse Trail	5
Duck Hole to Averyville (N-P Trail)	4
Newcomb Cake to Cold River	4
Bradley Pond to Duck Hole	4
Ward Brook	3
Henderson Lake to Duck Hole	2
TOTAL	37

Long Lake - Raquette River Zone	
Long Lake, East Shore	57
Raquette River, below falls	10
Cold River to Long Lake	8
Raquette Falls	7
Raquette River, above falls	5
Stony Creek	3
TOTAL	90

Summary - Remote Tent Sites - Designated and Non-designated	
Eastern High Peaks	189
Western High Peaks	37
Long Lake - Raquette River	90
TOTAL	316

PIT PRIVIES (OUTHOUSES)

Eastern High Peaks Zone	# of Pit Privies
The Garden Parking Area	1
Deer Brook Lean-to	1
Johns Brook Ranger Cabin	3
Old Johns Brook Lean-to Site	1
Bushnell Falls	2

Bear Brook Lean-to	1	
Klondike Lean-to	1	
Mr.. Van Lean-to	1	
Slant Rock Lean-to	1	
Upper Works Trailhead	2	
Wolf Jaw Lean-to	1	
Ore Bed Lean-to	1	
South Meadows	7	
Gorge Lean-to	1	1
Twin Brook Lean-to	1	
Henderson Lean-to	1	
Marcy Dam	8	
Old Phelps Lean-to Site	1	
Indian Falls	2	
Kagel Lean-to	1	
Marcy Brook Lean-to	1	
Avalanche Camp	1	
Uphill Lean-to	1	
Feldspar Lean-to	1	
Rocky Falls	1	
Scotts Clearing	1	
Lake Arnold	1	
Flowed Lands	4	
Lake Colden lean-tos	10	
Wanika Falls	1	
TOTAL	60	

Western High Peaks Zone

Newcomb Lake Campsites	3	
Newcomb Lake lean-tos	2	
Moose Pond	2	
Duck Hole	2	
Calkins Creek Lean-to	1	1
Ward Brook Lean-to	1	
Number Four Lean-to	1	
Blueberry Lean-to	1	
Shattuck Clearing	1	
Cold River lean-tos	4	
Moose Pond lean-to	1	
Moose Pond Stream Lean-tos	1	
Northern Lean-to	1	
Stony Creek Access Site	1	
TOTAL	22	

Long Lake - Raquette River Zone

Catlin Bay	6
Rodney Point Lean-to	2
Kelly Point Lean-to	2
Hidden Cove Lean-to	1
Island House Lean-to	1
Plumley Point Lean-to	2
Long lake Campsites	3
Raquette Falls	2
Raquette Falls lean-tos	2
Hemlock Lean-to	1
Raquette River Campsite	1
Stony Creek at Raquette River	1
TOTAL	<hr/> 24

Summary - Pit Privies

Eastern High Peaks	60
Western High Peaks	22
Long Lake - Raquette River	24
TOTAL	<hr/> 106

LEAN-TOS

Eastern High Peaks Zone

Name	Location	Year
Panther Gorge	Elk Lake Marcy Trail at junction with Haystack Trail	1989
Mr. Van	Mr. Van Ski Trail at South Meadow Brook	1970
Klondike	Klondike Trail	1990
Rocky Falls	Indian Pass Trail; 2.3 mi from Adirondack Loj	1927
Marcy Dam	Near junction of Van Hoevenburg and Avalanche Trail	-----
Marcy Dam	Set back between large lean-to and dam	-----
Marcy Dam No. 3	Large lean-to on south shore	1938
Marcy Dam	North shore, farthest from dam	-----
Marcy Dam No. 5	West side, 500 feet from Avalanche Trail	1951
Hudowalski	Marcy Dam; Island	1967
Kagel	Marcy Brook; ½ mi. above Marcy Dam	1969
Marcy Brook	1/4 mi. below Avalanche Camp	1968
Avalanche	Avalanche Trail and Lake Arnold Trail Junction	-----
Deer Brook	Phelps Trail at Deer Brook	1951
Wolf Jaw	Junction of Wolf Jaw Trail and Woodsfalls Trail	1929
Ore Bed	Ore Bed Brook Trail; 1/4 mi. from Johns Brook	1964
Henderson	Indian Pass Trail; 1.75 mi. from Upper Works	1920
Wallface	Indian Pass Trail; 2.7 mi. from Upper Works	1929
Scott's Clearing	Indian Pass Trail; 3.8 mi. from Adirondack Loj	1924

Calamity No. 1	West side of Flowed Land at Calamity Landing	1922
Calamity No. 2	West side of Flowed Land near Calamity Dam	1982
Flowed Lands	West side of Flowed Land between old dam and Calamity Landing	1981
Livingston Point	East shore of Flowed Land	1982
Griffin	West side of Flowed Land; near old dam	1959
Cedar Point	Lake Colden; between dam and Beaver Point Lean-to	1980
Bushnell Falls #2	Phelps Trail; north of Johns Brook junction with Hopkins Trail	1991
Mac Alpine	Phelps Trail; south of Johns Brook, west of Chicken Coop Brook	1940
Slant Rock	Phelps Trail; 0.1 mi. north of Shorey Cutoff trail	1937
Beaver Point	Lake Colden; between outpost and dam	1983
Colden No. 2	Near suspension bridge on trail to Marcy	1955
Colden No. 4	Between Colden and Flowed Land	-----
Colden No. 7	Between Colden and Flowed Land	-----
Feldspar	Mt. Marcy Trail; near Feldspar Brook on Opalescent River	1992
Uphill	Mt. Marcy Trail; Uphill Brook on Opalescent River	1994

TOTAL **34 Lean-tos**

Western High Peaks Zone

Number 4 No. 1	Ward Brook Trail; 6 mi. from parking area (R)	1967
Number 4 No. 2	Ward Brook Trail; 6 mi. from parking area (L)	1967
Ward Brook	Ward Brook Trail; 5.3 mi. from parking area	1922
Blueberry	Ward Brook Trail; 1,000 feet west of truck trail	1962
Moose Pond	Northville-Placid Trail; 7.7 mi. from Averyville road	1922
Cold River No. 1	Ward Brook Trail at Moose Pond outlet; north of trail	1923
Cold River No. 2	Ward Brook Trial at Moose Pond outlet; south of trail	1939
Cold River No. 3	Right Bank of Cold River near Shattuck Clearing	-----
Cold River No. 4	Right Bank of Cold River near Shattuck Clearing	-----
Moose Pond Strm. 1	Near Moose Creek; ~ .5 east of Shattuck (L)	1966
Moose Pond Strm. 2	Near Moose Creek; 1.5 mi. east of Shattuck (R)	1966
Bradley Pond	Duck Hole Trail; north of Bradley Pond	1989
Duck Hole No. 1	Duck Hole; near dam	1939
Duck Hole No. 2	Duck Hole; near point	1960
Northern No. 1	Cold River Horse Trail, 2 mi. South of Ward Brook	-----
Northern No. 2	Cold River Horse Trail, 2 mi. South of Ward Brook	-----
Newcomb Lake	South Shore of Newcomb Lake	-----
Newcomb No. 2	North Shore of Newcomb Lake	-----
Calkins Creek	Cold River at Junction with Calkins Creek	-----
Calkins Brook	Calkins Brook Truck Trail b/n Corey's and Shattuck Clr.	-----
Seward	N-P Trail at Miller's Falls and Cold River	-----
Ouluska	N-P Trail below Rondeau's	-----

TOTAL **22 Lean-tos**

Adirondack Canoe Route Zone - Long Lake - Raquette River

Stony Creek	Junction Raquette River and Stony Creek	1984
Catlin Bay #1	East shore Long Lake at Catlin Bay, on point	-----
Catlin Bay #2	East shore Long Lake at Catlin Bay, set back by bridge	-----
Kelley's Point #1	East shore Long Lake at Kelly's Point (R)	-----
Kelley's Point #2	East shore Long Lake at Kelly's Point (L)	-----
Plumley's #1	East shore Long Lake; Plumley's Point; north	-----
Plumley's #2	East shore Long Lake; Plumley's Point, south	-----
Rodney Point #1	East shore Long Lake; near Camp Islands (N)	-----
Rodney Point #2	East shore Long Lake; near N-P Trail	-----
Palmer Brook	East side of Raquette River at Palmer Brook	1991
Deep Hole	Junction of Cold River and Raquette River	-----
Lost Channel	Raquette River, 3/4 mile from Long Lake	-----
Raquette Falls	E. Bank of Raquette River at canoe carry	-----
Raquette #1	Raquette River, off canoe carry to falls	-----
Raquette #2	Raquette River, below falls	-----
Hemlock Hill	Raquette River, near horse trail	-----

TOTAL **16 Lean-tos**

SUMMARY - LEAN-TOS, ALL AREAS

Eastern High Peaks	34
Western High Peaks	22
Adirondack Canoe Route	16
TOTAL:	72

MAINTAINED DAMS - ALL ZONES

Marcy Dam	Wood, with spillway
Lake Colden	Wood, with spillway
Duck Hole	Wood, with spillway
Duck Hole	Rock and plank

TOTAL: **4 Dams**

FISHING ACCESS SITES/BOAT DOCKS - ALL ZONES

Anton Landing	Car top boat access
Long Lake	Boat launch site
Raquette Falls	Boat dock, installed on a temp. basis at wilderness boundary

MAJOR BRIDGES - ALL ZONES

Former Fire Truck Trail Bridges*

Moose Creek; Northville-Placid Trail near Duck Hole
Calkins Creek; near horse barn
Boulder Brook; Calkins Creek Trail
Brook leading toward Seward; Ward Brook Trail
Brook from Ouluska Pass; Ward Brook Trail
Brook just prior to Ward Brook lean-to; Ward Brook Trail
South Meadows Brook; former fire truck trail to Marcy Dam
Phelps Brook; former fire truck trail to Marcy Dam
Brook; midway between South Meadows and Marcy Dam along former fire truck trail
Pelky Brook; 2/3 of way from South Meadow to Marcy Dam along truck trail
TOTAL 10 bridges

HORSE BRIDGES

Brook; between Moose Pond Stream and Wolf Pond Road
Moose Pond Stream; near Moose Pond Stream Lean-tos
Small Brook; joining Cold River near intersection where hiking trail joins Cold River Horse trail
Brook; southwest of Cold River between troll and northern lean-to
Brook; Moose Pond Horse Trail; north of Newcomb Lake junction additional bridge on same section
Palmer Brook; Raquette Falls junction with trail from Stony Creek
TOTAL 6 bridges

SKI BRIDGES

Klondike Brook; Mr. Van Trail
South Meadows Brook; Mr. Van Trail
MacIntyre Brook to VanHoevenberg Trail
Brook; Van Hoevenberg Trail to Marcy Dam
Brook; Van Hoevenberg Trail to Marcy Dam
Inlet; Lake Colden
Small stream into Marcy Dam Pond on trail to Avalanche Camp
Small stream into Marcy Dam Pond on trail to Avalanche Camp
Marcy Brook near Avalanche Camp
TOTAL: 9 bridges

FOOT BRIDGES

Avalanche Pass by Avalanche Lake
Black Brook; Phelps Trail
Above Hogback Lean-to; Phelps Trail
Johns Brook; above Bushnell Falls
Phelps Brook; Van Hoevenberg Trail above Phelps Mountain junction
Phelps Brook; Van Hoevenberg Trail, 1/4 mi. above Marcy Dam
Marcy Brook; at Marcy Dam, crossover to lean-to area

Avalanche Lake; hitch-ups
 Brook; northwest shore of Lake Colden near Algonquin Trail
 Opalescent River; at Lake Colden
 South Meadows Brook; Klondike Trail
 Opalescent River; by Feldspar Lean-to
 Opalescent River; above Feldspar Lean-to
 Brook; trail to lake Arnold above Avalanche Camp
 Calamity Brook; below Wallface lean-to
 Cold River; near Shattuck Clearing, Northville-Placid Trail
 Moose Creek; near Shattuck Clearing, Northville-Placid Trail
 Small brook near Platt Hill; Northville-Placid Trail, Long Lake
 Small brook near Catlin Bay, Northville-Placid Trail, Long Lake
 Small Brook; southern end of Lay lake, Northville-Placid Trail
 Peacock Brook; Northville-Placid Trail near Averyville
TOTAL: 21 bridges

SUMMARY - MAJOR BRIDGES - ALL ZONES

Former fire truck trails	10
Horse trails	6
Ski trails	9
Foot	21
TOTAL	46

ROAD BARRIERS AND GATES

Elk Lake; private road beyond Clear Pond, closed seasonally, cable barrier
 South meadows; metal gate on former fire truck trail
 Ward Brook; metal gate on former fire truck trail
 Calkins Creek; metal gate on former fire truck trail
 Stony Creek; trail to Raquette falls, metal gate
 Wolf Pond Rd.; Huntington Forest boundary, metal gate
 Santanoni Preserve; wild forest boundary, metal gate
 South Creek Fishing Access site; metal gate
 Ampersand Road - Coreys; seasonal closure, metal gate
 Ampersand Road - Coreys; 7 locations, rock barricades
TOTAL: 10 barriers

TRAILS - AREA WIDE

Foot Trails listed by class:

CLASS 5 MAIN TRUCK TRAILS	Miles
Raquette Falls Carry	1.0
Ampersand Mt.	3.5
Indian Pass; ADK Loj to Scott's Dam	4.0
Calamity Brook	6.1
Van Hoevenberg to Marcy	7.5

Algonquin from Marcy Trail Jct.	3.0
Wright Peak Spur	0.4
Marcy Dam to Lake Colden	3.9
Trail around NW shore of Lk. Colden	1.0
Colden Dam to Marcy	4.2
Avalanche Camps to Feldspar	3.2
Cascade Mt. from Rte. 73	2.3
Garden to Bushnell Falls	5.0

CLASS 4 SECONDARY TRAILS	Miles
Northville-Placid Trail	33.2
Blueberry Pond to Ward Brook	4.7
Bradley Pond Tr. to Duck Hole	8.1
Duck Hole from Indian Pass	4.9
Lake Jimmy to Flowed Lands	9.4
Indian Pass; U. Works to Scott's Dam	5.4
Lake Colden to Indian Pass	4.0
Rocky Falls Spur	0.3
Lake Colden to Algonquin	2.1
Lake Colden to Mt. Colden	1.6
Four Corners to Skylight	0.5
Elk Lake to Four Corners	9.7
Indian Falls-Lake Arnold Crossover	0.7
Lake Arnold to Mt. Colden	0.9
Phelps Mt. from Marcy Trail	1.0
S. Meadows Rd. to Mt. Van Hoevenberg	2.6
Klondike Notch Trail	5.2
Porter Mt from Cascade	0.7
Porter Mt. from Keene Airport	4.5
Porter Mt. from Interbrook Rd.	3.8
Big Slide via The Brothers	3.9
Big Slide via Slide Mt. Brook	2.1
Big Slide via Yard	2.7
Phelps (Slant Rock) Trail	3.8
Hopkins Trail	3.4
Range Trail: JBL to Phelps Tr.	7.3
Haystack from Range Trail	0.6
Shorey Cut-off	1.2
Southside Trail	2.6
High Water Range Trail	0.4
Short Job	0.4
Woods Falls Trail	0.8
Johns Brook to Wolf Jaw Notch	2.4
Lower Wolf Jaw to Range Trail Jct.	3.9
Roostercomb-Hedgehog from Keene Valley	3.5
Roostercomb from Rte 73	1.8
Snow Mt. via Deer Brook	1.5

Snow Mt. from W.A. White Trail	1.2
W.A. White Trail to L. Wolf Jaw Trail	4.4
Wedge Brook Trail to L. Wolf Jaw	1.9
Beaver Meadow Trail to Gothics	2.9
Lower Lake to Sawteeth and Gothics	2.6
Sawteeth via Scenic Trail	3.0
Sawteeth from Upper Lake	2.7
Haystack from Upper Lake	3.4
Haystack Br. Tr. to Snow-Bird Camp	1.9
Panther Gorge to Bartlett Ridge	0.6

CLASS 3 PRIMITIVE TRAILS

Miles

Kempshall Mt.	1.8
Newcomb Lake to Shaw Pond	5.4
Hemlock Hill Lean-to Spur	0.5
Rock Pond	0.3
Pickrel Pond	0.2
Livingston Point Spur	0.3
Indian Pass-Calamity Crossover	1.7
Wallface Ponds	1.5
Algonquin Trail to Iroquois	1.0

CLASS 2 PATHS

Miles

Northville-Placid to Round Pond	0.9
Shattuck Clearing to Pine Point	3.0
Shaw pond to Cold River Horse Tr.	4.0
Seward Range from Ward Brook	3.5
Seymour from Ward Brook	1.5
Santanoni Range via old trail	4.0
Panther via Panther Brook	1.5
Marshall from Algonquin Pass Tr.	0.7
Marshall via Herbert Brook	1.5
Street and Nye from Indian Pass Brk.	3.5
Cliff Mt. from old Twin Brooks Tr.	0.7
Redfield via Uphill Brook	1.3
Allen via Allen Brook	4.0
Gray Peak from Lake Tear	0.5
Tabletop from Indian Falls	0.7

HIKING TRAILS TOTAL

246.6 miles

HORSE TRAILS

Cold River Loop	32.1
Calkins Creek Crossover	4.0
Moose Pond-Gate House to Cold River	<u>11.5</u>

TOTAL:

47.6 miles

SKI TRAILS

Caribou Lean-to site to Lk. Colden	0.3
Avalanche Pass bypass	0.7
Whales Tail	1.3
Phelps Brook to Indian Falls	1.0
Wright Peak Ski Trail	1.2
Mr. Van Trail-ADK Loj	<u>4.5</u>
TOTAL:	9.0 miles

SUMMARY - TRAILS - AREA WIDE BY TYPE

Hiking	246.6 miles
Horse	47.6
Ski	<u>9.0</u>
TOTAL:	303.2 miles

PARKING LOTS

Location	Capacity
ADK Loj (Private, Parking fee charged)	200
Ausable Club (by deed)	20
Ampersand Mt.	15
Axton Landing (also serves SL Wild Forest)	5
Blueberry	5
Bradley Pond	10
Cascade	10
East River	15
Elk Lake-Dix	15
Garden	50
Long Lake Boat Launch	20
Long Lake (N-P Trail; 2 lots)	18
Mt. Adams-Tahawus	10
Northville-Placid Trail-Averyville	10
Rooster Comb	4
Santanoni	15
Seward	12
South Meadows Trailhead	12
South Meadows (roadside)	100
Stony Creek (Raquette Falls)	15
Upper Works -Tahawus	20
TOTAL:	581

TRAIL CLASSIFICATION SYSTEM - HIGH PEAKS WILDERNESS AREA						
TITLE	EXAMPLE	MARKING	TREAD	BARRIERS	USE LEVEL	ACCEPTABLE MAINTENANCE
I. Unmarked Route	Fisherman's Path	None	Intermittently apparent, relatively undisturbed organic soil horizon	Natural obstructions present, logs and water courses	Occasional	None
II. Path	Table Top herd paths	Intermittent	Intermittently apparent, compaction of duff, mineral soils occasionally exposed	Same as unmarked route	Low, varies by location	Intermittent marking with consideration given to appropriate layout based on drainage, occasional barrier removal only to define appropriate route.
III. Primitive	Wallface Ponds	Trail markers, sign at junction with secondary or other upper level trail	Apparent, soil compaction evident	Limited natural obstructions (logs and river fords)	Low	Drainage (native materials) where necessary to minimize erosion, blowdown removed 2-3 years, brushing as necessary to define trail (every 5-10 years), bridges only to protect resource (max - 2 log width), ladders only to protect exceptionally steep sections, tread 14"-18", clear: 3' wide, 3' high.
IV. Secondary	Phelps Mtn. Mt. Colden	Markers, signs with basic information	Likely worn and possibly quite eroded. Rocks exposed, little or no duff remaining	Up to one year's accumulated blowdown, small streams.	Moderate	Drainage where needed to halt erosion and limit potential erosion (using native materials), tread hardening with native materials where drainage proves to be insufficient to control erosion. Remove blowdown annually. Brush to maintain trail corridor. Higher use may warrant greater use of bridges (2-3 logs wide) for resource protection. Ladders on exceptionally steep rock faces. Tread 18"-24". Clear 4' wide, 3' High.
V. Trunk Trail or Primary	Van Hoevenberg (Mt. Marcy)	Markers, signed with more information and warnings.	Wider tread, worn and very evident. Rock exposed, possibly very eroded.	Obstructions only rarely, small streams	High	Same as above; Plus: regular blowdown removal on designated ski trails, non-native materials as last resort, extensive tread hardening when needed, bridge streams (2-4 logs wide) difficult to cross during high water, priority given to stream crossings below concentrations of designated camping. Tread 18"-26", clear 6' wide, 8' high, actual turn piking limited to 2% of trail length.

TRAIL CLASSIFICATION SYSTEM - HIGH PEAKS WILDERNESS AREA						
TITLE	EXAMPLE	MARKING	TREAD	BARRIERS	USE LEVEL	ACCEPTABLE MAINTENANCE
VI. Front Country	Visitor Information Center	Heavily marked, detailed interpretive signing	Groomed	None	Very High	Extensive grooming, some paving, bark chips, handicapped accessible. This is to be implemented within 500' of wilderness boundary.
VII. Horse Trail	Cold River Loop	Marked as Trunk or Secondary	Wide tread, must be rather smooth.	Same as trunk trail.	Moderate to High	Same as trunk trail, except use techniques appropriate for horses. Bridges: 6' minimum width with kick rails, non-native dimensional materials preferred. Tread: 2'-4' wide, clear 8' wide, 10' high.
VIII. Ski Trail	Whale's Tail	Marked High. Special markers, sign at all junctions with hiking trails.	Duff remains. Discourage summer use	Practically none due to hazards.	High	Focus on removal of obstructions, maintenance should be low profile, tread determined by clearing 6' (Should be slightly wider at turns and steep sections. Provide drainage using native materials to protect resource.

HIGH PEAKS TRAILS Listed by Class

LOCATION/NAME OF TRAIL	DISTANCE/MI. (Private)	MAINTAINED BY:	COMMENTS
CLASS V (Trunk) HIKING TRAILS			
Raquette Falls Carry	1.0	DEC	Canoe Carry
Ampersand Mountain	3.5	DEC	Extensive Maintenance
Indian Pass: ADK Loj to Scott's Dam	4.0 (0.5)	DEC	
Calamity Brook Trail*	6.1 (2.7)	DEC	Upper Works to Lake Colden
Van Hoevenberg Trail to Marcy*	7.5 (0.5)	DEC	
Algonquin from Marcy Trail Junction	3.0	DEC	
Wright Peak Spur	0.4	DEC	
Marcy Dam to Lake Colden*	3.9	DEC	
Trail around NW shore Lake Colden	1.0	DEC	
Colden Dam to Marcy	4.2	DEC	
Avalanche Camp to Feldspar	3.2	DEC	
Cascade Mtn. from Route 73	2.3	DEC	
The Garden to Marcy via Slant Rock	9.1	DEC	

* Indicates use by skiers

CLASS IV HIKING TRAILS

Northville-Placid Trail*	33.2	DEC	
Blueberry Pond Trail to Ward Brook	4.7	DEC	
Bradley Pond Trail to Duck Hole	8.1 (4.2)	DEC	
Duck Hole from Indian Pass	4.9 (4.5)	DEC	
Lake Jimmy to Flowed Lands	9.4 (5.7)	DEC	
Indian Pass: Upper Works to Scott's Dam	5.4 (1.5)	DEC	
Lake Colden to Indian Pass	4.0	DEC	
Rocky Falls Spur	0.3	DEC	
Lake Colden to Algonquin	2.1	DEC	
Lake Colden to Mount Colden	1.6	DEC	
Four Corners to Skylight	0.5	DEC	
Elk Lake to Four Corners	9.7 (5.5)	DEC / ATIS	ATIS maintains all of trail within HPW
Indian Falls to Lake Arnold Crossover	0.7	DEC	
Lake Arnold to Mount Colden	0.9	DEC	
Phelps Mountain from Marcy Trail	1.0	DEC	
South Meadows Road to Mt. Van Hoevenberg	2.6	DEC	
Klondike Notch Trail	5.2	DEC	
Porter Mountain from Cascade	0.7	DEC	
Porter Mountain from Keene Valley Airport	4.5 (1.0)	ADK	
Porter Mountain from Interbrook Road	3.8 (1.0)	ADK	
Big Slide via Brothers	3.9	ADK	
Big Slide via Slide Mtn. Brook	2.1	ADK	
Big Slide via Yard Mtn.	2.7	ADK	
Phelps (Slant Rock Trail)	3.8	DEC	Bushnell Falls to Van Hoevenberg Trail
Hopkins Trail	3.4	DEC	Bushnell Falls to Van Hoevenberg Trail
Range Trail: JBL to Phelps Trail	7.3 (0.3)	DEC	
Haystack from Ranger Trail	0.6	DEC	

Shorey Cut-off Trail	1.2	DEC	
Southside Trail	2.6	ADK	Also ROW to private land - some vehicular traffic
High Water Range Trail	0.4	DEC	
Short Job	0.4	ADK	
Woods Falls Trail	0.8	ADK	Ranger trail to Wolf Jaw lean-to
John's Brook to Wolf Jaw Notch	2.4	ADK	
Lower Wolf Jaw to Range Trail junction	3.9	ADK	
Rooster Comb & Hedgehog from Keene Valley	3.5 (0.5)	ADK	
Rooster Comb from Route 73	1.8 (0.8)	ADK	
Snow Mountain via Deer Brook	1.5 (0.5)	ATIS	
Snow Mountain from W.A. White Trail	1.2 (0.2)	ATIS	
W.A. White Trail to Lower Wolf Jaw	4.4 (1.0)	ATIS	
Wedge Brook Trail to Lower Wolf Jaw	1.9 (0.2)	ATIS	
Beaver Meadow Trail to Gothics	2.9 (1.0)	ATIS	
Lower Lake to Sawteeth & Gothics	2.6 (0.6)	ATIS	
Sawteeth via Scenic Trail	3.0 (2.0)	ATIS	
Sawteeth from Upper Lake	2.7 (1.5)	ATIS	
Haystack from Upper Lake	3.4 (1.7)	ATIS	
Haystack Brook Trail to Sno-Bird Camp	1.9 (0.1)	ATIS	
Panther Gorge to Bartlett Ridge	0.6	ATIS	

CLASS III HIKING TRAILS

Kempshall Mountain Trail	1.8	DEC	Relocate portion to Blueberry Mountain
Newcomb Lake to Shaw Pond	5.4	DEC	
Hemlock Lean-to Spur	0.5	DEC	
Rock Pond	0.3	DEC	

Pickereel Pond	0.2	DEC	
Livingston Point Spur	0.3	DEC	
Indian Pass - Calamity Crossover	1.7 (0.8)	DEC	
Wallface Ponds	1.5	DEC	
Algonquin to Iroquois	1.0	46-R	Unmarked herd path to be upgraded to Class 3

CLASS II HIKING TRAILS

Northville-Placid Trail to Round Pond	0.9	Use	
Shattuck Clearing to Pine Point	3.0	DEC	Pine Point is head of navigation on Cold River
Shaw Pond to Cold River Horse Trail	4.0	DEC	
Seward Range from Ward Brook	3.5	Use	Badly eroded on north side of Seward
Seymour from Ward Brook	1.5	Use	
Santanoni Range via old trail	4.0	Use	Includes herd paths to Couchsachraga
Panther via Panther Brook	1.5	Use	
Marshall from Algonquin Pass Trail	0.75	Use	
Marshall via Herbert Brook	1.5	Use	
Street & Nye from Indian Pass Brook	3.5	Use	
Cliff Mountain from old Twin Brook Trail	0.75	Use	
Redfield via Uphill Brook	1.25	Use	
Allen via Allen Brook from Twin Brook	4.0 (1.5)	Use	Route originally marked by 46'ers
Gray Peak from Lake Tear	0.5	Use	Use of 0.25 mile route to timberline should be discouraged to reduce impact on alpine zone.
Table Top from Indian Falls	0.75	Use	

CLASS VII HORSE TRAILS

Cold River Loop	32.1	DEC	Some hiking use
Calkins Creek Crossover	4.0	DEC	Slight hiking use
Moose Pond Gatehouse to Cold River	11.5	DEC	Some hiking use

CLASS VIII SKI TRAILS

Old Caribou Lean-to Site to Lake Colden	0.25	DEC	
Avalanche Pass Bypass	0.75	DEC	
Whale's Tail Ski Trail	1.3	DEC	
Phelps Brook to Indian Falls	1.0	DEC	
Wright Peak Ski Trail	1.2	ASTC	
Mr. Van Ski Trail: ADK Loj to Mt. Van Hoevenberg	4.5	DEC	

FRISSELL CAMPSITE CONDITION CLASSIFICATION SYSTEM*

(basis for developing LAC Campsite Standards)

For each condition class, visible indicators and management actions will be summarized.

- CLASS I: Ground vegetation flattened but not permanently injured. Minimal physical change except for possibly a simple fire ring. These sites are barely recognizable as camping areas. If not in situations known to be sensitive to use, no management action is needed. Maintain current use level or allow increase if nearby site must be closed.
- CLASS II: Ground vegetation worn away around fire ring or center of activity. Site change apparent but still within acceptable limits. These areas are readily identified as campsites and will continue to attract use. Further use should be carefully monitored to detect adverse change.
- CLASS III: Ground vegetation lost on most of site, but humus and litter still present in all but a few areas. This is a transitional condition. Considerable change in plant cover is evident but little sign of soil problems. This condition may be accepted as normal in areas of high attraction. However, modification of current use patterns and intensities may be needed to prevent further change.
- CLASS IV: Bare mineral soil widespread. Tree roots exposed on surface. Deterioration is accelerating. If current level and type of use continues, solid erosion, loss of tree cover, and aesthetic degradation are likely. Withdraw use from these sites and allow recovery. Some rehabilitation may be desirable to speed recovery. If site is improperly located, consider permanent closure. If site is reopened, insure that use patterns are adjusted to prevent injury.
- CLASS V: Soil erosion evident. Trees reduced in vigor or dead. Natural recovery will be slow. The sites should be closed permanently and alternate ones located. If the site is critical to the recreation pattern, extensive rehabilitation will be required to return it to acceptable condition.

*Frissell, Sydney S. 1978.

Judging Recreation Impacts on Wilderness Campsites. Journal of Forestry 76: 481-483.

LEAN-TO AND CAMPSITE INVENTORY - LAKE COLDEN *

submitted by Rich Merritt, Labor Supervisor, Lake Colden

Inspection: November 1992, Report Submitted: April 1993

*most current inventory

LEAN-TOS:

Only lean-to D comes close to conforming with the 150 feet from trail and water laws. Beaver and Cedar (A&B) are located virtually on the lake and both show massive de-vegetation (e.g. stumps, lack of undergrowth).

Lean-tos' C & E are right on the Opalescent River. Lean-to C being a source of constant problems with dish washing, garbage in the stream, etc. is also in the worst condition of the five remaining lean-tos.

PERIPHERAL SITES:

Sites 1 and 2, located a couple of hundred yards south of Avalanche Lake and about 100 yards east of the trail are good sites, not in view of the trail and tree cutting is minimal. Site 5 has similar qualities but is located on a slope.

Sites 3 and 4, at the site of the former Cold Brook lean-to, have their own outhouse but are very close to Cold Brook. Dish washing in the stream is a recurrent problem at these sites. Site 3 is so large that it is often shared by up to three groups. A centrally located large boulder helps slit the site in times of maximum use.

Site 6 is just off the trail to Flowed Lands, close to Herbert Brook, and just a few feet through the bushes from the Flowed Lands marsh where camping is prohibited.

Site 7 is perhaps the "nicest" site in the area, and could be considered a lean-to site; especially if other less-conforming lean-tos are to be removed.

Though there were once as many as 13 lean-tos in the Colden area, there are now five and further elimination of these shelters may disturb a truly "Adirondack" camping experience. This should be weighed with environmental issues to direct a proper long term plan for the area.

AREA A:

These sites are all out of sight of the trail and are 20 or 30 feet higher than the trail. Sites 2 and 3 could arguably be one huge site or as many as four smaller ones, since no naturally existing boundary separates them. They've been given separate status arbitrarily, but both have established fire pits.

Sites 2, 3, and 5 are "uncampable" in wet weather due to mud.

AREA B:

"Day-Go City" as it is referred to in terms of maximum occupancy, sits on the peninsula in the southeast corner of Lake Colden. It is most often the area that people choose to tent camp.

All sites are in view from the trail. Only site 9 has some natural (bushes) boundary separating it from the other sites. There is massive de-vegetation in this area, but tree cutting is minimal in recent years.

Although the recommendations for the High Peaks UMP explicitly state a distaste for such an area, it remains popular with family groups and novice campers and has a social flavor. Groups often share cooking and bear-bagging facilities, and many share conversation and a cup of coffee. It also provides DEC with a very strong platform for education.

AREA C

Only slightly less populated than area B, the sites are generally further apart. Deforestation for fires continues to be rampant on this side of the Opalescent. Although a trail runs through this entire area, from the suspension bridge to Flowed Lands Landing, it is not an official, marked trail and basically only serves to access these sites. Therefore, this entire area is at least 150 feet from the Sanford Lake-Marcy Trail and basically out of view from it.

Sites 1-4 offer too easy an access to the Opalescent and dish washing is prominent along this stretch. Sites 2-4, although quite close together, are naturally separated by rock and undergrowth.

Sites 7-11 are similar in character to the sites in Area B in that they are close together and not naturally delineated. These only rarely fill though, during the busy weekends. Sites 13-14 can each fit more than one group comfortably. Site 15 is more remote.



POTENTIAL SITES

Removing sites at this time is improbable and invites a variety of problems. The main problem is that the Lake Colden area fills to capacity 8-10 times a summer; especially on holiday weekends. The sad fact is that we virtually have to let people camp illegally when the sites are full, which happens in mid to late afternoon when it's too late to move people on. And move them on where? If Colden is at capacity, then certainly Uphill, Feldspar and the Flowed Lands exceed capacity.

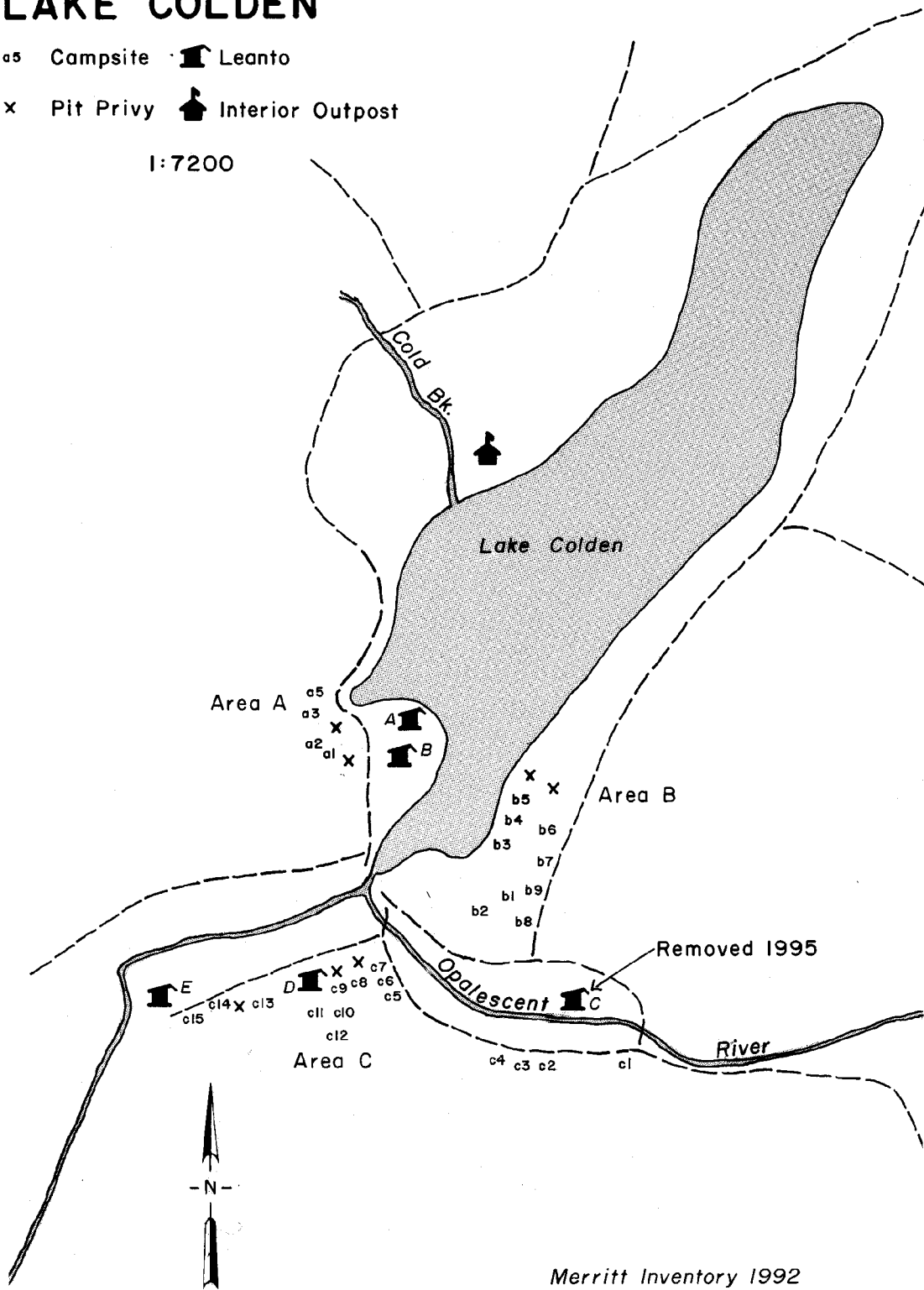
Therefore, it may be advantageous to locate new sites in the area, in accordance with the 150 foot law. Potential for new campsites exist above the rise west of the dam, up the hill behind Area C campsites, along the ridge near peripheral campsite 7, and most notably, in the low flat area downhill and west of Area A where the phone line went through.

Re-vegetation of abandoned and illegal campsites should continue.

LAKE COLDEN

- a5 Campsite  Leanto
- x Pit Privy  Interior Outpost

1:7200



Merritt Inventory 1992

Site #	Distance from Trail	Distance from Water	Distance from nearest Campsite/Nearest Site	Size	Comments
P1	> 150'	> 150'	100' / P2	C	
P2	> 150'	> 150'	100' / P1	A	
P3	120'	25'	20' / P4	C	
P4	> 150'	75'	20' / P3	A	
P5	> 150'	> 150'	> 150'	A	
P6	40'	50'	> 150'	B	
P7	90'	> 150'	> 150'	B	
A1	120'	> 150'	30' / A2	B	
A2	> 150'	> 150'	30' / A1	B	No Firepit
A3	> 150'	> 150'	40' / A2	B	
A4	> 150'	> 150'	120' / A3	B	
A5	80'	100'	100' / A3	B	
B1	25'	60'	20' / B2	A	No Firepit
B2	15'	50'	20' / B1	B	
B3	100'	50'	20' / B4	B	
B4	140'	30'	20' / B3	A	
B5	> 150'	30'	30' / B4	C	
B6	90'	90'	20' / B7	C	
B7	50'	80'	20' / B6	A	
B8	10'	40'	30' / B7	B	
B9	20'	60'	35' / B8	B	
C1	> 150'	30'	80' / C2	C	
C2	> 150'	30'	25' / C3	A	
C3	> 150'	35'	25' / C5	B	
C4	> 150'	35'	25' / C4	B	
C5	> 150'	50'	50' / C6	B	
C6	> 150'	90'	30' / C7	C	
C7	> 150'	120'	20' / C8	B	
C8	> 150'	> 150'	20' / C7	B	
C9	> 150'	> 150'	40' / C8	B	
C10	> 150'	100'	40' / C11	B	
C11	> 150'	80'	30' / Lean-to D	A	
C12	> 150'	> 150'	120' / Lean-to D	B	
C13	> 150'	> 150'	60' / C14	C	
C14	> 150'	> 150'	60' / C13	B	
C15	> 150'	> 150'	120' / C14	B	
Lean-to's					
A-Beaver Pt.	10'	30'	> 150'	---	
B-Cedar Pt.	60'	30'	> 150'	---	
C	20'	10'	> 150'	---	
D	> 150'	120'	30' / C11	---	
E	> 150'	120'	120' / C14	---	

High Peaks Wilderness Complex - Ponded Water Inventory Data

NAME	P#	Wshd *	FILE	COUNTY	USGS Quad (7.5')	MGMT. CLASS	AREA (acres)	MAX DEPTH (ft)	MEAN DEPTH (ft)	ACRE-FEET
AVALANCHE LAKE	P707	UH	1241	ESSEX	NORTH ELBA	ADK. BROOK	10.4	23	10.8	118.6
BEAVER POND	P204	R	405	FRANKLIN	AMPERSAND	ADK. BROOK	7.2	3	1.6	6.2
BIG PINE POND	P98	C	118	FRANKLIN	SARANAC LAKE	COLDWATER	46.5	65	25.9	1188.1
BLACK POND	P234	R	484	ESSEX	STREET MOUNTAIN	ADK. BROOK	4.9	17	5.9	40.8
BLACK POND	P696	UH	1214	ESSEX	SANTANONI	UNKNOWN	3	-	-	-
BRUEYER POND	P217	R	436	FRANKLIN	STONY CREEK MOUNTAIN	ADK. BROOK	14.1	11	3.3	70.8
CALAMITY POND	P714	UH	1255	ESSEX	MOUNT ADAMS	ADK. BROOK	7.4	-	-	-
CORNER POND	P686	UH		HAMILTON	KEMPSHALL MOUNTAIN	ADK. BROOK	51	-	-	-
DAWSON POND	P208	R	414	FRANKLIN	STONY CREEK MOUNTAIN	COLDWATER	6.7	49	-	-
DUCK HOLE	P235	R	489	FRANKLIN	STREET MOUNTAIN	ADK. BROOK	61	12	5.2	325.8
LAKE ARNOLD	P266	C	296a	ESSEX	NORTH ELBA	UNKNOWN	1.7	-	-	-
LAKE COLDEN	P706	UH	1240	ESSEX	MOUNT MARCY	ADK. BROOK	41.3	24	7.5	288
LAKE TEAR OF THE CLOUDS	P709	UH	1247	ESSEX	MOUNT MARCY	OTHER	1.7	-	-	-
LATHAM POND	P223	R	453	ESSEX	KEMPSHALL MOUNTAIN	ADK. BROOK	7.9	20	6.2	64.7
LITTLE AMPERSAND POND	P109	C	132	FRANKLIN	SARANAC LAKE	ADK. BROOK	13.8	25	-	-
LITTLE PINE POND	P101	C	122	FRANKLIN	SARANAC LAKE	ADK. BROOK	5.7	7	2.3	14.8
LIVINGSTON POND	P705	UH	1239	ESSEX	MOUNT MARCY	ADK. BROOK	2	23	10.8	32.1
LOST POND	P237	R	492	ESSEX	STREET MOUNTAIN	OTHER	5.2	15	5.2	26.9
LOWER CASCADE LAKE	P270	C	307	ESSEX	KEENE VALLEY	COLDWATER	21.7	41	11.2	280.1
LOWER COUNTY LINE POND	P213	R	428	FRANKLIN	KEMPSHALL MOUNTAIN	WARMWATER	11.4	14	4.3	39.3
LOWER WALLFACE POND	P718	UH	1263	ESSEX	STREET MOUNTAIN	ADK. BROOK	6.2	20	-	-
MARCY DAM POND	P5188	C	296	ESSEX	NORTH ELBA	ADK. BROOK	3	8	2.3	6.5
MIDDLE COUNTY LINE POND	P214	R	429	FRANKLIN	STONY CREEK MOUNTAIN	OTHER	2.7	17	5.2	10.7
MIDDLE WALLFACE POND	P720	UH	1265	ESSEX	STREET MOUNTAIN	ADK. BROOK	2.7	-	-	-
MOOSE POND	P221	R	450	ESSEX	SANTANONI	COLDWATER	185.3	-	-	-

High Peaks Wilderness Complex - Ponded Water Inventory Data

NAME	P#	Wshd *	FILE	COUNTY	USGS Quad (7.5')	MGMT. CLASS	AREA (acres)	MAX DEPTH (ft)	MEAN DEPTH (ft)	ACRE-FEET
MOOSE POND	P233	R	480	ESSEX	STREET MOUNTAIN	ADK. BROOK	28.2	17	6.2	162.8
MOSS POND	P708	UH	1245	ESSEX	MOUNT MARCY	UNKNOWN	0.5	-	-	-
MOUNTAIN POND	P230	R	469	FRANKLIN	AMPERSAND	ADK. BROOK	25.5	4	2.3	32.4
MUD POND	P193	R	391	FRANKLIN	STONY CREEK MOUNTAIN	WARMWATER	18.5	9	2.6	38
NEWCOMB LAKE	P694	UH	1209	ESSEX	SANTANONI	COLDWATER	506	80	-	-
OWL POND	P99	C	119	FRANKLIN	SARANAC LAKE	ADK. BROOK	14.1	13	8.5	119
PALMER POND	P207	R	411	FRANKLIN	STONY CREEK MOUNTAIN	ADK. BROOK	12.1	15	4.6	76.4
PICKEREL POND	P195	R	393	FRANKLIN	STONY CREEK MOUNTAIN	WARMWATER	16.3	15	6.2	98.1
ROCK POND	P196	R	396	FRANKLIN	STONY CREEK MOUNTAIN	ADK. BROOK	27.4	36	12.1	328.2
ROCK POND	P231	R	470	ESSEX	AMPERSAND	OTHER	5.9	3	1.6	8.4
ROUND POND	P687	UH	1192	HAMILTON	KEMPSHALL MOUNTAIN	WARMWATER	217.7	11	8.2	1831.5
SCOTT POND	P261	C	261	ESSEX	STREET MOUNTAIN	OTHER	5.9	6	2.6	8.2
SEWARD POND	P219	R	442	FRANKLIN	AMPERSAND	ADK. BROOK	4	8	2.3	12.3
SHAW POND	P222	R	451	ESSEX	SANTANONI	ADK. BROOK	11.1	6	3	43
UNNAMED POND	P263	C	293D	ESSEX	STREET MOUNTAIN	OTHER	1.2	8	2.9	6.1
UNNAMED POND	P5138	C	293B	ESSEX	STREET MOUNTAIN	OTHER	2	8	3	-
UNNAMED POND	P5144	C	-	FRANKLIN	AMPERSAND	ADK. BROOK	4	4	2.3	13.4
UNNAMED POND	P199	R	394	FRANKLIN	AMPERSAND	OTHER	8.4	-	-	-
UNNAMED POND	P225	R	459	ESSEX	SANTANONI	UNKNOWN	0.5	-	-	-
UNNAMED POND	P226	R	460	ESSEX	SANTANONI	UNKNOWN	7.9	-	-	-
UNNAMED POND	P226A	R	-	ESSEX	SANTANONI	UNKNOWN	10.9	-	-	-
UNNAMED POND	P227	R	462	ESSEX	AMPERSAND	UNKNOWN	3.2	-	-	-
UNNAMED POND	P229	R	467	FRANKLIN	AMPERSAND	ADK. BROOK	8.9	4	-	-
UNNAMED POND	P232	R	479	FRANKLIN	AMPERSAND	UNKNOWN	3.5	-	-	-
UNNAMED POND	P242	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	3	-	-	-

High Peaks Wilderness Complex - Ponded Water Inventory Data

NAME	P#	Wshd *	FILE	COUNTY	USGS Quad (7.5')	MGMT. CLASS	AREA (acres)	MAX DEPTH (ft)	MEAN DEPTH (ft)	ACRE-FEET
UNNAMED POND	P5141	R	-	FRANKLIN	STONY CREEK MOUNTAIN	UNKNOWN	2.2	-	-	-
UNNAMED POND	P5142	R	-	FRANKLIN	STONY CREEK MOUNTAIN	UNKNOWN	4.4	-	-	-
UNNAMED POND	P5144	R	-	FRANKLIN	STONY CREEK MOUNTAIN	UNKNOWN	1	-	-	-
UNNAMED POND	P5146	R	-	FRANKLIN	STONY CREEK MOUNTAIN	UNKNOWN	7.7	-	-	-
UNNAMED POND	P5147	R	-	FRANKLIN	STONY CREEK MOUNTAIN	UNKNOWN	2.2	-	-	-
UNNAMED POND	P5148	R	-	FRANKLIN	STONY CREEK MOUNTAIN	UNKNOWN	8.9	-	-	-
UNNAMED POND	P5151	R	-	FRANKLIN	STONY CREEK MOUNTAIN	UNKNOWN	4.4	-	-	-
UNNAMED POND	P5152	R	-	FRANKLIN	STONY CREEK MOUNTAIN	UNKNOWN	3.7	-	-	-
UNNAMED POND	P5153	R	-	FRANKLIN	STONY CREEK MOUNTAIN	UNKNOWN	2	-	-	-
UNNAMED POND	P5154	R	-	FRANKLIN	STONY CREEK MOUNTAIN	UNKNOWN	4.2	-	-	-
UNNAMED POND	P5156	R	-	FRANKLIN	STONY CREEK MOUNTAIN	WARMWATER	1	-	-	-
UNNAMED POND	P5159	R	-	FRANKLIN	STONY CREEK MOUNTAIN	ADK. BROOK	1.5	-	-	-
UNNAMED POND	P5162	R	-	FRANKLIN	AMPERSAND	UNKNOWN	6.2	-	-	-
UNNAMED POND	P5163	R	-	ESSEX	SANTANONI	ADK. BROOK	5.2	2.9	2.3	12
UNNAMED POND	P5164	R	-	ESSEX	SANTANONI	UNKNOWN	5.2	-	-	-
UNNAMED POND	P5165	R	-	ESSEX	SANTANONI	UNKNOWN	9.9	-	-	-
UNNAMED POND	P5166	R	-	ESSEX	SANTANONI	UNKNOWN	2.5	-	-	-
UNNAMED POND	P5168	R	-	ESSEX	SANTANONI	UNKNOWN	1.5	-	-	-
UNNAMED POND	P5169	R	-	FRANKLIN	AMPERSAND	UNKNOWN	2	-	-	-
UNNAMED POND	P5170	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	1.7	-	-	-
UNNAMED POND	P5171	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	1.2	-	-	-
UNNAMED POND	P5172	R	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	1.2	-	-	-
UNNAMED POND	P5173	R	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	1	-	-	-
UNNAMED POND	P5174	R	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	3.5	-	-	-
UNNAMED POND	P5175	R	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	1	-	-	-

High Peaks Wilderness Complex - Ponded Water Inventory Data

NAME	P#	Wshd *	FILE	COUNTY	USGS Quad (7.5')	MGMT. CLASS	AREA (acres)	MAX DEPTH (ft)	MEAN DEPTH (ft)	ACRE-FEET
UNNAMED POND	P5176	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	2.5	-	-	-
UNNAMED POND	P5177	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	2	-	-	-
UNNAMED POND	P5178	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	4.7	-	-	-
UNNAMED POND	P5179	R	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	2	-	-	-
UNNAMED POND	P5180	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	3.2	-	-	-
UNNAMED POND	P5181	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	3.2	-	-	-
UNNAMED POND	P5182	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	6.9	-	-	-
UNNAMED POND	P5183	R	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	4.2	-	-	-
UNNAMED POND	P5184	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	2	-	-	-
UNNAMED POND	P5185	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	1.7	-	-	-
UNNAMED POND	P5186	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	1.5	-	-	-
UNNAMED POND	P5187	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	3.5	-	-	-
UNNAMED POND	P5189	R	-	FRANKLIN	KEMPSHALL MOUNTAIN	UNKNOWN	2	-	-	-
UNNAMED POND	P5190	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	1.5	-	-	-
UNNAMED POND	P5191	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	0.7	-	-	-
UNNAMED POND	P5192	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	1	-	-	-
UNNAMED POND	P5195	R	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	1.7	-	-	-
UNNAMED POND	P5196	R	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	1.5	-	-	-
UNNAMED POND	P5197	R	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	1	-	-	-
UNNAMED POND	P5198	R	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	0.7	-	-	-
UNNAMED POND	P5199	R	-	ESSEX	STREET MOUNTAIN	UNKNOWN	7.2	-	-	-
UNNAMED POND	P5200	R	-	FRANKLIN	STREET MOUNTAIN	UNKNOWN	3.5	-	-	-
UNNAMED POND	P5211	R	-	FRANKLIN	STONY CREEK MOUNTAIN	UNKNOWN	7.9	-	-	-
UNNAMED POND	P5213	R	-	FRANKLIN	STONY CREEK MOUNTAIN	UNKNOWN	7.7	-	-	-
UNNAMED POND	P5218	R	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	2	-	-	-

High Peaks Wilderness Complex - Ponded Water Inventory Data

NAME	P#	Wshd *	FILE	COUNTY	USGS Quad (7.5')	MGMT. CLASS	AREA (acres)	MAX DEPTH (ft)	MEAN DEPTH (ft)	ACRE-FEET
UNNAMED POND	P552	UH	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	2.5	-	-	-
UNNAMED POND	P552	UH	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	1	-	-	-
UNNAMED POND	P552	UH	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	2	-	-	-
UNNAMED POND	P552	UH	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	1.2	-	-	-
UNNAMED POND	P552	UH	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	1.2	-	-	-
UNNAMED POND	P552	UH	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	1.2	-	-	-
UNNAMED POND	P685	UH	-	HAMILTON	KEMPSHALL MOUNTAIN	UNKNOWN	3.5	-	-	-
UNNAMED POND	P686	UH	-	HAMILTON	KEMPSHALL MOUNTAIN	ADK. BROOK	1	-	-	-
UNNAMED POND	P687	UH	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	3	-	-	-
UNNAMED POND	P687	UH	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	6.7	-	-	-
UNNAMED POND	P687	UH	-	ESSEX	KEMPSHALL MOUNTAIN	UNKNOWN	1	-	-	-
UNNAMED POND	P708	UH	-	ESSEX	MOUNT MARCY	UNKNOWN	7.9	-	-	-
UPPER BRUEYER POND	P216	R	439	FRANKLIN	STONY CREEK	ADK. BROOK	10.4	3	3	16.8
UPPER CASCADE LAKE	P271	C	308	ESSEX	NORTH ELBA	COLDWATER	26.4	63	38.7	927.8
UPPER COUNTY LINE POND	P215	R	430	FRANKLIN	STONY CREEK	OTHER	3.5	8.5	4.3	15.8
UPPER WALLFACE POND	P719	UH	1264	ESSEX	STREET MOUNTAIN	ADK. BROOK	13.1	39	-	-
WARD POND	P695	UH	1212	ESSEX	SANTANONI	ADK. BROOK	10.1	10	-	-

	#:	ACRES:
ADK. BROOK:	30	415
COLDWATER:	6	793
OTHER:	9	36
UNKNOWN:	67	219
WARMWATER:	5	265
TOTAL:	117	1728

* C = Champlain, R = Raquette, UH = Upper Hudson

High Peaks Wilderness Complex - Ponded Water Survey Data

NAME	P#	Most Recent Chemical Survey				Most Recent Biological Survey						
		Date	Source	ANC (µeq/l)	pH	Condu ctivity	Date	Source	No. ** Gillnets	Fish Species Present and Number Caught *	ST/ Gillnet	
AVALANCHE LAKE	P707	1987	ALSC	-1.7	4.99	19.6	1987	ALSC	3	No Fish	0	
BEAVER POND	P204	1984	ALSC	14.5	5.53	26	1984	ALSC	2	ST-1,CS-48,CC-25,WS-37	1	
BIG PINE POND	P98	1984	ALSC	73	6.8	27	1984	ALSC	5	ST-1,LT-16,KOK-2,LNS-24,WS-34,PKS-3,BB-4,GS-8; RSM rept, BT	0.33	
BLACK POND	P234	1984	ALSC	31.1	6.32	18.6	1984	ALSC	2	1984: No fish caught, ST stocked 1989	0	
BLACK POND	P696	-	-	-	-	-	-	-	-	UNKNOWN	-	
BRUEYER POND	P217	1985	ALSC	124.4	7.16	34.2	1985	ALSC	3	ST-14,PKS-20,NRD-4,WS-19,BB-10,CS-46	7	
CALAMITY POND	P714	-	-	-	-	-	-	DEC	-	ST rep. 1973 & 1988	-	
CORNER POND	P686	1963	DEC	-	6.9	-	1963	DEC	-	YP, BND, LND, unspecified sunfish	-	
DAWSON POND	P208	1971	DEC	-	7.2	-	1983	DEC	-	ST-3,LT-9, minnows obs.	-	
DUCK HOLE	P235	1986	ALSC	2.3	5.13	20.2	1986	ALSC	5	ST-23,WS-49	5.75	
LAKE ARNOLD	P266	-	-	-	-	-	-	-	-	UNKNOWN	-	
LAKE COLDEN	P706	1987	ALSC	0.6	5.07	18.8	1987	ALSC	4	No Fish	0	
LAKE TEAR OF THE CLOUDS	P709	-	-	-	-	-	1932	DEC	-	No Fish	-	
LATHAM POND	P223	1986	ALSC	99.2	6.51	29.9	1986	ALSC	2	ST-5,WS-4,PKS-20,CS-80,NRD-19,BND-1,CC-13,BB-16	5	
LITTLE AMPERSAND POND	P109	1989	DEC	-0.6	5.3	21.42	1983	DEC	-	ST-43	-	
LITTLE PINE POND	P101	1984	ALSC	406.2	7.67	63.2	1984	ALSC	2	ST-2,WS-29,BB-4,NRD-2	2	
LIVINGSTON POND	P705	1987	ALSC	35.2	6.46	21.1	1987	ALSC	2	ST-39	29	
LOST POND	P237	1984	ALSC	-16.4	4.67	20.9	1984	ALSC	2	No Fish	0	
LOWER CASCADE LAKE	P270	1984	ALSC	199.2	7.13	116.9	1984	ALSC	3	ST-3,BT-4,SPL-27,RW-7,WS-12,PKS-4,GS-1,BND-29,CC-2	1.5	
LOWER COUNTY LINE POND	P213	1984	ALSC	191.6	7.26	35.3	1984	ALSC	2	NP-11,BB-1,GS-4	0	
LOWER WALLFACE POND	P718	1975	DEC	-	5.4	-	1975	DEC	2	No Fish	0	
MARCY DAM POND	P5188	1985	ALSC	0.4	4.96	20.6	1985	ALSC	2	ST-54	51	
MIDDLE COUNTY LINE POND	P214	1984	ALSC	26.7	6	22.5	1984	ALSC	2	GS-46,NRD-3,CC-5,PKS-5	0	
MIDDLE WALLFACE POND	P720	-	-	-	-	-	-	-	-	UNKNOWN	-	
MOOSE POND	P221	1972	DEC	-	6.5	-	1983	DEC	-	ST,LT,RW?,WS,CS,CC,BB,PKS	-	

High Peaks Wilderness Complex - Ponded Water Survey Data

NAME	P#	Most Recent Chemical Survey				Most Recent Biological Survey					
		Date	Source	ANC (µeq/l)	pH	Condu ctivity	Date	Source	No. ** Gillnets	Fish Species Present and Number Caught *	ST/ Gillnet
MOOSE POND	P233	1986	ALSC	16.5	5.82	20.1	1986	ALSC	3	ST-12,CS-28,WS-63,CC-18	6
MOSS POND	P708	-	-	-	-	-	-	-	-	UNKNOWN	-
MOUNTAIN POND	P230	1986	ALSC	104.6	6.73	24	1986	ALSC	3	ST-19,CC-29	8.5
MUD POND	P193	1984	ALSC	103.2	6.97	37.4	1984	ALSC	2	NP-2,WS-5,BB-2,YP-7,PKS-1	0
NEWCOMB LAKE	P694	1972	DEC	-	6.5	-	1972	DEC	10	ST,LT,RW,PKS,RBS,BB,WS,LNS,CC,GS,CM,LC,CS	-
OWL POND	P99	1993	DEC	-7.6	4.92	-	1984	DEC	-	ST - 19, BB - 125	7.5
PALMER POND	P207	1984	ALSC	139.5	7.07	33.1	1984	ALSC	3	ST-17,LC-129	8
PICKEREL POND	P195	1984	ALSC	187	7.02	38.2	1984	ALSC	3	NP-9,WS-7,BB-3,PKS-2,YP-28,GS-13	0
ROCK POND	P196	1986	ALSC	73.1	6.69	30.1	1986	ALSC	4	ST-8,GS-49,CC-19,WS-30,BB-31	2.66
ROCK POND	P231	1984	ALSC	103.4	6.73	30.3	1984	ALSC	2	No Fish	0
ROUND POND	P687	1987	ALSC	156.9	7.03	34.1	1987	ALSC	7	SMB-27,YP-143,RBS-3,PKS-12,WS-120,BB-54,GS-9,CS-3,CC-1	0
SCOTT POND	P261	1984	ALSC	-7.1	4.83	21	1984	ALSC	2	No Fish	0
SEWARD POND	P219	1984	ALSC	32.2	6.28	29.3	1984	ALSC	2	ST-5	5
SHAW POND	P222	1984	ALSC	136.4	7.19	25.4	1984	ALSC	3	ST-1,CC-110,BND rpt 1972, ST stocked 1989	0.5
UNNAMED POND	P263	1984	ALSC	-38.9	4.41	30.2	1984	ALSC	1	No fish	0
UNNAMED POND	P5138	1963	DEC	-	5.2	-	-	-	-	No fish	0
UNNAMED POND	P5144	1986	ALSC	60.1	6.5	30.2	1986	ALSC	1	CC-5, NRD-90, ST stocked 1992	0
UNNAMED POND	P199	1933	DEC	-	-	-	-	-	-	PKS,CC seen	-
UNNAMED POND	P225	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P226	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P226A	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P227	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P229	-	-	-	-	-	1966	NYSD	-	ST young & adults, BND,CC observed	-
UNNAMED POND	P232	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P242	-	-	-	-	-	-	-	-	UNKNOWN	-

High Peaks Wilderness Complex - Ponded Water Survey Data

NAME	P#	Most Recent Chemical Survey				Most Recent Biological Survey					
		Date	Source	ANC (µeq/l)	pH	Condu ctivity	Date	Source	No. ** Gillnets	Fish Species Present and Number Caught *	ST/ Gillnet
UNNAMED POND	P5141	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5142	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5144	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5146	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5147	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5148	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5151	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5152	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5153	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5154	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5156	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5159	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5162	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5163	1986	ALSC	58.2	6.72	26.6	1986	ALSC	1	ST - 13 (136-248), NRD-1, CC-15	-
UNNAMED POND	P5164	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5165	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5166	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5168	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5169	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5170	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5171	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5172	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5173	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5174	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5175	-	-	-	-	-	-	-	-	UNKNOWN	-

High Peaks Wilderness Complex - Ponded Water Survey Data

NAME	P#	Most Recent Chemical Survey				Most Recent Biological Survey					
		Date	Source	ANC (µeq/l)	pH	Condu ctivity	Date	Source	No. ** Gillnets	Fish Species Present and Number Caught *	ST/ Gillnet
UNNAMED POND	P5176	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5177	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5178	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5179	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5180	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5181	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5182	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5183	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5184	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5185	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5186	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5187	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5189	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5190	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5191	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5192	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5195	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5196	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5197	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5198	-	-	-	-	-	-	-	-	UNKNOWN	-
7UNNAMED POND	P5199	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5200	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5211	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5213	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5218	-	-	-	-	-	-	-	-	UNKNOWN	-

High Peaks Wilderness Complex - Ponded Water Survey Data

NAME	P#	Most Recent Chemical Survey				Most Recent Biological Survey					
		Date	Source	ANC (µeq/l)	pH	Condu ctivity	Date	Source	No. ** Gillnets	Fish Species Present and Number Caught *	ST/ Gillnet
UNNAMED POND	P5523	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5524	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5525	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5526	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5527	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P5528	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P685A	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P686A	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P687A	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P687B	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P687D	-	-	-	-	-	-	-	-	UNKNOWN	-
UNNAMED POND	P708A	-	-	-	-	-	-	-	-	UNKNOWN	-
UPPER BRUEYER POND	P216	1985	ALSC	167.5	7.14	43.7	1985	ALSC	2	PKS-1,WS-8,CC-3,BB-15,GS-9,CS-8	0
UPPER CASCADE LAKE	P271	1984	ALSC	190.7	7.29	112	1984	ALSC	4	ST-3,BT-4,SPL-8,LC-6,RW-1,WS-31,GS-1	2
UPPER COUNTY LINE POND	P215	1984	ALSC	25	6.13	15.9	1984	ALSC	2	BB-17,PKS-1	0
UPPER WALLFACE POND	P719	1968	DEC	-	5.7	26.6	1975	DEC	4	No Fish	0
WARD POND	P695	1972	DEC	-	6.7	-	1972	DEC	-	No Fish	-

* Fish species caught by various gear. (Entries without numbers indicate fish species thought to be present. No biological survey conducted.)

** 150-foot Sewdish gillnet

LLS	Landlocked Salmon	CS	Common Shiner	LT	Lake trout	RW	Round whitefish	YP	Yellow Perch
BND	Blacknose dace	GS	Golden shiner	NRD	Northern redbelly dace	SMB	Smallmouth bass		
BHC	Brown bullhead	KOK	Kokanee salmon	NP	Northern pike	SPL	Splake		
BT	Brown trout	LC	lake chub	PKS	Pumpkinseed	ST	Brook trout		
CC	Creek chub	LNS	Longnose sucker	RBS	Redbreast sunfish	WS	White sucker		

CLASSIFICATION OF COMMON ADIRONDACK UPLAND FISH FAUNA INTO
NATIVE, NONNATIVE, AND NATIVE BUT WIDELY INTRODUCED
Adapted from George, 1980

NATIVE TO ADIRONDACK UPLAND

Blacknose dace	Redbreast sunfish	Common shiner
White sucker	Finescale dace	Lake chub
Longnose sucker	Creek chubsucker	Slimy sculpin
Northern redbelly dace	Longnose dace	Round whitefish

NATIVE SPECIES WIDELY INTRODUCED WITHIN THE ADIRONDACK UPLAND¹

Brook trout	Cisco	Brown bullhead
Lake trout	Pumpkinseed	Creek chub

NONNATIVE TO ADIRONDACK UPLAND

Golden shiner	Northern pike	Chain pickerel
Rock bass	Bluntnose minnow ⁵	Smallmouth bass
Largemouth bass	Yellow perch	Johnny darter
Fathead minnow ²	Brown trout	Rainbow trout
Splake	Atlantic salmon	Lake Whitefish
Banded killifish ³	Rainbow smelt	Fallfish ⁴
Bluegill	Walleye	Pearl dace
Central mudminnow	Redhorse suckers(spp.)	Black crappie

¹ These native fishes are known to have been widely distributed throughout Adirondack uplands by DEC, bait bucket introduction, and unauthorized stocking. This means that their presence does not necessarily indicate endemicity. Other native species listed above also may have been moved from water to water in the Adirondack Upland, but the historical record is less distinct.

² Not mentioned by Mather (1884) from Adirondack collections, minor element southern Adirondack Uplands (Greeley 1930-1935).

³ Early collections strongly suggest dispersal as a bait form.

⁴ Adventive through stocking.

⁵ Not mentioned by Mather (1884) from Adirondack collections, widely used as bait.

High Peaks Wilderness Early Surveys vs. Present Day Fish Distribution

Lake Category	# Lakes Pre-1970	Fish Communities	# Lakes Post-1970	% Fish Communities	Net ** Change # Lakes	% Net Change For Species
GENERAL						
Total # Lakes	117		117			
# Unknown	76		71		-5	
# Surveyed	41		46		5	
# Fishless	9	0	10	0	1	
# Fish Communities	32	1	36	1	4	
BROOK TROUT						
# Viable Brook Trout Populations	25	78%	25	69%	0	0%
NATIVE BUT WIDELY INTRODUCED						
# Lake Trout	5	16%	4	11%	-1	-20%
# Brown Bullhead	12	38%	14	39%	2	17%
# Pumpkinseed	12	38%	13	36%	1	8%
# Creek Chub	17	53%	15	42%	-2	-12%
NATIVE						
# White Sucker	14	44%	16	44%	2	14%
# Lake Chub	4	13%	4	11%	0	0%
# Blacknose Dace	4	13%	5	14%	1	25%
# Northern Redbelly Dace	4	13%	6	17%	2	50%
# Common Shiner	8	25%	7	19%	-1	-13%
# Redbreast Sunfish	1	3%	2	6%	1	100%
# Longnose Dace	2	6%	2	6%	0	0%
# Longnose Sucker	2	6%	2	6%	0	0%
# Round Whitefish	4	13%	4	11%	0	0%
# Cutlips minnow	0	0%	1	3%	1	
# Finescale dace	0	0%	1	3%	1	
NONNATIVE						
# Yellow Perch	7	22%	4	11%	-3	-43%
# Golden Shiner	4	13%	10	28%	6	150%
# Smallmouth Bass	2	6%	1	3%	-1	-50%
# Fathead Minnow	1	3%	1	3%	0	0%
# Northern Pike	4	13%	3	8%	-1	-25%
# Kokanee Salmon	1	3%	0	0%	-1	-100%
# Brown Trout	3	9%	3	8%	0	0%
# Splake	2	6%	2	6%	0	0%

* Excludes waters where only one or two brook trout were captured and/or unsubstantiated, anecdotal accounts of brook trout presence are the only historical record

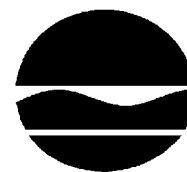
** Shaded areas indicate negative numbers

SAMPLE OF HISTORIC BROOK TROUT MONOCULTURES *

Water	P #/ Watershed	Survey Year	Source
Brook Trout Lake	P 874 OB	1950	DEC Fish Mgmt.
Unnamed Pond	P 113 C	1986	ALSC
Unnamed Pond	P 259 C	1986	ALSC
Bickford Pond	P 273 STL	1984	ALSC
Mud Pond	P 1008 OB	1986	ALSC
Metcalf Lake	P 897 MH	1934	Biological Survey
Blueberry Pond	P 197 RAQ	1933	Biological Survey
Horn Lake	P 854 OB	1989	DEC Fish Mgmt.
Hardscrabble Pond	P 1015 OB	1985	ALSC

* These waters have no known history of stocking or fish management prior to the survey data shown.

MEMORANDUM FROM
THOMAS C. JORLING, *Commissioner*
New York State Department of Environmental Conservation



October 31, 1991

TO: Executive Staff, Division and Regional Directors

FROM: Thomas C. Jorling

RE: ORGANIZATIONAL AND DELEGATION MEMORANDUM # 91-31
POLICY: FISHERY MANAGEMENT IN WILDERNESS, PRIMITIVE
AND CANOE AREAS

BACKGROUND

Fisheries management in wilderness, primitive and canoe areas of the Adirondack and Catskill Parks has a strong foundation in law, policy, tradition and resource planning. The New York State Legislature has directed DEC to efficiently manage, maintain and improve the fish resources of the State and make them accessible to the people of New York. This includes a mandate to develop and carry out programs and procedures which prompt both natural propagation and maintenance of desirable species in ecological balance and lead to the observance of sound management practices to achieve those goals (ECL Section 11-0303).

Similarly, the State Land Master Plans for the Adirondack and Catskill Parks adopt the principle of resource management and provide strong guidance for fish management (APA 1987, DEC 1985). The primary management guideline for wilderness, primitive and canoe areas is to “achieve and perpetuate a natural plant and animal community where man’s influence is not apparent.” While these plans recognize these areas as places “where the earth and its community of life are untrammled by man, where man is a visitor who does not remain,” they are also defined as areas which are protected and managed so as to “preserve, enhance and restore, where necessary, its natural conditions . . .”. Thus, opportunities to manage ecosystems have been preserved in these Master Plans and are conducted in a manner to meet plan guidelines. Fish management practices, such as fish stocking, pond reclamation, pond liming, barrier dam construction and maintenance, and resource survey and inventory, are permitted when conducted within guidelines for wilderness, primitive and canoe area management and use.

For more than a decade, the Division of Fish and Wildlife has managed ecosystems consistent with legal mandates and professional concerns, with sensitivity for wilderness values and with the intent of providing unique recreational experiences. The

Master Plans set no numerical standards on use intensity but indicate that fishing is “compatible with wilderness and should be encouraged as long as the degree and intensity of use does not endanger the wilderness resource itself”.

Important precepts contained in a Division of Fish and Wildlife position paper on wilderness area management have guided the Department’s fish management programs in such areas since 1977 (Doig 1977). The position paper recognizes fishing as: a legitimate activity in wilderness, primitive and canoe areas which should be considered as part of a larger experience not just a quest for fish; where quality includes the expectation of encounter with unique fish and wildlife in natural setting, aesthetic surroundings, and limited contact with other persons. It directs management activities at species which are indigenous to or historically associated with the Adirondacks and Catskills. It provides that fish populations will be managed on a self-sustaining basis, but permits maintenance stocking to be used where unique, high quality recreational fishing experiences can be provided without impairing other objectives. It further directs that fish management activities should be compatible with area characteristics, conducted in an unobtrusive manner and restricted to the minimum means necessary to accomplish management objectives.

The formal traditions of fisheries management in New York State are rooted 120 years in the past, dating back to 1868 when the New York Commission of Fisheries was created (Shepherd et al. 1980). The elements of New York’s fisheries program have evolved both in emphasis and priority with shifts being dictated by need, experience and availability of funding as well as the evolution of fishery science. Formal goals for the Fish and Wildlife program have been in existence for more than a decade and remain the foundation for DEC’s modern fish and wildlife program activities. They are:

- perpetuate fish and wildlife as a part of various ecosystems of the state;
- provide maximum beneficial utilization and opportunity for enjoyment of fish and wildlife resources; and
- manage these resources so that their numbers and occurrences are compatible with the public interest.

Goals for each program of the Division of Fish and Wildlife have been described in DEC’s 1977 Division of Fish and Wildlife Program Plan. Environmental impacts of the Division of Fish Wildlife’s fish species and habitat management activities are discussed in programmatic environmental impact statements prepared by Shepherd et al. (1980) and Odell et al. (1979), respectively.

The evolution of fisheries management in New York State and the Adirondack zone has been discussed in Shepherd et al. (1980) and Pfeiffer (1979). Program goals, objectives, policies and management strategies for lake trout including guidelines for stocking were developed by Plosila (1977). The strategic plan recognizes the importance of native Adirondack lake trout stocks and the considerable importance of these lake trout resources to the entire State. In 1979, a strategic plan for the management of wild and hybrid strains of brook trout was completed (Keller 1979). Preservation of native strains in the Adirondack and Catskill Mountains was a major component of that plan. Pfeiffer (1979) established goals, objectives and strategies for the management of broad classes of Adirondack fishery resources and significantly enunciated the importance of angling in wilderness, primitive and canoe areas and guidelines for fisheries management within these areas. The latter were consistent with those formulated earlier by Doig (1977). The philosophical and scientific underpinnings for trout stream management in New York with application to management of wilderness, primitive and canoe area trout streams, was completed in 1979 (Engstrom-Heg 1979 a). A recent draft plan for intensification of management of brook trout in 47 Adirondack ponds has been developed by DEC Regions 5 and 6 (Miller, 1986).

Salmonid stocking by the Division of Fish and Wildlife is guided by policies and criteria presented in Engstrom-Heg (1979 b). The evolution of DEC's criteria for establishing salmonid stocking policies in New York has been reviewed by Pfeiffer (1979), while the general objectives of fish stocking are discussed in Shepherd et al. (1980) and Engstrom-Heg (1979).

Liming of acidified waters by the Division of Fish and Wildlife is presently guided by the draft policy and criteria established by Wich (1987). A final generic environmental impact statement for DEC's liming program is being prepared following extensive public review of the draft statement. It will include a revision of the Division of Fish and Wildlife's liming policy and criteria (Simonin 1990). Findings and the Commissioner's decision for the liming program are being completed.

The history of pond reclamation in New York has been discussed by Pfeiffer (1979). Reclamation goals are discussed in Shepherd et al. (1980), while general policy guidance and rules and regulations covering the use of piscicides including rotenone, are provided in Part 328 of 6NYCRR. Fish barrier dams, which are frequently associated with pond reclamation, are permitted when constructed or maintained in accordance with SLMP guidelines.

PURPOSE

The purpose of this memorandum is to state the Department's policies on fisheries management in wilderness, primitive and canoe areas within the Adirondack and Catskill Parks.

POLICY GUIDELINES

Legally established goals for the Forest Preserve recognize that fish and wildlife are integral to the values society places on the Preserve. Charges include management to “foster the wild Adirondack environment and all the flora and fauna historically associated there with” and, “encouragement of indigenous species presently restricted in numbers.” Fisheries management activities are essential to achieve these goals and to perpetuate unique opportunities for high quality wilderness, primitive and canoe area fishing experience provided within the Adirondack and Catskill Parks. Specific guidelines for fisheries management activities are as follows:

1. The primary purpose of aquatic resource management in wilderness primitive and canoe areas is to perpetuate natural aquatic ecosystems, including perpetuation of indigenous fish species on a self-sustaining basis.
2. Angling is recognized as a compatible recreational pursuit in wilderness, primitive and canoe areas. Aquatic resource management will emphasize the quality of the angling experience over quantity of use.
3. Aquatic resources in wilderness, primitive and canoe areas will be protected and managed so as to preserve, enhance and restore, where necessary, their natural conditions. Aquatic resource management, including stocking of game and nongame fishes and pond reclamation, may be necessary to achieve and perpetuate natural aquatic ecosystems.
4. Brown trout, rainbow trout, splake and landlocked Atlantic salmon are coldwater fish species historically associated with the Adirondack Park. Smallmouth bass, largemouth bass, northern pike and walleye are warmwater species historically associated with the entire Adirondack and Catskill Parks and indigenous to some lowland areas. These species may be included in the management and stocking regime of specific waters in wilderness, primitive, and canoe areas in instances when indigenous fish communities cannot be protected, maintained, or restored in those waters. Fish species, other than indigenous species and species historically associated with the Adirondack and Catskill Parks, will not be stocked in the waters of wilderness, primitive and canoe areas.
5. Waters found to be naturally barren of fish species will not be stocked. Waters which are self-sustaining or which otherwise would be self-sustaining except that they have been compromised by human-caused disturbances may be stocked consistent with these guidelines.

6. Pond reclamation will be practiced as appropriate to prepare or maintain waters in wilderness, primitive and canoe areas but only for the restoration or perpetuation of indigenous fish communities.
7. The Unit Management Plan for each wilderness, primitive, or canoe area shall identify aquatic resource management actions on a water-body-specific basis through analysis of unit inventory data adequate to support the actions.
8. In those instances where a Unit Management Plan has not yet been approved for a given wilderness, primitive, or canoe area, aquatic resource management actions to stock waters may be continued in waters so managed before December 31, 1989, consistent with these guidelines, pending approval of the Plan. Waters reclaimed prior to December 31, 1989 may be reclaimed subject to case-by-case review by the Adirondack Park Agency for consistency with these guidelines, pending approval of the Plan. New waters may be stocked or reclaimed only to prevent significant resource degradation subject to case-by-case review by the Adirondack Park Agency for consistency with these guidelines, pending approval of the Plan.
9. Maintenance liming to protect and maintain indigenous fish species may be continued as mitigation measure for acid rain in Horn Lake (P04854), Tamarack Pond (P06171), Livingston Pond (P05705) and Kitfox Pond (P03142) so treated before December 31, 1989. Upon acceptance of the Final Generic Environmental Impact Statement on liming and the issuance of findings and a decision by the Department of Environmental Conservation, the appropriateness of liming in the waters of wilderness, primitive and canoe areas will be established and appropriate policy guidelines incorporated herein.
10. All aquatic resource management activities in wilderness, primitive, and canoe areas will be consistent with guidelines for use of motor vehicles, motorized equipment, and aircraft as stated in the State Land Master Plan.

Attachment

Pond narratives for High Peaks Wilderness.

Avalanche Lake (UH-P 707)

Avalanche Lake is a scenic, yet acidified 10.4-acre pond which is currently devoid of fish life. It lies at the base of Avalanche Mountain and Mount Colden. Access is via a marked trail from the Adirondack Loj. Avalanche Lake was barren of fish until stocked with brook trout in 1921. For the next 30 years, Avalanche Lake was a renowned trout fishery and apparently remained a brook trout monoculture until it acidified in the mid-1950's. A chemical survey done in 1958 recorded a pH value of 5.4. A 1965 biological survey captured no fish and the pH had dropped to 4.9. Avalanche Lake was limed in 1979, but subsequently reacidified within three years and the liming program was terminated. A 1987 ALSC survey determined that pH was 4.99, mean depth was 10.8 feet, maximum depth was 23 feet, and the flushing rate was 5 times/year.

Because of its past reputation as a brook trout fishery Avalanche Lake will continue to be monitored via periodic chemical surveys. Avalanche Lake will be managed as an Adirondack brook trout pond in the event that acid conditions improve over time.

Management Class: Adirondack Brook Trout

Beaver Pond (R-P 204)

Beaver Pond is a shallow, 7.2-acre Adirondack brook trout pond with a fish community consisting of brook trout, common shiner, creek chub (NBWI) and white sucker. This pond is the headwater for a tributary to the privately owned Ampersand Lake and lies immediately to the east of that waterbody. No marked trails lead to this pond. A 1984 ALSC survey of Beaver Pond indicates the pond was well named. It had an active dam and fresh beaver activity was apparent. Beaver Pond was stocked once with brook trout in 1887. Bog and marsh comprise 25% of the shoreline. Mean depth of Beaver Pond is 1.6 feet, pH is 5.53, and the flushing rate is 69.7 times per year. Wetlands, high turnover rate, and proximity to private lands preclude reclamation or liming.

Beaver Pond will be managed as an Adirondack brook trout pond to preserve its native fish community.

Management Class: Adirondack Brook Trout

Big Pine Pond (CH-P 98)

Big Pine Pond (or Pine Pond) is a popular, 46.5-acre coldwater fishery. It is accessible via a trail originating in Ray Brook or by trail from Oseetah Lake. Big Pine Pond is a deep, coldwater lake with no inlets or outlets. Although small for a lake trout water, it is a

well-known fishery for this species. The original Biological Survey of 1929 captured brook trout, lake trout, brown bullhead (NBWI), and mentioned reports of yellow perch (nonnative). A 1959 survey captured no brook trout, but declared lake trout to be NSA. Also, white sucker and longnose sucker were reported for the first time. The two sucker species were probably unintentionally introduced by baitfishermen. A 1964 survey added pumpkinseed (NBWI) to the fish community list. At that time, there was concern that lake trout were foraging heavily on the annual brook trout stocking, so kokanee salmon (nonnative) were introduced in 1967 to buffer predation. In 1984 the ALSC netted brook trout, lake trout, kokanee salmon, longnose sucker, white sucker, pumpkinseed, brown bullhead and golden shiner (nonnative). File notes from 1988-89 indicate that rainbow smelt (nonnative) may now be established in the lake. The mean depth of Big Pine Pond is 26 feet, maximum depth is 65 feet, flushing rate is 0.4 times/year, and it has a pH of 6.8. Its substrate is predominantly sand with some gravel. Big Pine Pond has a long stocking history and has received at some time in its past: brook trout, lake trout, rainbow trout, kokanee salmon and brown trout. Lake trout were stocked in 1889, 1931, 1933 and 1936, making it doubtful that they can be designated as a heritage strain. Kokanee salmon were stocked from 1967 until 1989 and were a popular fishery. Compliance with the 1989 "Wilderness Guidelines for Fisheries Management" required termination of the kokanee policy. Brown trout were stocked in 1990 in recognition of the failing brook trout fishery and the evident increase in numbers and biomass of competing species.

Big Pine Pond will be managed as a coldwater pond to preserve and protect its native fishes in the presence of historically associated and nonnative species. Big Pine Pond should be considered as a candidate water for a round whitefish refugia if restoration efforts in other waters prove unfeasible. In this event, the pond would be stocked with round whitefish.

Management Class: Coldwater

Black Pond (R-P 234)

Black Pond (4.9 acres) is one of two such-named waters in the High Peaks Wilderness. This Black Pond lies in the Raquette River watershed upstream of Moose Pond (R-R 233), to the southwest of the Chubb River, and to the east of the Sawtooth Range. The 1933 Biological Survey did not net the pond, but reported that it was "always fishless". A 1984 ALSC survey captured no fish, yet water chemistry work indicated fish could survive. ECO Robert Chatt reports catching brook trout in Black Pond in the 1970's and 1980's. ECO Chatt further indicated that trout are concentrated in a small spring hole area most of the summer, which could explain the failure of netting surveys to catch fish. Black Pond's pH is 6.32, mean depth is 5.9 feet, maximum depth is 17 feet and it has a flushing rate of 7.1 times per year. Based on this favorable data, brook trout were stocked in Black Pond beginning in 1989. The pond is accessible by a trail network beginning at the Northville-Lake Placid trailhead on Avery Road.

Black Pond (R-P 234) will be managed as an Adirondack brook trout pond to preserve its native fish community. A 1994 survey confirmed that brook trout are doing well in Black Pond.

Management Class: Adirondack Brook Trout

Black Pond (UH-P 696)

The second Black Pond in the High Peaks Wilderness lies to the north of Newcomb Lake and Ward Pond. This 3-acre pond has never been surveyed. No marked trails lead to the pond.

Black Pond (UH-P 696) will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

**Brueyer Pond (R-P 217), Upper Brueyer Pond (R-P 218),
& Unnamed Pond (R-P 5159)**

Brueyer Pond is a 14.1-acre Adirondack brook trout pond that was first surveyed in 1933. The biologists of that era noted the pond was stocked with brook trout in 1923, but did not otherwise mention the historical status of that species. The 1933 netting survey captured brook trout, white sucker, northern redbelly dace and three NBWI species: creek chub, brown bullhead and pumpkinseed. A 1985 ALSC survey captured the same species. ALSC staff did not discover official records pertaining to the 1923 brook trout stocking and trout have not been stocked since that date. It is possible that the NSA brook trout population in Brueyer Pond can be considered as unadulterated. Brueyer Pond has a pH of 7.16. Beavers are active in the watershed and the ALSC observed two loons on the pond. Mean depth of Brueyer Pond is 3.3 feet, maximum depth is 11 feet, and its flushing rate is 21.7 times/year. Wetlands comprise 40% of the immediate shoreline. Aquatic vegetation is abundant. Only 30% of the pond's surface area was open water in the June 1985 ALSC survey. Brueyer Pond lies in the course of a tributary to Calkins Brook and the Cold River. The pond is located about a half mile west of the lean-to near the intersection of the Cold River horse trail and Calkins Brook. No marked trails lead directly to the pond.

Upper Brueyer Pond is located a half mile upstream of Brueyer Pond. The 10.4-acre pond was first surveyed in 1955 and classified as a nontrout water. White sucker, creek chub (NBWI) and brown bullhead (NBWI) were captured in the 1955 survey. A 1985 ALSC survey captured the same species and added common shiner, pumpkinseed (NBWI) and golden shiner (nonnative). Golden shiners are the first nonnative species captured in the Brueyer system. Upper Brueyer Pond is a shallow, darkly-stained pond with a mean and maximum depth of 3 feet and a muck bottom. It has a pH of 7.14 and an ANC of 266.

Unnamed Pond P 5159 is 1.5 acres in size and is located about 0.5 mile downstream of Brueyer Pond. This pond has never been surveyed, but is probably a shallow beaver impoundment with a fish community similar to Brueyer Pond. The pond should be regarded as part of the Brueyer system and included in future survey work.

The Brueyer ponds will be managed as Adirondack brook trout ponds to enhance and restore a native fish community. The ponds are separated by wetlands which may preclude reclamation. The presence of golden shiner in Upper Brueyer Pond could have a negative impact on the NSA brook trout population in Brueyer Pond, making elimination of shiners from the system desirable. All three ponds will be surveyed to make final decisions regarding suitability of the system for reclamation.

Management Class: Adirondack Brook Trout

Calamity Pond (UH-P 714)

Calamity Pond is a 7.4-acre impoundment near the headwaters of Calamity Brook. This Adirondack brook trout pond is named after the famous incident involving the accidental shooting of David Henderson in 1846. A monument commemorating the incident is found along the trail near the pond. Calamity Pond has never been netted, however, a biologist doing a snorkel survey in 1973 spotted a school of brook trout near a spring tributary. Interior rangers report fishermen still catch brook trout in the pond. Calamity Pond has never been stocked, but it is likely that brook trout in this pond originated from fish planted in the Flowed Lands before the dam breached. A man-made drainage ditch once connected the two waters. A log crib dam once existed on the outlet of Calamity Pond. Springs probably account for the survival of brook trout in Calamity Pond since the Flowed Lands and Lake Colden further upstream in the watershed acidified in the 1970's. A marked trail from the Henderson Lake area, which parallels Calamity Brook, provides access. Recent reports suggest that the water level (and surface area) of Calamity Pond has lowered significantly, perhaps due to breaching of the dam on its outlet.

Calamity Pond will be managed as an Adirondack brook trout pond to preserve its native fish community.

Management Class: Adirondack Brook Trout

Corner Pond (UH-P 686) and Unnamed Pond (UH-P 686A)

Corner Pond is a 51-acre Adirondack brook trout pond that is bisected by a boundary between the HPWC and the Huntington Preserve owned by SUNYESF. It lies to the southwest of Round Pond and is due west of Catlin Lake (on the Preserve). Biologists

reported in 1932 that yellow perch (nonnative) and brook trout were present and observed unidentified minnows in the pond. A 1963 survey observed blacknose dace, longnose dace, yellow perch and unidentified sunfish. Corner Pond has a maximum depth of 22 feet, pH of 6.9, and a substrate composed of gravel, muck and sand. File notes indicate it is a good reclamation candidate with small inlet streams and a steep, rocky outlet that could be easily dammed.

Unnamed pond 686A (1.0 acre) lies in the midst of a large wetland contiguous with the western end of Corner Pond. This pond has never been surveyed, but should be included in any management actions pertaining to Corner Pond.

Corner Pond will be managed to restore and enhance a native fish community. Permission to reclaim will be required from SUNYESF.

Management Class: Adirondack Brook Trout

Dawson Pond (R-P 208)

Dawson Pond (6.7 acres) is a coldwater lake with a history as a good brook trout fishery. Biologists netting the pond in 1933 noted that it was fished extensively and had been privately stocked with brook trout. Their netting captured brookies and fathead minnows. A 1971 survey captured lake trout, which probably originated from stocking error or an unauthorized introduction. A 1983 survey caught the same species. Dawson Pond has a maximum depth of 49 feet, its mean depth is unknown. Its pH in 1971 was 7.2. Dissolved oxygen is limiting below 35 feet and water samples from deeper areas have a strong hydrogen sulfide odor. It is surprising that brook trout and lake trout have done well in this pond, which has a rather featureless, muck bottom and no known spawning habitat. Dawson Pond can be found on the western edge of the High Peaks Wilderness about 1.0 mile south of the portage around Raquette River Falls. Trail access is good.

Dawson Pond will be managed as a coldwater lake to preserve its native fish community. Future survey work should determine the reclamation potential of this pond in the event a deleterious nonnative species is introduced.

Management Class: Coldwater

Duck Hole (R-P 235)

The Duck Hole is a 61-acre Adirondack brook trout pond located northwest of the Preston Ponds and Henderson Lake in Tahawus. A portion of the Northville-Lake Placid trail parallels the northern shore of this scenic pond. Duck Hole is an impoundment formed by a 10 foot dam first built in 1915. At the time of the 1933 Biological Survey, the dam was

out and only a small "hole" existed. The dam was rebuilt in 1936, raising water levels by 6 feet. The first survey of Duck Hole in 1950 captured brook trout, white sucker and creek chub (NBWI). Biologists noted wild trout in the 1950 survey. Subsequent surveys done in 1966, 1975, 1983 and 1986 captured the same species. The Duck Hole is a shallow waterbody, averaging only 5 feet deep, with a maximum depth of 12 feet. It has a varied substrate of muck, sand, gravel and rubble. Two lengthy tributaries make reclamation success doubtful. Upper and Lower Preston Ponds (R-P 238 and 239) are upstream of the Duck Hole. These ponds are privately owned and may contain a native strain of brook trout. Steep terrain prevents upstream migration by trout from the Duck Hole to the Preston Ponds. Duck Hole has a pH of 5.4, making it "acid-threatened". Unfortunately, the pond has a flushing rate of nearly 60 times/year and does not qualify for liming.

Duck Hole will be managed as an Adirondack brook trout pond to preserve its native fish community.

Management Class: Adirondack Brook Trout

Lake Arnold (CH-P 266)

Lake Arnold is a small, 1.7-acre, high-elevation pond located on the eastern edge of Mount Colden. Lake Arnold is thought to be shallow and prone to winterkill, but the pond has never been surveyed. It is likely that Lake Arnold is acidic and historically fishless.

Lake Arnold will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Lake Colden (UH-P 706)

Lake Colden (41.3-acres) has a management history similar to that of Avalanche Lake (UH-P 707). Trail access is good to this scenic lake lying nestled between the highest peaks of the region. It is likely that Lake Colden was historically fishless. The Tahawas Club owned Lake Colden and privately stocked it with brook trout at least ten years prior to the first survey conducted in 1932. In that survey, only brook trout were caught and natural reproduction was noted in tributaries of the lake. Lake Colden was a well-known "trophy" trout fishery in the 1930's through the 1950's. A 1958 survey captured only a few brook trout and noted a pH of 5.4. A 1965 survey established that stocked brook trout were growing very slowly and pH was recorded at 4.9. Wild (Honnedaga) strain brook trout were stocked for several years, but a 1968 survey showed that they fared no better in the rapidly acidifying lake (pH now was 4.2 to 4.5). No fish were captured in a 1970 netting and rangers reported fishkills soon after stocking. Brook trout stocking was cancelled in 1973. Unlike Avalanche Lake, liming was never attempted on Lake Colden. A 1987 ALSA survey determined a flushing rate of 11.6 times/year, mean depth of 7.5 feet, maximum depth of 24 feet and a pH of 5.07.

Lake Colden will be managed as an Adirondack brook trout pond in the event that acid conditions improve over time.

Management Class: Adirondack Brook Trout

Lake Tear of the Clouds (UH-P 709)

Lake Tear of the Clouds (1.7 acres) lies at the head of Feldspar Brook on the upper slopes of Mount Marcy. Highest of the High Peak ponds, at an elevation of 4,310 feet, this wonderfully named pond has been identified by some as the origin of the Hudson River. The only survey work done on Lake Tear of the Clouds occurred in 1932. No fish were captured in a half-hour seining effort. Biologists noted the pond was shallow and estimated a surface area of only 0.5 acres. Modern maps show a distinctly larger area, so beaver activity may have changed the pond's physical characteristics. Algae, dragonflies and caddisflies were all noted as being common in this clear-watered pond.

Lake Tear of the Clouds will be managed to preserve the aquatic community present for its intrinsic value.

Management Class: Other

Latham Pond (R-P 223)

Latham Pond is a 7.9-acre Adirondack brook trout pond that lies in the course of tributary 4-1a of the Cold River. The pond has varied in size over the years in response to beaver activity on the outlet. A forest ranger reported to biologists in 1933 that Latham Pond had very good brook trout fishing. The pond was first netted in 1955. Brook trout, white sucker, common shiner and three NBWI species: creek chub, brown bullhead and pumpkinseed were present. A 1975 survey added finescale dace to the fish community list. The creek chub population was noted to be of "high density" in 1975 and brook trout were thought to be rare. Blacknose dace and northern redbelly dace were added by surveys done in 1981 and 1986. Fair numbers of brook trout were caught in each of the last two surveys. Latham Pond has a mean depth of 6 feet, maximum depth of 20 feet, and a flushing rate of 12.8 times/year. The substrate of the pond is mostly sand with some muck, boulder and rubble. Dissolved oxygen is low in the deepest sections of the pond, but pH is good at 6.8. Natural reproduction of brook trout was noted in the inlet of Latham Pond in 1955. This inlet extends for 0.75 miles upstream and ends in a small wetland. Flow of the inlet has been estimated at 10-25 gallons/minute.

Latham Pond will be managed to enhance and restore a native fish community. A pre-reclamation survey will be scheduled for this pond to determine whether it can be reclaimed in the event that the brook trout population is threatened by competition or a new species introduction. If Latham Pond is reclaimed, finescale dace should be reintroduced,

along with brook trout, as this is the only pond in the HPWC where that species has been reported present.

Management Class: Adirondack Brook Trout

Little Ampersand Pond (CH-P 109)

Little Ampersand Pond is a 13.8-acre Adirondack brook trout pond with an intensive management history. Located about 1.25 miles west of Big Pine Pond (C-P 99) and 0.25 miles west of Cold Brook, trekking to Little Ampersand Pond requires a fair amount of canoeing and hiking. Biologists of the 1929 survey reported brook trout to be present and recommended stocking the species, but it does not appear they netted the pond. Yellow perch (nonnative), smallmouth bass (nonnative) and white sucker were netted in May 1954, prior to a reclamation conducted in July. Brook trout stocking was renewed after the reclamation and fishing remained good until the early 1960's. After complaints of poor fishing, a 1963 netting captured no fish. Little Ampersand Pond was limed in August 1963 at a rate of 10 pounds of hydrated lime/foot acre. This raised the pond pH from 3.5 to 5.3, but did not result in improved fish survival. The pond was limed again in 1967 at the same rate used in 1963. Brook trout prospered after the second liming, numerous trout were captured in a 1975 survey. A 1983 survey verified the pond was still a brook trout monoculture, although its pH had dropped to around 5.0 and it had a negative ANC (indicating no buffering capacity). Periodic chemistry checks since 1983 have measured pH's of around 5.3. There have been mixed reports of brook trout fishing success in recent years. Little Ampersand Pond has a maximum depth of 25 feet and a substrate consisting of sand and gravel.

Little Ampersand Pond will be managed as an Adirondack brook trout pond to preserve and enhance its native fish community. The pond will be limed in year 1 of this plan and, thereafter, when pH levels drop below 6.0. The ALSC has calculated a flushing rate of 2.1, however, the survival of brook trout for 25 years since the last treatment, indicates the pond does not reacidify at a typical rate. Little Ampersand Pond is specifically listed as an exception to the 2.0 flushing rate criterion within the FEIS (page 5). It is a legitimate liming candidate provided that it meets other selection criteria.

Management: Adirondack Brook Trout

Little Pine Pond (CH-P 101)

Little Pine Pond (5.7 acres) is an Adirondack brook trout pond in the vicinity of Big Pine Pond (C-P 98) and Oseetah Lake. The original Biological Survey of 1929 reported that brook trout, lake trout, brown bullhead (NBWI) and yellow perch (nonnative) were present, but there is no indication the pond was netted. Brook trout stocking was recommended. The only fish caught in a 1954 survey were two northern pike (nonnative). At that time, it was noted that the pond was a poor reclamation candidate, but no justification was provided for this conclusion. A 1984 ALSC survey captured two brook

trout (231 & 330 mm), white sucker, brown bullhead (NBWI) and northern redbelly dace. There is no official record of this pond having been reclaimed, yet the disparity between the fish communities reported in each survey is otherwise difficult to explain. Possibly the 1954 survey was conducted on another pond, but there are few ponds in the area which could be confused for Little Pine Pond. Physical/chemical characteristics reported by the ALSC include the highest pH reported for a HPWC pond at 7.7. Little Pine Pond averages 2.3 feet deep, maximum depth of 7 feet, flushing rate of 44 times/year, and has a substrate composed mainly of muck and sand. Little Pine Pond has a heavily-flowing outlet. The pond is accessible by trail from Big Pine Pond and Osetah Lake.

Little Pine Pond will be managed as an Adirondack brook trout pond to enhance and restore its native fish community. A pre-reclamation survey will be scheduled to determine whether reclamation is feasible and necessary. Reclamation will be conducted if nonnative or additional competitive species threaten survival of brook trout.

Management Class: Adirondack Brook Trout

Livingston Pond (UH-P 705)

Livingston Pond is a 2-acre Adirondack brook trout pond located near the Flowed Lands. The early stocking history of this pond is unknown; it was not studied in 1932 by the Biological Survey. However, it is likely that Livingston Pond was privately stocked with brook trout early in the century. A 1958 survey captured only brook trout and noted a pH of 5.5. Identical results are listed for a 1965 survey. Biologists noted in 1965 that quality brook trout fishing was still possible in Livingston Pond, unlike nearby Flowed Lands, Lake Colden and Avalanche Lake. Wild strain brook trout (Honnedaga and Windfall) were stocked after 1965. Brookies were captured in 1973 and again in 1978. A pH of 5.1 was measured in 1978 and the pond was noted to be "crystal clear". Agricultural lime was applied via helicopter in November 1979. A 1980 water chemistry survey indicated that pH levels had risen to 7.06. A 1987 ALSC survey captured numerous brook trout and reported a pH of 6.46. By 1991, pH levels had declined slightly to 6.36. Livingston Pond has a mean depth of 10.8 feet, maximum depth of 26 feet, and a flushing rate of 4.4 times/year. Despite a calculated flushing rate above the desired maximum of 2 times/year, it is obvious that liming has had beneficial long-term effects in Livingston Pond. Survival of brook trout for over 14 years since the last liming demonstrates that Livingston Pond does not reacidify at a typical rate.

Livingston Pond will be managed as an Adirondack brook trout pond to preserve and enhance its native fish community. Maintenance liming will be conducted when monitoring indicates that its pH has dropped below 6.0. Livingston Pond is specifically mentioned in DEC's Final EIS on Liming as an exception to the flushing rate criterion (page 5). The long history of quality brook trout fishing in this high elevation pond, plus

a lack of any bog-like characteristics, make this a high priority liming candidate in the HPWC.

Management Class: Adirondack Brook Trout

Lost Pond (R-P 237)

Lost Pond is a 5.2-acre, acidified pond that sits atop a flattened subpeak of Street Mountain to the northeast of the Wallface ponds. No trails lead to this remote, well-named pond. Lost Pond is the headwater for Roaring Brook (a tributary of the Duck Hole, R-P 235). ALSC data from 1984 is the only survey information available. Lost Pond has a mean depth of 5.2 feet, maximum depth of 15 feet, flushing rate of 4.4 times/year, clear water, and a pH of 4.67. No fish were captured by the ALSC and the pond has no known stocking history.

Lost Pond will be managed to preserve the aquatic community present for its intrinsic value.

Management Class: Other

Lower Cascade Lake (CH-P 270) and Upper Cascade Lake (CH-P 271)

The Cascade lakes are the most frequently seen lakes in the HPWC, although many tourists do not realize they are viewing part of a designated wilderness area. The lakes are bordered by Route 73, the road between Keene and Lake Placid. The Cascades lie within a steep, narrow valley and are connected by a small stream. Both waters were acquired from the Lake Placid Club in 1951. It is known that the Lake Placid Club stocked the lake, but no official records are available. Both lake trout and brook trout were stocked historically by the state. The Cascades are home to populations of the endangered round whitefish.

Lower Cascade Lake (21.7 acres) is a long, narrow and relatively shallow waterbody. Round whitefish, white sucker, brown bullhead (NBWI), pumpkinseed (NBWI), brown trout and brook trout were caught during the first survey in 1951. Yellow perch (nonnative) were reported present, but were not captured. A 1958 survey did catch a single yellow perch and added golden shiner (nonnative) and common shiner to the fish community list. Brook trout growth was observed to be slow in Lower Cascade Lake, so an experimental splake stocking policy was started in 1965. A 1967 netting showed the splake were surviving, but growth was not impressive. In 1970 and 1971, an extensive trapnetting effort was made to capture round whitefish for egg take. More than 1,100 round whitefish were netted in 1970 and about 10,000 eggs were transferred to the Brandon Hatchery (private). Fry from these eggs were stocked into Cat Pond on the Rockefeller estate in Franklin County. Round whitefish still survive in Cat Pond (L. Demong, personal communication), indicating that stocking efforts can extend the range of this species. About 150 round whitefish were trapnetted in 1971 for egg take purposes.

Splake stocking ended in 1970 in favor of brown trout (a remnant population of browns still existed in the lake after private stocking efforts prior to 1951). Various netting efforts in 1973, 1974, 1977 and 1986 targeted round whitefish and also captured brown trout. No yellow perch were captured in any nettings after 1958. Stocking efforts were switched back to brook trout in 1977 for undocumented reasons. In 1984, the ALSC netted Lower Cascade Lake and captured round whitefish, brown trout, splake, white sucker, brook trout, pumpkinseed, golden shiner, blacknose dace and creek chub (NBWI). In 1992, a single trapnet was set overnight in a known spawning area for round whitefish and captured 132 specimens, many of which were ripe. Mean depth of Lower Cascade Lake is 11 feet, maximum depth is 41 feet, pH is 7.13, bottom substrate is mostly bedrock and boulder with some silt. The ALSC classifies Lower Cascade Lake as "salt-impacted", since it has chlorine and sodium concentrations nearly 100 times that found in non-roadside Adirondack waters.

Upper Cascade Lake has a surface area (26.4 acres) similar to Lower Cascade, but is quite different morphologically. Upper Cascade Lake is round and deep, with a mean depth of 39 feet and a maximum depth of 63 feet. When first surveyed in 1951, round whitefish, brown trout, lake trout, brook trout, white sucker, pumpkinseed (NBWI), lake chub, creek chub (NBWI) and common shiner were present. An experimental splake policy was initiated in 1965 and 1967 netting showed the hybrid was surviving. About 85 round whitefish were also netted in 1967. An ALSC survey in 1984 captured only one round whitefish, however, along with brown trout, splake, brook trout, white sucker, lake chub, and golden shiner (nonnative). Splake stocking was terminated in 1985 due to a concern that they may prey on round whitefish. Brook trout continue to be stocked in Upper Cascade Lake and brown trout appear to be reproducing naturally. Upper Cascade Lake has a pH of 7.31 and a substrate consisting of sand, rubble and bedrock. Like Lower Cascade, the upper lake has been impacted by road salt runoff.

Upper and Lower Cascade Lake will be managed to restore and enhance native fishes. A management plan for these ponds is presented in section VI.B.6.b of this plan. Restoration and enhancement efforts will focus on round whitefish, but will also include brook trout and lake trout.

Management Class: Coldwater

Lower County Line Pond (R-213)

Lower County Line Pond is an 11.4-acre warmwater pond that lies in the course of tributary 160 of the Raquette River about 2 miles north of Long Lake. Although stocked with brook trout in 1926 and 1931, when first surveyed in 1933 the pond contained only pumpkinseed and brown bullhead (both NBWI). Biologists described it as a bog pond with a muck bottom. A 1984 ALSC survey captured northern pike and golden shiner (both nonnative). Lower County Line Pond has a heavily-flowing outlet with active beaver

colonies, a pH of 7.26, mean depth of 4.3 feet, and a maximum depth of 14 feet. Its water is darkly-stained and has low dissolved oxygen. No marked trails lead to this pond.

Lower County Line Pond will be managed as a warmwater pond to preserve its native fishes in the presence of nonnative species.

Management Class: Warmwater

Marcy Dam Pond (CH-P 5188)

Marcy Dam Pond is a 3-acre, Adirondack brook trout pond located along the Marcy Dam truck trail. Numerous campsites line the shoreline of this shallow pond. As its name implies, the pond is an impoundment within Marcy Brook. Brook trout were the only fish captured in survey efforts made in 1975 and 1985, although blacknose dace are reported to be present. Marcy Dam Pond has a mean depth of 2 feet, maximum depth of 8 feet, a very high flushing rate, and a pH of 4.98. This pond is classified as acid-threatened, but there is no practical value to liming it.

Marcy Dam Pond will be managed as an Adirondack brook trout pond to preserve its native fish community.

Management Class: Adirondack Brook Trout

Middle County Line Pond (R-P214)

Middle County Line Pond (2.7 acres) lies about 0.4 miles upstream of Lower County Line Pond in the course of tributary 160 of the Raquette River. Although stocked with brook trout in 1926 and 1931, biologists captured only brown bullhead (NBWI), pumpkinseed (NBWI), creek chub (NBWI) and northern redbelly dace in 1933. A strong odor of hydrogen sulfide was noted in 1933 and the pond was deemed "chemically unsuitable" for stocking. A 1984 ALSC survey captured golden shiner (nonnative), northern redbelly dace, creek chub, and pumpkinseed. Northern pike, which are common in Lower County Line Pond, apparently cannot reach Middle County Line Pond. The ALSC reports this pond has a pH of 6.0, a flushing rate of 24.7 times/year, low dissolved oxygen values and darkly-stained water. Bog vegetation rings the pond and beavers are active on the outlet. No marked trails lead to this waterbody.

Middle County Line Pond will be managed to preserve its native fishes in the presence of a nonnative species.

Management Class: Other

Moose Pond (R-P 221)

Moose Pond (R-P 221) is a 185.3-acre coldwater lake located in the southern portion of the HPWC about 2 miles northwest of Newcomb Lake (UH-P 694). Moose Pond was part of the Santanoni Preserve acquisition and, thus, was not surveyed until 1972. An extensive netting effort in 1972 established that NSA populations of brook trout and lake trout were present. A few round whitefish were also captured, along with white sucker, brown bullhead (NBWI), pumpkinseed (NBWI), common shiner, lake chub and creek chub (NBWI). Brook trout were captured in many tributaries of the lake, although biologists felt that beaver activity was limiting natural reproductive success for trout. A 1983 DEC survey captured the same fish species in Moose Pond. Limited netting by DEC's Endangered Species Unit in 1986 established that round whitefish were still present in the lake. Maximum depth of Moose Pond is 53 feet, pH is 7, alkalinity is 140 ueq/liter. Dissolved oxygen is adequate at all depths. Moose Pond has a variety of substrate types. A well-maintained horse trail provides easy access to the area.

Moose Pond will be managed as a coldwater fishery to preserve its native fish community. The private stocking history of this pond is unknown. It is possible that heritage strains of brook trout and lake trout occur in the lake. Establishment of nonnative fish species in Moose Pond would pose a serious threat to the round whitefish population, which survives in low numbers in a fish community that still consists entirely of native species. The "No bait fish" regulation in place for Moose Pond must be strictly enforced.

Management Class: Coldwater

Moose Pond (R-P 233)

The "other" Moose Pond in the HPWC is a remote, 28.2-acre, Adirondack brook trout pond accessible by the Northville-Lake Placid trail. Moose Pond lies at the western base of Street Mountain, about 3 miles northeast (as the crow flies) of the Duck Hole (R-P 235). The Biological Survey of 1933 did not net the pond, but reported brook trout and creek chub (NBWI) were present. A 1955 survey verified the reported species and added white sucker and brown bullhead (NBWI). Brook trout fishing was reported to be good. Surveys done in 1978, 1983 and 1986 did not recapture brown bullhead, but did catch common shiner. Moose Pond has a mean depth of 6 feet and a maximum depth of 17 feet. Its substrate varies from muck to rubble. The 1986 ALSC survey recorded a pH of 6.1. Moose Pond has a flushing rate of 37 times/year, making it ineligible for liming. A large wetland and two smaller ponds lie upstream of Moose Pond, precluding the chance for a successful reclamation.

Moose Pond will be managed as an Adirondack brook trout pond to preserve its native fish community.

Management Class: Adirondack Brook Trout

Moss Pond (UH-P 708)

Moss Pond is a remote, high-elevation, 0.5-acre pond that has never been surveyed. No trails lead to this pond, which lies near the crest of Mt. Redfield to the southwest of Mt. Skylight and Mt. Marcy. The pond has no stocking history and, considering its 4,300 ft elevation, may be acidic.

Moss Pond will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Mountain Pond (R-P 230) and Unnamed Pond (R-P 229)

Mountain Pond is a remote, shallow, 25.5-acre, Adirondack brook trout pond that is the headwater of a tributary to Moose Creek and the Cold River. Located along the Northville-Lake Placid trail at a point due west of the Duck Hole (R-P 235), the pond has had a good reputation for brook trout fishing since at least 1933. Beaver activity has changed the surface area and depth of Mountain Pond over the years, but the fish community has remained remarkably stable. Surveys in 1955, 1966, 1978, 1983 and 1986 captured only two species: brook trout and creek chub (NBWI). In 1966, biologists observed young brook trout in several tributaries of the pond and noted "excellent spring seepage". The 1986 ALSC survey determined a mean depth of 2.3 feet, maximum depth of 4 feet, flushing rate of 22.6 times/year, and a pH of 6.7. ALSC personnel also observed young trout and noted that breaching of the outlet's beaver dam had recently lowered the depth of the pond by several feet. During low water years, the pond's surface is covered by lily-pads. Reclamation of Mountain Pond is not anticipated. The remoteness of this waterbody undoubtedly guards against introductions of nonnative fish species.

P 229 is a 8.9-acre Adirondack brook trout pond lying about 1.0 mile downstream of Mountain Pond. The 1933 Biological Survey reported creek chub (NBWI) were abundant. Biologists reported seeing brook trout, blacknose dace and creek chub in 1966. This pond has a maximum depth of 4 feet and is full of dead standing timber. Despite beaver activity in the watershed, excellent spawning habitat was noted in the 1966 survey. Brook trout are probably NSA, but cannot be classed as a native strain because of stocking efforts in Mountain Pond.

Mountain Pond and unnamed pond R-P 229 will be managed as Adirondack brook trout ponds to preserve their native fish communities.

Management Class: Adirondack Brook Trout

Mud Pond (R-P 193)

Mud Pond is a 18.5-acre warmwater pond located due east of the Stony Ponds in the extreme northwest corner of the HPWC. Mud Pond is well named, being shallow and having a deep-muck bottom. A large outlet connects to the Stony Ponds and, thereby, to the mainstem Raquette River. The only survey data available for Mud Pond was collected by the ALSA in 1984. They captured northern pike (nonnative), yellow perch (nonnative), pumpkinseed (NBWI), white sucker and brown bullhead (NBWI). Mean depth of Mud Pond is 2.6 feet, maximum depth is 9 feet, and pH is 6.1. No marked trails lead to this pond.

Mud Pond will be managed to preserve its native fish community in the presence of nonnative species.

Management Class: Warmwater

Newcomb Lake (UH-P 694)

Newcomb Lake (506 acres) is the largest waterbody within the High Peaks Wilderness. It is located within the Santanoni Preserve, which was acquired by the State in 1971. The first survey of Newcomb Lake was conducted in 1932. Brook trout and lake trout were NSA in the lake. Also caught were cutlips minnow, longnose sucker, common shiner, northern redbelly dace, blacknose shiner, longnose dace, golden shiner (nonnative), pumpkinseed (NBWI), redbreast sunfish, creek chub (NBWI) and brown bullhead (NBWI). Newcomb Lake was surveyed in 1972 to form a management plan for the newly acquired property. In that survey, six specimens of the endangered round whitefish were captured. Lake chub were also caught in the 1972 survey, which otherwise caught the same species noted in 1932. Brook trout and lake trout were still NSA in 1972, but populations were thought to be sparse. Round whitefish were not captured during short term netting (4 hours total) conducted in 1986 by DEC's Endangered Species Unit. Survey work done on the tributary streams of Newcomb Lake in 1972 indicated that many would be excellent brook trout spawning sites except for beaver activity which blocked access to gravel beds. Newcomb Lake is known to have been privately stocked with brook trout in 1929. No known stocking of lake trout has occurred, so it is likely the strain of lakers is native to the Adirondacks. Newcomb Lake has a maximum depth of 80 feet and a mean depth of 30 feet. Water chemistry work done in 1972 indicates the lake has a pH of 6.9 and that dissolved oxygen is adequate at all depths. The lake has a heavily wooded shoreline and numerous rocky shoals.

Newcomb Lake will be managed as a coldwater lake to preserve native fishes in the presence of a nonnative species. Newcomb Lake is too large to reclaim, so management efforts must focus on preventing additional introductions of nonnative fish species which could displace the round whitefish, lake chub and/or brook trout populations.

Management Class: Coldwater

Owl Pond (CH-P 99)

Owl Pond is a 14.1-acre Adirondack brook trout pond that straddles a boundary between the HPWC and private lands designated as resource management. Consequently, Owl Pond is the only HPWC pond with occupied private camps along its shoreline. Owl Pond lies slightly to the northwest of Big Pine Pond (C-P 98), about 0.5 mile south of the lower locks on the Saranac Chain. Brook trout were reported in a 1928 note, but the pond was not netted. A 1957 survey captured brook trout and brown bullhead (NBWI). After complaints of poor trout fishing, the pond was netted in 1963 and only brown bullhead were captured. Continued stocking of brook trout was recommended, but trout fishing did not improve. A 1964 water chemistry survey measured a pH of 5.2. Owl Pond was reclaimed in 1967, but initial stockings of fingerling trout failed to survive. This was attributed to a combination of drought conditions and acidification. A 1970 survey captured only yearling trout, indicating overwinter survival was still a problem (it also indicated that brown bullhead had been successfully eliminated in 1967). In August 1970, Owl Pond was treated with 450 pounds of hydrated lime. Surveys done in 1973 and 1976 captured only trout; overwinter survival was evident. A 1984 ALSC survey captured brook trout and a few, small brown bullhead. The pH in 1984 was 5.63, but this value has steadily declined. A summer 1993 pH reading was 4.92, with an ANC of -7.6. Brook trout are believed to be surviving in Owl Pond, but this cannot continue for much longer. Owl Pond has a mean depth of 6.6 feet, maximum depth of 13 feet and no outlet.

Owl Pond will be managed to preserve and enhance its native fish community. A bathymetric survey conducted by DEC in February 1992 determined a flushing rate of 1.9 times/year. Owl Pond will be limed at a rate of 1 ton of agricultural lime/surface acre pending review of riparian vegetation data for consistency with the FEIS on liming.

Management Class: Adirondack Brook Trout

Palmer Pond (R-P 207)

Palmer Pond is a 12.1-acre Adirondack brook trout pond located on the western edge of the High Peaks Wilderness about 2 miles south of Ampersand Lake. No fish were captured in the 1933 Biological Survey of this pond, however, it is possible that the wrong pond was netted in 1933. The physical (7 acres), chemical (poor dissolved oxygen), and biological (northern pike reported) characteristics listed in the 1933 survey do not match later survey data. Perhaps, beaver activity enlarged the pond after 1933. A 1957 survey reported a surface area similar to the 12-acre figure listed above. Lake chub was the only fish species caught in that effort. Brook trout stocking was recommended based on adequate water quality for that species. A 1961 stocking check showed that brook trout were doing well and recommended retention of the policy. Surveys done in 1975 and 1984

continued to capture brook trout and lake chub. Palmer Pond has a maximum depth of 15 feet, mean depth of 4.6 feet, and a pH of 7.1. It has a muck bottom with significant amounts of dead timber along the shoreline. In the spring of 1994 anecdotal reports were received that Palmer Pond had been "fished out" by poachers during the winter closed fishing season. Several subsequent unsuccessful angling trips by regional staff seem to corroborate the poaching reports. Since poachers often use bait fish, it is likely that one or more nonnative or NBWI species are now present in Palmer Pond.

Palmer Pond will be managed as an Adirondack brook trout pond to enhance and restore its native fish community. A fisheries and pre-reclamation survey will be conducted to determine whether the pond must be reclaimed to eliminate nonnative species. If a reclamation is conducted, brook trout and lake chub will be reintroduced to the pond.

Management Class: Adirondack Brook Trout

Pickeral Pond (R-P 195) and Unnamed Pond (R-P 5156)

Pickeral Pond is a 16.3-acre warmwater pond located just east of Rock Pond (R-P 196) close to the corridor leading to the Ampersand Lake inholding. Two nonnative fish species, yellow perch and northern pike, were already well established by the time of the original Biological Survey in 1933. Pumpkinseed (NBWI) were also reported in 1933. Golden shiner (nonnative), creek chub (NBWI), white sucker and common shiner were added to the fish community list in surveys done in 1957 and 1984. Thus, fish introductions are a persistent problem in this pond. Pickeral Pond has a mean depth of 6 feet, maximum depth of 15 feet, and a pH of 7.0. Dissolved oxygen was 3.8 ppm at 8 feet in this darkly-stained pond surrounded by bog vegetation. Muck and organic matter comprise most of its substrate. A large wetland and a 1.0-mile long tributary system extends upstream of the pond. Biologists noted in a 1957 that a barrier dam location is available on the outlet.

Unnamed pond P 5156 is a 1.0-acre pond located at the head of tributary 1 to Pickeral Pond. It lies in the midst of a large wetland and is probably a shallow beaver impoundment. The pond has never been surveyed, but given the long history of nonnative species in Pickeral Pond and no obvious gradient barriers on the topographic map, it is likely that it has a fish community similar to Pickeral Pond.

Pickeral Pond and P 5156 will be managed as a warmwater ponds to preserve native fishes in the presence of nonnative species. An extensive reclamation effort, including construction of a barrier dam, might succeed in eliminating the nonnative species from these ponds. However, the low level of oxygen in deeper sections of Pickeral Pond reduces the chance that brook trout would perform well. Reclamation of Pickeral Pond is not planned within the 5-year scope of this UMP.

Management Class: Warmwater

Rock Pond (R-P 196)

Rock Pond is a 27.4-acre Adirondack brook trout pond located along the western edge of the HPWC, not far from Axton Landing. The original 1933 survey of this pond described it as a poor fishing proposition. Northern pike (nonnative) had been present for years, pumpkinseed (NBWI) were abundant and creek chub (NBWI) were present. Rock Pond was reclaimed with rotenone in 1951. Fish species collected during the reclamation were as reported above, plus white sucker, brown bullhead (NBWI) and yellow perch (nonnative). Brook trout were stocked after the reclamation. A 1965 survey captured a few brook trout, plus all the species present prior to the reclamation, except northern pike and yellow perch. Also present in 1965 were golden shiner (nonnative). Due to the gap between the time of reclamation and a subsequent survey (14 years), it is not known whether the reclamation was a failure or whether most species were reintroduced. The most recent surveys of Rock Pond occurred in 1983 and 1986, but no changes to the fish community were reported. Two exceptionally large brook trout reported in the 1986 survey were probably splake stocked by mistake. Rock Pond has a pH of 6.7, mean depth of 12 feet and a maximum depth of 36 feet. Dissolved oxygen can be limiting in deep water. Much of the pond's substrate is muck, but there is some rock. Springs are reported within the pond. Many maps depict an outlet stream flowing into Pickerel Pond (R-P 195) from Rock Pond, but field checks indicate that this outlet flows underground and acts as a barrier to fish migration from Pickerel Pond.

Rock Pond will be managed as an Adirondack brook trout pond to restore and enhance a native fish community. It will be reclaimed and stocked with a native strain of brook trout.

Management Class: Adirondack Brook Trout

Rock Pond (R-P 231)

The second Rock Pond in the HPWC is a 5.9-acre, isolated pond that is unnamed on most maps. It lies to the southeast of Mountain Pond (R-P 230) on a ridgeline to the south of Moose Creek. A 1984 ALSC netting effort captured no fish. Rock Pond has a mean depth of 1.6 feet, maximum depth of 3 feet, pH of 6.73, and a substrate of muck and boulder. The ALSC noted evidence of a lowered pond level and an outlet, but there was no water leaving the pond. Beavers were active in the watershed.

Rock Pond will be managed to preserve the aquatic community present for its intrinsic value.

Management Class: Other

Round Pond (UH-P 687)

Round Pond is actually a 217.7-acre warmwater lake, the second largest waterbody in the HPWC. It is located due east of Long Lake and is on the divide between the Raquette and Upper Hudson watersheds. Loggers once attempted to dig a canal from Round Pond to Long Lake to link the watersheds, but the project was abandoned. The remains of the canal are still visible on some maps. Round Pond was not netted by Biological Survey crews in 1932, but they did report that yellow perch (nonnative) and brook trout were present and that brown trout had been stocked historically. A 1956 survey netted brook trout, yellow perch, white sucker, common shiner and pumpkinseed (NBWI). Stocking of smallmouth bass was recommended in 1956 based on the shallow, rocky and warm nature of the lake. A 1987 ALSC survey captured smallmouth bass, golden shiner (nonnative), common shiner, creek chub (NBWI), white sucker, brown bullhead (NBWI), redbreast sunfish, pumpkinseed and yellow perch. Brook trout have apparently not been able to survive in Round Pond due to increased levels of interspecific competition. Smallmouth bass fishing is reported to be good. A health advisory on eating yellow perch from Round Pond was issued in 1993. This advisory is based on high mercury levels found in the muscle tissue of perch. Anglers are advised to eat no more than one meal per month of perch from this lake. Round Pond has an extensive tributary system with many wetlands, reclamation would be impossible. The lake has several islands, averages 8 feet in depth, and has a pH of 7.03.

Round Pond will be managed as a warmwater lake to preserve its native fishes in the presence of nonnative species.

Management Class: Warmwater

**Scott Pond (CH-P 261), Unnamed Pond (CH-P 263),
& Unnamed Pond (CH-P 5138)**

Scott Pond is an acidic, 5.9-acre pond that lies to the east of the Wallface ponds along the defile separating McNaughton Mountain and Street Mountain. A steep trail leading from Indian Pass to the Duck Hole provides relatively good access. Surveys done in 1963 and 1984 did not capture fish. Scott Pond was originally a man-made impoundment. The boulder remains of a logging dam can still be seen on its outlet. Beaver activity now maintains pond levels. Scott Pond has an average depth of 2.6 feet, maximum depth of 6 feet, flushing rate of 70.4 times/year, and a pH of 4.83. Bog vegetation is common.

Unnamed ponds P 263 and P 5138 lie in the course of a tributary to Scott Pond (C-P 261), just to the east of the Wallface ponds. Both are shallow, acid beaver ponds. Pond 263 (1.2 acres) was surveyed in 1963 and 1984. No fish were captured in either year. It has a mean depth of 3 feet, maximum depth of 8 feet, flushing rate of 11.5 times/year, and a pH

of 4.41. Pond 5138 is numbered as CH-P 261A in fisheries files. This 2-acre pond was surveyed in 1963 and is also fishless. It has a pH of 5.2, maximum depth of 6 feet and has some bog vegetation.

Scott Pond and the two unnamed ponds will be managed to preserve the aquatic community present for its intrinsic value.

Management Class: Other

Seward Pond (R-P 219)

Seward Pond is a remote, 4-acre Adirondack brook trout pond that connects via a small tributary to Boulder Brook and the Cold River system. An undated file note, probably from the 1930's, reports that brook trout were present. Stocking records indicate Seward Pond received brook trout just once, in 1938. A 1955 survey failed to capture any fish, but recommended stocking trout. This recommendation was not acted upon. A 1984 ALSC survey did catch brook trout, so the species is reproducing naturally. Seward Pond has a mean depth of 2.3 feet, maximum depth of 8 feet, pH of 6.28, and a bottom substrate consisting of mostly boulder, rubble and gravel. File notes indicate that the bushwack hike to Seward Pond is a challenge.

Seward Pond will be managed as an Adirondack brook trout pond to preserve its native fish community. Considerable trout stocking has occurred in the Cold River system, so it is unlikely that the brook trout in Seward are a heritage strain.

Management Class: Adirondack Brook Trout

Shaw Pond (R-P 222)

Shaw Pond (11.1 acres) is an Adirondack brook trout pond that is the headwater of a small tributary to Moose Pond (R-P 221). Beaver activity has apparently enlarged the pond since it was first surveyed in 1972 (when its apparent size was estimated at 6 to 8 acres). Creek chub (NBWI) and blacknose dace were the only species caught in 1972. In 1984, the ALSC netted the pond and captured the same species, plus a single brook trout. Shaw Pond has good water quality with a pH of 7.2 and adequate dissolved oxygen. The pond averages 3 feet in depth, has a maximum depth of 6 to 8 feet, a muck bottom and extensive amounts of floating bog vegetation. A brook trout stocking policy was instituted in 1989. Recent anecdotal reports of fishermen indicate brook trout are doing well. A spur-trail off the horse trail to Moose Pond leads to Shaw Pond. Large swamps in the vicinity of the pond preclude any chance of successful reclamation.

Shaw Pond will be managed as an Adirondack brook trout pond to preserve its native fish community.

Management Class: Adirondack Brook Trout

Upper County Line Pond (R-P 215)

Upper County Line Pond is a 3.5-acre bog pond at the head of tributary 160 of the Raquette Rive. No fish were captured in a 1933 survey, despite brook trout stocking efforts made in 1926 and 1931. Low acidity (pH of 4.9 - 5.4) was blamed for the lack of fish. A 1984 ALSC survey captured brown bullhead and pumpkinseed (both NBWI). Upper County Line Pond has a mean depth of 4.3 feet, maximum depth of 8.5 feet, pH of 6.13, and moderately-stained water. Dissolved oxygen was good (8.0 ppm at 3 feet), but water temperatures were in the low 70's F throughout the water column during a July sampling event. Bog vegetation rings most of the pond. No marked trails lead to this waterbody.

Upper County Line Pond will be managed to preserve its native fish community for its intrinsic value.

Management Class: Other

Upper Wallface Pond (UH-P 719), Lower Wallface Pond (UH-P 718), and Middle Wallface Pond (UH-P 270)

The Wallface chain of ponds are located east of the Duck Hole (R-P 235) and south of Street Mountain. Access to these ponds is possible via the Indian Pass trail through some of the most rugged and scenic terrain in the Adirondacks.

Upper Wallface Pond (13.1 acres) is very remote and was first surveyed in 1963. A brook trout stocking policy was started in 1958 at the urging of the Sanford Lake Rod & Gun Club which offered to air stock Upper Wallface if the DEC would provide the fish. The 1963 survey captured some trout, but noted poor growth and low pH conditions (5.6). Stocking wild strain brook trout (Honnedaga) improved the fishery somewhat. A 1968 survey measured a pH of 4.5, but did capture some larger trout. No fish were captured in a 1975 survey and the stocking policy was terminated. Upper Wallface Pond has a maximum depth of 39 feet and a flushing rate of 1.6 times/year (according to a 1981 morphometric analysis). Aquatic vegetation is scant in this clear water pond which has a muck and rock bottom.

Lower Wallface Pond (6.2 acres) is connected to Upper Wallface Pond by a small outlet stream. No fish were captured in survey efforts made in 1963 and 1975. Although brook trout have been stocked in Upper Wallface Pond, the species apparently did not establish in Lower Wallface. Water chemistry work done in 1963 measured a pH of 5.4. A 1981 morphometric analysis determined a flushing rate of 23 times/year, so liming is not warranted. More recent data is unavailable, as this pond is difficult to reach even by

helicopter. Lower Wallface Pond has a maximum depth of 20 feet. Most of the pond is less than 10 feet in depth.

Middle Wallface Pond (2.7 acres) is tributary to the small stream connecting Upper and Lower Wallface Ponds. Middle Wallface Pond has never been surveyed.

The Wallface chain will be managed as Adirondack brook trout ponds to restore and enhance a native fish community. Upper Wallface Pond will be limed pending review of riparian vegetation data for consistency with the FEIS on liming. No direct management actions are planned for Lower or Middle Wallface Ponds.

Management class: Adirondack Brook Trout

Ward Pond (UH-P 695)

Ward Pond (10.1 acres) is located on the former Santanoni Preserve about 1.0 mile north of Newcomb Lake by trail. Little is known about this pond, a single survey dating from 1972 is all the data available. No fish were caught in the single gillnet set. Biologists reported a pH of 6.9 and maximum depth of 10 feet. Aquatic vegetation is abundant in this muck-bottomed pond. Several islands dot the pond and beavers were reported active on its outlet. It is considered an anomaly that fish were not captured in 1972, as the tributary system which drains the pond contains several species, including brook trout.

Ward Pond will be managed as an Adirondack brook trout pond to preserve its native fish community.

Management Class: Adirondack Brook Trout

Unnamed Pond (R-P 5199)

This 7.2-acre pond lies at the head of tributary 2 of Moose Pond (R-P 233). It is located about 0.5 mile northeast of Moose Pond and about the same distance southwest of Wanika Falls on the Chubb River. The Northville-Placid trail parallels its northwestern shoreline. This pond has never been surveyed. There is a fair chance that brook trout are present since the species is common in Moose Pond and in nearby streams of this watershed.

Unnamed pond R-P 5199 will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Unnamed Pond (R-P 5200)

A 3.5-acre pond lying in the course of tributary 1 of Moose Creek. This pond has never been surveyed. The inlet and outlet of P 5200 traverse steep terrain where fish barriers are likely. The pond is located south of the Sawtooth Range about 2.0 miles north of the Northville-Placid trail. No marked trails lead to this pond.

Unnamed pond P 5200 will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Unnamed Pond (R-P 199)

This 8.4-acre pond lies just off Ampersand Brook slightly to the north of the Ampersand Lake inholding. Although not netted, sunfish and creek chub (NBWI) were reported present by the 1933 Biological Survey. An undated fisheries file note speculates that trout are present due to stocking efforts in Ampersand Brook. No marked trails lead to this pond and access is particularly difficult due to the necessity for bypassing private land.

Unnamed pond P 199 will be managed to preserve the fish species present for their intrinsic value.

Management Class: Other

Unnamed Pond (R-P 227)

This 3.2-acre pond is located about 0.2 miles west of Oulaska Pass Brook on the border between Franklin and Essex counties. Undated file notes describe it as a spring-fed beaver pond with a hard shoreline, muck bottom and maximum depth around 6 feet. No mention was made in these notes of the presence/absence of fish. P 227 is located about 0.5 miles north of the Northville Placid trail. Brook trout are common in streams of the Cold River watershed and, thus, may be present in this pond.

Unnamed Pond P 227 will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Unnamed Ponds (R-P 5141, 5142, 5144, 5146, 5147, 5148, 5151, 5211 and 5213)

These nine unnamed ponds totalling about 45 acres are embayments or old, now-isolated, loops of the Raquette River. They are all contiguous with wetlands associated with the river or with the outlet stream of the Stony Creek Ponds near Axton Landing. The ponds

range from 1.0 to 8.9 acres in size and undoubtedly contain many of the warmwater species common to the Raquette River (northern pike, smallmouth bass, yellow perch, walleye etc.). None of these ponds has been surveyed. The Cold River horse trail or boating along the river corridor provide access.

These unnamed ponds will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Unnamed Ponds (R-P 5152, 5153 and 5154)

Unnamed ponds P 5152 and P 5153 lie in the course of tributary 3 of Ampersand Brook, while P 5154 lies in the course of Ampersand Brook itself. Their combined area totals about 8 acres. None have been surveyed. All three are probably shallow beaver impoundments. These ponds should contain a variety of fish species, since Ampersand Brook is stocked with trout and it is known that several nonnative species are present in nearby Pickerel Pond (R-P 195). No marked trails lead to these ponds.

These unnamed ponds will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Unnamed Pond (CH-P 5144)

A 4-acre Adirondack brook trout pond located on the northwestern periphery of the HPWC about 0.5 mile southwest of the DEC boat access site to Middle Saranac Lake at South Brook. A 1986 ALSC survey effort captured creek chub (NBWI) and northern redbelly dace. P 5144 averages 2.3 feet in depth, has a maximum depth of 4 feet, and a flushing rate of 80 times/year. Most of the shoreline of this muck-bottomed pond is marsh/bog. Beavers were active on its outlet. The pond's pH is 6.5, water temperature and dissolved oxygen measurements were suitable for salmonids. A brook trout policy was initiated in 1992. The ALSC assigned a pond number of CH-P 111A to this waterbody. No marked trails provide access.

Unnamed pond P 5144 will be managed as an Adirondack brook trout pond to preserve its native fish community.

Management Class: Adirondack Brook Trout

Unnamed Pond (R-P 5162), Unnamed Pond (R-P 5169), & Unnamed Pond (R-P 232)

These three unnamed ponds are found within a 2.0 mile radius to the west and north of Mountain Pond (R-P 230). None have been surveyed. P 5162 (6.2 acres) is located 0.5 mile west of unnamed pond (R-P 229), placing it 1.0 mile southwest of Mountain Pond. The Northville-Placid trail skirts the southern shore of this pond. P 5162 is numbered as R-P 229A by the ALSC. P 5169 (2 acres) lies in a saddle between Seymour Mountain and a sub-peak to its east at an altitude of 3,100 feet. This point is about 1.5 miles northwest of Mountain Pond. P 5169 is numbered as R-P 232C by the ALSC. P 232 (3.5 acres) lies 2.0 miles north of Mountain Pond at an altitude similar to P 5169 on a sub-peak of Sawtooth Mountain. Neither of the latter two ponds is accessible by a marked trail and both appear to be isolated, with no inlet or outlet streams indicated on topographic maps.

These unnamed ponds will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Unnamed Pond (R-P 5163)

This 5.2-acre Adirondack brook trout pond was first surveyed by the ALSC in 1986. The pond is located about 0.75 miles north of tributary 11's confluence with the Cold River near Big Eddy. The ALSC pond number for this unnamed pond is R-P 225C. Brook trout, northern redbelly dace and creek chub (NBWI) were captured. P 5163 has a mean depth of 2 feet, maximum depth of 3 feet, flushing rate of 46 times/year, a boulder-sand-muck substrate, pH of 6.72, and slightly stained water. Brook trout are NSA in this pond, which is probably representative of many unnamed ponds in the Cold River corridor.

Unnamed Pond P 5163 will be managed as an Adirondack brook trout pond to preserve its native fish community.

Management Class: Adirondack Brook Trout

Unnamed Ponds (R-P5164, 5165, 5166, 5168, 225, 226 and 226A)

These seven unnamed ponds, totalling 24 acres, are all found within 0.5 mile of the Cold River at a point halfway between Mountain Pond (R-P 230) and Latham Pond (R-P 223). The ponds range from 0.5 to 10.9 acres in size. None have been surveyed, all are probably shallow beaver impoundments. Brook trout and associated native minnows should be present in these ponds, since these species are common in the Cold River and ponds

upstream. The Northville-Placid trail parallels the river along this stretch, but it is not known whether side trails exist to any of these ponds.

These unnamed ponds will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Unnamed Ponds (R-P 242, 5170, 5171, 5172, 5173, 5174, 5175, 5176 and 5177)
These nine ponds, totalling 17.4 acres, are all found within the course of Pine Brook or lie in wetlands contiguous with the stream. Pine Brook is tributary 1 of Long Lake and flows to the north of Round Pond (UH-P 687). The individual ponds range in size from 1.0 to 3.5 acres, none have been surveyed. Pine Brook is a low gradient stream and file notes indicate that warmwater, nonnative species such as smallmouth bass and yellow perch can be found for quite a distance upstream of Long Lake. Most of these ponds probably contain fish communities comprised of a mix of native and nonnative species. No marked trails lead to this area.

These unnamed ponds will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Unnamed Ponds (R-P 5180, 5181 and 5182)
These three ponds, totalling 13.3 acres, are interconnected and lie at the head of tributary 163 of the Raquette River at the northern end of Long Lake. None of the ponds has been surveyed. The low gradient of tributary 163 probably permits warmwater, nonnative fish species such as smallmouth bass and yellow perch to reach these ponds from the Raquette River. No marked trails lead to these ponds.

These unnamed ponds will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Unnamed Ponds (R-P 5178, 5179, 5183, 5195, 5196, 5197 and 5198)
These seven unnamed ponds, totalling 15.8 acres, lie in the vicinity of tributary 4 of the Cold River, which is the outlet for Latham Pond (R- P 223). The ponds range from 0.7 to 4.7 acres in size. None of the ponds have been surveyed. They are likely to be shallow beaver ponds that contain brook trout and brown bullhead. Nonnative, warmwater

species from the Raquette River are found in the first 2.0 miles of the Cold River, but these ponds lie above that stretch. A spur of the Northville-Placid trail leading to Latham Pond passes P 5195 and P 5196. No marked trails lead to the other ponds.

These unnamed ponds will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Unnamed Ponds (R-P 5184, 5185, 5186, 5187, 5189, 5190, 5191, 5192 and 5218)

These nine unnamed ponds total 15.9 acres in size. All are found within 0.75-mile of Calkins Brook (tributary 1 of the Cold River). The ponds range in size from 0.7 to 3.5 acres, none have been surveyed. Calkins Brook is a good brook trout stream and it is likely that this species can be found in many of these ponds. No marked trails lead to this area.

These unnamed ponds will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Unnamed Ponds (UH-P 685A, 5523, 5524, 5525, 5526, 5527, 5528, 687A, 687B and 687D)

These ten unnamed ponds, totalling 23.3 acres, are contiguous with the wetlands and tributaries surrounding Round Pond (UH-P 687). The ponds range in size from 1 to 6.7 acres. None have been surveyed, but are likely to contain smallmouth bass, yellow perch and other species common to Round Pond. Wetlands surround nearly all these ponds, making reclamation impractical.

These unnamed ponds will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

Unnamed Pond (UH-P 708A)

A 7.9-acre pond located about 1.0 mile south of the summit of Mt. Redfield at an altitude of 3,377 feet. This pond has never been surveyed. No marked trails provide access. Like Lake Arnold and Moss Lake, this unnamed, isolated, high altitude pond is probably acidic.

These unnamed ponds will be managed for the fish species present for their intrinsic value.

Management Class: Unknown

Note: The High Peaks Wilderness contains a number of small wetland ponds with beaver dams on their outlets. In some years these pond/wetland complexes may be nearly dry wetlands, while during wet years or during years when the beaver are active they may contain a small impoundment. These pond/wetland complexes will be managed to preserve and protect the existing fish communities for their intrinsic value. For purposes of this plan, only waters officially recognized (those with P numbers) by DEC's Biological Survey Unit are included. Only marked trails are referred to in the pond narratives. Many ponds can be accessed by unofficial "herd paths".

**BREEDING SPECIES OF THE HIGH PEAKS WILDERNESS AREA
NEW YORK STATE BREEDING BIRD ATLAS DATA
1980 - 1985 ALPHABETICAL BY COMMON NAME**

COMMON NAME	SCIENTIFIC NAME	BREEDING STATUS	NEW YORK STATUS	NATURAL HERITAGE PROGRAM STATE RANK
Alder Flycatcher	Empidonax alnorum	Possible	Protected	S4
American Bittern	Botaurus lentiginosus	Confirmed	Protected	S4
American Black Duck	Anas rubripes	Confirmed	Game Species	S4
American Crow	Corvus brachyrhynchos	Confirmed	Game Species	S5
American Goldfinch	Carduelis tristis	Confirmed	Protected	S5
American Kestrel	Falco sparverius	Confirmed	Protected	S5
American Redstart	Setophaga ruticilla	Confirmed	Protected	S5
American Robin	Turdus migratorius	Confirmed	Protected	S5
American Woodcock	Scolopax minor	Confirmed	Game Species	S5
Bald Eagle	Haliaeetus leucocephalus	Possible	Protected-Endangered	S1
Bank Swallow	Riparia riparia	Confirmed	Protected	S5
Barn Swallow	Hirundo rustica	Confirmed	Protected	S5
Barred Owl	Strix varia	Confirmed	Protected	S5
Bay-Breasted Warbler	Dendroica castanea	Possible	Protected	S2
Belted Kingfisher	Ceryle alcyon	Confirmed	Protected	S5
Black and white Warbler	Mniotilta varia	Confirmed	Protected	S5
Black-backed Woodpecker	Picoides arcticus	Confirmed	Protected	S3
Black-billed Cuckoo	Coccyzus erythrophthalmus	Possible	Protected	S5
Black-capped Chickadee	Parus atricapillus	Confirmed	Protected	S5
Black-throated Blue Warbler	Dendroica caerulescens	Confirmed	Protected	S5

**BREEDING SPECIES OF THE HIGH PEAKS WILDERNESS AREA
NEW YORK STATE BREEDING BIRD ATLAS DATA
1980 - 1985 ALPHABETICAL BY COMMON NAME**

COMMON NAME	SCIENTIFIC NAME	BREEDING STATUS	NEW YORK STATUS	NATURAL HERITAGE PROGRAM STATE RANK
Black-throated Green Warbler	<i>Dendroica virens</i>	Confirmed	Protected	S5
Blackburnian Warbler	<i>Dendroica fusca</i>	Confirmed	Protected	S5
Blackpoll Warbler	<i>Dendroica striata</i>	Confirmed	Protected	S3
Blue Jay	<i>Cyanocitta cristata</i>	Confirmed	Protected	S5
Blue-winged Teal	<i>Anas discors</i>	Confirmed	Game Species	S5
Bobolink	<i>Dolichonyx oryzivorus</i>	Confirmed	Protected	S5
Boreal Chickadee	<i>Parus hudsonicus</i>	Confirmed	Protected	S3
Broad-winged Hawk	<i>Buteo platypterus</i>	Confirmed	Protected	S5
Brown Creeper	<i>Certhia americana</i>	Confirmed	Protected	S5
Brown Thrasher	<i>Toxostoma rufum</i>	Confirmed	Protected	S5
Brown-headed Cowbird	<i>Molothrus ater</i>	Confirmed	Protected	S5
Canada Goose	<i>Branta canadensis</i>	Possible	Game Species	S5
Canada Warbler	<i>Wilsonia canadensis</i>	Confirmed	Protected	S5
Cape May Warbler	<i>Dendroica tigrina</i>	Probable	Protected	S2
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	Confirmed	Protected	S5
Chimney Swift	<i>Chaetura pelagica</i>	Probable	Protected	S5
Chipping Sparrow	<i>Spizella passerina</i>	Confirmed	Protected	S5
Cliff Swallow	<i>Hirundo pyrrhonota</i>	Confirmed	Protected	S5
Common Goldeneye	<i>Bucephala clangula</i>	Possible	Game Species	S2
Common Grackle	<i>Quiscalus quiscula</i>	Confirmed	Protected	S5
Common Loon	<i>Gavia immer</i>	Confirmed	Protected-Special Concern	S4
Common Merganser	<i>Mergus merganser</i>	Confirmed	Game Species	S5

**BREEDING SPECIES OF THE HIGH PEAKS WILDERNESS AREA
NEW YORK STATE BREEDING BIRD ATLAS DATA
1980 - 1985 ALPHABETICAL BY COMMON NAME**

COMMON NAME	SCIENTIFIC NAME	BREEDING STATUS	NEW YORK LEGAL STATUS	NATURAL HERITAGE PROGRAM STATE RANK
Common Nighthawk	Chordeiles minor	Probable	Protected-Special Concern	S4
Common Raven	Corvus corax	Confirmed	Protected-Special Concern	S4
Common Snipe	Gallinago gallinago	Probable	Game Species	S5Common
Yellowthroat	Geothlypis trichas	Confirmed	Protected	S5
Cooper's Hawk	Accipiter cooperii	Confirmed	Protected-Special Concern	S4
Dark-eyed Junco	Junco hyemalis	Confirmed	Protected	S5
Downy Woodpecker	Picoides pubescens	Confirmed	Protected	S5
Eastern Bluebird	Sialia sialis	Confirmed	Protected-Special Concern	S5
Eastern Kingbird	Tyrannus tyrannus	Confirmed	Protected	S5
Eastern Meadowlark	Sturnella magna	Possible	Protected	S5
Eastern Phoebe	Sayornis phoebe	Confirmed	Protected	S5
Eastern Wood-Pewee	Contopus virens	Confirmed	Protected	S5
European Starling	Sturnus vulgaris	Confirmed	Unprotected	SE
Evening Grosbeak	Coccothraustes vespertinus	Confirmed	Protected	S5
Field Sparrow	Spizella pusilla	Probable	Protected	S5
Golden-crowned Kinglet	Regulus satrapa	Confirmed	Protected	S5
Golden-winged Warbler	Vermivora chrysoptera	Possible	Protected	S4
Gray Catbird	Dumetella carolinensis	Confirmed	Protected	S5
Gray Jay	Perisoreus canadensis	Probable	Protected	S3
Gray-cheeked Thrush	Catharus minimus	Confirmed	Protected	S3
Great Blue Heron	Ardea herodias	Confirmed	Protected	S5

**BREEDING SPECIES OF THE HIGH PEAKS WILDERNESS AREA
NEW YORK STATE BREEDING BIRD ATLAS DATA
1980 - 1985 ALPHABETICAL BY COMMON NAME**

COMMON NAME	SCIENTIFIC NAME	BREEDING STATUS	NEW YORK LEGAL STATUS	NATURAL HERITAGE PROGRAM STATE RANK
Great Horned Owl	Bubo virginianus	Confirmed	Protected	S5
Green-backed Heron	Butorides striatus	Confirmed	Protected	S5
Green-winged Teal	Anas crecca	Probable	Game Species	S3
Hairy Woodpecker	Picoides villosus	Confirmed	Protected	S5
Hermit Thrush	Catharus gattatus	Confirmed	Protected	S5
Herring Gull	Larus argentatus	Confirmed	Protected	S5
Hooded Merganser	Lophodytes cucullatus	Confirmed	Games Species	S4
Horned Lark	Eremophila alpestris	Possible	Protected	S5
House Sparrow	Passer domesticus	Confirmed	Unprotected	SE
House Wren	Troglodytes aedon	Confirmed	Protected	S5
Indigo Bunting	Passerina cyanea	Probable	Protected	S5
Killdeer	Charadrius vociferus	Confirmed	Protected	S5
Least Bittern	Ixobrychus exilis	Possible	Protected-Special Concern	S3
Least Flycatcher	Empidonax minimus	Confirmed	Protected	S5
Lincoln's Sparrow	Melospiza lincolnii	Confirmed	Protected	S4
Long-eared Owl	Asio otus	Possible	Protected	S3
Magnolia Warbler	Dendroica magnolia	Confirmed	Protected	S5
Mallard	Anas platyrhynchos	Confirmed	Game Species	S5
Marsh Wren	Cistothorus palustris	Probable	Protected	S5
Mourning Dove	Zenaidura macroura	Confirmed	Protected	S5
Mourning Warbler	Oporornis philadelphia	Confirmed	Protected	S5
Nashville Warbler	Vermivora ruficapilla	Confirmed	Protected	S5

**BREEDING SPECIES OF THE HIGH PEAKS WILDERNESS AREA
NEW YORK STATE BREEDING BIRD ATLAS DATA
1980 - 1985 ALPHABETICAL BY COMMON NAME**

COMMON NAME	SCIENTIFIC NAME	BREEDING STATUS	NEW YORK LEGAL STATUS	NATURAL HERITAGE PROGRAM STATE RANK
Northern Cardinal	<i>Cardinalis cardinalis</i>	Confirmed	Protected	S5
Northern Flicker	<i>Colaptes auratus</i>	Confirmed	Protected	S5Northern
Goshawk	<i>Accipiter gentilis</i>	Confirmed	Protected	S4
Northern Harrier	<i>Circus cyaneus</i>	Probable	Protected-Threatened	S4
Northern Oriole	<i>Icterus galbula</i>	Confirmed	Protected	S5
Northern Parula	<i>Parula americana</i>	Confirmed	Protected	S3S4
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	Probable	Protected	S5
Northern Saw-whet Owl	<i>Aegolius acadicus</i>	Confirmed	Protected	S3
Northern Waterthrush	<i>Seiurus noveboracensis</i>	Confirmed	Protected	S5
Olive-sided Flycatcher	<i>Contopus borealis</i>	Confirmed	Protected	S5
Osprey	<i>Pandion haliaetus</i>	Confirmed	Threatened	S4
Ovenbird	<i>Seiurus aurocapillus</i>	Confirmed	Protected	S5
Peregrine Falcon	<i>Falco peregrinus</i>	Possible	Protected-Endangered	S1
Philadelphia Vireo	<i>Vireo philadelphicus</i>	Confirmed	Protected	S3
Pied-billed Grebe	<i>Podilymbus podiceps</i>	Probable	Protected	S5
Peleated Woodpecker	<i>Dryocopus pileatus</i>	Probable	Protected	S5
Pine Siskine	<i>Carduelis pinus</i>	Confirmed	Protected	S5
Pine Warbler	<i>Dendroica pinus</i>	Probable	Protected	S5
Purple Finch	<i>Carpodacus purpureus</i>	Confirmed	Protected	S5
Purple Martin	<i>Progne subis</i>	Probable	Protected	S5
Red Crossbill	<i>Loxia curvirostra</i>	Possible	Protected	S3

**BREEDING SPECIES OF THE HIGH PEAKS WILDERNESS AREA
NEW YORK STATE BREEDING BIRD ATLAS DATA
1980 - 1985 ALPHABETICAL BY COMMON NAME**

COMMON NAME	SCIENTIFIC NAME	BREEDING STATUS	NEW YORK LEGAL STATUS	NATURAL HERITAGE PROGRAM STATE RANK
Red-breasted Nuthatch	<i>Sitta canadensis</i>	Confirmed	Protected	S5
Red-eyed Vireo	<i>Vireo olivaceus</i>	Confirmed	Protected	S5
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Possible	Protected	S4
Tree Swallow	<i>Tachycineta bicolor</i>	Confirmed	Protected	S5
Tufted Titmouse	<i>Parus bicolor</i>	Possible	Protected	S5
Turkey Vulture	<i>Cathartes aura</i>	Probable	Protected	S4
Veery	<i>Catharus fuscescens</i>	Confirmed	Protected	S5
Vesper Sparrow	<i>Pooecetes gramineus</i>	Probable	Protected-Special Concern	S5
Virginia Rail	<i>Rallus limicola</i>	Probable	Game Species	S5
Warbling Vireo	<i>Vireo gilvus</i>	Probable	Protected	S5
Whip-poor-will	<i>Caprimulgus vociferus</i>	Probable	Protected	S4
White-breasted Nuthatch	<i>Sitta carolinensis</i>	Confirmed	Protected	S5
White-throated Sparrow	<i>Zonotrichia albicollis</i>	Confirmed	Protected	S5
White-winged Crossbill	<i>Loxia leucoptera</i>	Probable	Protected	S2S3
Wilson's Warbler	<i>Wilsonia pusilla</i>	Probable	Protected	S1
Winter Wren	<i>Troglodytes troglodytes</i>	Confirmed	Protected	S5
Wood Duck	<i>Aix sponsa</i>	Confirmed	Game Species	S5
Wood Thrush	<i>Hylocichla mustelina</i>	Confirmed	Protected	S5
Yellow Warbler	<i>Dendroica petechia</i>	Confirmed	Protected	S3
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	Confirmed	Protected	S5
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Confirmed	Protected	S5
Yellow-rumped Warbler	<i>Dendroica coronata</i>	Confirmed	Protected	S5

BREEDING SPECIES OF THE HIGH PEAKS WILDERNESS AREA
NEW YORK STATE BREEDING BIRD ATLAS DATA
1980 - 1985 ALPHABETICAL BY COMMON NAME

COMMON NAME	SCIENTIFIC NAME	BREEDING STATUS	NEW YORK STATUS	NATURAL HERITAGE PROGRAM STATE RANK
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MAMMALS OF THE HIGH PEAKS WILDERNESS COMPLEX*

COMMON NAME:	SCIENTIFIC NAME:	HABITAT TYPES:	NEW YORK STATUS	NATURAL HERITAGE PROGRAM RANK
Virginia Opposum	Didelphis virginian	Villages, roadsides	Games Species	S5
Masked Shrew	Sorex cinereus	All habitat with ground cover	Unprotected	S5
Water Shrew	Sorex palustris	High elevation, woodlands	Unprotected	S4
Smokey Shrew	Sorex fumeus	DF, MF	Unprotected	S5
Longtailed or Rock Shrew	Sorex dispar	Talus slopes	Unprotected	S4
Pygmy Shrew	Sorex hoyi	Woodland Edges	Unprotected	S4
Northern Short Tailed Shrew	Blarina brevicauda	All habitats	Unprotected	S5
Hairy-tailed mole	Parascalops breweri	DF	Unprotected	S5
Star-nosed Mole	Condylura cristata	DF, Wetlands	Unprotected	S5
Little Brown Bat	Myotis lucifugus	Buildings, caves	Unprotected	S5
(Little Brown Myotis)				
Indiana Bat (Indiana Myotis)	Myotis sodalis	Caves (winter) summer (unk.)	Endangered	S1
Small-footed Bat	Myotis leibii	Unknown/caves	Special Concern	S1
(Small-footed Myotis)				
Keenes Myotis	Myotis keea	Woodlands buildings	Protected	S5
Silver-Haired Bat	Lasioncteris noctivagans	Forests adj. lakes, ponds	Unprotected	S4
Eastern Pipistrelle	Pipistrellus subflavusl	Open areas, woodland edges	Unprotected	S5
Big Brown Bat	Eptesicus fuscus	Wooded, semi-wooded area	Unprotected	S5
Red Bat	Lasiurus borealis	All, forested areas	Unprotected	S5
Hairy Bat	Lasiurus cinereus	DF, MF	Unprotected	S4
Eastern Cottontail	Sylvilagus floridanus	Fields, bogs, brushy areas	Games Species	S5
New England Cottontail	Sylvigaus transitionalis	Forests edges, brushy areas	Game Species	S3
Varying Hare	Lepus americanus	CF, MF, alder swamps	Game Species	S5
Eastern Chipmunk	Tamias striatus	DF, MF, hedgerows	Unprotected	S5
Woodchuck	Marmota monax	Open areas, DF, roadsides	Unprotected	S5
Gray Squirrel	Sciurus carolinensis	Mature DF, villages, towns	Game Species	S5

MAMMALS OF THE HIGH PEAKS WILDERNESS COMPLEX*

COMMON NAME:	SCIENTIFIC NAME:	HABITAT TYPES:	NEW YORK STATUS	NATURAL HERITAGE PROGRAM RANK
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	CF, MF	Unprotected	S5
Southern Flying Squirrel	<i>Glaucomys volans</i>	DF, MF	Unprotected	S5
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>	CF, MF	Unprotected	S5
Beaver	<i>Castor canadensis</i>	MF, adjacent to water	Game Species	S5
Deer Mouse	<i>Peromyscus maniculatus</i>	DF, CF, MF, open areas	Unprotected	S5
White-footed Mouse	<i>Peromyscus leucopus</i>	Woodland edges,DF,CF,MF	Unprotected	S5
Southern Red-Backed Vole	<i>Clethrionomys gapperi</i>	DF, CF, Boreal Forest	Unprotected	S5
Meadow Vole	<i>Microtus pennsylvanicus</i>	Old fields, bogs, marshes	Unprotected	S5
Rock Vole	<i>Microtus chrotorrhinus</i>	Moist talus slopes	Unprotected	S4
Woodland Vole	<i>Microtus pinetorum</i>	DF, Meadows	Unprotected	S5
Muskrat	<i>Ondatra zibethicus</i>	Marshes, rivers w/cattail	Game Species	S5
Southern Bog Lemming	<i>Synaptomys cooperi</i>	DF, Bogs	Unprotected	S4
Norway Rat	<i>Rattus norvegicus</i>	Buildings	Unprotected	SE
House Mouse	<i>Mus musculus</i>	Buildings	Unprotected	SE
Meadow Jumping Mouse	<i>Zapus hudsonius</i>	Open and brush areas in swamp	Unprotected	S5
Porcupine	<i>Erethizon dorsatum</i>	DF, MF, CF	Unprotected	S5
Coyote	<i>Canis latrans</i>	All habitats	Game Species	S5
Red Fox	<i>Vulpes vulpes</i>	Woodland edges,DF,open areas	Game Species	S5
Gray Fox	<i>Urocyon cinereoargenteus</i>	Lightly wooded, brushy areas	Game Species	S5
Black Bear	<i>Ursus americanus</i>	DF, CF, MF	Game Species	S5
Raccoon	<i>Procyon lotor</i>	DF, MF, CF, adjacent to water	Game Species	S5
Marten	<i>Martes americana</i>	DF, MF, CF	Game Species	S3
Fisher	<i>Martes pennanti</i>	DF, MF, CF	Game Species	S3
Ermine	<i>Mustela erminea</i>	DF, MF, CF, old fields	Game Species	S5
Long-tailed Weasel	<i>Mustela frenata</i>	Old fields, DF	Game Species	S5
Mink	<i>Mustela vison</i>	Forested wetlands	Game Species	S5

MAMMALS OF THE HIGH PEAKS WILDERNESS COMPLEX*

COMMON NAME:	SCIENTIFIC NAME:	HABITAT TYPES:	NEW YORK STATUS	NATURAL HERITAGE PROGRAM RANK
Striped Skunk	Mephitis mephitis	Open Forests, fields, Villages	Game Species	S5
River Otter	Lutra canadensis	Lakes, ponds, streams	Game Species	S5
Bobcat	Lynx rufus	DF, MF, CF	Game Species	S4
White-tailed Deer	Odocoileus virginianus	DF, MF, CF	Game Species	S5
Moose	Alces alces	DF, MF, CF, wetlands	Game Species	S1

Habitat Keys: DF = Deciduous Forests
 CF = Coniferous Forests
 MF = Mixed Forests
 Brush = Brushy areas, usually abandoned farmlands

* Based on NYSDEC Vertebrate Abstract Data Sources; Significant Habitat Unit, Delm

AMPHIBIANS OF THE HIGH PEAKS WILDERNESS COMPLEX*

COMMON NAME:	SCIENTIFIC NAME:	HABITAT TYPES:	NEW YORK STATUS	NATURAL HERITAGE PROGRAM RANK
Blue-spotted Salamander	Ambystoma laterale	DW, MF, Pools	Special Concern	S4
Spotted Salamander	Ambystoma maculatum	DW, Pools	Special Concern	S5
Dusky Salamander	Desmognathus fuscus	Streams	Unprotected	S5
Mountain Dusky Salamander	Desmognathus ochrophaeus	Logs adjacent to streams	Unprotected	S5
Two-lined Salamander	Eurycea bislineata	Streams	Unprotected	S5
Spring Salamander	Gyrinophilus porhyriticus	Streams, wetlands	Unprotected	S5
Redback Salamander	Plethodon cinereus	All woodlands	Unprotected	S5
Red-Spotted Newt	Notophthalmus viridescens	DF, MF, lakes, ponds	Unprotected	S5
American Toad	Bufo americanus	All areas	Unprotected	S5
Gray Treefrog	Hyla versicolor	Forests near streams, pools	Unprotected	S5
Bullfrog	Rana catesbeiana	Swamps, lakes, ponds, pools	Game Species	S5
Green Frog	Rana clamitans	Swamps, lakes, ponds, pools	Game Species	S5
Pickerel Frog	Rana palustris	Lakes, ponds, streams, bogs	Game Species	S5
Mink Frog	Rana septentrionalis	Lakes, ponds, pools, bogs	Game Species	S3
Wood Frog	Rana sylvatica	DF, CF, swamps, bogs	Games Species	S5

Habitat Keys: DF = Deciduous Forests CF = Coniferous Forests MF = Mixed Forests
Pools = Vernal pools or quiet water needed for breeding Streams = Lives in, or adjacent to streams, or springs, wetlands

* Based on NYSDEC Vertebrate Abstract Data Sources; Significant Habitat Unit, Delmar, New York

REPTILES OF THE HIGH PEAKS WILDERNESS COMPLEX*

COMMON NAME:	SCIENTIFIC NAME:	HABITAT TYPES:	NEW YORK STATUS	NATURAL HERITAGE PROGRAM RANK
Snapping Turtle	Caelydra serpentina	Marshes, rivers, bogs, lakes	Unprotected	S5
Painted Turtle	Chrysemys picta	Marshes, rivers, bogs, lakes	Unprotected	S5
Wood Turtle	Clemmys insculpta	Woodlands adj. To ponds, brks	Special Concern	S4
Ringneck Snake	Diaophis punctatus	Moist Woodlands	Unprotected	S5
Milk Snake	Lampropeltis triagulum	DF, CF, MF, brush	Unprotected	S5
Northern Water Snake	Nerodia sipedon	Lakes, ponds, rivers, bogs	Unprotected	S5
Smooth Green Snake	Orpheidrys vernalis	Meadows, grassy marshes	Unprotected	S5
Brown Snake	Storeria dekayi	All, esp. Old growth forests	Unprotected	S5
Redbelly Snake	Storeria occipitomaculata	Moist woodlans, bogs	Unprotected	S5
Eastern Ribbon Snake	Thamnophis sauritus	Adj. To streams, swamps	Unprotected	S5
Common Garter Snake	Thamnophis sirtalis	All	Unprotected	S5

Habitat Keys:

- DF - Deciduous Forests
- CF - Coniferous Forests
- MF - Mixed Forests
- Brush - Brushy areas, usually abandoned farmlands

* Based on NYSDEC Vertebrate Abstract Data Sources; Significant Habitat Unit, Delmar, New York

BEAR TAKE - HPWC*
 * Most recent data for High Peaks Region

1992	EARLY	ARCHERY	MUZZLELOADER	REGULAR	TOTAL
Harrietstown	1	0	1	6	8
Keene	1	0	0	10	11
Newcomb	6	0	0	14	20
North Elba	0	0	0	4	4
1991	EARLY	ARCHERY	MUZZLELOADER	REGULAR	TOTAL
Harrietstown	1	0	0	2	3
Keene	1	0	0	1	2
Newcomb	3	0	0	18	21
North Elba	1	0	0	6	7
1990	EARLY	ARCHERY	MUZZLELOADER	REGULAR	TOTAL
Harrietstown	3	0	0	4	7
Keene	2	0	0	2	4
Newcomb	2	0	1	7	10
North Elba	1	1	0	2	4
1989	EARLY	ARCHERY	MUZZLELOADER	REGULAR	TOTAL
Harrietstown	2	0	0	1	3
Keene	1	0	1	8	10
Newcomb	1	0	2	20	23
North Elba	3	1	0	3	7
1988	EARLY	ARCHERY	MUZZLELOADER	REGULAR	TOTAL
Harrietstown	4	0	0	6	10
Keene	3	0	0	3	6
Newcomb	3	0	2	18	23
North Elba	0	0	0	3	3

DEER TAKE - HPWC TOWNS (bucks/total)*
***Most recent data High Peaks Region**

TOWN	1988	1989	1990	1991	1992
Harriestown	92/98	91/93	100/108	101/125	103/129
Keene	102/102	92/94	72/78	56/62	73/83
Newcomb	200/208	204/212	141/146	136/151	121/132
North Elba	43/44	38/40	34/40	76/90	61/76

FURBEARER HARVESTS - HPWC TOWNS*
***Most recent data for High Peaks Region**

BEAVER	1988-89	1989-90	1990-91	1991-92	1992-93
Harrietstown	73	108	57	10	6
Keene	12	12	12	16	5
Newcomb	69	29	14	13	11
North Elba	45	64	25	42	18
FISHER	1988-89	1989-90	1990-91	1991-92	1992-93
Harrietstown	3	13	1	19	7
Keene	5	8	5	6	8
Newcomb	1	6	6	2	1
North Elba	2	4	1	6	9
OTTER	1988-89	1989-90	1990-91	1991-92	1992-93
Harrietstown	20	5	10	5	8
Keene	0	0	1	2	3
Newcomb	4	1	2	1	1
North Elba	6	8	4	5	0
BOBCAT	1988-89	1989-90	1990-91	1991-92	1992-93
Harrietstown	1	0	1	0	0
Keene	1	0	1	0	0
Newcomb	0	1	2	2	2
North Elba	0	0	0	0	0
COYOTE	1988-89	1989-90	1990-91	1991-92	1992-93
Harrietstown	2	4	0	9	2
Keene	10	9	2	6	1
Newcomb	5	0	0	3	1
North Elba	3	3	1	0	3

MARTEN	1988-89	1989-90	1990-91	1991-92	1992-93
Harriestown	6	11	11	9	2
Keene	2	6	7	0	4
Newcomb	0	4	6	2	1
North Elba	7	16	7	14	16

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