

Department of Environmental Conservation

Division of Lands and Forests

Big Indian-Beaverkill Range Wilderness Area

Unit Management Plan

June 1993



New York State Department of Environmental Conservation
MARIO M. CUOMO, Governor THOMAS C. JORLING, Commissioner

BIG INDIAN-BEAVERKILL RANGE WILDERNESS AREA

UNIT MANAGEMENT PLAN

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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UNIT MANAGEMENT PLAN

PREFACE

A rugged, mountainous tract. An area of long, steep-sided ridges with numerous hidden hollows. A great expanse of uninterrupted forest.

While there are many ways to describe the Big Indian-Beaverkill Range Wilderness Area, the most important aspect of this unit of the Catskill Forest Preserve is that it is indeed Wilderness -- a place where we leave behind the comforts of civilization which give us the illusion of mastering rather than belonging to the environment.

The following plan identifies the various resources, both natural and man-made, which make up the Big Indian-Beaverkill Range Wilderness Area. It describes the historical and cultural influences which have shaped the character of the area. Issues and constraints affecting the unit are noted, and both goals and objectives have been developed which will govern the area's future management. The plan proposes specific projects to fulfill these goals and objectives. Although much of the information contained within this plan was developed by Department staff, public input was essential in the decision-making process.

This document represents management objectives rather than a work plan of commitments. Accomplishment of management actions outlined herein is dependent on legislative budget

appropriations, and sufficient personnel to carry them out. However, where possible the Department will work with volunteer groups and pursue alternative funding sources to accomplish some of the proposed projects. For example, volunteers from the NY-NJ Trail Conference have helped the Department maintain several of the hiking trails in the Catskills, including the Mongaup-Hardenburg Trail.

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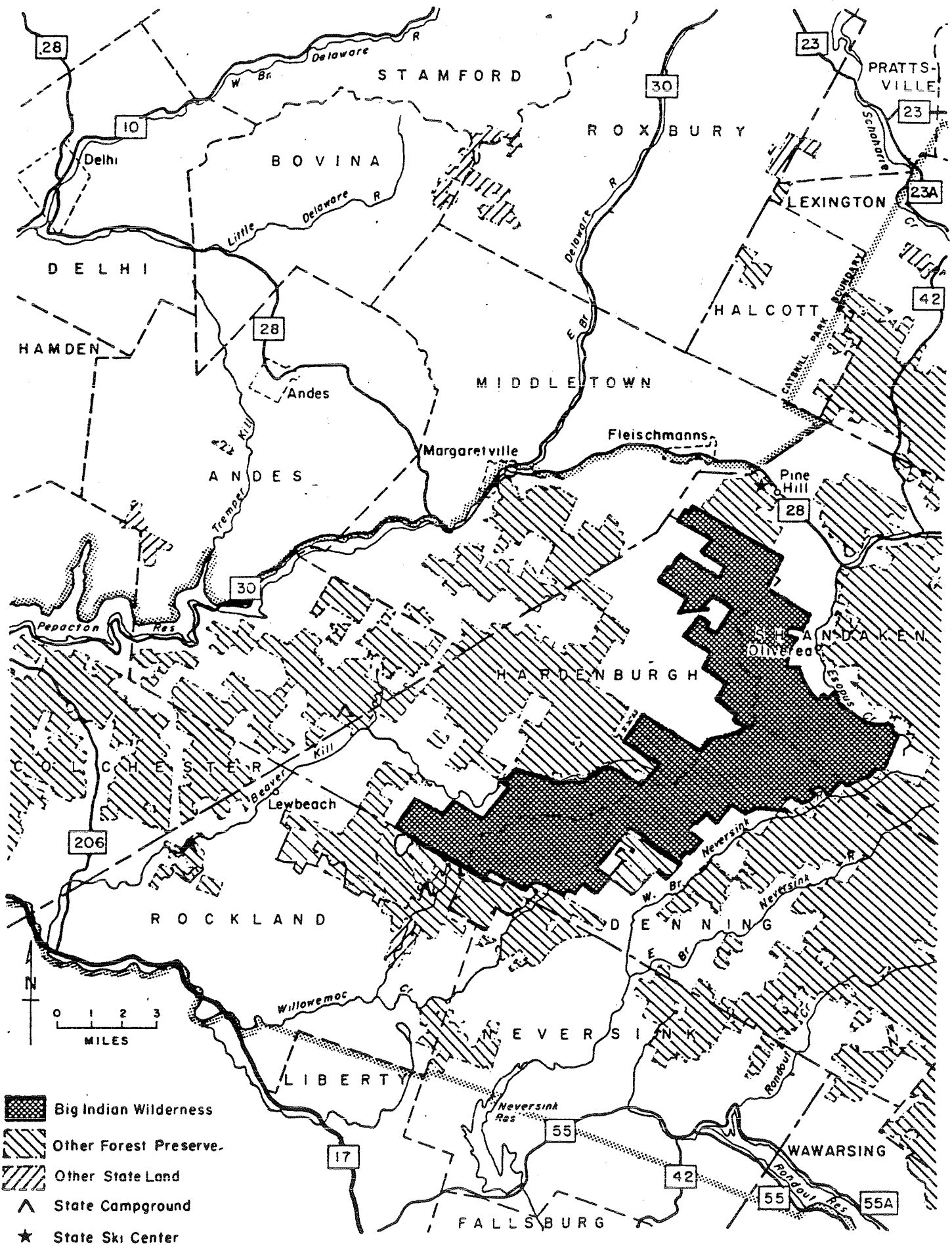
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LOCATION OF BIG INDIAN WILDERNESS



I. INTRODUCTION

A. Area Description

1. Location

The Big Indian-Beaverkill Range Wilderness Area is a management unit in the south-central portion of the Catskill Park. It is made up of Forest Preserve lands in the Towns of Shandaken, Denning and Hardenburgh in Ulster County. These lands are a part of the Hardenburgh Patent, Great Lots 6 (Division 2 Connecticut Tract and Division 3 Robinson Tract), 7 (Garretson Tract, 4688 Acre Tract, Livingston Tract and Vernooy's Survey), 8 (Lausette Tract), 9 (Beekman Tract) and 10 (Jarvis Tract).

The unit is bordered on the north by the Belleayre Mountain Ski Center Intensive Use Area, on the east by Ulster County Route 47, on the south by the Willowemoc - Long Pond Wild Forest, on the southwest by the Balsam Lake Mountain Wild Forest, and on the northwest by Dry Brook. Both the Belleayre Intensive Use Area and the Willowemoc - Long Pond Wild Forest UMP's have been approved and are in effect. The Unit Management Plan for the Balsam Lake Mountain Wild Forest has been approved but is the subject of an ongoing lawsuit. The decision in that lawsuit may affect

the access to this unit from the Balsam Lake Mountain Wild Forest. Where this unit directly abuts another forest preserve management unit as mentioned, no "on the ground" boundary exists.

The Village of Pine Hill is approximately two miles north of the unit, Big Indian is three miles east and Margaretville is six miles west.

2. Access

The north end of the unit can be reached via State Route 28 to the Village of Pine Hill. From Main Street in Pine Hill head west on Bonnie View Road, then left onto Mill Street. From Mill Street one can reach the Big Indian-Beaverkill Range Wilderness Area via the Belleayre Mountain Ski Center in either of two ways: the Cathedral Glen Trail (via the Railroad Tracks) or the Pine Hill/West Branch Trail (via Woodchuck Hollow).

From the east, the unit can be reached via State Route 28 to Big Indian. From Big Indian head south on Ulster County Route 47. Access to the unit can be gained at several points on the west side of the highway, including trailheads in Lost Clove and McKenley Hollow.

The southern end of the unit can be reached from State Route 17 in a variety of ways,

including:

- From Liberty, east on State Route 55 to Curry, north on Sullivan County Route 19 to Claryville, west on Sullivan County Route 157 (changes to Ulster County Route 47) about 1.3 miles to Round Pond Road. West on Round Pond Road to Black Bear Road. Here one can turn north onto Black Bear Road or continue west on Round Pond Road into Sullivan County where the road changes names and is known as the Pole Road. From the Pole Road the unit can be reached by heading north on the Flugertown Road to the Long Pond - Beaverkill Range Trailhead.
- From Livingston Manor (Exit 96 on Route 17), east on Sullivan County Route 81 six miles to DeBruce. North on Mongaup Road 3 miles to Mongaup Pond Campground. Mongaup-Hardenburgh trailhead is at the north end of the Pond.

Access to the western side of the unit can be gained in two ways:

- From Livingston Manor north on old Route 17 to Sullivan County Route 151. North on Route 151 into Ulster County. West on the Beaverkill Road to trailheads at Hardenburgh

or Quaker Clearing.

NOTE: The Department has proposed abandonment of the Quaker Clearing Parking Lot and relocation of the Hardenburgh-Neversink hiking trailhead to the end of the Beaverkill Road in the Balsam Lake Mountain Wild Forest UMP.

- From State Route 28 at Arkville, south on Dry Brook Road to Rider Hollow Road or to Seager (Southern terminus of Dry Brook Road).

3. Size

This is the second largest management unit in the Catskills, ranging from 1 1/2 to 4 1/2 miles wide, stretching over 19 miles long and encompassing approximately 33,500 acres of forest preserve land.

B. History

Lenni Lanape Indians, members of the Algonkian Indian nation, were probably the first to visit the region. While no Indian settlements of significance are known, it is likely they utilized the area for hunting and fishing. Despite this, several of today's place names have their origins in Indian words or legend.

Shandaken is derived from the Algonkian words for hemlock which was plentiful in the region prior to the Tanning industry. Esopus is the Algonkian word for brook. Neversink is an Indian name with several possible meanings including a mean, mad river, a continual running river which never sinks into the ground, and place of the white rock. Willowemoc was the name of a local group of Lenni-Lenape Indians. Tunis Pond is said to have been named after Chief Tunis, an Indian who legend says buried a cache of bullets near the lake and was killed when he would not reveal its location.

Several versions of the legend of Big Indian exist. The earliest version tells of "a monster of a red man" who roamed the region in Revolutionary days and occasionally raided local settlements, often killing and burning the innocent inhabitants. When the Big Indian killed a beautiful little girl, an old settler set off into the mountains vowing revenge. Finding the Big Indian alone by a campfire, he shot him dead and buried him at the spot known ever since as Big Indian. In later years, the Ulster and Delaware Railroad "improved" on the story in hopes of attracting tourists to the Catskills (as did Lionel DeLisser in his Picturesque Ulster, 1897). In the improved version, a seven foot tall Indian, "a sampson in

strength," named Win-ni-sook falls in love with a beautiful white girl named Gertrude, the daughter of early settlers. Gertrude loved the powerful warrior, but was promised by her parents to another of her own race. Marriage brought Gertrude an unhappy life, as her new husband was of short temper and bad habits. Seeing this, Win-ni-sook began visiting her in secret and eventually convinced her to run off with him and live in a wigwam amongst his people. They lived together in peace for several years. However, Win-ni-sook continued to carry out raids on the Dutch farms in the lower valleys. Upon returning from one of these raids, he and the other members of his tribe were overtaken by farmers at the head of the Big Indian Valley. In the ensuing battle Win-ni-sook was recognized and shot by Gertrude's white husband. In agony the Big Indian took refuge in a hollow pine tree where soon after he died. Gertrude found him and, ever faithful, took up residence near the tree till her death.

Perhaps the most compelling Indian legend is that of Blossom Falls (now known as Crazy Nell Falls) on the Esopus above Otter Falls. It is a tale of a brave Indian warrior named Lotowanka who takes revenge on a rival Indian tribe despite his love for the rival chief's daughter, Ta-wa-sen-ta (Blossoms of Spring).

To attempt to summarize the story here would be an injustice. See R. Lionel DeLisser's Picturesque Ulster, pages 197-212, for the most eloquent version.

In 1706 the Indian sachem (wise man) Naisinos is said to have sold a large tract of land which included the Catskill Mountains to Johannes Hardenbergh for 60 pounds. Having thus cleared any title claims the Indians may have had with the area, Hardenbergh then persuaded Queen Anne of England to grant him and his associates title to the region (1708). This grant became known as the Hardenburgh Patent and encompassed nearly 1.5 million acres.

Various disputes and survey problems followed (local Indians in particular enjoyed removing the stone piles of the surveyors). This led to arguments over title to various lots within the patent. The uncertainty kept most settlers out of the region and the Catskills remained an undeveloped wilderness until the nineteenth century.

The Ulster and Delaware Turnpike, running west from Kingston along the Esopus to the Susquehanna country provided the first developed access to the region. Promoted by Hardenburgh Patent landowners whose backwoods lands it would make reachable and more valuable, the New York legislature chartered the road and authorized its managers to issue stock and collect

tolls. While never a money maker for stockholders the road succeeded in opening the region to settlers and the growing tanning industry.

Early settlers who left their "mark" on the Region included Hiram Seager (Seager) Derrick Haynes (Haynes Hollow) and Barney Rider (Rider Hollow). Olivera was named after a much respected family that settled in the valley. Other hollows named after people who once resided there include McKenley Hollow, Burnham Hollow and Maben Hollow. Catskill woodsman Mike Todd spent his life hunting and fishing in this area. For a real taste of the life of a true Catskill native, see A Catskill Woodsman: Mike Todd's Story by Norman Studer.

The leather tanning industry of the nineteenth century was arguably the most notable era in the region's history. The War of 1812, the Mexican-American War and the Civil War all required great quantities of leather, and the Catskills, with their abundance of hemlock trees and clear running streams were well suited for the tanning industry. Hemlocks were important in that hemlock bark provided tannin, a key ingredient in the tanning process.

Animal hides, imported from South America, were shipped up the Hudson by boat and then loaded on ox carts to be brought to tanneries in the Catskills. In the town of Shandaken, the tanning business was more

extensive than in any other town in Ulster County. Seven tanneries were in operation at one time, including the Wey Tannery in Big Indian, the Smith Tannery in Smithville (near Pine Hill) and the Guigou Tannery in Pine Hill. At their peak in the mid 1850's, it is estimated that the Wey Tannery utilized 6,000 cords of hemlock bark each year and the smaller Smith and Guigou tanneries each utilized 2,500 cords/year. Its likely that tanneries in Claryville and DeBruce utilized hemlock from the area as well.

Thousands of hemlocks were felled annually to meet this demand, and by the late 1870's all but the most inaccessible stands had been cut. Although some hemlock wood was utilized for bridge planking or other local uses, it is estimated that 95% of the barkless fallen trees were left to rot in the woods (Kudish 1971). The effects of this industry were not limited to the devastation of vast acreages of hemlock. Decaying animal tissue created a terrible stench, by products of the industry polluted streams, the trout population declined, land values dropped and the litter of tree limbs and trunks on the forest floor resulted in forest fires which often spread beyond the cut over lands. In fact, once harvested of hemlock bark, most land was not considered worth paying taxes on and much of it reverted to the county and ultimately to the

state, forming the initial forest preserve.

Following closely on the heels of the tanning industry was a smaller, but significant wood products industry. Sawmills appeared on nearly every major brook. In this region sawmills could be found on the Elk Kill in Burnham Hollow, in Maben Hollow, on the headwaters of the Esopus (Dutcher), on Birch Creek in Pine Hill, along the Dry Brook (several locations) the Beaver Kill and the West Branch of the Neversink River. A wood turning mill utilized the old Wey Tannery buildings in Big Indian. A large chair factory opened in 1870 in Shandaken Centre. Owned by Hiram Whitney, it averaged 1600 dozen chairs/month and employed over 65 people. Pine Hill had a chair factory as well.

Shaved hoops made from hardwood saplings for cooperage and packing box strapping was another common, if not doubtful industry which provided a living for many former tannery workers. Hoop shanties were especially common on the cutover hemlock lands where hardwood saplings were plentiful.

Another important period in the area's history was the Catskill Resort Era. As early as 1854 boarders are known to have come to the Guigou family's Mountain Inn in Pine Hill by stage. But it was not until the Rondout and Oswego Railroad (later known as the Ulster and Delaware) reached Pine Hill in 1872 that the

tourist industry took off. The railroad opened the Catskills to the common man at a time when Americans were eager to leave overcrowded and polluted cities for the healthful, moral atmosphere of the country. Hotels to accommodate the new railroad guests quickly sprang up throughout the region. They included the Rip Van Winkle Hotel in Pine Hill which accommodated 150 guests, the Slide Mountain House and the Panther Mountain House on the Upper Esopus and La Ment's Hotel in Big Indian. But probably the most notable in this region was the Grand Hotel. Backed by Thomas Cornell of the Ulster and Delaware Railroad, the Grand Hotel was the largest of three large hotels on the Ulster and Delaware line (the others being the Overlook and Tremper Mountain Hotels). Built in 1880 on Monka Hill near present day Highmount, it was an eighth of a mile long, had accommodations for 450 guests and commanded a mountain view "unequaled in the state." Having been built on the line between the towns of Shandaken (Ulster County) and Middletown (Delaware County) it enjoyed an added advantage concerning its ability to serve liquor. When Shandaken refused to grant a liquor license, the bar was moved to Middletown. When Middletown prohibitionists gained strength, the bar was moved back to Shandaken. The sliding barroom proved to be a great attraction.

It was more than fancy hotels and the railroad that attracted summer boarders to the region. In 1879 Arnold Guyot, a Princeton geography professor and avid hiker, published a map of the Catskills which brought to view a much more complete and accurate picture of the region. Prior to Guyot, Kaaterskill High Peak was thought to be the highest of all peaks in the Catskills. The Catskill Mountain House site overlooking the Hudson was considered to be in the heart of the region. Guyot's map not only revealed the full extent of the Catskills, it drew attention to the Shandaken region in declaring Slide Mountain to be the highest of the Catskill summits. The new map met with immediate acceptance not only due to its accuracy but also because it cleared up many old confusions about place names. For example, the locally known Round Top at the head of Dry Brook was renamed Doubletop and the neighboring South Mountain was renamed Graham Mountain. Dry Brook Mountain was renamed Haynes Mountain. Inspired by Guyot, many summer borders took to hiking and climbing in the surrounding mountains (Evers, 1972).

While the common man enjoyed the region via short stays in hotels and boarding houses, the wealthy bought large estates and often stayed for the entire summer. Men of note include Jay Gould, a railroad magnate who

bought land in the Dry Brook Valley. His son George developed a farm as well as an Elk and Deer Park on the property which was considered to be the "largest and best stocked in the eastern states (DeLisser 1897)."

While no longer considered a wildlife "park," the Gould family continues to take great pride in their Dry Brook property.

Julius Forstmann, a German immigrant who established the Forstmann Woolen Company of Passaic, New Jersey developed a summer estate and hunting/fishing retreat in Frost Valley. The Forstmann Woolen Company was famous for fine woolen garments including Gaberdine uniforms which they supplied to the Air Force during both World Wars. Forstmann loved to hunt deer and like Gould, he too constructed a Deer Park on his property (see Past Management). The extravagant summer home he built in 1915, known locally as "the Castle," now serves many year-round guests of the Frost Valley YMCA, present-day owners of his estate.

The decline of the Catskill Resort era began with the turn of the century. Many factors contributed to its decline, including down turns in the economy, changing tastes and, perhaps most importantly, the advent of the automobile. While the area continues to attract outdoor enthusiasts, it does so in more modest numbers.

As noted above, much of the land making up this unit was acquired in tax sales from the county. As shown on the Land Acquisition History Map in Appendix I, most parcels were acquired prior to 1930. More recently acquired lands (marked with a "D" on the map) were acquired with funding from land acquisition bond acts approved by the voters of the state.

For more information concerning the history of this unit see Past Management, Section III A.

II. INVENTORY, USE AND CAPACITY TO WITHSTAND USE

A. Natural Resources

1. Physical Resources

a. Geology

The Catskill Mountains have their origins in an ancient river delta. Some 300 million years ago an inland sea covered western New York and extended westward to the Mississippi Valley. High mountains dominated New England and southeastern New York. In between these ancient mountains and the inland sea, in the region now occupied by the Catskills, was a great delta or alluvial fan upon which the rivers from the mountains to the east were spreading gravel, sand and mud. This sediment accumulated to a depth of several thousand feet before deposition slowed as the mountains were worn low. Then, some 200 million years ago, the delta as well as the surrounding sea-bottom of sedimentary rock began to rise to a level higher than the region of New England whence its constituents were derived. What followed was a period of erosion which formed the Catskills.

The sea bottom rock (sandstone and shale), derived from much finer sediments than that of the delta, were less resistant to erosion, and gradually eroded away. The delta, being composed of cemented gravel, or conglomerate, especially in the upper beds, was very resistant to erosion. Thus the Catskills, especially the eastern Catskills where the coarsest of gravel from the ancient river delta was deposited, were able to withstand the forces of erosion and maintain their elevation. To the west, as the sediments from the ancient ocean become finer and finer, the resulting plateau was more susceptible to the forces of erosion, and consequently the mountains were worn down.

The glacial period which affected the Catskills some 20,000 - 50,000 years ago completely reworked the region's soils and altered many drainages. However, the present mountainous form of the Catskill is due almost entirely to the action of streams in carving deep valleys in the flat-lying rocks of the uplifted plateau.

b. Soils

The soils found in the Big Indian-Beaver Kill Range Wilderness Area belong to the Arnot - Oquaga - Lackawanna Association, an association of soil types derived from glacial till. These soils vary in depth, but are generally quite shallow. They are typically excessively to moderately well drained, dominantly very steep, medium textured, acidic soils with numerous surface boulders. A series of narrow benches give a stairstep appearance to the terrain. Exposed bedrock, including ledges and rock outcrops, are common.

Runoff is typically rapid and the potential for both erosion and drought is high. In general, these soils have good potential for recreational uses such as hiking and camping provided that trails are protected from erosion.

c. Terrain

This is a rugged area, characterized by high mountain ridges and steep-sided valleys or hollows. Typically the ridges and mountain sides are terraced with slopes

varying from moderate to very steep. The mountain tops and ridge lines are very often level or rolling.

The southern half of the Big Indian-Beaverkill Range Wilderness Area is dominated by the Beaverkill Range. This is a ridge line that runs in a southwest-northeast direction. There are several unnamed mountain tops. Peak elevation ranges from 2900 to 3400 feet.

The northern half of the unit has less of a distinct ridge line relative to the southern portion. There is a basic "L" shaped seam starting at Hemlock Mountain along County Route 47 and extending northward to Belle Ayr Mountain and Route 28. Generally the mountain tops are higher in elevation in the northern half. There are eight peaks above 3200 feet. The highest is Doubletop with an elevation of 3860 feet above sea level. Prominent peaks include the following:

Doubletop	3860 feet
Big Indian	3700 feet
Fir	3620 feet
Balsam	3600 feet
Eagle	3600 feet
Haynes	3420 feet
Spruce	3380 feet
Hemlock	3240 feet

There are several distinctive hollows or steep sided valleys. These hollows usually run in an east-west direction blocked by steep mountain sides at one end. Among the hollows in the unit are Rider Hollow, Maben Hollow, Burnham Hollow, McKenley Hollow and Hayne's Hollow. Hanging Birds Nest, Number Ten, Quaker Cove, and Dog are also hollows located within the unit.

The lowest elevation is 1500 feet above sea level located in McKenley Hollow.

d. Water

Within this unit is the divide between the Delaware and Hudson River basins. The divide is a ridge line connecting Belleayre Mountain (just north of the unit) with Hemlock Mountain (near Winnisook Lake). Drainages to the north and east of this divide flow into the waters of Esopus Creek and ultimately the Hudson River. Drainages to the south and west of the divide flow into Dry Brook, the west branch of the Neversink and the Beaver Kill. All these streams eventually lead to the Delaware River.

There are very few ponded bodies of water within this wilderness area.

Tunis Pond (3.4 acres) straddles the boundary between this unit and the Balsam Lake Mountain Wild Forest. A small beaver pond (.75 acres) lies on the east side of the Neversink-Hardenburgh Trail, at the height of land between the Beaver Kill and Fall Brook drainages.

The unit has several streams flowing down from the Big Indian-Beaverkill Ridge. Among the major streams of the unit are the following:

Biscuit Brook	Hanging Birds Nest Brook
Pigeon Brook	Elk Bushkill
Shandaken Brook	Quaker Cove Brook
High Falls Brook	Number Ten Hollow Brook
Beaverkill	Dog Hollow Brook
Willowemoc Creek	Gulf of Mexico Brook
Sucker Brook	Rider Hollow Brook
Gill Gully	Mine Hollow Brook
Fall Brook	Haynes Hollow Brook
Wolcott Brook	Esopus Creek
McKenley Hollow Brook	

e. Wetlands

There are no state regulated (greater than 12 acre) wetlands within this unit. However, several small, scattered wetlands do exist, including those at or near:

- Sucker Brook (tributary headwaters)
- Sand Pond
- Willowemoc headwaters
- Tunis Pond
- Pigeon Notch (Col between Doubletop and Big Indian)
- Beaver Kill Headwaters

For more information on the Pigeon Notch wetland see Section II - Unique Areas.

2. Biological

a. Vegetation

The Big Indian-Beaverkill Range Wilderness Area is almost completely forested, with minor openings associated with ponded waters or wetlands being the only exceptions.

The northern hardwood forest type covers the greatest part of the unit, dominated by sugar maple, beech and yellow birch. Black cherry, white ash, red maple, hemlock, basswood, red oak, white pine and big tooth aspen are also common, but only locally abundant.

On the upper slopes and ridges, usually above 3000 feet in elevation, a "ridge forest type" generally dominated by black cherry and to a lesser extent, yellow birch, red maple and beech predominates. It is interesting to

note that in the eastern Catskills, this ridge forest type is dominated by balsam fir, red spruce and paper birch. Botanist Michael Kudish, in his PhD thesis entitled Vegetational History of the Catskill High Peaks, theorizes that greater competition for soil nutrients and discontinuities caused by wind, ice and snow damage killing trees in large numbers may have favored intolerant and mid-tolerant tree species in the western Catskills. He further states that these species are maintaining themselves as "climax" species.

While the hardwoods mentioned above dominate most of the ridge forests within this unit, there is one significant exception. Balsam fir dominates the summit of Doubletop. It is common on Fir, Big Indian, Balsam and Eagle, but it is only a minor constituent on Hemlock, Spruce and Haynes and is nearly absent from the Beaverkill Range (as well as Graham and Belle Ayr, summits just outside this unit). Balsam fir can occasionally be found at lower elevations within the unit, including in the col between Big Indian and Eagle, and along

both the Beaver Kill and Biscuit Brook. Red spruce and paper birch are nearly absent from the unit. However, a notable exception is the red spruce grove found in Pigeon Notch at an elevation of 3200 feet between Big Indian and Doubletop. Kudish describes this grove as "the westernmost outpost of high elevation spruce in the Catskills."

One other important note must be made concerning the ridge forest within this unit. Unlike much of the Catskills which have been logged and/or burned over at one time or another, the Big Indian Ridge, from Belle Ayr southward to the headwaters of Biscuit Brook, may never have been cut. In fact, Kudish describes this section of the Pine Hill - West Branch Trail as "the longest stretch of trail through uninterrupted virgin forest in the Catskills." Land acquisition records seem to support this claim, as most of the ridge was acquired by New York State as forest preserve prior to the turn of the century.

Small hemlock stands occur sporadically throughout the unit, generally below 2500 feet in elevation. They are most often

found on north and east facing slopes and in ravines such as that in Mine Hollow.

An occasional conifer plantation can be found on old farmland within the unit as well. Examples include a red pine plantation in Haynes Hollow and a larch plantation in Rider Hollow.

The understory of the northern hardwood forest is dominated by sugar maple and beech seedlings. Yellow birch, hemlock, striped maple and black cherry are also common, along with serviceberry and witchhobble. Herb and ground cover plants include woodfern, hayscented fern, Christmas fern, jewelweed, stinging nettle, foamflower, trillium, red baneberry, starflower and wood sorrel.

In the ridge forests, witchhobble, black cherry, mountain maple and striped maple seedlings dominate the understory and the mountain variety of the woodfern dominates the ground cover plants. Other plants of note include mountain ash, pin cherry, clintonia, bunch berry, starflower, wood sorrel, Canada mayflower and clubmoss.

Rare Plants

Northern monk's-hood (*Aconitum noveboracense*), a flowering plant listed as threatened by the U.S. Fish and Wildlife Service under the provisions of the Endangered Species Act of 1973 is known to occur on forest preserve lands within this unit as well as on adjacent private lands.

Jacob's-ladder (*Polemonium vanbruntiae*), another flowering plant which while not on the federal list, is listed as threatened by NYS DEC under Part 193.3 of Title 6, New York State Codes, Rules and Regulations is also known to occur within this unit. Information on both of these plants can be found in Appendix E (Rare Plants).

b. Wildlife

This unit is located within the Catskill Peaks ecological zone and the wildlife which occur here are similar to those found in other areas of mature northern hardwood forest in southeastern New York State. The mature northern hardwood forest favors late successional species such as black bear, porcupine, gray squirrel, snowshoe hare and

wild turkey. Species that use earlier successional stages, such as white-tailed deer, cottontail rabbit and ruffed grouse occur, but at lower population levels than in nearby areas of lower elevation, flatter terrain and more diverse vegetation.

With the exception of the Atlas of Breeding Birds in New York State (see Bibliography and References), a formal inventory of animal life has not been undertaken in recent years. However, Chambers in his handbook, "Integrating Timber and Wildlife Management" (1983), compiled an extensive listing of wildlife presumed to be in this ecological subzone. Based on Chambers' work, 21 species of amphibians, 16 species of reptiles and 48 species of mammals possibly reside in the Big Indian-Beaverkill Range Wilderness Area. Based on both Chambers' listing and the Atlas of Breeding Birds in New York State, there are 125 species of birds that may nest in the unit or utilize the unit during migration (see Appendix B, Wildlife).

There are no endangered animal species known to reside in the area. Bald eagles and

peregrine falcons, both endangered species, may travel through the area during migrations. According to the Atlas of Breeding Birds in New York State and Chambers (1983), the red-shouldered hawk, listed as threatened by NYSDEC, is a confirmed breeder within or adjacent to this Unit. However, the Natural Heritage Program has no records of the red-shouldered hawk in or adjacent to this unit. As a threatened species, the red-shouldered hawk is fully protected under New York State Environmental Conservation Law.

The eastern bluebird, common nighthawk, common raven, Cooper's hawk, vesper sparrow, small-footed bat, spotted turtle, wood turtle, eastern hognose snake, Jefferson salamander, blue-spotted salamander and spotted salamander are all "Special Concern" species which may reside in this unit (Appendix B, Wildlife). Special Concern species are native species that either are vulnerable to becoming endangered or threatened or their present status in New York is uncertain. The Special Concern category, while existing in DEC rules and

regulations, does not in itself provide legal protection to the species.

This unit provides nesting habitat for forest-interior, area-sensitive bird species including the red-eyed vireo, black-throated blue warbler, black-and-white warbler, Canada warbler, northern waterthrush, Louisiana waterthrush, scarlet tanager and rose-breasted grosbeak (Appendix B, Wildlife). Recent research indicates that these species require large areas (7,500 ± acres) of undisturbed forest for optimal breeding habitat (Robbins et. al. 1989).

c. Fisheries

This unit includes the extreme headwaters of the Esopus Creek, Beaver Kill, Willowemoc Creek and West Branch Neversink River - streams with very important fisheries outside the unit. Important tributaries to the Dry Brook emanate from this unit as well. All of these perennial streams provide habitat for a variety of fish species. Some of the streams within the unit are undoubtedly important as spawning streams in the fall for brook trout and brown trout and

in the spring for rainbow trout in the Esopus Creek tributaries. Landlocked Atlantic salmon also spawn in the fall in some of the tributaries to the West Branch Neversink River within this unit.

Little is known of the fisheries in Tunis Pond, the only ponded water within the unit (other than an occasional beaver pond). Bullheads may be the only fish present. A 1935 water survey noted the following: 3.4 acre shallow pond (maximum depth of 10 feet), dark tea stained water with a pH of 6.2.

Other fish species occurring within the unit include white sucker, yellow perch, sculpin, golden shiner and longnose dace. For a complete list of the fish species found within the unit see Appendix B.

No State or Federal endangered, threatened or special concern fish species have been documented within the boundaries of the unit.

3. Visual

As with other forest preserve units, the Big Indian-Beaverkill Range Wilderness Area is an important component of the viewshed which makes

the Catskill Park a unique resource in southern New York.

Vistas from within the unit are rare. In fact, the most prominent viewpoints associated with this unit (Balsam Summit and Doubletop Summit) are on private land adjacent to the unit. This lack of vistas may explain the relatively low level of public use. However, the visual opportunities are not limited to high elevation vistas. This area has a variety of features such as streams, waterfalls, diverse vegetation and wildlife which all contribute to the visual resources of the unit.

4. Unique Areas

- a. **Otter Falls** - In a hemlock ravine on the Esopus Creek, 3.5 miles south of Oliveria, a rock outcrop splits the creek's flow into two parallel, 15 foot high falls over a 20 foot rock wall. A large clear pool can be found at the base of a smooth, curving chute which winds its way down from the bottom of the falls another 15 feet. Thick mosses and ferns cover the rocks around the falls.

- b. **Pigeon Notch** - A red spruce grove at the headwaters of Pigeon Brook, in the col between Doubletop and Big Indian Mountain, is miles from the nearest grove of red spruce and is the westernmost outpost of high elevation spruce in the Catskills.
(Kudish 1971).

5. **Critical Habitat**

Seven deer wintering areas have been identified within this unit (see Facilities and Wildlife Map, Appendix K). They are generally associated with south oriented slopes which provide less severe climate and more accessible food during the winter months. This is the minimum area known to be important to wintering deer. Any southern exposed slope in this area is likely to be used by wintering deer.

The unit is also a part of the northern Catskill black bear range and provides necessary habitat for this species.

As mentioned earlier, this unit also provides critical habitat for both Northern Monk's-hood and Jacob's Ladder, plants considered threatened in New York State.

Many of the streams within the unit provide critical spawning habitat for fish, especially trout and salmon. The landlocked Atlantic salmon run in the tributaries of the West Branch Neversink River is the only run of its kind within the region.

6. Wilderness

The Catskill Park State Land Master Plan defines wilderness 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." It further defines wilderness as "an area of State land or water having a primeval character, without significant improvements or permanent human habitation." Such an area is protected and managed so as to preserve its natural conditions. Wilderness: (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) offers opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least ten thousand acres of land (and/or 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.

The Big Indian-Beaverkill Range Wilderness Area is classified wilderness due to it's size, primeval character, opportunities for solitude and lack of significant improvements.

B. Man-Made Facilities

1. **Roads**

a. Public Roads

- (1) Ulster County Route 47; the unit abuts the west side of Ulster County Route 47 at five different locations totaling 1.46 miles.
- (2) McKenley Hollow Road - 0.01 miles.
- (3) Rider Hollow Road - 0.01 miles.

b. Unmaintained Town Roads

- (1) Black Bear Road - 1.64 miles
- (2) Hardenburgh - Neversink Road - .51 miles. Unmaintained Town of Hardenburgh road now closed to the public (via cable erected by the Balsam Lake Angler's Club at Quaker Clearing). Note: This road is the northwest end of the previously mentioned Black Bear Road which is in the Town of Denning. In very poor condition.

c. Private Landowner Access Easements
(traversing forest preserve lands)

- (1) **Big Indian Mountain Association** - Lot owners within the Big Indian Mountain Association Development have the right to use roads which were originally intended to provide access to both the Development and State land, but since New York State purchased a large portion of the original development, these roads now traverse forest preserve land.

The public does not have access to these roads via the Big Indian Mountain Association Development. (The Development roads are private beyond the Forest Preserve Access Parking lot on Burnham Hollow Road).

d. Public Easements Traversing Private Land
Adjacent to Unit

- (1) McKenley Hollow from parking lot to state land (Frank Hitz). See Appendix D.
- (2) Association Road - Burnham Hollow, Big Indian Mountain Association Development; New York State owns a 33 foot wide easement which allows for public vehicular traffic over 181 feet of this road to access the Burnham Hollow Forest Preserve Access Parking Lot.
- (3) Maben Hollow - two easements (across lands in Farm Lots 8 and 9, Lot 2, Division 2, Great Lot 7:
 - (a) Southeast along Esopus Creek - 741 feet
 - (b) Southwest to the Gore Lot near Fir Mountain, presently gated - 3,380 feet. See Appendix D.
- (4) Fernwold Cottage Lot (part of Lot 3, Division 2, Great Lot 7) from County Road 47 - Unspecified trail, to state land. See Appendix D.
- (5) Hardenburgh - New York State owns a 66 foot wide, 150 foot long easement across lands of the Balsam Lake Angler's Club for ingress and egress on foot, skis and snowshoes from the Hardenburgh Trailhead Parking Lot (on northside of Beaverkill) across the Beaverkill to the Big Indian - Beaverkill Range Wilderness Area.
- (6) Haynes Hollow - unspecified trail (Scott Haynes) route over Lot 61, see Appendix D.
- (7) Balsam Lake Club - The public has the right to cross the lands now owned by the Balsam Lake Club (Except for the 2.3 acre Club House Parcel) to access adjacent forest preserve lands for the purpose of hunting, and for conservation, scientific and educational purposes provided that this right does

not injure the Club's lands nor interfere with the Club's use and enjoyment of their land (See Appendix D). This easement, however, is the subject of ongoing litigation. The outcome of that litigating may affect the useage of this easement.

e. Undeeded Public Access Traversing Private Land Adjacent to Unit

- (1) Seager Trail - This trail traverses private property from the trailhead parking lot to State land at Shandaken Brook, a distance of 1.9 miles. This access is by verbal permission of the landowner.
- (2) Pine Hill - West Branch Trail - This trail traverses private property at two locations, both of which are by verbal permission of the respective landowners:
 - Balsam Mountain, 0.25 miles
 - Big Indian Mountain (southwest of summit), 0.1 miles.

f. Public Easements Across Private Land Adjacent to the Belleayre Mountain Ski Center Which Serve This Unit

- (1) Pine Hill/West Branch Trail - New York State owns a 20 foot wide easement over parts of Lots 87 and 88, Lausette Tract (Woodchuck Hollow) for ingress and egress from Pine Hill Village (Woodchuck Hollow Road) to Belleayre Mountain Summit. See Appendix D.

g. Undeeded Public Access Traversing Private Land Adjacent to the Belleayre Mountain Ski Center Which Serve This Unit

- (1) Lost Clove - Lost Clove Trail traverses an old road across private property to state land - 1.2 miles.

2. Barriers

- a. McKenley Hollow - Boulders are utilized to prevent motor vehicle use of the Olivera - Mapledale Trail (east end).

- b. **Rider Hollow** - A gate prohibits unauthorized motor vehicle access to the west end of the Oliveria - Mapledale Trail.

3. Trailheads

a. With Maintained Parking (4):

- (1) McKenley Hollow
- (2) Biscuit Brook
- (3) Seager (outside unit on private property)
- (4) Rider Hollow

b. Without Maintained Parking:

None.

c. Trailheads in adjacent management units which affect this unit (6):

- (1) Lost Clove (Belleayre Mountain Ski Center) outside unit on private property, parking available.
- (2) Pine Hill (Belleayre Mountain Ski Center) - no parking lot.
- (3) Round Pond (Willowemoc-Long Pond Wild Forest) - limited parking on Black Bear Road.
- (4) Mongaup Pond (Mongaup Pond Campground) - parking lot at south end of Pond.
- (5) Hardenburgh (Balsam Lake Mountain Wild Forest) - parking available
- (6) Quaker Clearing (Balsam Lake Mountain Wild Forest) - parking available here or at the Balsam Lake Mountain Trailhead.

NOTE: The Department has proposed abandonment of the Quaker Clearing Parking Lot and relocation of the Hardenburgh-Neversink hiking trailhead to the end of the Beaverkill Road in the Balsam Lake Mountain Wild Forest UMP.

4. Hiking Trails (\pm 29.42 miles):

- a. Mongaup/Hardenburgh Trail (Blue Markers) - 5.85 miles.
- b. Long Pond/Beaverkill Ridge Trail (Red Markers) - 1.66 miles.
- c. Neversink/Hardenburgh Trail (Yellow Markers) - 2.31 miles. (Proposed relocation of a portion of this trail is included in the Balsam Lake Mountain Wild Forest UMP.)
- d. Pine Hill/West Branch Trail (Blue Markers) - 11.90 miles.
- e. Seager/Big Indian Trail (Yellow Markers) - 3.05 miles.
- f. Oliverea/Mapledale Trail (Red Markers) - 3.61 miles.
- g. Mine Hollow Trail (Yellow Markers) - 1.04 miles.

Note: The Lost Clove Trail (Red Markers - 1.30 miles) is included in the Belleayre Mountain Ski Center Management Unit.

5. Horse Trails (\pm 2.31 miles):

- a. Neversink/Balsam Lake Mountain Horse Trail - 2.31 miles

6. Cross Country Ski Trails - None.

7. Unmarked Trails

- a. **Old Wood Roads** - These exist in several locations within the unit including McKenley Hollow, Burnham Hollow, Maben Hollow, Flat Brook and Tunis Pond.
- b. **Herd Paths** - Unmarked foot trails which have evolved by use exist sporadically within the unit, the most notable occurring on the southern slopes of Doubletop Mountain.

8. Department Trail Registers (7)

a. Within Unit (4):

- (1) McKenley Hollow
- (2) Biscuit Brook
- (3) Seager (Shandaken Creek)
- (4) Rider Hollow

b. In Management Units Adjacent to this unit (3):

- (1) Hardenburg (Balsam Lake Mountain Wild Forest)
- (2) Mongaup Pond (Mongaup Pond Campground)
- (3) Quaker Clearing (Balsam Lake Mountain Wild Forest) (To be moved to the Balsam Lake Mountain Trailhead Parking Lot when a section of the Neversink-Hardenburgh Trail is relocated.)

9. Club-Maintained Summit Registers (3):

a. Within Unit

- (1) Fir Mountain
- (2) Big Indian Mountain

b. Adjacent to Unit

- (1) Doubletop Mountain

10. Parking Lots - Forest Preserve Access

a. Within Unit (5):

- (1) McKenley Hollow Trailhead - 5 cars
- (2) Burnham Hollow - 5 cars
- (3) Biscuit Brook Trailhead - 8 cars
- (4) Seager Trailhead - 5 cars (on private land)
- (5) Rider Hollow Trailhead - 9 cars

b. In Adjacent Management Units Which Serve This Unit (5):

- (1) Lost Clove Trailhead - 4 cars (on private land)
- (2) Slide Mountain Trailhead - (Slide Mountain Panther Mountain Wilderness) - 25 cars
- (3) Black Bear Road (Willowemoc - Long Pond Wild Forest) - 2 cars
- (4) Mongaup Pond (Mongaup Pond Campground) - 50 cars
- (5) Mongaup-Hardenburgh Trailhead - (Balsam Lake Mountain Wild Forest) - 5 cars
- (6) Quaker Clearing (Balsam Lake Mountain Wild Forest) - 5 cars.

NOTE: The Department has proposed abandonment of the Quaker Clearing Parking Lot and relocation of the Hardenburgh-Neversink hiking trailhead to the end of the Beaverkill Road in the Balsam Lake Mountain Wild Forest UMP.

11. Bridges (3):

a. Oliverea-Mapledale Trail (2):

- (1) Rider Hollow - Metal frame, one lane, truss bridge. Good condition. Pressure treated lumber.
- (2) McKenley Hollow - Log/dimension lumber bridge, double span with railing, good condition.

b. Neversink/Hardenburgh Trail (1):

- (1) (Near beaver dam) - double span logs with board deck, no railing, average condition.

12. Leantos (7):

- a. McKenley Hollow (2)
- b. Biscuit Brook (1)
- c. Fall Brook (1)
- d. Shandaken Brook (Seager) (1)
- e. Rider Hollow (2)

Note: Both the Belleayre Mountain and Hirschland Leantos are in the Belleayre Mountain Ski Center Intensive Use Area.

13. Outhouses (3):

- a. Shandaken Brook (1) - poor condition
- b. McKenley Hollow (1) - poor condition
- c. Fall Brook (1) - good condition

14. Designated Camping Sites (5):

- a. Rider Hollow - 4 sites
- b. Beaverkill - 1 site

15. Vistas (4):

- a. Simon's Rock - Pine Hill/West Branch Trail south of Belleayre Mountain, facing east.
- b. Balsam Mountain (1 on forest preserve, 1 on adjacent private property).
- c. Doubletop Mountain (1 on forest preserve, 2 on adjacent private property).
- d. Beaverkill Range - Mongaup/Hardenburgh Trail

16. Springs (8):

a. Developed (4):

- (1) McKenley Hollow Leanto
- (2) Neversink-Hardenburgh Trail (Fall Brook Leanto)

(3) Shandaken Brook Leanto

(4) Rider Hollow

b. Natural Springs Near Trails (4):

(1) Long Pond - Beaverkill Ridge Trail

(2) Eagle Mountain (south side)

(3) Oliverlea/Mapledale - Pine Hill/West
Branch Trail Junction

(4) Balsam Mountain

17. Buildings - None

(Old foundations exist near McKenley Hollow and
Otter Falls)

18. Exterior Boundary Lines - 67.25 Miles:

Shandaken - 16.0 miles

Denning - 18.75 miles

Hardenburgh - 32.5 miles

19. Dumps (Illegal):

a. On County Route 47, near Otter Falls.

20. Gravel Pits - None.

21. Utility Lines

a. Burnham Hollow Parking Lot - New York State
Electric and Gas owns a 30 foot wide easement
across forest preserve land - 270 feet.

b. County Route 47 North - New York State
Electric and Gas utilizes the highway
easement except near Otter Falls, where the
line runs south of the present highway along
the old highway road bed - 7095 feet.

c. County Route 47 South - Central Hudson
utilizes the highway easement across forest
preserve land for 4769 feet (8 poles).

22. Private Easements Traversing Public Land

- a. Rider Hollow - William Parks - spring and pipe easement - short distance from stateline Lot 29 Lausette Tract.
- b. Rider Hollow - Owners of Tax Map Parcel 3-1-20 own an easement for a spring, pipeline and maintenance on Lot 43, Lausette Tract.
- c. McKenley Hollow - The Mountain Gate Lodge owns an easement for a spring, pipeline, water tank, maintenance - water supply, Lot 4 Division 1 and 2 of Livingston Tract.
- d. Hiram's Knob - Owners of Tax Map Parcel #11.001-1-17 own an easement for a spring, pipeline, maintenance on Lot 49 Garretson Tract.
- e. Big Indian Mountain Association Springs - Several lot owners in the Big Mountain Association Development have the right to use and maintain springs and waterlines on the adjacent forest preserve lands.

23. Signs

There are 38 different signs within the Unit. See Appendix C.

24. Historical Markers - None.

25. Supporting Facilities Outside the Unit

- a. Mongaup Pond Public Campground - 160 sites - open Memorial Day through Big Game Season.
- b. Beaverkill Public Campground - 97 sites - open April 1 through Labor Day.
- c. Little Pond Public Campground - 75 sites - open May to November.
- d. DeBruce Environmental Education Camp - providing weeklong environmental education programs. June - August.
- e. Belleayre Ski Center - provides both alpine and nordic skiing opportunities.

- f. Belleayre Mountain Day-Use Area (Pine Hill Lake) - A day use area to be developed by the Department near the Village of Pine Hill. Plans include a swimming area, a picnic area, parking, fishing and other leisure time opportunities.

Most facilities can be found on the Maps in Appendices F, G, H and K.

C. Cultural Resources

There are no known archeological resources within the Big Indian-Beaverkill Range Wilderness Area.

D. Economic Impact

1. Economic Impact of State Ownership on Adjacent Private Land

Private lands adjacent to the Forest Preserve in this unit have in general become desirable properties. Landowners seeking privacy and solitude have protection from development. The State lands provide the unique opportunity of having a "backyard" on which they have no maintenance costs or taxes and yet affords access to a vast outdoor experience. Real estate prices have generally escalated for available properties.

Forest preserve lands are taxed by local jurisdictions. The taxes paid are an important source of revenue to these communities.

Some negative situations do exist occasionally where private lands are adjacent to State Lands. Noise pollution, trespass and littering are annoyances that may occur where hiking trailheads and parking lots are in close proximity to private holdings.

2. Economic Impact of Adjacent Private Lands on State Lands

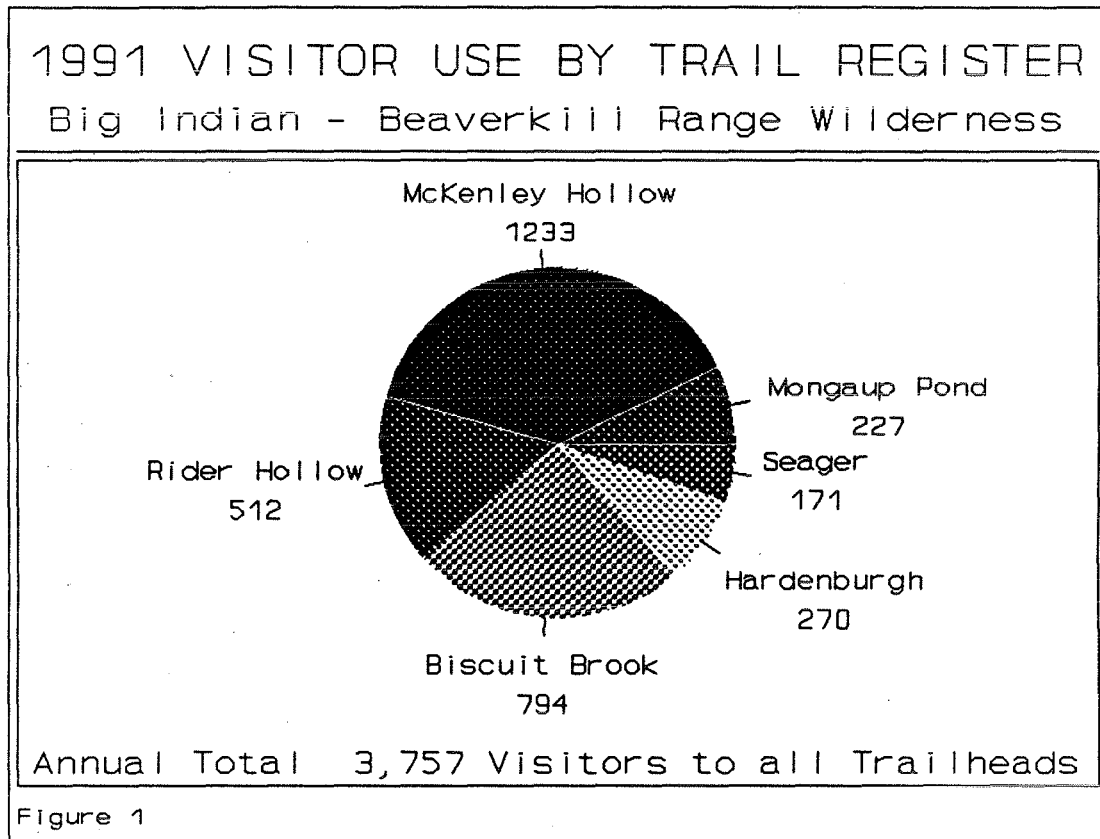
Private holdings generally have slight economic impacts on adjacent state lands. Boundary lines must be marked and maintained to prevent motor vehicle and timber trespass on state lands as well as to maintain the integrity of the forest preserve. Nearby vacation homes may compound the consequences of fire within the unit, necessitating stricter fire prevention and suppression activities.

E. Public Use

The public utilizes the Big Indian-Beaverkill Range Wilderness Area for a variety of primitive recreational pursuits, including hiking, camping/backpacking, hunting, fishing and snowshoeing. This use is recorded by trail registers located at the unit's major access points. (See the Facilities Map, Appendix K.) While use of the registers is voluntary,

they provide a good characterization of use patterns within the unit. These patterns are illustrated in the following figures.

Figure 1 shows the relative levels of use among all trail registers within the unit, McKenley Hollow being the most popular trailhead.



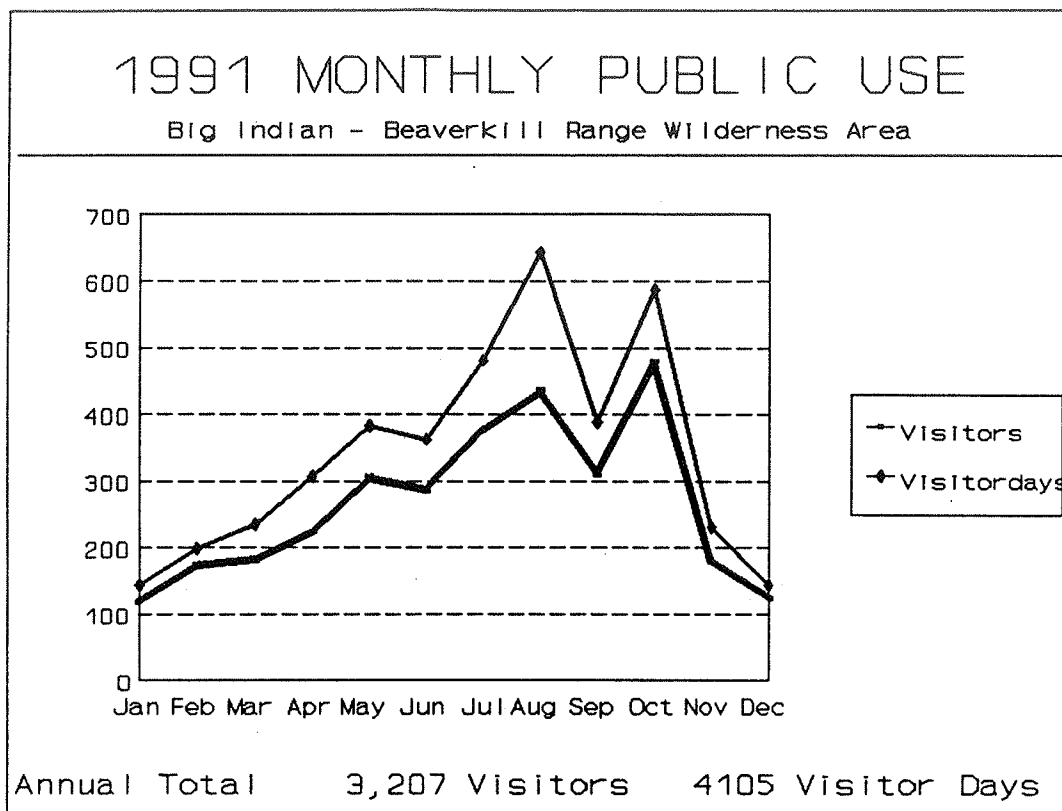


Figure 2

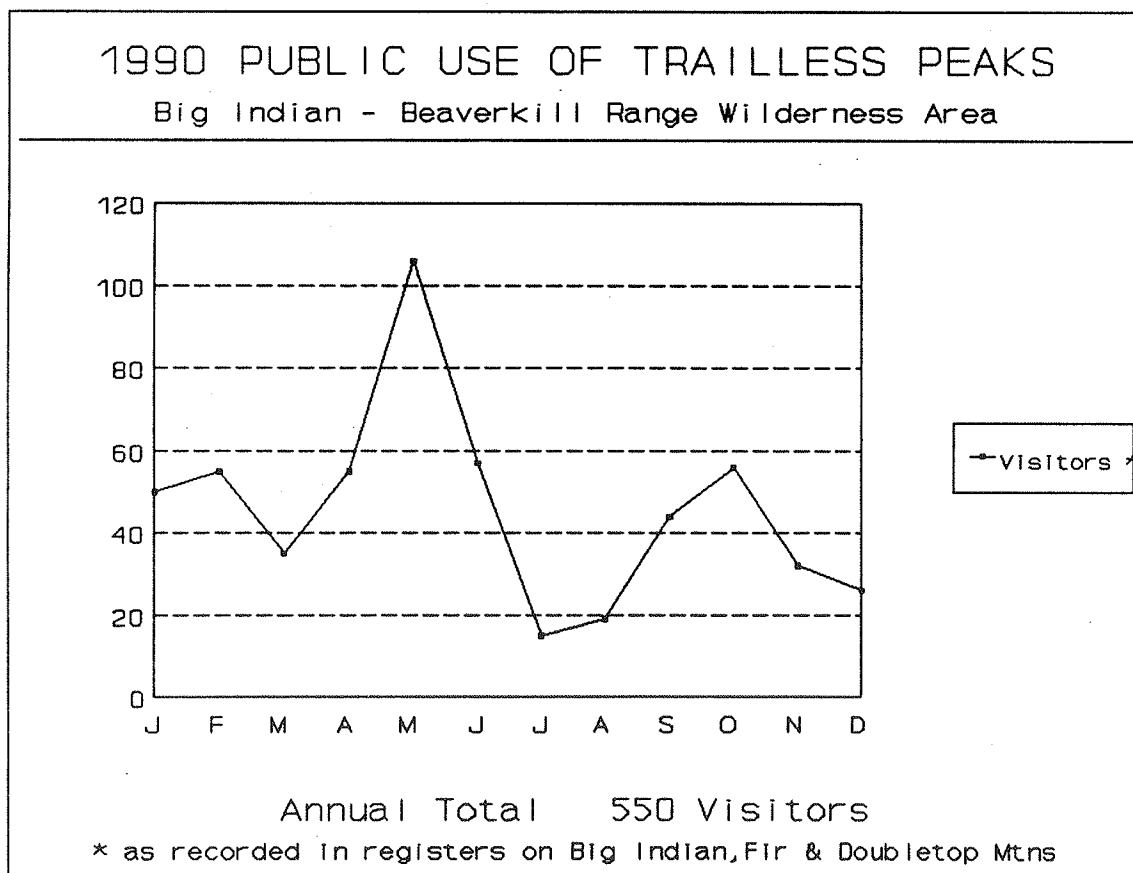


Figure 3

Figure 2 illustrates the seasonal pattern of use over a one year period for the unit's trailheads. This graph illustrates two points: (1) use peaks in August and again in October, and (2) camping is most popular during July and August, with day use being more prevalent during the winter months.

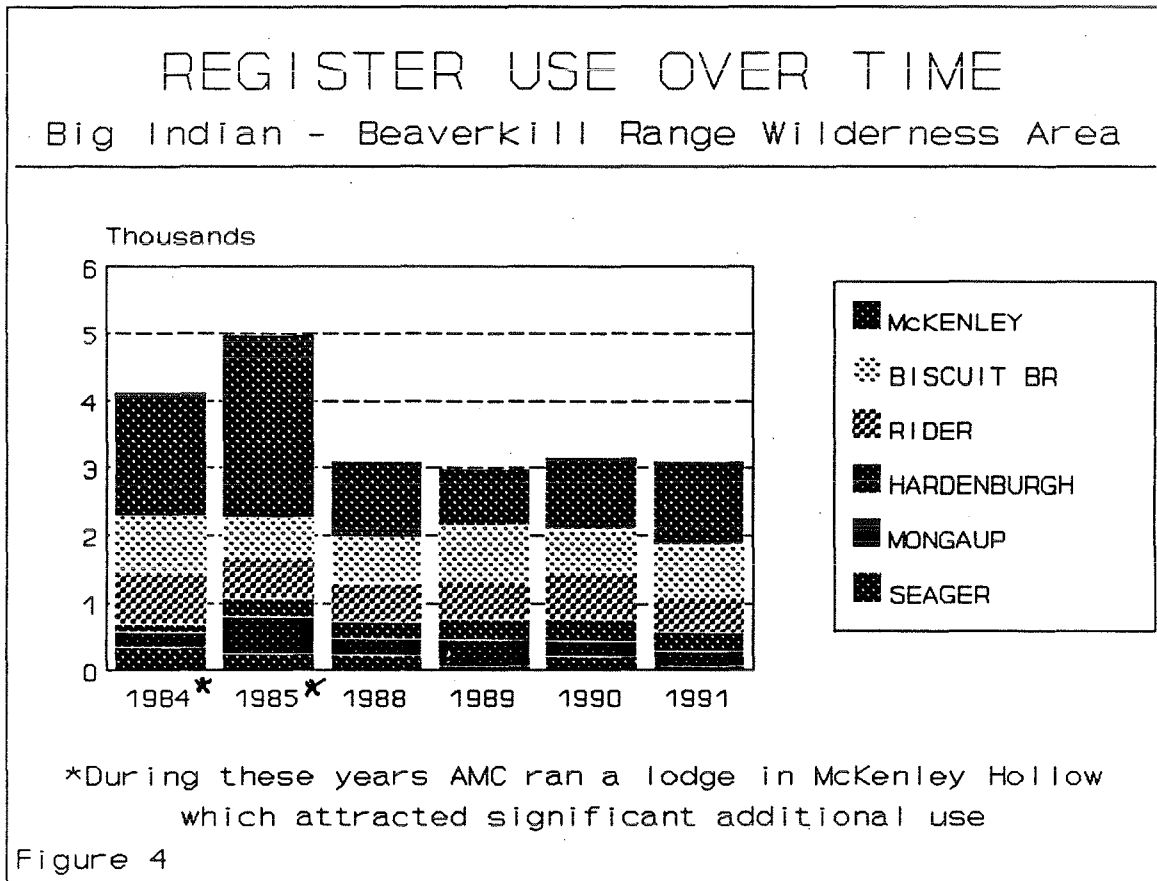


Figure 3 illustrates the seasonal use patterns of the unit's trailless peaks. It is interesting to note that unlike the trailhead registers, the trailless peaks experience the greatest level of use in May, whereas in July and August use is very low.

Figure 4 shows that total annual use has remained relatively constant in recent years.

Because use of both trail and summit registers is voluntary, a correction factor is necessary to determine actual use. This correction factor, the visitor sign-in rate, is likely to vary from register to register depending on the type of user and the character of the area. Studies have shown sign-in rates to vary from as low as 28% to as high as 89% (Leonard 1980). A visitor sign-in rate has not been determined for any of the registers in this unit. However, an estimate of compliance suitable for present management needs has been determined from observations made by the Forest Rangers who patrol the area. Assuming an average sign-in rate of 65% for all registers within the unit, total annual use is estimated to be approximately 5800 visitors for 7200 visitor-days.

F. Capacity of the Resource to Withstand Use

The ability of this unit to withstand use is a function of its physical and biological resources as well as the type of use the area receives.

1. Land Resource

Soil characteristics play a major role in an area's ability to withstand use. Soils within this unit are generally well drained due to the terrain. However, erosion can be a problem on the steeper slopes unless provisions are made to direct water away from and off of trails. Water bars, drainage dips and ditches, and other devices can be used along with vegetation to stabilize trails.

In valley bottoms, upland benches, and other areas with little relief where drainage is poor, ponds, wetlands or seasonally muddy areas result. These areas are poorly suited to many types of recreation unless significant drainage and/or trail hardening is undertaken. Trails should be routed to avoid these areas or where this is not possible, they must be drained, hardened or bridged to prevent erosion, compaction and other adverse impacts.

The ability of this unit to accommodate the public's demand for camping is dependent upon their compliance with the Department's regulations which prohibit camping (a) above 3500 feet in elevation during the frost-free period of the year (March 22 - December 20) and (b) within 150 feet of any trail and water throughout the year except at areas so designated by the Department. Without strict compliance soil compaction and erosion, degradation of vegetation, water pollution and a deterioration of the wilderness character of the area could result.

2. Wildlife Resources

Two types of visitor use are directly associated with wildlife; viewing or photographing wildlife and harvesting wildlife by hunting or trapping. There are no known animal species within this unit that cannot tolerate the occasional presence of humans and thus the ability of the unit to withstand non-consumptive wildlife related use is high.

White-tail deer are the most commonly harvested species in the unit. Although the actual deer harvest from forest preserve lands comprising this unit is not known, Table 1

presents a breakdown of the deer harvest from the three towns in which this unit falls.

TABLE 1: DEER HARVEST FOR 1991 BY TOWN

Deer Management Unit 55	Adult <u>Males</u>	Total <u>Deer</u>	Bucks/ <u>Sq. Mi.</u>
Shandaken	266	274	2.2
Denning	200	212	1.9
Hardenburgh	211	224	2.5

Black bear are also hunted within the unit.

Table 2 presents a breakdown of the black bear harvest in 1991.

TABLE 2: BLACK BEAR HARVEST FOR 1991 BY TOWN

Shandaken	13
Denning	7
Hardenburgh	8

The 1990-91 Furbearer Harvest for the three towns within which this unit falls, based on pelt sealing, is shown in Table 3.

TABLE 3: FURBEARER HARVEST IN 1990-91 BY TOWN

	<u>Beaver</u>	<u>Bobcat</u>	<u>Fisher</u>	<u>Coyote</u>
Shandaken	13	4	0	1
Denning	4	2	0	0
Hardenburgh	0	0	0	2

These numbers represent a relatively light harvest when compared to similar and/or adjoining townships. The current consumptive use of wildlife species by hunters and trappers in this unit appears too low to have any detrimental effect on their populations. While the impacts of "non-game" uses of wildlife populations is not well understood at this time, it appears that present use levels have not had a significant impact on the wildlife species found within the unit.

3. Fisheries Resource

In evaluating the capacity of the fisheries resource within this unit to withstand use, two different aspects must be considered. Brook trout are generally considered to be easily caught and increased pressure could result in a decrease in both the quantity and the average size of fish caught. Secondly, the wilderness experience of a fishing trip to this area may be compromised if the level of use were to increase significantly. Presently the fishing pressure for this area is believed to be low. Given the current statewide regulations and the low level of public use there is little chance that fish populations within this unit are being adversely impacted by anglers.

However, waters within this unit have been identified as being sensitive to acid deposition, especially in the spring during snow melt, due to the very low buffering capacity of the geology of the region. The buffering capacity of a water will determine how much acidity that water can withstand before experiencing a drop in pH. Increased acidity (lower pH) can lower the reproductive potential of fish or kill fish. Over time decreasing pH can change the abundance and distribution of fish and other aquatic organisms.

This situation is being monitored by this agency and others.

III. MANAGEMENT AND POLICY

A. Past Management

Since 1895, management of forest preserve lands within the unit has been guided by the "forever wild" clause of the New York State Constitution (see Constraints). Specific management activities have generally related to fire prevention, fish and wildlife management and recreation. In 1960, the Joint Legislative Committee on Natural Resources began its study of the possibility of designating certain parts of the Forest Preserve as wilderness areas. The following year the Committee completed its wilderness area studies and recommended four such areas be established within the Catskill Forest Preserve, including what was then called the Doubletop - Big Indian Mountain Wilderness Area.

In 1975, a Temporary State Commission to Study the Catskills recommended that the Forest Preserve lands in the Catskills be classified into management units. It specifically urged establishment of the Big Indian-Beaverkill Range Wilderness Area along with the other three wilderness areas recommended by the Joint Legislative Committee in 1961.

In 1985 the Department completed a Catskill Park State Land Master Plan which implemented the recommendations of the Temporary Study Commission. The Master Plan further directed the Department to complete individual management plans which would include specific management objectives for each unit. This unit management plan is the culmination of efforts begun over thirty years ago to establish a Big Indian-Beaverkill Range Wilderness Area.

Recreational use of this unit dates back to the 1800's when many of the Catskill summer resorts like the Grand Hotel were first opened (see History). In the early 1920's the Conservation Commission (an early predecessor of the Department) began clearing and marking existing trails and old lumber roads within the unit as hiking trails.

It is interesting to note that in the first edition of Catskill Trails published by the Conservation Department in 1928 there were more trails within the Big Indian-Beaverkill Range Wilderness Area than there are today. They included the Seager-West Branch Trail, the Pine Hill-Eagle Mountain Trail, the Oliverea-Mapledale Trail, the Lost Clove Trail, the Elk Bushkill-Seager (Shandaken Creek) Trail, the Hardenburg-DeBruce Trail, and the Neversink-Hardenburg Trail. The original Eagle Mountain Range Trail started

in Pine Hill and ended in the col between Eagle and Big Indian where it met the Elk Bushkill-Seager Trail. A separate Seager-West Branch Trail followed the headwaters of the Dry Brook into the Big Indian-Doubletop col, then dropped southward, following the Biscuit Brook for a time, to the West Branch of the Neversink River. The Elk Bushkill Trail from Burnham Hollow to the col between Eagle and Big Indian was abandoned in the mid 1930's. In the mid 1950's the Seager Trail following the headwaters of the Dry Brook was abandoned and a connection from the Eagle Mountain Ridge Trail up over Big Indian Mountain to the West Branch Trail was completed.

The Hardenburg-DeBruce Trail was originally a "motor road" which ran due north from DeBruce to Hardenburg via Mongaup Pond. It apparently faded from use and was subsequently abandoned. In the 1970's a new trail was constructed over the Beaverkill Ridge connecting Mongaup Pond with Hardenburgh. The Long Pond - Beaverkill Ridge Trail was added shortly afterwards.

Since 1990 the Mongaup-Hardenburgh Trail (6.4 miles) has been maintained with the help of volunteers from the New York - New Jersey Trail Conference via a Memorandum of Understanding between the Conference and the Department.

The Mine Hollow Trail was built by Forest Rangers in 1931.

A foot trail up Eagle Mountain from Haynes Hollow was "abandoned" in 1940 (Kudish 1971). Whether or not it was ever marked or maintained by the Department is unknown.

In 1972 the Department promulgated Rule and Regulation Part 190 which prohibited camping within 150 feet of any trail, road, or water, except at areas designated by the Department. In 1977 this regulation was amended to prohibit all camping above 3500 feet in elevation in the Catskill Park except during the period from December 21 to March 21 of each year. Campfires were prohibited above 3500 feet in elevation the entire year.

Wildlife management in this unit has generally been limited to regulations controlling length of season, method of taking and bag limits. These regulations were developed for land areas much larger than the Big Indian-Beaverkill Range Wilderness Area. However, the history of the white-tail deer in the Catskills has particular relevance to this unit.

During the 1800's a combination of year-round hunting pressure and destruction of habitat nearly eliminated the white-tail deer from the Catskills. In 1887 the State legislature passed an act providing for

the establishment of three parks in the Catskills for the propagation of deer. One park of 100 acres was fenced in the Town of Shandaken (near Slide Mountain) and stocked with 45 deer trapped in the Adirondacks. It was hoped that these deer would multiply and that their progeny would serve to reestablish the Catskill population. However, the browse was soon exhausted, and it became necessary to feed them. Furthermore, they failed to reproduce in captivity as well as expected and in July, 1895 they were released.

In 1917 Julius Forstmann, former landowner of the Frost Valley YMCA Camp (see History) constructed the first of two deer parks on his property. Initially 500 acres around Biscuit and Pigeon Brooks were enclosed with a wire strand fence thirteen feet high. In 1939 an additional 300 acres were fenced in around High Falls Creek. Twenty-seven deer were stocked in the original park, the purpose of which was to provide Mr. Forstmann with deer to hunt the year-round. Periodically the park was restocked and when the fence was opened in 1956 (just prior to the sale of the Forstmann estate to the YMCA) approximately 200 deer were liberated. Remains of the fence can still be found along the State/YMCA camp boundary line.

While both the State and Mr. Forstmann were developing these deer parks, the region was slowly

being reoccupied by deer from Sullivan and Orange Counties, as well as from Pennsylvania. While the deer released from the parks may have hastened the expansion of deer into the region, it is unlikely that they were a major factor in today's thriving population.

Past fisheries management have been primarily limited to the occasional stocking of brook, brown and rainbow trout. There are no current stocking policies for any of the water within this unit. All the waters within the unit are currently under the statewide general fishing regulations with no special harvest regulations imposed.

B. Constraints and Issues

1. Constraints

This unit management plan has been developed within the constraints set forth by Article XIV of the New York State Constitution, Article 9 of the Environmental Conservation Law, Title 6 of the Codes, Rules and Regulations of the State of New York, the Catskill Park State Land Master Plan Wilderness Management Guidelines, and established policies for the administration of Forest Preserve lands developed by the Department's division of Lands and Forests.

2. Issues

Several issues are of concern to the public and the Department in development of this plan:

a. Neversink-Hardenburgh Road

Neversink-Hardenburgh Road, also known as the Black Bear Road, in the Town of Denning is an unmaintained town road within this unit. As such, motor vehicle use of the road is considered a non-conforming use, incompatible with the wilderness classification of the unit. The Catskill Park State Land Master Plan states: "Within wilderness areas, all roadways which are not publicly maintained will be closed to public vehicular travel by the Department."

b. Motor Vehicle Trespass of Forest Preserve Lands

There are several woods roads which enter the unit from adjoining private lands which are occasionally used for vehicular travel by the adjoining private landowner. As with the town road previously mentioned, motor vehicle use of these roads is a non-conforming use, incompatible with the unit's wilderness classification. In most

instances, this use is also in violation of New York State Rules and Regulations Part 196.1. An exception of note are the wood roads traversing forest preserve land adjacent to the Big Indian Mountain Association Development in Burnham Hollow. As mentioned in the Man-Made Facilities inventory for the unit, lot owners within this development may have an easement allowing them to use some of these roads which were once a part of their development.

c. Easements

There are several public easements providing access to the unit across private property which have not been marked and/or maintained by the Department. (See B. Man-Made Facilities, 1-d.) Consequently it is difficult for the public to exercise their right to use these easements.

d. Lean-tos

Most of the leantos in this unit are located much closer to trail and/or water than the 150 foot setback for camping required by the Department. Many also tend

to be only a short distance from trailhead. This situation is contrary to the Department's goal of minimizing the user's impact on the natural resources of the unit. Leantos in close proximity to the trail detract from the wilderness character of the area in that they diminish the user's sense of solitude. They also contradict the Department's wilderness management goals which stress the self sufficiency of the user(s).

e. Tunis Pond

Very little is known about this, the only ponded water in the unit. No fish surveys have been undertaken. It may now, or in the past, have provided habitat for brook trout. If so, it would be one of only two such ponds in designated wilderness areas in the Catskills (Echo Lake in the Plateau Mountain - Indian Head Mountain Wilderness Area is, at present, the only wilderness pond with a known brook trout fishery).

f. Trail Management/Maintenance

While there is significant potential for erosion and other trail maintenance problems on the trails traversing this unit, very little of the potential has been realized due to the low levels of public use.

However, two problem areas have been identified which are in need of attention.

Southern sections of the Pine Hill/West Branch Trail, particularly the segment from Big Indian Mountain south to the Biscuit Brook Leanto, has several drainage problems. In some instances the trail is poorly defined.

The Seager Trail, from the trailhead eastward to the Dry Brook crossing (approximately 1 mile) has several problems. Some parts are poorly defined. Stream crossings (Drury Hollow, Flatiron Brook and Dry Brook) can be very difficult in times of high water. One section traverses a very steep side-slope which is collapsing into the Dry Brook. A threatened plant species is known to occur in close proximity to the trail.

g. Land Acquisition/Easements

As large as the Big Indian-Beaverkill Range Wilderness Area is, it still owes much of its wilderness character to the adjoining private lands. Many of these private lands remain in large, undeveloped tracts which are managed for forest products, recreation or other uses which are compatible with or complement the wilderness area. In the future it may be desirable for the Department to acquire easements or fee ownership in some of these lands to protect this relationship. Any such acquisitions will be governed by the Conserving Open Space in New York State plan (June 1992).

h. Vistas

There are very few vistas within this unit. This, in part, explains the low level of public use. The Department's wilderness management policy prohibits tree cutting for the purpose of opening new scenic vistas.

i. Trailless Peaks

There are two trailless peaks above 3500 feet within this unit which are attractive destinations for some hikers.

These peaks provide a challenging wilderness experience which would be significantly diminished if a herd path or paths were to develop.

A hiking club (the Catskill 3500 Club) maintains summit registers (canisters) on two summits within this unit: Big Indian and Fir. This has been permitted via an informal agreement between the Club and the Department.

j. Belleayre Mountain Ski Center

Management of the northern end of this unit is dependent upon the management of the Belleayre Mountain Ski Center. Northern access, including that via Cathedral Glen, Woodchuck Hollow and Lost Clove are all within the Ski Center boundaries. However, because of the complexities in management of the Ski Center itself, peripheral facilities such as the hiking trails mentioned above do not receive the attention they might otherwise if included in the adjoining wilderness area.

C. Goals and Objectives

1. Goals

- a. **Primary Goal** - to preserve and protect the wilderness character of the unit, especially its natural plant and animal communities, in such a way that man's influence is not apparent.
- b. **Secondary Goal** - to provide opportunities for a primitive and unconfined type of outdoor recreation, favoring the opportunity for solitude and other experiences unique to and/or dependent upon wilderness.

2. Objectives

a. Land Management Objectives

- (1) To effect abandonment of the Black Bear Road (Town of Denning) and the Hardenburgh-Neversink Road (Town of Hardenburgh) as they traverse forest preserve lands so as to prohibit motor vehicles within this wilderness area.
- (2) Resolve the issue of motor vehicle use of wood roads adjoining the Big Indian Mountain Association development in Burnham Hollow.

- (3) Eliminate incompatible uses which detract from the wilderness character of the unit, especially the illegal use of motor vehicles and snowmobiles.
- (4) Maintain boundary lines to clearly identify public ownership and discourage trespass on private land.
- (5) Selectively acquire additional lands contiguous to the unit which will consolidate the State's holdings, simplify boundary lines and/or protect unique areas, provide additional or improved access and otherwise enhance the area. Any such acquisitions will be governed by the Conserving Open Space Plan in New York State plan (June 1992).
- (6) Adequately protect the unit from wildfire.

b. Wildlife Management Objectives

- (1) Maintain all native wildlife species at levels compatible with their natural environment.
- (2) Maintain hunting, trapping and other wildlife - related recreational activities.

c. Fisheries Management Objectives

- (1) To preserve, enhance, and where needed restore, fisheries habitats to achieve and perpetuate the historic quality of the fish communities found in all streams and ponded waters occurring within the unit.
- (2) Emphasize the quality of the angling experience over quantity of use, consistent with wilderness area management guidelines.
- (3) Identify future management objectives based upon the ongoing fisheries investigations of this area.

d. Public Use Management Objectives

- (1) Provide primitive recreation opportunities only to the extent that they do not infringe upon the area's naturalness and its ability to provide a high degree of solitude.
- (2) Monitor the level and intensity of public use. Take appropriate steps to prevent overuse and degradation of the area.

- (3) Educate visitors to use and enjoy the wilderness without adverse environmental impacts.
- (4) Limit trail maintenance and improvements to those actions necessary to provide access to the unit and/or to protect the natural resources of the unit from degradation. Both physical and mental challenges must be preserved.
- (5) Insure that trailless areas, especially summits above 3500 feet in elevation remain trailless.

e. Water Quality Management Objectives

- (1) Maintain water courses and ponds in their current natural condition, subject to natural forces and free of human-caused contaminants.

IV. PROJECTED USE AND MANAGEMENT PROPOSED

A. Facilities Development and/or Removal

PROJECT #1: Remove McKenley Hollow Leanto #1 (the leanto closest to the trailhead). This leanto, which is less than one half mile from the trailhead parking area and within feet of McKenley Hollow Brook poses several problems. Its close proximity to the trailhead attracts a user who more often than not is seeking something other than a "wilderness experience." In fact, the short and relatively easy hike to the leanto encourages parties and other uses more appropriate to a developed campground. Its close proximity to the stream creates a threat to the area's water quality.

PROJECT #2: Erect new outhouses near McKenley Hollow Leanto #2, Biscuit Brook Leanto, and both Rider Hollow Leantos. Outhouses are necessary at all of these locations to provide an appropriate method for users to dispose of human waste. Each will be located at least 150 feet from water and trail. Unobtrusive designs compatible with the wilderness classification will be used.

PROJECT #3: Acquire landowner permission, an easement, or fee title to land near the Old Pine Hill Railroad Station and construct a parking lot to accommodate 10 vehicles, as first proposed in the Belleayre Mountain Ski Center Unit Management Plan (July 1985). This parking lot will provide access to both the Pine Hill West Branch Trail and the Cathedral Glen Trail. By providing an appropriate parking area, nuisance incidents of indiscriminate parking will be minimized and users will be more likely to utilize both these trails (the environmental impacts of this parking lot were evaluated in the Belleayre Mountain Ski Center UMP).

PROJECT #4: Remove the illegal dump on forest preserve land adjacent to Ulster County Route 47, near Otter Falls. This small dump may continue to attract additional dumping and should be removed immediately. This can probably be accomplished with manual labor.

B. Maintenance and Rehabilitation of Facilities

PROJECT #1 - TRAILS: Maintain the existing 29.4 miles of marked hiking trails. Annual routine maintenance will consist of marking, cleaning waterbars, brushing and small blowdown removal with hand tools. In keeping with the wilderness character of the unit and the

Department's policy prohibiting the use of motorized equipment for routine maintenance (in wilderness areas) large blowdowns will be removed every three - five years or with hand tools.

In addition to routine maintenance, the following trail maintenance/improvement projects are proposed:

- a. Pine Hill - West Branch Trail: from Biscuit Brook Leanto north to Big Indian Mountain (2 miles). Construct waterbars, rock steps, drainage ditches and other trail improvements to prevent erosion and otherwise minimize the impacts of users on the trail. All improvements will be accomplished using native materials, preferably rock. In some instances where the trail is poorly defined, where the pitch is especially steep (3200-3400 feet in elevation) or where significant erosion problems exist a short trail relocation will be considered.
- b. Seager/Big Indian Trail: With landowner consent, reroute the trail from the trailhead at Seager to the Dry Brook Crossing (1.25 miles). Explore opportunities for rerouting of either this entire section or parts thereof to solve the various problems

associated with this trail (see Section III B. 2. Issues (f)). Public use of this trail is very low and does not warrant extensive work. If an agreement can be reached with the private landowner involved, some type of reroute utilizing old roads where new trail construction would be minimal will be implemented. Any reroute will avoid significant habitats, especially those of the threatened plant species mentioned earlier.

PROJECT #2: Continue to maintain the Mongaup - Hardenberg Trail utilizing volunteers as set forth in the Memorandum of Understanding the Department has with the New York - New Jersey Trail Conference. Since 1990 the Trail Conference has undertaken the routine maintenance of this trail. They are subject to the same constraints as the Department with regards to tree cutting and the use of motorized equipment as well as other restrictions agreed to by both the Department and the Conference. This agreement has proven beneficial to the Department as well as the hiking public. Large blowdown removal, bridging and other major maintenance tasks will continue to be the responsibility of the Department. (A copy of the Volunteer Trail Maintenance M.O.U. is on file at the Department's Region 3 Office.)

PROJECT #3 - LEANTOS: With the exception of McKenley Hollow Leanto #1 which is recommended for removal, the Department proposes to maintain the remaining six leantos within this unit for the five year planning period. Most of these leantos should be considered for relocation farther away from water and trail (at least 150 feet) when replacement is necessary or sooner should problems of overuse and abuse arise. The Rider Hollow leantos in particular should be closely monitored due to their close proximity to the trailhead. Rider Hollow leanto #1 should not be replaced when it deteriorates to the point that it can no longer be maintained in a safe condition.

PROJECT #4 - OUTHOUSES: The existing outhouses near the Fall Brook and Shandaken Brook Leantos will be maintained. While the Fall Brook Outhouse is in relatively good condition and requires only routine maintenance, the Shandaken Brook Outhouse is in poor condition and must be replaced. The new outhouse will be located at least 150 feet from water and trail.

PROJECT #5 - SPRINGS: Maintain all existing developed springs within the unit. These springs have historically provided users with water. The pipes prevent the surrounding springhole/seep from being trampled.

PROJECT #6 - BRIDGES: Maintain the two bridges on the Oliveria/Mapledale Trail. These two bridges provide appropriate crossings over steep-sided streams. The McKenley Hollow Bridge is at the periphery of the wilderness area (straddling the forest preserve/public easement boundary), and thus does not detract from the wilderness character of the unit. However, the steel truss design of the Rider Hollow bridge is not appropriate in a wilderness area. When the bridge is in need of replacement a design incorporating native materials should be utilized.

PROJECT #7 - PARKING AREAS: All existing parking areas within this unit should continue to be maintained. They will occasionally require grading/gravel and repair as well as litter pick up.

PROJECT #8 - VISTAS: Scenic vistas at Simons Rock, Balsam Mountain, Doubletop Mountain and Beaverkill Ridge should all be maintained in the least obtrusive

method possible. While occasional tree cutting may be necessary, brushing and the pruning of limbs will be the dominant practice, as these are intended to be "window vistas" rather than broad panoramas.

C. Public Use Management and Controls

PROJECT #1 - ROAD ABANDONMENT: Effect abandonment of the Black Bear Road (Town of Denning) and the Neversink-Hardenburgh Road (Town of Hardenburgh) as they traverse forest preserve land so as to prohibit motor vehicle and snowmobile use within the wilderness area. The abandonment itself would be accomplished by the Department utilizing Section 212 of the Highway Law. Once abandoned, the southeast end of the road will be barricaded with large rocks at the State land boundary (see facilities map, Appendix K). The northwest end of the road will be gated at the State land boundary near Vly Pond in the adjoining Balsam Lake Mountain Wild Forest (as per the Balsam Lake Mountain Wild Forest Unit Management Plan).

PROJECT #2 - NONCONFORMING USE: Negotiate with lot owners in the Big Indian Mountain Association (B.I.M.A.) Development for their right to use motor vehicles on forest preserve land which was once a part of the B.I.M.A. development. If negotiations are

unsuccessful, and the Department is unable to purchase these rights then the lands affected would have to be reclassified as wild forest rather than wilderness (motor vehicle use within a wilderness area is considered a non-conforming use - see Catskill Park State Land Master Plan).

PROJECT #3 - ACCESS EASEMENTS: Negotiate with the appropriate private landowners to develop (mark with trailmarkers and/or signs) easements which the Department already owns for foot access across private land to state land in Maben Hollow and Haynes Hollow.

PROJECT #4 - SUMMIT REGISTERS: Develop a Memorandum of Understanding between the Department and the Catskill 3500 Club for the continued existence of summit registers (canisters) on trailless peaks above 3500 feet within this unit and throughout the Catskill Forest Preserve. The canisters have been in use for over twenty years. Many people enjoy the opportunity to record their achievements as well as to read about the adventures of their fellow bushwhackers. For others, the canister simply confirms that they are indeed on the summit. For the Department, the canisters provide an important record of public use. However, there are some disadvantages associated with

the canisters. They attract use which may, over time, result in a definitive herd path to the summit. Their presence could be considered an intrusion upon the wilderness character of the area. The Memorandum of Understanding will seek to minimize these adverse impacts.

PROJECT #5 - CAMPING: Maintain three of the four existing Designated Campsites in Rider Hollow and the one existing near the Upper Beaverkill. Designate additional campsites in McKenley Hollow (1) and Biscuit Brook (1). See the Facilities Maps in Appendices F, G and J for exact locations. Although within 150 feet of trail and water, these sites have been carefully located to minimize the physical impact on the watershed and the visual impact on other users with one exception. One of the sites in Rider Hollow is much too close to both the brook and the trail and will be eliminated. Group camping permits will not be written for any of these Designated Campsites.

An additional campsite will also be sited midway along the Pine Hill-West Branch Trail, possibly near Haynes Mountain. Unlike the designated campsites described above, this site will be at least 150 feet from trail and water. A short path from the main trail will be marked to provide access. By providing an

appropriate campsite, the Department hopes to discourage the use of inappropriate sites (sites less than 150 feet from trail and water) in this area. An unobtrusive outhouse will be erected near this campsite to provide for the appropriate disposal of human waste.

PROJECT #6 - GROUP CAMPING: Department Rules and Regulation Part 190.4(e) states: "No group of 10 or more individuals may camp on State lands at any time except under permit issued by the Department." In recent years the Department has not issued Group Camping Permits to groups of more than 12 individuals wishing to camp in the Big Indian-Beaverkill Range Wilderness Area. The Department will continue this policy. Furthermore, as stated above, no group camping permits will be issued for any of the designated campsites within this unit. Twelve was chosen as a number that would be economically feasible for organized groups yet reasonable for maintaining the wilderness character of the area.

PROJECT #7 - INFORMATION BOARDS: Erect and maintain information boards at the following trailhead/access points: Rider Hollow, Biscuit Brook, McKenley Hollow and Burnham Hollow. Each board may vary depending on the needs associated with their location, but all will

contain the following:

- Map of the area with trailhead location clearly marked
- Rules and Regulations governing use
- Proper methods of human waste disposal
- Information on Giardia and alternatives for treating water
- Emergency phone numbers as well as the names, addresses and phone numbers of local Forest Rangers and the Department's regional headquarters.

PROJECT #8: Erect a trail register on the Neversink - Hardenburgh Trail just north of the barrier to be erected on the Black Bear Road (Recommendation #1).

PROJECT #9: Abandon the trailmarking of the following public roads: Lost Clove Road, McKenley Hollow Road and Rider Hollow Road. The Department maintains parking areas at the terminus of all of these roads, and thus most users drive rather than hike these road segments. The Department will continue to maintain directional signs along Ulster County Route 47 to clarify trailhead access, but trailmarkers along the roads are unnecessary.

PROJECT #10: Replace the gate at Rider Hollow with large rocks. This gate is considered a non-conforming structure as even administrative use of motor vehicles is prohibited within wilderness areas (with some minor exceptions).

PROJECT #11: Abandon the Neversink/Balsam Lake Mountain Horse Trail. Portions of the trail near the headwaters of the Beaverkill have deteriorated to the point that it is no longer suitable for horse travel. The level of use by equestrians is very low. Both the northern end, passing through the Balsam Lake Mountain Wild Forest, and the southern end, traversing the Willowemoc-Long Pond Wild Forest, have already been abandoned.

PROJECT #12: Barricade the woods road which connects the old Tyler Place Road with the Neversink/Hardenburgh Trail (north of the Fall Brook leanto). Large rocks will be placed where the road meets forest preserve land just west of its junction with the old Tyler Place Road.

BICYCLE USE:

At present, the Department's policy - by order of the Commissioner - is to prohibit bicycles within Catskill Wilderness Areas until such time as a policy on bicycle use is developed (possibly in a revised Catskill Park State Land Master Plan). However, there are no rules and regulations regarding the use of bicycles on State land which might be used to implement this policy. If, in the future, a rule and regulation is enacted which would restrict the use of bicycles to trails designated and marked by the Department, it is recommended that no such trails be designated within the Big Indian-Beaverkill Range Wilderness Area.

D. Fish and Wildlife Management

1. Fisheries

All waters within this unit will continue to be managed under current statewide general fishing regulations, with no special harvest restrictions imposed. However, in the event that Bureau of Fisheries finds that fishing conditions decline, the following management options may be deemed necessary to improve the quality of the angling experience, consistent with policy and guidelines for management of wilderness areas.

- Special regulations may be necessary in order to achieve the fisheries management objectives developed for this unit.
- In instances where natural fish communities cannot be protected, maintained or restored due to human caused disturbances, a waterbody-specific stocking plan may be implemented. Stocking would be limited to indigenous species or species historically associated with the Catskill Park.

(Department Policy 91-31: Fishery Management in Wilderness, Primitive and Canoe Areas; October 1991).

- In the event that acid precipitation creates acidic conditions which threaten fish populations within the unit, a liming program may be implemented to neutralize acidic waters. Any such program will be consistent with the Department's Revised Liming Policy (June, 1991). The Policy has established a series of qualifying criteria, all of which must be met, prior to any liming treatment. At this time, what potential any waters within this unit have to meet these criteria is unknown.

Because little is known of the fisheries resource in Tunis Pond, no specific management projects are proposed, other than fish and water surveys to document the pond chemistry and fisheries resource. An analysis of the present conditions as well as a determination of what are the natural conditions of this pond will be completed in the five year planning period.

2. Wildlife

No wildlife management projects are planned specifically for the Big Indian-Beaverkill Range Wilderness Area. The unit falls within Wildlife Management Unit #11 and Deer Management Unit #55. The management of wildlife populations within the wilderness area will be limited to the hunting and trapping regulations developed for these broader management units.

A citizen Task Force on deer management in Deer Management Unit 55 will be continued in 1992. The current management objective for the deer population in this unit is a harvest of 2.0 bucks per square mile. The citizens task force will be asked to assess the objective and provide a population objective considering all social and economic constraints.

E. Wild, Scenic and Recreational Rivers

There are no water courses in this unit classified under the provisions of the Wild, Scenic and Recreational Rivers Act, Title 15 of the Environmental Conservation Law.

F. Fire Management

The Department is charged with protection from fire in the Big Indian-Beaverkill Range Wilderness Area under provisions of Article 9 of the Environmental Conservation Law. The Towns of Shandaken, Hardenburgh and Denning are all fire towns. It is the Department's policy to extinguish all fires regardless of cause, land classification or ownership. This policy will dictate the fire management program for the Wilderness Unit.

Fire detection has been handled in the past by Fire Tower Observers at the Balsam Lake Mountain and Red Hill Fire Towers. Limited funding for fire detection has prevented the Department from manning either of these towers in recent years.

Fire prevention, detection and suppression is the responsibility of the Forest Rangers assigned to the Shandaken, Hardenburgh and Ellenville ranger districts.

G. Administration

1. Staffing

Forest Ranger Staffing:

The Big Indian-Beaverkill Range Wilderness Area falls within two forest ranger districts -- Hardenburgh and Shandaken. The most dominant, positive impact on the unit has been the presence of these forest rangers. They are the Department's day to day field managers, watching over the area, interacting with the public, enforcing the Department's Rules and Regulations as well as Environmental Conservation Law, and undertaking fire detection and suppression. Their continued presence is essential in the management of this unit.

Supplement Forest Ranger patrols of this unit with a seasonal Assistant Forest Ranger. This person will be hired from May 15 to November 15 of each year, and their work week will be scheduled so as to include weekends and holidays when public use is highest. Mid-week work would include boundary line maintenance.

Operations Staffing:

Current staffing in the Division of Operations is inadequate to undertake the necessary trail, parking lot, leanto and sign maintenance within this unit. In recent years the Department has not received enough funding to hire even one person for a complete year to undertake trail and leanto maintenance in Region 3.

The Department's policy prohibiting the use of motorized equipment for routine maintenance in wilderness areas further reduces the effectiveness of a limited staff. Additional Operations staff will be required to undertake the maintenance of existing facilities as well as to implement the modest projects proposed in this plan.

Hire two seasonal maintenance assistants to work under the supervision of the existing Trails Supervisor. They will be hired from April 1 to December 15 of each year. Their time will be split between this unit (40%) and the Slide Mountain - Panther Mountain Wilderness Area (60%). The two laborers will be provided with a vehicle and the necessary hand tools to undertake trail and leanto maintenance.

The existing temporary trails supervisor position will be upgraded to a permanent Conservation Operations Supervisor I position. Not only is a permanent person necessary to supervise the maintenance crews proposed in this and other regional forest preserve unit management plans, the degree of responsibility inherent in this position has also increased.

Fish and Wildlife Staffing:

The existing regional fish and wildlife management staff is adequate to handle all present and proposed management activities requiring their input and assistance.

Preserve Management Staffing:

The current supervisory staff is not adequate to manage this and other Forest Preserve units in Region 3.

The Preserve Manager position, vacant since September, 1990 will be filled to coordinate unit management planning and implementation, forest preserve management and land acquisition within the region.

2. Education

PROJECT #1 - BROCHURE: Develop a brochure describing the southern Catskill wildernesses: The Slide Mountain - Panther Mountain and Big Indian-Beaverkill Range Wilderness Areas. A map depicting both units, rules and regulations governing use, a description of the trail system and minimum impact camping techniques will all be included.

Trailhead information boards are planned at major trailheads. (See C. Public Use Management and Controls, Recommendation #7.)

H. Land Acquisition

As mentioned earlier in the Issues section, the Big Indian-Beaverkill Range Wilderness Area owes much of its wilderness character to the adjoining undeveloped private land. In the future, should any of these lands be faced with development pressures the Department will consider protecting them with a conservation easement to preserve their open space character while allowing traditional compatible uses such as forest management to continue.

In a few instances, fee acquisition may be necessary to accomplish management objectives. For example, the parking lot proposed for the northern end

of the Pine Hill - West Branch Trail near the Old Pine Hill Railroad Station. Acquisition may also be necessary in Maben Hollow and Haynes Hollow to improve access to State land by providing appropriate parking areas. Acquisition of public fishing rights in Haynes Hollow, on Dry Brook and along the West Branch of the Neversink River will also be pursued.

I. Catskill Park State Land Master Plan Amendments

It is recommended that the master plan develop a policy with regards to the use of bicycles on forest preserve land. It is further recommended that in general, the use of bicycles within wilderness areas is inappropriate and that their use should be limited to abandoned town roads or other old roads which are found to be appropriate for their use in the development of a unit management plan for that particular wilderness area.

J. SEQR Requirements

The actions proposed in this unit management plan will not result in any significant environmental impacts and thus a negative declaration was filed, a copy of which can be found in Appendix A.

K. Relationship of This Unit With Other Forest Preserve Units

Five different Forest Preserve units share a common boundary with this unit: the Belleayre Mountain Ski Center abuts the north end of the unit, the Slide Mountain - Panther Mountain Wilderness Area lies directly east of the unit, the Willowemoc - Long Pond Wild Forest adjoins the south end of the unit along with the Mongaup Pond Campground, and the Balsam Lake Mountain Wild Forest abuts the western side of the unit. The wild forest and intensive use units abutting this unit offer more developed recreational opportunities with better access for people not seeking the solitude or the challenges of the more remote wilderness.

The Slide Mountain - Panther Mountain Wilderness uniquely compliments this unit. With it's panoramic summit vistas and the allure of the highest peaks in the Catskills, it draws the greatest number of visitors of any wilderness unit in the Catskills. This, in part, has resulted in a low level of public use in the Big Indian-Beaverkill Range Wilderness -- thus enhancing the opportunities for solitude in this unit.

V. SCHEDULE FOR IMPLEMENTATION/BUDGET

The following schedule will be implemented over the five year period of the plan, if funding is provided.

Estimated costs are in addition to normal program funding.

<u>YEAR</u>	<u>PROJECT</u>	<u>ESTIMATED COST</u>
I	Erect 2 Outhouses: one in McKenley Hollow, one in Rider Hollow	\$ 600
	Remove the illegal dump on Ulster County Route 47	\$ 300
	Effect abandonment of the north end of the Black Bear Road - Barricade with rocks	\$ 800
	Determine what roads are open to motor vehicle use by lot owners in the Big Indian Mountain Assoc. Development. Barricade roads which they can not use	\$ 2,000
	Eliminate one of the designated campsites in Rider Hollow. Designate two new campsites: one in McKenley Hollow and one near Biscuit Brook	\$ 200
	Erect an Information Board at the Rider Hollow Trailhead	\$ 1,500
	Abandon the Neversink-Balsam Lake Mountain Horse Trail	\$ 0
	Assistant Forest Ranger (May 15 to November 15)	\$ 9,100
	Preserve Manager (22% of time)	\$ 8,000
	Conservation Operations Trail Supervisor (22% of Time)	\$ 4,300
	Maintenance Crew (2 person; April 1 to December 15; 40% of time); vehicle and tools	\$ 25,000
	Annual maintenance materials	<u>\$ 3,000</u>
	TOTAL EXPENSES FOR YEAR I	\$ 54,800

<u>YEAR</u>	<u>PROJECT</u>	<u>ESTIMATED COST</u>
II	Erect 2 Outhouses: one in Rider Hollow, one near Biscuit Brook Leanto	\$ 700
	Remove the McKenley Hollow #1 Leanto and Outhouse	\$ 1,000
	Construct waterbars and make other improvements to prevent erosion on the Pine Hill - West Branch Trail (2 miles)	\$ 1,000
	Conduct fisheries and pond chemistry surveys of Tunis Pond	\$ 1,000
	Develop a M.O.U. with the Catskill 3500 Club for the continued maintenance of the summit registers (canisters)	\$ 0
	Erect an Information Board at the McKenley Hollow Trailhead	\$ 1,600
	Erect a Trail Register on the Neversink-Hardenburgh Trail	\$ 200
	Develop a campsite and erect an outhouse on the Pine Hill-West Branch Trail near Haynes Mountain	\$ 500
	Assistant Forest Ranger (May 15 - November 15)	\$ 9,400
	Preserve Manager (22% of time)	\$ 8,400
	Conservation Operations Trail Supervisor (22% of Time)	\$ 4,500
	Maintenance Crew (2 person; April 1 to December 15; 40% of time)	\$ 9,950
	Annual maintenance materials	<u>\$ 3,300</u>
	TOTAL EXPENSES FOR YEAR II	\$ 41,550

<u>YEAR</u>	<u>PROJECT</u>	<u>ESTIMATED COST</u>
III	Replace the Outhouse at Shandaken Creek	\$ 350
	Develop the Haynes Hollow access easement for use by the public	\$ 1,000
	Erect an Information Board at the Biscuit Brook Trailhead	\$ 1,700
	Purchase the Big Indian Mountain Assoc. easement which allows lot owners to use motorized vehicles on old roads crossing forest preserve land in Burnham Hollow	\$?
	Barricade woods road beyond old Tyler Place Road with large rocks	\$ 500
	Develop a brochure describing southern Catskill Wilderness Areas	\$ 4,000
	Replace the gate at Rider Hollow with large rocks	\$ 1,000
	Assistant Forest Ranger (May 15 - November 15)	\$ 9,850
	Preserve Manager (22% of time)	\$ 8,800
	Conservation Operations Trail Supervisor (22% of Time)	\$ 4,750
	Maintenance Crew (2 person; April 1 to December 15; 40% of time)	\$ 10,450
	Annual maintenance materials	<u>\$ 3,700</u>
	TOTAL EXPENSES FOR YEAR III	\$ 46,100

<u>YEAR</u>	<u>PROJECT</u>	<u>ESTIMATED COST</u>
IV	Construct a 10 car parking lot in Pine Hill	\$ 10,000
	Relocate 1.25 miles of the Seager-Big Indian Trail as it follows Dry Brook	\$ 2,000
	Erect an Information Board at the Burnham Hollow Parking Lot	\$ 1,200
	Assistant Forest Ranger (May 15 - November 15)	\$ 10,350
	Preserve Manager (22% of time)	\$ 9,300
	Conservation Operations Trail Supervisor (22% of Time)	\$ 5,000
	Maintenance Crew (2 person; April 1 to December 15; 40% of time)	\$ 11,000
	Annual maintenance materials	<u>\$ 4,100</u>
	TOTAL EXPENSES FOR YEAR IV	\$ 52,950

<u>YEAR</u>	<u>PROJECT</u>	<u>ESTIMATED COST</u>
V	Develop the Maben Hollow access easements for use by the public	\$ 500
	Abandon the trailmarking of the following public roads: Lost Clove Road, McKenley Hollow Road and Rider Hollow Road	\$ 200
	Assistant Forest Ranger (May 15 - November 15)	\$ 10,900
	Preserve Manager (22% of time)	\$ 9,800
	Conservation Operations Trail Supervisor (22% of Time)	\$ 5,250
	Maintenance Crew (2 person; April 1 to December 15; 40% of time)	\$ 11,550
	Annual maintenance materials	<u>\$ 4,500</u>
	TOTAL EXPENSES FOR YEAR V	\$ 42,700
TOTAL ESTIMATED COST FOR 5-YEAR PLAN		<u>\$238,100</u>

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A P P E N D I C E S

State Environmental Quality Review
FULL ENVIRONMENTAL ASSESSMENT FORM

Purpose: The full EAF is designed to help applicants and agencies determine, in an orderly manner, whether a project or action may be significant. The question of whether an action may be significant is not always easy to answer. Frequently, there are aspects of a project that are subjective or unmeasurable. It is also understood that those who determine significance may have little or no formal knowledge of the environment or may be technically expert in environmental analysis. In addition, many who have knowledge in one particular area may not be aware of the broader concerns affecting the question of significance.

The full EAF is intended to provide a method whereby applicants and agencies can be assured that the determination process has been orderly, comprehensive in nature, yet flexible to allow introduction of information to fit a project or action.

Full EAF Components: The full EAF is comprised of three parts:

- Part 1:** Provides objective data and information about a given project and its site. By identifying basic project data, it assists a reviewer in the analysis that takes place in Parts 2 and 3.
- Part 2:** Focuses on identifying the range of possible impacts that may occur from a project or action. It provides guidance as to whether an impact is likely to be considered small to moderate or whether it is a potentially-large impact. The form also identifies whether an impact can be mitigated or reduced.
- Part 3:** If any impact in Part 2 is identified as potentially-large, then Part 3 is used to evaluate whether or not the impact is actually important.

DETERMINATION OF SIGNIFICANCE—Type 1 and Unlisted Actions

Identify the Portions of EAF completed for this project: ☒ Part 1 ☒ Part 2 ☐ Part 3

Upon review of the information recorded on this EAF (Parts 1 and 2 and 3 if appropriate), and any other supporting information, and considering both the magnitude and importance of each impact, it is reasonably determined by the lead agency that:

- ☒ A. The project will not result in any large and important impact(s) and, therefore, is one which **will not** have a significant impact on the environment, therefore a **negative declaration will be prepared**.
- ☐ B. Although the project could have a significant effect on the environment, there will not be a significant effect for this Unlisted Action because the mitigation measures described in PART 3 have been required, therefore a **CONDITIONED negative declaration will be prepared.***
- ☐ C. The project may result in one or more large and important impacts that may have a significant impact on the environment, therefore a **positive declaration will be prepared**.

* A Conditioned Negative Declaration is only valid for Unlisted Actions

BIG INDIAN-BEAVERKILL RANGE WILDERNESS UNIT MANAGEMENT PLAN

Name of Action

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Name of Lead Agency

FREDERICK J. GERTY, JR.

REGIONAL FORESTRY MANAGER

Print or Type Name of Responsible Officer in Lead Agency

Title of Responsible Officer

Signature of Responsible Officer in Lead Agency

Signature of Preparer (If different from responsible officer)

3/25/92
Date

PART 1—PROJECT INFORMATION

Prepared by Project Sponsor

NOTICE: This document is designed to assist in determining whether the action proposed may have a significant effect on the environment. Please complete the entire form, Parts A through E. Answers to these questions will be considered as part of the application for approval and may be subject to further verification and public review. Provide any additional information you believe will be needed to complete Parts 2 and 3.

It is expected that completion of the full EAF will be dependent on information currently available and will not involve new studies, research or investigation. If information requiring such additional work is unavailable, so indicate and specify each instance.

NAME OF ACTION Application of the Big Indian-Beaverkill Range Wilderness Area Unit Management Plan		
LOCATION OF ACTION (Include Street Address, Municipality and County) Ulster County, Towns of Shandaken, Denning and Hardenburgh		
NAME OF APPLICANT/SPONSOR New York State Department of Environmental Conservation-Region 3		BUSINESS TELEPHONE (914) 255-5453
ADDRESS 21 South Putt Corners Road		
CITY/PO New Paltz	STATE N.Y.	ZIP CODE 12561
NAME OF OWNER (If different)		BUSINESS TELEPHONE ()
ADDRESS		
CITY/PO	STATE	ZIP CODE
DESCRIPTION OF ACTION Implementation of the Big Indian-Beaverkill Range Wilderness Area Unit Management Plan--see plan for proposed management projects, which include removal of one lean-to construction of four (4) new outhouses, relocation of 1.25 miles of hiking trail and maintenance of 28.2 miles of existing hiking trails.		

Please Complete Each Question—Indicate N.A. if not applicable

A. Site Description

Physical setting of overall project, both developed and undeveloped areas.

1. Present land use: ☐ Urban ☐ Industrial ☐ Commercial ☐ Residential (suburban) ☐ Rural (non-farm)
☒ Forest ☐ Agriculture ☐ Other NYS Forest Preserve

2. Total acreage of project area: 33,500 acres.

APPROXIMATE ACREAGE

	PRESENTLY	AFTER COMPLETION
Meadow or Brushland (Non-agricultural)	<u>0</u> acres	<u>0</u> acres
Forested	<u>33,495</u> acres	<u>33,495</u> acres
Agricultural (Includes orchards, cropland, pasture, etc.)	<u>0</u> acres	<u>0</u> acres
Wetland (Freshwater or tidal as per Articles 24, 25 of ECL)	<u>0</u> acres	<u>0</u> acres
Water Surface Area	<u>4</u> acres	<u>4</u> acres
Unvegetated (Rock, earth or fill)	<u>1</u> acres	<u>1</u> acres
Roads, buildings and other paved surfaces	<u>0</u> acres	<u>0</u> acres
Other (Indicate type) _____	_____ acres	_____ acres

3. What is predominant soil type(s) on project site? Arnot-Oquaga-Lackawanna Association

- a. Soil drainage: ☒ Well drained 70 % of site ☒ Moderately well drained 29 % of site
☒ Poorly drained 1 % of site

- b. If any agricultural land is involved, how many acres of soil are classified within soil group 1 through 4 of the NYS Land Classification System? N/A acres. (See 1 NYCRR 370).

4. Are there bedrock outcroppings on project site? ☒ Yes ☐ No

- a. What is depth to bedrock? 1-3 feet (in feet)

5. Approximate percentage of proposed project site with slopes: ☐ 0-10% 5 % ☐ 10-15% 10 %
☐ 15% or greater 85 %
6. Is project substantially contiguous to, or contain a building, site, or district, listed on the State or the National Registers of Historic Places? ☐ Yes ☒ No
7. Is project substantially contiguous to a site listed on the Register of National Natural Landmarks? ☐ Yes ☒ No
8. What is the depth of the water table? 6⁺ (in feet)
9. Is site located over a primary, principal, or sole source aquifer? ☐ Yes ☒ No
10. Do hunting, fishing or shell fishing opportunities presently exist in the project area? ☒ Yes ☐ No
11. Does project site contain any species of plant or animal life that is identified as threatened or endangered?
☒ Yes ☐ No According to New York Natural Heritage Program Maps and Data
Identify each species Northern monk's-hood, Jacob's ladder
12. Are there any unique or unusual land forms on the project site? (i.e., cliffs, dunes, other geological formations)
☒ Yes ☐ No Describe Otter Falls
13. Is the project site presently used by the community or neighborhood as an open space or recreation area?
☒ Yes ☐ No If yes, explain Utilized for hiking, snowshoeing, hunting, fishing
14. Does the present site include scenic views known to be important to the community?
☒ Yes ☐ No Esopus Creek, Willowemoc Creek, Beaverkill & Tributaries
15. Streams within or contiguous to project area: to Dry Brook-for a complete list see UMP Sec. II, A.
a. Name of Stream and name of River to which it is tributary Esopus: Hudson River, Dry Brook, Willowemoc Creek and Beaverkill: Delaware River
16. Lakes, ponds, wetland areas within or contiguous to project area:
a. Name Tunis Pond b. Size (in acres) 3.4
17. Is the site served by existing public utilities? ☐ Yes ☒ No
a) If Yes, does sufficient capacity exist to allow connection? ☐ Yes ☐ No
b) If Yes, will improvements be necessary to allow connection? ☐ Yes ☐ No
18. Is the site located in an agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☒ No
19. Is the site located in or substantially contiguous to a Critical Environmental Area designated pursuant to Article 8 of the ECL, and 6 NYCRR 617? ☐ Yes ☒ No
20. Has the site ever been used for the disposal of solid or hazardous wastes? ☐ Yes ☒ No *
- * (Occasional illegal roadside dumping of household waste has occurred in the past. One existing site has been identified in the plan and will be cleaned up-see UMP Sec. IV A.)

B. Project Description

1. Physical dimensions and scale of project (fill in dimensions as appropriate)
- a. Total contiguous acreage owned or controlled by project sponsor 33,500 acres.
- b. Project acreage to be developed: 0 acres initially; 0 acres ultimately.
- c. Project acreage to remain undeveloped 33,499 acres. (small, scattered parking lots totaling approximately 1 acre already exist)
- d. Length of project, in miles: N/A (If appropriate)
- e. If the project is an expansion, indicate percent of expansion proposed N/A %;
- f. Number of off-street parking spaces existing 32; proposed 32 (no change)
- g. Maximum vehicular trips generated per hour Less Than 1 (upon completion of project)?
- h. If residential: Number and type of housing units: N/A
- | | One Family | Two Family | Multiple Family | Condominium |
|------------|------------|------------|-----------------|-------------|
| Initially | | | | |
| Ultimately | | | | |
- i. Dimensions (in feet) of largest proposed structure 8 height; 2 width; 8 length. (Information Kiosk)
- j. Linear feet of frontage along a public thoroughfare project will occupy is? N/A ft.

2. How much natural material (i.e., rock, earth, etc.) will be removed from the site? 0 tons/cubic yards
3. Will disturbed areas be reclaimed? ☒ Yes ☐ No ☐ N/A Eroded hiking trails will be reclaimed
 a. If yes, for what intended purpose is the site being reclaimed? with waterbars, drainage ditches, etc.
 b. Will topsoil be stockpiled for reclamation? ☐ Yes ☒ No
 c. Will upper subsoil be stockpiled for reclamation? ☐ Yes ☒ No
4. How many acres of vegetation (trees, shrubs, ground covers) will be removed from site? 0 acres.
5. Will any mature forest (over 100 years old) or other locally-important vegetation be removed by this project?
☐ Yes ☒ No
6. If single phase project: Anticipated period of construction _____ months, (including demolition).
7. If multi-phased:
 a. Total number of phases anticipated 5 (number).
 b. Anticipated date of commencement phase 1 9 month 92 year, (including demolition).
 c. Approximate completion date of final phase 8 month 97 year.
 d. Is phase 1 functionally dependent on subsequent phases? ☒ Yes ☐ No
8. Will blasting occur during construction? ☐ Yes ☒ No
9. Number of jobs generated: during construction 4; after project is complete 4.
10. Number of jobs eliminated by this project 0.
11. Will project require relocation of any projects or facilities? ☒ Yes ☐ No If yes, explain A trail and an outhouse will be relocated.
12. Is surface liquid waste disposal involved? ☒ Yes ☐ No
 a. If yes, indicate type of waste (sewage, industrial, etc.) and amount sewage
 b. Name of water body into which effluent will be discharged None; it will be done 150' or more from water body
13. Is subsurface liquid waste disposal involved? ☒ Yes ☐ No Type Outhouse
14. Will surface area of an existing water body increase or decrease by proposal? ☐ Yes ☒ No
 Explain Tunis Pond will remain in its natural condition
15. Is project or any portion of project located in a 100 year flood plain? ☒ Yes ☐ No
16. Will the project generate solid waste? ☒ Yes ☐ No
 a. If yes, what is the amount per month 0.15 tons (maximum)
 b. If yes, will an existing solid waste facility be used? ☒ Yes ☐ No
 c. If yes, give name Outhouses; location see Unit Management Plan
 d. Will any wastes **not** go into a sewage disposal system or into a sanitary landfill? ☒ Yes ☐ No
 e. If Yes, explain Some users will dispose of human wastes at random surface locations, throughout the forest.
17. Will the project involve the disposal of solid waste? ☒ Yes ☐ No (Outhouses)
 a. If yes, what is the anticipated rate of disposal? 0.15 tons/month (maximum)
 b. If yes, what is the anticipated site life? 2-5 years. (or more)
18. Will project use herbicides or pesticides? ☐ Yes ☒ No
19. Will project routinely produce odors (more than one hour per day)? ☐ Yes ☒ No
20. Will project produce operating noise exceeding the local ambient noise levels? ☐ Yes ☒ No
21. Will project result in an increase in energy use? ☐ Yes ☒ No
 If yes, indicate type(s) _____
22. If water supply is from wells, indicate pumping capacity N/A gallons/minute.
23. Total anticipated water usage per day N/A gallons/day.
24. Does project involve Local, State or Federal funding? ☒ Yes ☐ No
 If Yes, explain New York State

25. Approvals Required:

		Type	Submittal Date
City, Town, Village Board	<input type="checkbox"/> Yes <input type="checkbox"/> No		
City, Town, Village Planning Board	<input type="checkbox"/> Yes <input type="checkbox"/> No		
City, Town Zoning Board	<input type="checkbox"/> Yes <input type="checkbox"/> No		
City, County Health Department	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Other Local Agencies	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Other Regional Agencies	<input type="checkbox"/> Yes <input type="checkbox"/> No		
State Agencies	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	DEC Commissioner	
Federal Agencies	<input type="checkbox"/> Yes <input type="checkbox"/> No		

C. Zoning and Planning Information

1. Does proposed action involve a planning or zoning decision? ☒ Yes ☐ No
If Yes, indicate decision required:
☐ zoning amendment ☐ zoning variance ☐ special use permit ☐ subdivision ☐ site plan
☐ new/revision of master plan ☒ resource management plan ☐ other _____
2. What is the zoning classification(s) of the site? Wilderness
3. What is the maximum potential development of the site if developed as permitted by the present zoning?
Primitive recreation
4. What is the proposed zoning of the site? Wilderness
5. What is the maximum potential development of the site if developed as permitted by the proposed zoning?
Primitive recreation
6. Is the proposed action consistent with the recommended uses in adopted local land use plans? ☒ Yes ☐ No
7. What are the predominant land use(s) and zoning classifications within a ¼ mile radius of proposed action?
Forestry, Recreation, seasonal and/or permanent residential housing
8. Is the proposed action compatible with adjoining/surrounding land uses within a ¼ mile? ☒ Yes ☐ No
9. If the proposed action is the subdivision of land, how many lots are proposed? N/A
a. What is the minimum lot size proposed? _____
10. Will proposed action require any authorization(s) for the formation of sewer or water districts? ☐ Yes ☒ No
11. Will the proposed action create a demand for any community provided services (recreation, education, police, fire protection)? ☐ Yes ☒ No
a. If yes, is existing capacity sufficient to handle projected demand? ☐ Yes ☐ No
12. Will the proposed action result in the generation of traffic significantly above present levels? ☐ Yes ☒ No
a. If yes, is the existing road network adequate to handle the additional traffic? ☐ Yes ☐ No

D. Informational Details

Attach any additional information as may be needed to clarify your project. If there are or may be any adverse impacts associated with your proposal, please discuss such impacts and the measures which you propose to mitigate or avoid them. See Unit Management Plan for resource information and management proposals.

E. Verification

I certify that the information provided above is true to the best of my knowledge.

Applicant/Sponsor Name William Rudge Date 3-25-92
Signature  Title Senior Forester

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment.

Part 2—PROJECT IMPACTS AND THEIR MAGNITUDE

Responsibility of Lead Agency

General Information (Read Carefully)

- In completing the form the reviewer should be guided by the question: Have my responses and determinations been **reasonable**? The reviewer is not expected to be an expert environmental analyst.
- Identifying that an impact will be potentially large (column 2) does not mean that it is also necessarily **significant**. Any large impact must be evaluated in PART 3 to determine significance. Identifying an impact in column 2 simply asks that it be looked at further.
- The **Examples** provided are to assist the reviewer by showing types of impacts and wherever possible the threshold of magnitude that would trigger a response in column 2. The examples are generally applicable throughout the State and for most situations. But, for any specific project or site other examples and/or lower thresholds may be appropriate for a Potential Large Impact response, thus requiring evaluation in Part 3.
- The impacts of each project, on each site, in each locality, will vary. Therefore, the examples are illustrative and have been offered as guidance. They do not constitute an exhaustive list of impacts and thresholds to answer each question.
- The number of examples per question does not indicate the importance of each question.
- In identifying impacts, consider long term, short term and cumulative effects.

Instructions (Read carefully)

- Answer each of the 19 questions in PART 2. Answer **Yes** if there will be **any** impact.
- Maybe** answers should be considered as **Yes** answers.
- If answering **Yes** to a question then check the appropriate box (column 1 or 2) to indicate the potential size of the impact. If impact threshold equals or exceeds any example provided, check column 2. If impact will occur but threshold is lower than example, check column 1.
- If reviewer has doubt about size of the impact then consider the impact as potentially large and proceed to PART 3.
- If a potentially large impact checked in column 2 can be mitigated by change(s) in the project to a small to moderate impact, also check the **Yes** box in column 3. A **No** response indicates that such a reduction is not possible. This must be explained in Part 3.

IMPACT ON LAND

- Will the proposed action result in a physical change to the project site?
☐ NO ☒ YES

Examples that would apply to column 2

- Any construction on slopes of 15% or greater, (15 foot rise per 100 foot of length), or where the general slopes in the project area exceed 10%.
- Construction on land where the depth to the water table is less than 3 feet.
- Construction of paved parking area for 1,000 or more vehicles.
- Construction on land where bedrock is exposed or generally within 3 feet of existing ground surface.
- Construction that will continue for more than 1 year or involve more than one phase or stage.
- Excavation for mining purposes that would remove more than 1,000 tons of natural material (i.e., rock or soil) per year.
- Construction or expansion of a sanitary landfill.
- Construction in a designated floodway.
- Other impacts A lean-to will be removed, 4 new out-houses will be constructed, 1.25 miles of hiking trail may be relocated

- Will there be an effect to any unique or unusual land forms found on the site? (i.e., cliffs, dunes, geological formations, etc.) ☒ NO ☐ YES
- Specific land forms: _____

1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated By Project Change
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No

IMPACT ON WATER

3. Will proposed action affect any water body designated as protected?
(Under Articles 15, 24, 25 of the Environmental Conservation Law, ECL)

☒ NO ☐ YES

Examples that would apply to column 2

- Developable area of site contains a protected water body.
- Dredging more than 100 cubic yards of material from channel of a protected stream.
- Extension of utility distribution facilities through a protected water body.
- Construction in a designated freshwater or tidal wetland.
- Other impacts: _____

4. Will proposed action affect any non-protected existing or new body of water?
☒ NO ☐ YES

Examples that would apply to column 2

- A 10% increase or decrease in the surface area of any body of water or more than a 10 acre increase or decrease.
- Construction of a body of water that exceeds 10 acres of surface area.
- Other impacts: _____

5. Will Proposed Action affect surface or groundwater quality or quantity?
☐ NO ☒ YES

Examples that would apply to column 2

- Proposed Action will require a discharge permit.
 - Proposed Action requires use of a source of water that does not have approval to serve proposed (project) action.
 - Proposed Action requires water supply from wells with greater than 45 gallons per minute pumping capacity.
 - Construction or operation causing any contamination of a water supply system.
 - Proposed Action will adversely affect groundwater.
 - Liquid effluent will be conveyed off the site to facilities which presently do not exist or have inadequate capacity.
 - Proposed Action would use water in excess of 20,000 gallons per day.
 - Proposed Action will likely cause siltation or other discharge into an existing body of water to the extent that there will be an obvious visual contrast to natural conditions.
 - Proposed Action will require the storage of petroleum or chemical products greater than 1,100 gallons.
 - Proposed Action will allow residential uses in areas without water and/or sewer services.
 - Proposed Action locates commercial and/or industrial uses which may require new or expansion of existing waste treatment and/or storage facilities.
 - Other impacts: 4 new outhouses will be constructed to properly dispose of human wastes. A designated campsite and lean-to found to be too close to water courses within
6. Will proposed action alter drainage flow or patterns, or surface water runoff?
☐ NO ☒ YES

Examples that would apply to column 2

- Proposed Action would change flood water flows.
the unit will be eliminated.

1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated By Project Change
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- Proposed Action may cause substantial erosion.
- Proposed Action is incompatible with existing drainage patterns.
- Proposed Action will allow development in a designated floodway.
- Other impacts: Water bars, drainage ditches will be constructed on trails to prevent erosion

IMPACT ON AIR

7. Will proposed action affect air quality? ☒ NO ☐ YES
- Examples** that would apply to column 2
- Proposed Action will induce 1,000 or more vehicle trips in any given hour.
 - Proposed Action will result in the incineration of more than 1 ton of refuse per hour.
 - Emission rate of total contaminants will exceed 5 lbs. per hour or a heat source producing more than 10 million BTU's per hour.
 - Proposed action will allow an increase in the amount of land committed to industrial use.
 - Proposed action will allow an increase in the density of industrial development within existing industrial areas.
 - Other impacts: _____

IMPACT ON PLANTS AND ANIMALS

8. Will Proposed Action affect any threatened or endangered species? ☐ NO ☒ YES
- Examples that would apply to column 2**

- Reduction of one or more species listed on the New York or Federal list, using the site, over or near site or found on the site.
- Removal of any portion of a critical or significant wildlife habitat.
- Application of pesticide or herbicide more than twice a year, other than for agricultural purposes.
- Other impacts: A relocation of the Seager-Big Indian Hiking Trail will deter adverse recreational impacts on threatened plant species.

9. Will Proposed Action substantially affect non-threatened or non-endangered species? ☒ NO ☐ YES
- Examples that would apply to column 2

- Proposed Action would substantially interfere with any resident or migratory fish, shellfish or wildlife species.
- Proposed Action requires the removal of more than 10 acres of mature forest (over 100 years of age) or other locally important vegetation.

IMPACT ON AGRICULTURAL LAND RESOURCES

10. Will the Proposed Action affect agricultural land resources? ☒ NO ☐ YES
- Examples that would apply to column 2**
- The proposed action would sever, cross or limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc.)

[illegible]

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Impact | 3
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Mitigated By
Project Change |
|-------------------------------------|-----------------------------------|--|
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- The permanent foreclosure of a future recreational opportunity.
- A major reduction of an open space important to the community.
- Other impacts: The removal of a lean-to will reduce camping opportunities in the unit. However, this lean-to was within feet of McKenley Hollow Brook and camping at this site could not continue without environmental impacts.

IMPACT ON TRANSPORTATION

14. Will there be an effect to existing transportation systems?

☐ NO ☒ YES

Examples that would apply to column 2

- Alteration of present patterns of movement of people and/or goods.*
- Proposed Action will result in major traffic problems.
- Other impacts: ~~*The plan proposed abandonment of the Black Bear Rd. beyond the State Land boundary. While foot travel will continue, motor vehicle use will be prohibited. The road is in poor condition and is~~ **IMPACT ON ENERGY** rarely used by motor

15. Will proposed action affect the community's sources of fuel or energy supply? ☒ NO ☐ YES

Examples that would apply to column 2

- Proposed Action will cause a greater than 5% increase in the use of any form of energy in the municipality.
- Proposed Action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two family residences or to serve a major commercial or industrial use.
- Other impacts: _____

NOISE AND ODOR IMPACTS

16. Will there be objectionable odors, noise, or vibration as a result of the Proposed Action? ☒ NO ☐ YES

☒ NO ☐ YES

Examples that would apply to column 2

- Blasting within 1,500 feet of a hospital, school or other sensitive facility.
- Odors will occur routinely (more than one hour per day).
- Proposed Action will produce operating noise exceeding the local ambient noise levels for noise outside of structures.
- Proposed Action will remove natural barriers that would act as a noise screen.
- Other impacts: _____

IMPACT ON PUBLIC HEALTH

17. Will Proposed Action affect public health and safety?

☒ NO ☐ YES

Examples that would apply to column 2

- Proposed Action may cause a risk of explosion or release of hazardous substances (i.e. oil, pesticides, chemicals, radiation, etc.) in the event of accident or upset conditions, or there may be a chronic low level discharge or emission.
- Proposed Action may result in the burial of "hazardous wastes" in any form (i.e. toxic, poisonous, highly reactive, radioactive, irritating, infectious, etc.)
- Storage facilities for one million or more gallons of liquified natural gas or other flammable liquids.
- Proposed action may result in the excavation or other disturbance within 2,000 feet of a site used for the disposal of solid or hazardous waste.
- Other impacts: _____

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IMPACT ON GROWTH AND CHARACTER OF COMMUNITY OR NEIGHBORHOOD

18. Will proposed action affect the character of the existing community?
☒ NO ☐ YES

Examples that would apply to column 2

- The permanent population of the city, town or village in which the project is located is likely to grow by more than 5%.
- The municipal budget for capital expenditures or operating services will increase by more than 5% per year as a result of this project.
- Proposed action will conflict with officially adopted plans or goals.
- Proposed action will cause a change in the density of land use.
- Proposed Action will replace or eliminate existing facilities, structures or areas of historic importance to the community.
- Development will create a demand for additional community services (e.g. schools, police and fire, etc.)
- Proposed Action will set an important precedent for future projects.
- Proposed Action will create or eliminate employment.
- Other impacts: _____

1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated By Project Change
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19. Is there, or is there likely to be, public controversy related to potential adverse environmental impacts?
☒ NO ☐ YES

**If Any Action in Part 2 Is Identified as a Potential Large Impact or
If You Cannot Determine the Magnitude of Impact, Proceed to Part 3**

Part 3—EVALUATION OF THE IMPORTANCE OF IMPACTS

Responsibility of Lead Agency

Part 3 must be prepared if one or more impact(s) is considered to be potentially large, even if the impact(s) may be mitigated.

Instructions

Discuss the following for each impact identified in Column 2 of Part 2:

1. Briefly describe the impact.
2. Describe (if applicable) how the impact could be mitigated or reduced to a small to moderate impact by project change(s).
3. Based on the information available, decide if it is reasonable to conclude that this impact is **important**.

To answer the question of importance, consider:

- The probability of the impact occurring
- The duration of the impact
- Its irreversibility, including permanently lost resources of value
- Whether the impact can or will be controlled
- The regional consequence of the impact
- Its potential divergence from local needs and goals
- Whether known objections to the project relate to this impact.

(Continue on attachments)

617.21

Appendix F

State Environmental Quality Review

NEGATIVE DECLARATION

Notice of Determination of Non-Significance

Project Number _____

Date _____

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.

The New York State Department of Environmental Conservation, as lead agency, has determined that the proposed action described below will not have a significant effect on the environment and a Draft Environmental Impact Statement will not be prepared.

Name of Action: Implementation of the Big Indian-Beaverkill Range Wilderness Area Unit Management Plan

SEQR Status: Type I ☒
Unlisted ☐

Conditioned Negative Declaration: ☐ Yes
☒ No

Description of Action: The plan identifies the various resources of the 33,500 acre Big Indian-Beaverkill Range Wilderness Area, a part of the Catskill Forest Preserve. It also identifies the constraints and issues affecting the area and develops a series of goals and objectives which will govern the area's future management. Specific projects proposed to fulfill these goals and objectives include abandonment of an unmaintained town road (Black Bear Road), removal of a lean-to in McKenley Hollow, elimination of a designated campsite in Rider Hollow, construction of four new outhouses, relocation of 1.25 miles of the Seager-Big Indian Trail, maintenance of 28.2 miles of existing hiking trails, and an increase in Department staffing to better manage/maintain the area. See the Unit Management Plan for a complete list of management recommendations.

Location: (Include street address and the name of the municipality/county. A location map of appropriate scale is also recommended.)

Ulster County, Towns of Shandaken, Denning and Hardenburgh. New York State Forest Preserve lands designated as the Big Indian-Beaverkill Range Wilderness Area. See Unit Management Plan maps for exact location (a general location map is attached).

Reasons Supporting This Determination:

(See 617.6(g) for requirements of this determination; see 617.6(h) for Conditioned Negative Declaration)

The area will be managed in accordance with the Wilderness guidelines established in the Catskill Park State Land Master Plan, as well as the constraints set forth in Article XIV of the NYS Constitution and Article 9 of the Environmental Conservation Law.

Abandonment of the northern end of the Black Bear Road will displace some motorized use of the Unit. However, the road has not been maintained in several years and is no longer suitable for motor vehicle use. The road will remain open to pedestrian use as a hiking trail. The State Land Master Plan prohibits motor vehicles in wilderness areas.

Removal of a lean-to and a designated campsite will reduce recreational opportunities in the Unit. However, in both cases the sites were too close to water courses to allow for continued use without adverse water quality impacts. The lean-to will be taken apart with a chainsaw and hand tools. Shingles and roofing paper will be stripped from the roof, carried out and disposed of at the Town landfill. The logs will be scattered in the woods at least 150 feet from the trail and stream and left to decompose. The fireplace will be broken up and buried. The site will be raked to expose mineral soil and then reseeded with a conservation mix of grasses to prevent soil erosion. The wooden framed outhouse near this lean-to will be taken apart with hand tools and burned. The hole will be filled in with soil and reseeded. New outhouses will be located at least 150 feet from water on well-drained upland sites to prevent surface water contamination. Outhouses facilitate the disposal of human waste at appropriate locations. They will be checked annually and relocated when the pit fills.

CONTINUED

If Conditioned Negative Declaration, provide on attachment the specific mitigation measures imposed.

For Further Information:

Contact Person: William Rudge, Senior Forester

Address: 21 South Putt Corners Road, New Paltz, New York 12561

Telephone Number: (914)255-5453

For Type I Actions and Conditioned Negative Declarations, a Copy of this Notice Sent to:

Commissioner, Department of Environmental Conservation, 50 Wolf Road, Albany, New York 12233-0001

Appropriate Regional Office of the Department of Environmental Conservation

Office of the Chief Executive Officer of the political subdivision in which the action will be principally located.

Applicant (if any)

Other involved agencies (if any)

SEQR NEGATIVE DECLARATION
BIG INDIAN-BEAVERKILL RANGE WILDERNESS AREA UNIT
REASONS SUPPORTING THIS DETERMINATION - CONTINUED

Three new campsites will be designated at well drained upland locations which do not contain rare or fragile plant or animal habitats. By designating campsites in these areas the public will be less likely to camp at inappropriate sites and soil compaction and trampled vegetation will be minimized.

The proposed construction of water bars and drainage ditches on existing marked and maintained trails is intended to minimize the exacerbation of soil erosion. The Department proposes to develop a Memorandum of Understanding with the Catskill 3500 Club to adopt and implement policies which would minimize the impacts associated with hiking on trailless peaks.

A proposed trail relocation will involve an immaterial amount of tree cutting, and possible soil erosion and the trampling of vegetation within the trail corridor (6 feet wide, 1.25 miles long). These impacts will not be significant for several reasons. Tree cutting will be limited by passing around large trees and cutting only small understory trees blocking the new route. Any actions involving tree cutting will be in compliance with the Commissioner's Delegation Memorandum, #84-06, on the cutting, removal or destruction of trees on Forest Preserve lands. The Department will follow minimum impact trail building techniques as described in the Appalachian Mountain Club's Field Guide to Trail Building and Maintenance, 2nd edition. The techniques include avoiding steep grades and employing drainage dips, ditches and waterbars to prevent soil erosion. Rare plant habitats will be avoided. Only hand tools will be utilized, thus reducing the noise associated with trail construction. The total area affected will be less than one acre.

Information boards will be erected at major trailheads to convey rules and regulations governing the use of Forest Preserve land and to instruct users in techniques for minimum impact camping, proper human sanitation and precautions concerning Giardiasis and Lyme Disease and prevention measures on rabies. Emergency phone numbers will also be posted. The construction of these boards will have a minimal impact because no trees will be cut and they will be painted with earth tone colors compatible with the area.

The impacts of all of the actions discussed were evaluated in the accompanying Full Environmental Assessment Form and are more fully described in the Unit Management Plan. The UMP also contains a Bibliography on pages 97-100 which includes references which were relied upon in the preparation of the Negative Declaration. All impacts were determined to be small. Their affects were limited to relatively small areas with the area involved being far less than 1% of the total project area.

APPENDIX B - WILDLIFE.

Appendix B-1. Status and occurrence of New York amphibians in the Big Indian-Beaverkill Range Wilderness Area, a part of the Catskill Peaks subzone as listed in "Integrating Timber and Wildlife Management Handbook" (Chambers, 1983).

<u>SPECIES</u>	<u>STATUS in NY</u>
Jefferson Salamander	Special Concern
Blue-Spotted Salamander	Special Concern
Spotted Salamander	Special Concern
Red-spotted Newt	
Dusky Salamander	
Mountain Dusky Salamander	
Redback Salamander	
Slimy Salamander	
Four-toed Salamander	
Spring Salamander	
Red Salamander	
Two-lined Salamander	
Longtail Salamander	
American Toad	
Fowler's Toad	
Spring Peeper	
Gray Treefrog	
Bullfrog	Game Species
Green Frog	Game Species
Wood Frog	Game Species
Pickerel Frog	Game Species

Appendix B-2. Status and occurrence of New York reptiles in the Big Indian-Beaverkill Range Wilderness Area, a part of the Catskill Peaks subzone as listed in "Integrating Timber and Wildlife Management Handbook" (Chambers, 1983).

<u>SPECIES</u>	<u>STATUS in NY</u>
Snapping Turtle	
Stinkpot	
Spotted Turtle	Special Concern
Wood Turtle	Special Concern/Game Species
Painted Turtle	
Northern Water Snake	
Brown Snake	
Redbelly Snake	
Common Garter Snake	
Eastern Ribbon Snake	
Eastern Hognose Snake	Special Concern
Ringneck Snake	
Black Racer	
Smooth Green Snake	
Rat Snake	
Milk Snake	

NEW YORK STATE BREEDING BIRD ATLAS
 BREEDING SPECIES OF : BIG INDIAN - BEAVERKILL WILDERNESS
 1980-1985 DATA - AOU CHECKLIST ORDER

COMMON NAME	SCIENTIFIC NAME	NEW YORK LEGAL STATUS	NATURAL HERITAGE PROGRAM STATE RANK
CONFIRMED BREEDERS			
Red-shouldered Hawk	<i>Buteo lineatus</i>	Threatened	S4
Ruffed Grouse	<i>Bonasa umbellus</i>	Game Species	S5
Wild Turkey	<i>Meleagris gallopavo</i>	Game Species	S5
American Woodcock	<i>Scolopax minor</i>	Game Species	S5
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	Protected	S5
Barred Owl	<i>Strix varia</i>	Protected	S5
Chimney Swift	<i>Chaetura pelagica</i>	Protected	S5
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	Protected	S5
Belted Kingfisher	<i>Ceryle alcyon</i>	Protected	S5
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	Protected	S5
Downy Woodpecker	<i>Picoides pubescens</i>	Protected	S5
Hairy Woodpecker	<i>Picoides villosus</i>	Protected	S5
Northern Flicker	<i>Colaptes auratus</i>	Protected	S5
Eastern Wood-Pewee	<i>Contopus virens</i>	Protected	S5
Least Flycatcher	<i>Empidonax minimus</i>	Protected	S5
Eastern Phoebe	<i>Sayornis phoebe</i>	Protected	S5
Eastern Kingbird	<i>Tyrannus tyrannus</i>	Protected	S5
Tree Swallow	<i>Tachycineta bicolor</i>	Protected	S5
Cliff Swallow	<i>Hirundo pyrrhonota</i>	Protected	S5
Barn Swallow	<i>Hirundo rustica</i>	Protected	S5
Blue Jay	<i>Cyanocitta cristata</i>	Protected	S5
Common Raven	<i>Corvus corax</i>	Protected-Special Concern	S4
Black-capped Chickadee	<i>Parus atricapillus</i>	Protected	S5
Tufted Titmouse	<i>Parus bicolor</i>	Protected	S5
Red-breasted Nuthatch	<i>Sitta canadensis</i>	Protected	S5
White-breasted Nuthatch	<i>Sitta carolinensis</i>	Protected	S5
House Wren	<i>Troglodytes aedon</i>	Protected	S5
Winter Wren	<i>Troglodytes troglodytes</i>	Protected	S5
Golden-crowned Kinglet	<i>Regulus satrapa</i>	Protected	S5
Eastern Bluebird	<i>Sialia sialis</i>	Protected-Special Concern	S5

Appendix B-3. Status and occurrence of breeding birds as listed in "Atlas of Breeding Birds in New York State" (Andrle and Carroll, 1988).

NEW YORK STATE BREEDING BIRD ATLAS
 BREEDING SPECIES OF : BIG INDIAN - BEAVERKILL WILDERNESS
 1980-1985 DATA - AOU CHECKLIST ORDER

COMMON NAME	SCIENTIFIC NAME	NEW YORK LEGAL STATUS	NATURAL HERITAGE PROGRAM STATE RANK
Veery	<i>Catharus fuscescens</i>	Protected	S5
Swainson's Thrush	<i>Catharus ustulatus</i>	Protected	S5
Hermit Thrush	<i>Catharus guttatus</i>	Protected	S5
Wood Thrush	<i>Hylocichla mustelina</i>	Protected	S5
American Robin	<i>Turdus migratorius</i>	Protected	S5
Gray Catbird	<i>Dumetella carolinensis</i>	Protected	S5
Brown Thrasher	<i>Toxostoma rufum</i>	Protected	S5
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Protected	S5
European Starling	<i>Sturnus vulgaris</i>	Unprotected	SE
Solitary Vireo	<i>Vireo solitarius</i>	Protected	S5
Red-eyed Vireo	<i>Vireo olivaceus</i>	Protected	S5
Yellow Warbler	<i>Dendroica petechia</i>	Protected	S5
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	Protected	S5
Magnolia Warbler	<i>Dendroica magnolia</i>	Protected	S5
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>	Protected	S5
Yellow-rumped Warbler	<i>Dendroica coronata</i>	Protected	S5
Black-throated Green Warbler	<i>Dendroica virens</i>	Protected	S5
Blackburnian Warbler	<i>Dendroica fusca</i>	Protected	S5
Blackpoll Warbler	<i>Dendroica striata</i>	Protected	S3
Black-and-white Warbler	<i>Mniotilta varia</i>	Protected	S5
American Redstart	<i>Setophaga ruticilla</i>	Protected	S5
Ovenbird	<i>Seiurus aurocapillus</i>	Protected	S5
Northern Waterthrush	<i>Seiurus noveboracensis</i>	Protected	S5
Louisiana Waterthrush	<i>Seiurus motacilla</i>	Protected	S5
Mourning Warbler	<i>Oporornis philadelphia</i>	Protected	S5
Common Yellowthroat	<i>Geothlypis trichas</i>	Protected	S5
Canada Warbler	<i>Wilsonia canadensis</i>	Protected	S5
Scarlet Tanager	<i>Piranga olivacea</i>	Protected	S5
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	Protected	S5
Rufous-sided Towhee	<i>Pipilo erythrophthalmus</i>	Protected	S5
Chipping Sparrow	<i>Spizella passerina</i>	Protected	S5
Field Sparrow	<i>Spizella pusilla</i>	Protected	S5
Song Sparrow	<i>Melospiza melodia</i>	Protected	S5

NEW YORK STATE BREEDING BIRD ATLAS
 BREEDING SPECIES OF : BIG INDIAN - BEAVERKILL WILDERNESS
 1980-1985 DATA - AOU CHECKLIST ORDER

COMMON NAME	SCIENTIFIC NAME	NEW YORK LEGAL STATUS	NATURAL HERITAGE PROGRAM STATE RANK
Swamp Sparrow	<i>Melospiza georgiana</i>	Protected	S5
White-throated Sparrow	<i>Zonotrichia albicollis</i>	Protected	S5
Dark-eyed Junco	<i>Junco hyemalis</i>	Protected	S5
Bobolink	<i>Dolichonyx oryzivorus</i>	Protected	S5
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Protected	S5
Common Grackle	<i>Quiscalus quiscula</i>	Protected	S5
Brown-headed Cowbird	<i>Molothrus ater</i>	Protected	S5
Northern Oriole	<i>Icterus galbula</i>	Protected	S5
Purple Finch	<i>Carpodacus purpureus</i>	Protected	S5
House Finch	<i>Carpodacus mexicanus</i>	Protected	SE
House Sparrow	<i>Passer domesticus</i>	Unprotected	SE

PROBABLE BREEDERS

Canada Goose	<i>Branta canadensis</i>	Game Species	S5
Wood Duck	<i>Aix sponsa</i>	Game Species	S5
American Black Duck	<i>Anas rubripes</i>	Game Species	S4
Mallard	<i>Anas platyrhynchos</i>	Game Species	S5
Broad-winged Hawk	<i>Buteo platypterus</i>	Protected	S5
Red-tailed Hawk	<i>Buteo jamaicensis</i>	Protected	S5
Mourning Dove	<i>Zenaida macroura</i>	Protected	S5
Pileated Woodpecker	<i>Dryocopus pileatus</i>	Protected	S5
Olive-sided Flycatcher	<i>Contopus borealis</i>	Protected	S5
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	Protected	S3
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	Protected	S5
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	Protected	S5
Brown Creeper	<i>Certhia americana</i>	Protected	S5
Gray-cheeked Thrush	<i>Catharus minimus</i>	Protected	S3
Yellow-throated Vireo	<i>Vireo flavifrons</i>	Protected	S5
Warbling Vireo	<i>Vireo gilvus</i>	Protected	S5
Northern Cardinal	<i>Cardinalis cardinalis</i>	Protected	S5
Indigo Bunting	<i>Passerina cyanea</i>	Protected	S5
Red Crossbill	<i>Loxia curvirostra</i>	Protected	S3

NEW YORK STATE BREEDING BIRD ATLAS
 BREEDING SPECIES OF : BIG INDIAN - BEAVERKILL WILDERNESS
 1980-1985 DATA - AOU CHECKLIST ORDER

COMMON NAME	SCIENTIFIC NAME	NEW YORK LEGAL STATUS	NATURAL HERITAGE PROGRAM STATE RANK
Pine Siskin	Carduelis pinus	Protected	S5
American Goldfinch	Carduelis tristis	Protected	S5
POSSIBLE BREEDERS			
Great Blue Heron	Ardea herodias	Protected	S5
Turkey Vulture	Cathartes aura	Protected	S4
Sharp-shinned Hawk	Accipiter striatus	Protected	S4
Cooper's Hawk	Accipiter cooperii	Protected-Special Concern	S4
American Kestrel	Falco sparverius	Protected	S5
American Crow	Corvus brachyrhynchos	Game Species	S5
Eastern Screech-Owl	Otus asio	Protected	S5
Great Horned Owl	Bubo virginianus	Protected	S5
Northern Saw-whet Owl	Aegolius acadicus	Protected	S3
Blue-winged Warbler	Vermivora pinus	Protected	S5
Nashville Warbler	Vermivora ruficapilla	Protected	S5

Appendix B-3. Status and occurrence of breeding birds as listed in "Atlas of Breeding Birds in New York State" (Andrle and Carroll, 1988).

ADDITIONAL POSSIBLE BREEDING BIRD SPECIES OF BIG INDIAN-BEAVERKILL RANGE WILDERNESS AREA (as listed in "Integrating Timber and Wildlife Management Handbook", Chambers, 1983; not in NYS Breeding Bird Atlas)

COMMON NAME	SCIENTIFIC NAME	NEW YORK LEGAL STATUS
Green Heron	<i>Butorides striatus</i>	Protected
Northern Goshawk	<i>Accipiter gentilis</i>	Protected
Peregrine Falcon	<i>Falco peregrinus</i>	Endangered
Common Snipe	<i>Capella gallinago</i>	Game Species
Yellow-Billed Cuckoo	<i>Coccyzus americanus</i>	Protected
Whip-Poor-Will	<i>Caprimulgus vociferus</i>	Protected
Common Nighthawk	<i>Chordeiles minor</i>	Protected - Special Concern
Willow Flycatcher	<i>Empidonax traillii</i>	Protected
Alder Flycatcher	<i>Empidonax alnorum</i>	Protected
Bank Swallow	<i>Riparia riparia</i>	Protected
Purple Martin	<i>Progne subis</i>	Protected
Blue-Gray Gnatcatcher	<i>Polioptila caerulea</i>	Protected
Worm-Eating Warbler	<i>Helminthos vermivorus</i>	Protected
Golden-Winged Warbler	<i>Vermivora chrysoptera</i>	Protected
Cerulean Warbler	<i>Dendroica cerulea</i>	Protected
Yellow-Breasted Chat	<i>Icteria trichas</i>	Protected
Hooded Warbler	<i>Wilsonia citrina</i>	Protected
Savannah Sparrow	<i>Passerculus sandwichensis</i>	Protected
Vesper Sparrow	<i>Pooecetes gramineus</i>	Protected - Special Concern

Appendix B-4. Status and occurrence of New York mammals in the Big Indian-Beaverkill Range Wilderness Area, a part of the Catskill Peaks subzone as listed in "Integrating Timber and Wildlife Management Handbook" (Chambers, 1983).

<u>SPECIES</u>	<u>STATUS*</u>	<u>SPECIES</u>	<u>STATUS*</u>
Masked Shrew		Eastern Chipmunk	
Smoky Shrew		Gray Squirrel	GS
Longtail Shrew		Red Squirrel	
Water Shrew		Southern Flying Squirrel	
Least Shrew		Northern Flying Squirrel	
Shorttail Shrew		Beaver	GS
Starnose Mole		Deer Mouse	
Hairy-tailed Mole		White-Footed Mouse	
Little Brown Bat		Southern Bog Lemming	
Keen's Bat		Southern Red-Backed Vole	
Small-Footed Bat SC		Meadow Vole	
Silver-Haired Bat		Woodland Vole	
Eastern Pipistrelle		Muskrat	GS
Big Brown Bat		Meadow Jumping Mouse	
Red Bat		Woodland Jumping Mouse	
Hoary Bat		Porcupine	
Black Bear	GS	Snowshoe Hare	GS
Raccoon	GS	Eastern Cottontail	GS
Whitetailed Deer	GS	Mink	GS
Fisher	GS	Shorttail Weasel	GS
River Otter	GS	Longtail Weasel	GS
Striped Skunk	GS	Coyote	GS
Red Fox	GS	Gray Fox	GS
Bobcat	GS	Woodchuck	GS
Opossum	GS		

*Status = status in New York State,
 SC = Special Concern
 GS = Game Species

Appendix B-5: Fish Species occurring in the waters of the Big Indian-Beaverkill Range Wilderness Area based upon historical surveys.

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>
American eel	<u>Anquilla rostrata</u>
Atlantic salmon	<u>Salmo salar</u>
Bullhead	<u>Ictalurus sp.</u>
Chain pickerel	<u>Esox niger</u>
Creek chub	<u>Semotilus atromaculatus</u>
Blacknose dace	<u>Rhinichthys atratulus</u>
Longnose dace	<u>Rhinichthys cataractae</u>
Golden shiner	<u>Notemigonus crysoleucas</u>
Pumpkinseed	<u>Lepomis gibbosus</u>
Sculpin	<u>Cottus sp.</u>
Smallmouth bass	<u>Micropterus dolomieu</u>
Tessellated darter	<u>Etheostoma olmsted</u>
Tiger muskellunge	<u>Esox lucius</u> X <u>E. masquinongy</u>
Brook trout	<u>Salvelinus fontinalis</u>
Brown trout	<u>Salmo trutta</u>
Rainbow trout	<u>Oncorhynchus mykiss</u>
Yellow perch	<u>Perca flavescens</u>
White sucker	<u>Catostomus commersoni</u>

APPENDIX C - SIGN INVENTORY

LEGEND

ARROW

R - Right
L - Left
S - Straight

MARKER

R - Red
Y - Yellow
B - Blue

<u>SIGN</u>	<u>ARROW</u>	<u>MARKER</u>	<u>LOCATION</u>
<u>MONGAUP-HARDENBURGH TRAIL</u>			
Long Pond Road 3.0 Long Pond Leanto 3.8 (sign split)	L	R	Intersection of Mongaup- Hardenburgh & Lon Pond-Willowemoc Trails
Mongaup Pond 3.0	L	B	Intersection of Mongaup- Hardenburgh & Lon Pond-Willowemoc Trails
Hardenburgh Road 3.0	R	B	Intersection of Mongaup- Hardenburgh & Lon Pond-Willowemoc Trails
<u>SEAGER TRAIL</u>			
Shandaken Creek Leanto 2.1 Eagle Mountain 4.3 Big Indian Mountain 4.9	R	Y	Seager Trailhead parking area.
"If You Carry It In, Carry It Out"	S		Seager Trailhead parking area.
This is private land (paper)	S		Seager Trailhead parking area.
Seager Parking Area .9	L	Y	At Bridge crossing, Dry Brook
Shandaken Creek Leanto 1.1	R	Y	At Bridge crossing, Dry Brook

<u>SIGN</u>		<u>ARROW</u>	<u>MARKER</u>	<u>LOCATION</u>
Seager Parking Lot	1.25	R	Y	After stream crossing, 6206 feet from trailhead
Shandaken Creek Leanto	.85	L	Y	After stream crossing, 6206 feet from trailhead
"If You Carry It In, Carry It Out"		S		At trail register
<u>NEVERSINK-HARDENBURGH TRAIL</u>				
"If You Carry It In, Carry It Out"		S		Fall Brook Leanto
<u>PINE HILL-WEST BRANCH TRAIL</u>				
(2) Trail		R,L		Trailhead at County Route 47
(2) Rules and Regulations Sign		R,L		Trailhead at County Route 47
Biscuit Brook Leanto	1.9	R	B	Trailhead at County Route 47
Big Indian Mountain	4.45			
Shandaken Creek Leanto	6.75			
Pine Hill Village	14.90			
Slide Mountain Parking Lot	3.8	R		Trailhead at County Route 47
Giant Ledge Parking Area	5.75			
"If You Carry It In, Carry It Out"		S		Trailhead at County Route 47
(2) Trail Sign		L,R		4210 feet from trailhead
(2) Leanto Signs		L,R		Junction of leant spur trail
Trail		R		Junction of leant spur trail

<u>SIGN</u>		<u>ARROW</u>	<u>MARKER</u>	<u>LOCATION</u>
Biscuit Brook	1.45	L	B	Old Seager-West
West Branch Highway				Branch Junction
(unclear)				
Claryville	14.35			
(sign poor shape)				
3500 feet No Camping		S		Near Summit of Bi
				Indian - south
				side
3500 feet No Camping		S		Summit of Big
(poor condition)				Indian
Belleayre Mountain	2.9	R	B	Intersection with
Belleayre Mountain				Oliverrea-Mapledal
Leanto	3.4			Trail
Pine Hill Village	5.8			
McKenley Hollow	1.4	L	R	Intersection with
McKenley Hollow				Oliverrea-Mapledal
Leanto	1.2			Trail
Oliverrea	2.7			
Eagle Mountain	2.1	L	B	Intersection with
Shandaken Creek				Oliverrea-Mapledal
Leanto	4.1			Trail
Biscuit Brook Leanto	7.2			
Biscuit Brook				
Parking Lot	9.1			
Rider Hollow		L	R	Intersection with
Leanto #3	1.15			Oliverrea-Mapledal
Rider Hollow				Trail
Leanto #1	1.35			
Mapledale	4.2			
3500 feet No Camping				Summit of Balsam
				Mountain - south
				side
3500 feet No Camping				Summit of Balsam
				Mountain - north
				side
Big Indian Mountain	1.5	R	B	Junction with
Biscuit Brook Leanto	3.5			Seager Trail
West Branch Highway	4.7			
(Faded needs new sign)				

<u>SIGN</u>		<u>ARROW</u>	<u>MARKER</u>	<u>LOCATION</u>
Eagle Mountain	1.0	R	B	Junction with
Balsam Mountain	3.9			Seager Trail
Belleayre	6.0			
(sign down)				
Seager Parking Area	3.0			
Stewart's Turn	4.15			
Shandaken Creek Leanto				
(sign cracked)	.9			
<u>OLIVEREA-MAPLEDALE TRAIL</u>				
Motorized Vehicles		S		Rider Hollow
Prohibited, Foot Trail				Parking Lot
Rider Hollow Trailhead		S		Rider Hollow
Parking				Parking Lot
Rider Hollow Leanto	.3	R	R	Rider Hollow
Balsam Mountain	2.5			Parking Lot
Belleayre Mountain	2.2			
Camping Prohibited within		S		Rider Hollow
150 Feet of Trail or Stream				Parking Lot
Trail		L		At first stream
				crossing
"If You Carry It In, Carry		S		First Leanto
It Out"				
Mapledale	2.8	L	R	Bridge (metal)
Belleayre Mountain	1.9	R	R	Bridge (metal)
Balsam Mountain				
(sign split off)				
No Camping within 150 Feet		S		Bridge (metal)
of Trail or Stream				
(Damaged)				
Spring		R		Second Leanto,
				McKenley Hollow
State Land Reg.'s		S		Trail Register
Arrow		L	R	Access Bridge
Trail		R		Access Bridge

<u>SIGN</u>	<u>ARROW</u>	<u>MARKER</u>	<u>LOCATION</u>
(2) Public Easement Across Private Land	S		Along Easement
McKenley Hollow Leanto .3	R	R	McKenley Hollow Parking Lot
Rider Hollow Leanto 2.9			
Belleayre Mountain 4.4			
"If You Carry It In, Carry It Out"	S		McKenley Hollow Parking Lot
Parking Area	L		McKenley Hollow Parking Lot
McKenley Hollow Trailhead Parking	S		McKenley Hollow Parking Lot
Populated Area. Target Practice or Shooting Strictly Prohibited	S		Burnham Hollow Parking Lot
"If You Carry It In, Carry It Out"	S		Burnham Hollow Parking Lot
Forest Preserve Access	R	R	Burnham Hollow Parking Lot
State Land Boundary Private Land Beyond This Point	S		Burnham Hollow Parking Lot
(6) State Land Boundary	S		Up through access corridor from parking lot

APPENDIX D - EASEMENTS

1-McKenley Hollow Access Easement

LIBER 1441 PG 918

FORM 555X N. Y. DEED-BARGAIN AND SALE Rev. 2/77
 30-0727-1973



TUTTLE BLANK REGISTERED U. S. PAT. OFFICE
 TUTTLE LAW PRINT PUBLISHERS BOSTON, NY 10010

This Indenture,

Made the 11th day of February
 Nineteen Hundred and Eighty-One

Between FRANCES A. KEMPF, residing at
 McKenley Hollow Road, Olivera, Ulster
 County, New York,

party of the first part, and FRANK HITZ, ANASTAZIA HITZ and JANNETTE HITZ,
 all residing at 20 East 35th Street, New York, New York 10016, as
 joint tenants,

Witnesseth that the party of the first part, in consideration of

One Dollar (\$ 1.00)
 lawful money of the United States, and other good and valuable consideration
 paid by the parties of the second part, does hereby grant and release unto the
 parties of the second part, their heirs and assigns forever

ALL THAT CERTAIN PIECE, PARCEL OR TRACT OF LAND, situate in
 McKenley Hollow, Olivera, Town of Shandaken, County of Ulster and
 State of New York, more particularly bounded and described as follows

Beginning at a point marked by a birch tree, said point being
 the most Southwesterly corner of lands of Robert Walsh; thence from
 said point of beginning N 08° 41' 05" E 30.34 feet along lands of
 said Walsh and crossing the Walsh driveway to, an iron pipe set in the
 ground; thence N 08° 41' 05" E 48.70 feet along lands of said Walsh
 to an iron bolt set in the ground; thence N 24° 29' 00" W 47.83 feet
 along lands of said Walsh to an iron bolt set in the ground; said
 point being the most Northwesterly corner of lands of said Walsh;
 thence N 44° 11' 30" W 158.06 feet along other lands of said Bindig,
 Roesler and Schweiger to a large maple tree on the Northeasterly side
 of a private road; thence S 46° 15' 50" W 76.81 feet and passing over
 an iron pipe set in the ground on the Northeasterly side of McKenley
 Hollow Brook to a point in the center of said brook; thence along
 the center of McKenley Hollow Brook the following three courses and
 distances: S 24° 43' 50" E 109.33 feet to a point; thence S 02° 31'
 10" W 121.42 feet to a point; thence S 32° 28' 50" E 30.51 feet to a
 point; thence N 61° 06' 20" E 133.38 feet along lands of Casimier Tym
 and crossing the aforementioned private road to the point and place
 of beginning.

Containing 0.721 acre of land, more or less.

ALSO GRANTING AND CONVEYING unto the parties of the second part,
 their heirs and assigns, an equal and unrestricted use of a roadway
 being fifty (50) feet in width for all usual and necessary means of
 ingress and egress to and from the lands above described, to the
 public highway known and distinguished as the McKenley Hollow Road,
 which said roadway is located and running in a northerly direction
 from the end of the McKenley Hollow Road to the premises above
 described.

SUBJECT, HOWEVER, to all easements or rights granted or conveyed
 to the New York State Gas and Electric Company and/or New York
 Telephone Company for utility purposes.

EXCEPTING AND RESERVING from the above described premises a right
 of way over the existing private road which crosses the Northwesterly

portion of such premises running from the Southeasterly boundary thereof to the Northwesterly boundary thereof as well as a spur from such existing roadway over the Southerly portion thereof which spur presently serves the premises of Robert and Phyllis Walsh on the East. There is also reserved a right of way from the aforesaid private right of way to McKenley Hollow Road to the 1.514 acre parcel of the parties of the first part which adjoin the above described premises on the Northeast which right of way shall be for the purpose of ingress and egress to such 1.514 acre parcel.

The above described premises are conveyed subject to the following covenants and restrictions which shall run with the land:

1. No trailers or unregistered vehicles, of any kind, to be left or placed upon the premises.
2. No more than one dwelling and one personal garage or carport, attached or detached, may be erected on each parcel; but no building may be erected less than twenty (20) feet from said 50 foot wide roadway.
3. All of the foregoing covenants and restrictions shall bind and enure to the benefit of the parties hereto, their heirs, legal representatives, successors and assigns forever.

★ The above described premises is also subject to the rights and privileges if any of the public and the State of New York to use a foot path or trail which crosses such premises on its most southerly portion. Such trail or path adjoins the McKenley Hollow Brook on the northeast and extends from the southeasterly boundary line of the above described premises, which is also the last course thereof in a northwesterly direction a distance of approximately 70 feet more or less to a wooden foot bridge which crosses the aforesaid brook and the third from last course of the above description set forth as S 82° 31' 10" W.

Being the same premises described in a deed from Gerhard Bindig, Herbert Roesler and Werner Schweiger to Frances A. Kemp dated May 10, 1974 and recorded in the Ulster County Clerk's on the same date in Liber 1324 of Deeds at page 936.

LIBER 1441 PG 919

LIBER 1176 PG 674

WARRANTY DEED, WITH FULL COVENANTS.
(Individual)

THIS INDENTURE

Made the 9th day of December
in the year nineteen hundred sixty-five

Between JOHN C. S. MCKILLIP, residing at 2216 Avenue A,
Bradenton Beach, County of MANATEE, State of Florida, party

of the first part,

And THE PEOPLE OF THE STATE OF NEW YORK, parties of the second part.

Witnesseth, That the party of the first part, in consideration of ELEVEN
THOUSAND SIX HUNDRED TWENTY and 80/100 DOLLARS (\$11,620.80)

lawful money of the United States, paid by the parties of the second part, does hereby grant and
release unto the said parties of the second part, and their successors and assigns forever,

ALL THAT TRACT, PIECE OR PARCEL OF LAND situate, lying and
being in the Town of Shandaken, County of Ulster and State of
New York, being a part of Lot 9 of Farms and the Gore Lot, being
part of Lot 2, Division 2 of Great Lot 7 of Hardenburgh Patent,
and more particularly bounded and described as follows:

BEGINNING at the common corner of Farm Lots 6 and 7 and
Lot 1 of Division 2 of Great Lot 7, Hardenburgh Patent
and the Gore Lot (being part of Lot 2, Division 2 of said
Great Lot 7) which is marked by a large stone on end
with stones around in the center of a large maple tree
stump; thence along the line of Lot 1 of Division 2 and
on a course of S 40°16' W, a distance of 43.86 chains to
a pile of stones standing in the easterly line of lands
of The People of the State of New York located in Lot 2
of Division 3 of said Great Lot 7; running thence S 48°13' E
along said easterly line of said lands of The People of
the State of New York, a distance of 67.873 chains to a
point therein marked by a pile of stones by an old hemlock
stump painted yellow and marking a corner of other lands
of The People of the State of New York in Lot 3 of Division
2 of said Great Lot 7; running thence along said lands of
The People of the State of New York N 37°46' W, a distance
of 15.816 chains to a point therein marked by a pile of
stones painted yellow; running thence still along said
lands of The People of the State of New York N 50°56' E,
a distance of 8.389 chains to a pile of stones painted
yellow; running thence still along said lands of The People
of the State of New York N 49°56' E, a distance of 41.909

chains to a point in the center line of Esopus Creek; thence running in a generally northerly direction and along the center line of said creek the following 4 courses and distances:

N 23°00' W 3.86 chains
N 14°25' W 4.24 chains
N 11°00' W 4.39 chains
N 6°00' W 7.59 chains to a point therein;

running thence along the southerly line of lands now or formerly of Fritz Kohtz, conveyed to him by deed recorded in the Ulster County Clerk's Office in Book 1078 cp 311, and on a course of S 49°36' W, a distance of 31.36 chains to a southwesterly corner of his lands marked by a stone on end with stones around; thence still along said lands of Kohtz and on a course of N 40°24' W, a distance of 17.46 chains to the line between Farm Lot 8 and 9 at a point therein marked by a stone on end with stones around and marking a corner in the lands of said Kohtz; thence along the Division Line between Farm Lot 8 and 9 and along the line of lands of said Kohtz, conveyed to him by deed in Book 1041 cp 276, S 49°36' W, a distance of 23.28 chains to the northerly line of the Gore Lot, so called, being a part of Lot 2 of Division 2 of Great Lot 7 in said Patent, marked by a pile of stones in said line which point is also the southerly corner of said Farm Lot 8 and a corner in the lands of said Kohtz; running thence on a course of N 18°44' W and along lands of said Kohtz, a distance of 14.81 chains to a point marked by an old pile of stones on a ledge north of a cornered beech tree stubstanding in the north line of said Gore Lot; running thence still along the north line of said Gore Lot and along land reputedly of William Schwerdtfeger (conveyed to him in Liber 1090 cp 849) and along lands reputedly of Eric Greissner, et al, (conveyed to him in Liber 603 cp 67) and on a course of N 21°04' W, a distance of 24.09 chains to the point or place of beginning.

Containing 322.8 acres of land, more or less.

All courses are referred to Magnetic North-year 1964.

TOGETHER with all the right, title and interest of the grantor of, in and to the said Esopus Creek and the bed thereof.

TOGETHER with a right-of-way over and across a certain roadway as presently existing leading southerly through the northeasterly portion of the lands of Fritz Kohtz from the County Highway to the southerly part of Farm Lot 9 herein above conveyed.

The roadway herein referred to is the roadway near the west side of Esopus Creek and is for ingress and egress by foot and vehicles to said County road.

TOGETHER with all the right, title and interest of the grantor of, in and to another certain roadway leading from the county road near the lands formerly of Orlando Van Valkenburgh and now of Karl Hofferburg southwesterly through the northerly portion of Farm Lot 9 (now owned by Fritz Kohtz) and through the southerly part of Farm Lot 8 (also owned by said Kohtz) and into the Gore Lot, so called, for ingress and egress thereto by foot and vehicle to and from said public highway.

LIBER 1176 PG 675



3 - Fernwood Cottage Access Easement

THIS INDENTURE, made the Second day of January in the year Nineteen Hundred and twenty-six.
BETWEEN MATTIE LOUISE JOHNSON, of Maplewood, in the State of New York, party of the first part, and

BIG INDIAN WOOD PRODUCTS COMPANY, Limited, of Big Indian, in the State of Shandaken, County of Ulster and State of New York, party of the second part,

WITNESSETH, that the said party of the first part, in consideration of One dollar and other good and valuable considerations lawful money of the United States paid by the party of the second part, does hereby grant and release unto the said party of the second part, its successors and assigns forever,

ALL THAT CERTAIN PIECE OR PARCEL OF LAND, situate, lying and being in the town of Shandaken, Ulster County, New York, in Great Lot No. 7, Hardenbergh Patent, part of lot No. 3, division two, and is known as the Falls lot and is bounded as follows:

BEGINNING at a heap of stones around a birch tree on the west side of the Esopus Creek opposite the farm formerly of Elias Murray, and running thence along the south side of the creek to a heap of stones the Southwest corner of lot No. 9 aforesaid, then south thirty-four degrees west sixteen chains to a hemlock tree formerly a hard maple tree and stones the north corner of Lot No. 3, Division 3; thence the same south forty nine degrees forty-five minutes east twenty eight chains to a yellow birch tree and stones between lots three and three of divisions two and three; then North sixty degrees east four chains to stones and hemlock tree; then north eighty five degrees east six chains to a beech tree, then north 75 degrees east twelve chains and sixty links to a yellow birch sapling, then North fifty degrees east five chains and fifty six links to a beech tree and stones, then North seventy five degrees east five chains to a yellow birch tree and stones; then north eighty nine degrees east three chains fifty links to a beech tree and stones; then North eighty five degrees east three chains and fifty links near a crooked beech tree; then North Seventy-two degrees thirty minutes East ten chains to a stake and stones on the east side of the creek; then North thirty degrees east sixty two links to a corner of a house, then North fifteen degrees East one chain and eighteen links to the center of the Esopus Creek; then down the center of the said creek as it winds and turns one chain and forty six links to the line now owned by Robert Thompkins, then still down the center of the said creek as it winds and turns to the place of beginning. Containing two hundred and thirty acres of land, be the same more or less.

ALSO all that certain lot or parcel of land, situate, lying and being in Big Indian Hollow in said Town of Shandaken, in Great Lot No. 7, Hardenburgh Patent, bounded as follows, viz:

BEGINNING at a hemlock stump and stones the North corner of lot No. 9, Division 3, and runs south thirty four degrees west forty chains to a heap of stones on the ledge on the State line, thence south fifty two degrees and thirty minutes East thirty chains to a beech tree and stones; thence north twenty four degrees thirty minutes east thirty chains to a beech tree and stones; then North fifteen degrees West ten chains to a heap of stones and a beech sapling marked; thence North thirty degrees east three chains to a beech tree and stones; thence North forty degrees east two chains to a hard maple sapling and stones; thence North thirty three degrees East two chains to a heap of stones on the west side of the road; then the road on the southeast bank of Cascade or Joe's Brook; thence down the brook as it winds and turns five feet from the west side of said road thirteen chains to a heap of stones; then North forty nine degrees and forty five minutes East twenty nine chains to the place of beginning. Containing one hundred and sixty one acres or less.

EXCEPTING AND RESERVING from the aforesaid land all that place

cel of land more particularly described as follows:

ALL THAT CERTAIN PIECE OR PARCEL OF LAND situate, lying and being in the Town of Shandaken, Ulster County, New York, in Great Lot No. 7 Hardenburgh Patent, and is designated or known as the northeasterly portion of the Falls Lot, and is bounded as follows:

BEGINNING at a point, such point being measured southwesterly two chains fifty links distant from a heap of stones around what was formerly a birch tree on the west shore of the Esopus Creek opposite the farm formerly of Elias Murray, and runs thence south forty two degrees thirty minutes east sixty chains thirty nine links to a point on the tenth course mentioned, in the description of the said Falls Lot in the conveyance of Anna Rossiter Peersall to Hattie Louise Johnson, dated January, 5th, 1915, and recorded in the office of the County Clerk of Ulster County in Book No. 451, at Page 29, and runs thence north seventy two degrees thirty minutes east one chain fifty links, thence north thirty degrees east sixty two links; thence north fifteen degrees east one chain and eighteen links to the center of the Esopus Creek; then down the center of the said creek as it winds and turns one chain and forty six links to the line now or formerly of Robert Thompson; then still down the center of the said Creek as it winds and turns to the northwesterly line of the Falls Lot; thence through the first mentioned pile of stones and south forty five degrees west two chains and fifty links to the point or place of beginning. Containing about fifty four acres more or less.

The said party of the second part to have the full and free use of a right of way over and across certain lands now owned and occupied by the party of the first part, and known as the Fernvold Cottage Lot, the said right of way to be at least fifty feet back of said cottage leading from the property last described to the public highway.

Also the right and privilege to the free use of any easement or right of way that the party of the first part now has across the property now owned by Charles T. Andrews.

It is further covenanted that the said party of the second part shall have the full and free right of way or right of ways over and across the premises last described as shall give convenient and reasonable access to and from the premises hereby conveyed.

TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to the said premises.

TO HAVE AND TO HOLD, the above granted premises, unto the said party of the second part, its successors and assigns forever.

AND the said party of the first part, does covenant with said party of the second part as follows:

- First. That the party of the second part shall quietly enjoy the said premises.
- Second. That the said party of the first part will forever WARRANT the title to said premises.

IN WITNESS WHEREOF, the said party of the first part has hereunto set her hand and seal the day and year first above written.

In Presence of
A. E. Karn

Hattie Louise Johnson (L.S.)

\$3.50 I. R. Stamps cancelled

STATE OF NEW JERSEY:
COUNTY OF ESSEX: SS.:

On this 22th day of May in the year Nineteen Hundred and twenty six, before me, the subscriber, personally appeared

--- HATTIE LOUISE JOHNSON ---

to me known and known to me to be the same person described in, and who executed the within Instrument, and she duly acknowledged to me that she executed the same.

(Seal)

Albert E. Karn
Notary Public of N.J.
My Commission Expires May 14, 1930.

STATE OF NEW JERSEY:
COUNTY OF ESSEX: SS.:

I, JOHN H. SCOTT, Clerk of the County of Essex, (and also Clerk of the Circuit Court and Court of Common Pleas, the same being Courts of Record of the aforesaid County, having by law a seal) DO HEREBY CERTIFY, That

--- ALBERT Z. KARN, ESQ. ---

West Branch - Haynes Hollow Trail

THIS INDENTURE made this 16th day of
November 19 37, between Scott Haynes
of West Hurley, Ulster
County, New York, party of the first part, and the
People of the State of New York, represented by the Conservation
Department, parties of the second part.

WITNESSETH, that the said party of the first part, in
consideration of the sum of One Dollar (\$1.00) lawful money of the
United States, to _____ paid by the party of the second part,
does hereby grant unto the said parties of the second part an
easement over lands of the party of the first part for the purpose
of passing through or across the lands hereinafter described on
foot, skis, snowshoes or horseback, as hereinafter provided, over
a trail having a width of not exceeding twenty (20) feet throughout
said trail except where, in the judgment of the parties of the
second part, through the Conservation Department, greater width
may be necessary to assure the safety of the public, on the follow-
ing described land:

*a strip of land 50' wide approximately lot
61 in Great Lot 7 Hardenburg Patent.
Town of Hardenburg Ulster County N.Y.*

Said easement to be for the public use and the location
thereof to be as follows:

LSG 1237 vs 347

1. The parties of the second part shall have the right to enter upon said lands with teams and trucks to construct, improve and maintain the said trail.

2. The owner further grants unto the parties of the second part the right to remove such trees, stumps, rocks or other material deemed hazardous to the public in the use of the easement herein granted, and the further right to use any and all such material in the construction, improvement and maintenance of the said trail and the further right to make such changes in the location of said trail from time to time as shall be deemed desirable, provided said owner shall consent to such change of location.

TOGETHER with the appurtenances and all of the estate and rights of the party of the first part in and to said described easements.

TO HAVE AND TO HOLD the easements herein dedicated and granted unto the parties of the second part forever.

IN WITNESS WHEREOF, the said party of the first part has hereunto set his hand and seal.

ATTEST:

Al Scott Harvey

5 - Balsam Lake Angler's Club Access Easement

(This is the subject of an ongoing lawsuit.)

EXCEPTING AND RESERVING for the benefit of the parties of the first part and their heirs, successors and assigns and the balance of the land conveyed by the aforementioned deed from The Balsam Lake Club to the parties of the first part, which is intended to be conveyed by the parties of the first part to The Catskill Center for Conservation and Development, Inc. (the "adjoining land"), the right and easement to use the premises hereby conveyed with the exception of ^(Club House) PARCEL B, for ingress and egress to and from the adjoining land, for forestry and wildlife management on the adjoining land including the removal of timber from and hunting upon the adjoining land, and for conservation, scientific and educational purposes with respect to the premises conveyed hereby and the adjoining land, provided that the exercise of such rights shall neither injure the premises conveyed hereby nor injure or threaten the ecological balance, indigenous wildlife or scenic values of said premises or the adjoining land nor interfere with the use and enjoyment of said premises by the party of the second part or its successors or assigns. Said right and easement shall not include the right to create public trails across the premises hereby conveyed or to permit public trails across said premises other than presently existing public trails. It is understood that the adjoining lands are intended to be conveyed forthwith to The Catskill Center for Conservation and Development, Inc., at which time the aforesaid right and easement shall be for the benefit of said adjoining lands and The Catskill Center for Conservation and Development, Inc. and its successors and assigns and for the agents of said Center and hunters holding written permits from said Center or the successors or assigns of said Center.

LIBRE 1353, PAGE 438

LIBER 735 PAGE 581

THIS INDENTURE made this 6 day of October 1948, between Walter V. Najarian of Pine Hill, Ulster County, New York, party of the first part, and the People of the State of New York, represented by the Conservation Department, parties of the second part.

WITNESSETH, that the said party of the first part, in consideration of the sum of One Dollar (\$1.00) lawful money of the United States, to him paid by the party of the second part, does hereby grant unto the said parties of the second part an easement over lands of the party of the first part for the purpose of passage by the public through or across the lands hereinafter described on foot, skis, snowshoes or horseback, as hereinafter provided, over a trail having a width of not exceeding twenty (20) feet throughout said trail except where, in the judgement of the parties of the second part, through the Conservation Department, greater width may be necessary to assure the safety of the public. The lands of the party of the first part to which this easement shall apply are described as follows:

HARDENBURGH PATENT
GREAT LOT 8
LAUSETTE TRACT
Parts of Lots 87 and 88

situate in the Town of Shandaken, County of Ulster and State of New York, and being the same premises conveyed by Anna Shekerjian to Walter V. Najarian, party of the first part herein by deed dated January 19, 1937; acknowledged February 19, 1937 and recorded in the Office of the Clerk of Ulster County on August 7, 1937 in Book of Deeds 589 at Page 565.

Said easement to be for the public use and the location thereof to be as follows:

Following the course of the present trail extending from the Village of Pine Hill to the fire observation tower on Belle Ayre Mountain.

1. The parties of the second part shall have the right to enter upon said lands with teams and trucks to construct, improve, and maintain the said trail.

2. The owner further grants unto the parties of the second part the right to remove such trees, stumps, rocks or other material deemed hazardous to the public in the use of easement herein granted, and the further right to use any and all such material in the construction, improvement and maintenance of the said trail and the further right to make such changes in the location of said trail from time to time as shall be deemed desirable.

TOGETHER with the appurtenances and all of the estate and rights of the party of the first part in and to the above described easements.

TO HAVE AND TO HOLD the easements herein dedicated and granted unto the parties of the second part forever.

IN WITNESS WHEREOF, the said party of the first part has hereunto set his hand and seal.

ATTEST:

Walter V. Najarian

APPENDIX E - RARE PLANTS

NORTHERN MONKSHOOD Aconitum noveboracense

FAMILY: Buttercup family (Ranunculaceae)

FLOWERING PERIOD: July to September.

NY NATURAL HERITAGE PROGRAM RANK: G2S2.

PROTECTION STATUS: Federally Threatened. US Federal Register 1985.

DESCRIPTION: Erect or reclining, from a tuberous-thickened root. Leaves deeply lobed or toothed, 5-7 cleft, lower leaves 6-10 cm broad. Purple flowers with distinctive helmet and concealed upper two petals, lower three petals small or absent.

DISTRIBUTION: Northern Monkshood is found in only New York, Ohio, Wisconsin, and Iowa.

HABITAT: In New York, Northern Monkshood grows in shaded cool alluvial substrates, particularly mosses and cobbles along streams. In the Midwest the Northern Monkshood grows on cool moist talus slopes and under the water-line of overhanging cliffs and ledges.

TAXONOMIC COMMENT: Northern Monkshood may be conspecific with Aconitum noveboracense of Western North America.

MANAGEMENT: Because of the fragile habitat of this species a minimum of human activity is desired. Place trails away from river banks and fence areas to reduce grazing if it occurs.

SELECTED REFERENCES:

Field, T. C. and J. L. Platt. 1983. Upper Beaverkill Valley Resources Survey. Open Space Institute.

Mitchell, R. S. 1982. Recovery Plan and Status of Northern Monk's-hood (Aconitum noveboracense) in New York. unpublished

Read, R. H. & J. B. Hale. 1983. Recovery Plan for Northern Monkshood. U. S. Fish and Wildlife Service.



NORTHERN MONK'S-HOOD *Aconitum noveboracense*. These rare and beautiful plants were the first in New York State to be protected by federal law. The species, which derives its latin name from its discovery in New York, is known from fewer than 20 locations in the world. Illustrated here are fall plants which have fruited from July-August flowers and continue to flower after deer browse. From "Rare Plants of New York State," Mitchell and Sheviak, 1981.

JACOB'S LADDER
Polemonium vanbruntiae

FAMILY: Jacob's Ladder Family (Polemoniaceae)

FLOWERING PERIOD: June to August.

NY NATURAL HERITAGE PROGRAM RANK: G3S2.

PROTECTION STATUS: Federal Category 2. Federal Register 1985.

DESCRIPTION: Jacob's Ladders are moderately tall herbs, 0.75-1.5 m, with compound (ladder-like) leaves and blue to purple flowers. Polemonium vanbruntiae is most easily distinguished from P. reptans (the other Jacob's Ladder in NY) by the long exerted stamens and generally greater number of leaflets in P. vanbruntiae.

DISTRIBUTION: Jacob's Ladder is known from 7 states and 2 Canadian provinces. Currently there are about 30 extent sites from West Virginia and Maryland to New York and Vermont.

HABITAT: Polemonium vanbruntiae is a swamp plant which prefers subacid or neutral substrates. It does best in open sedge meadows.

TAXONOMIC COMMENTS: Polemonium vanbruntiae is often considered a subspecies of Polemonium caeruleum, a western North American species.

MANAGEMENT: Because this Jacob's Ladder seems to do best in open early successional situations the best management practice would be to keep the shrubs, usually Alders and Spirea, down. Other major problems are flooding due to beaver activity and grazing by deer or other animals.

SELECTED REFERENCES:

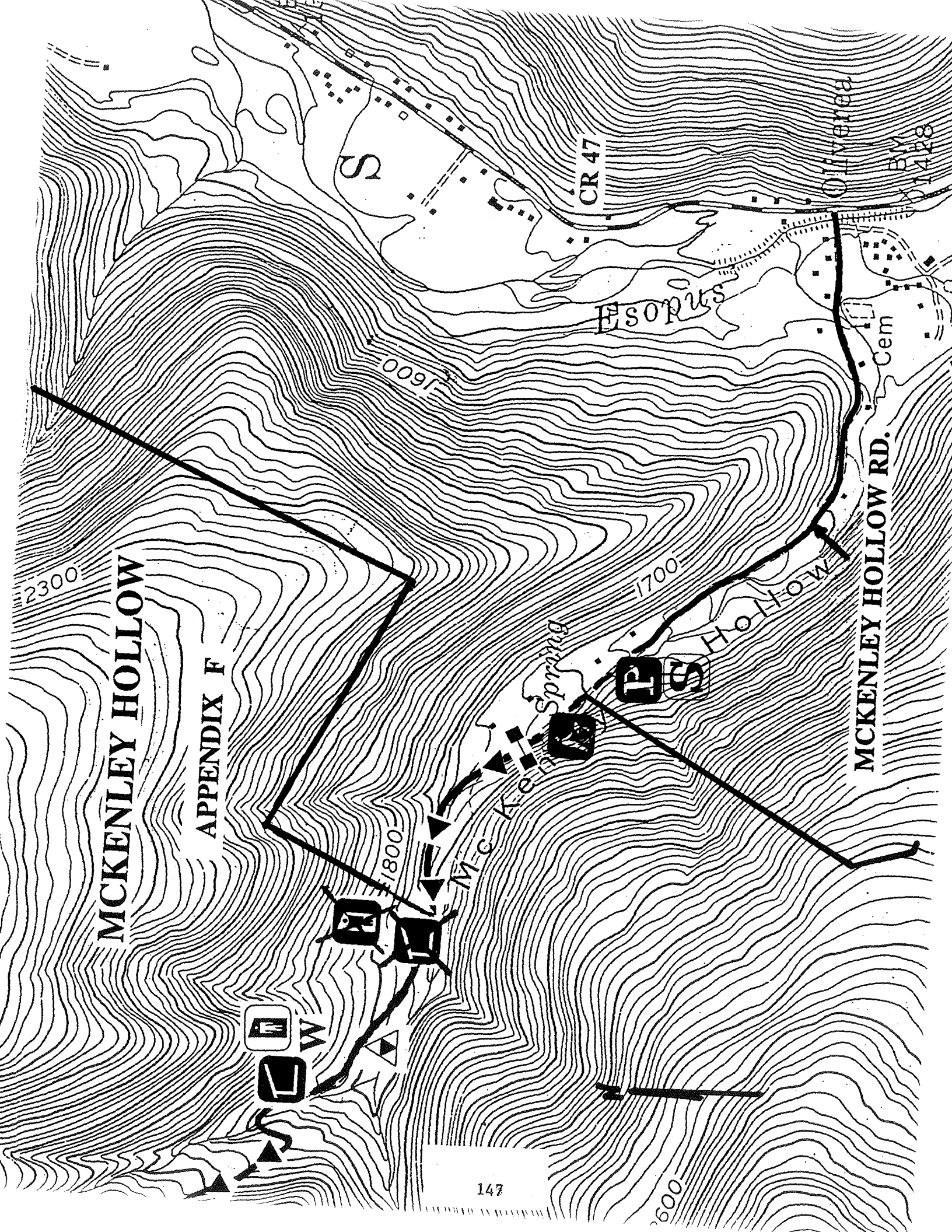
Davidson, John F. 1950. The genus Polemonium (Tournefort) L.
Univ. of Calif. Pub. in Bot. 23(5) 209-282.

JACOB'S LADDER



Fig. 2. *Polemonium caeruleum* L. subsp. *VanBruntiae* (Britt.), comb. nov.
a, Habit, $\times \frac{1}{2}$. b, Dissection of flower, $\times 2$. c, Calyx, $\times 2$.

From Davidson (1950).



MCKENLEY HOLLOW

APPENDIX F

RIDER HOLLOW

APPENDIX G

RIDER HOLLOW RD.

P

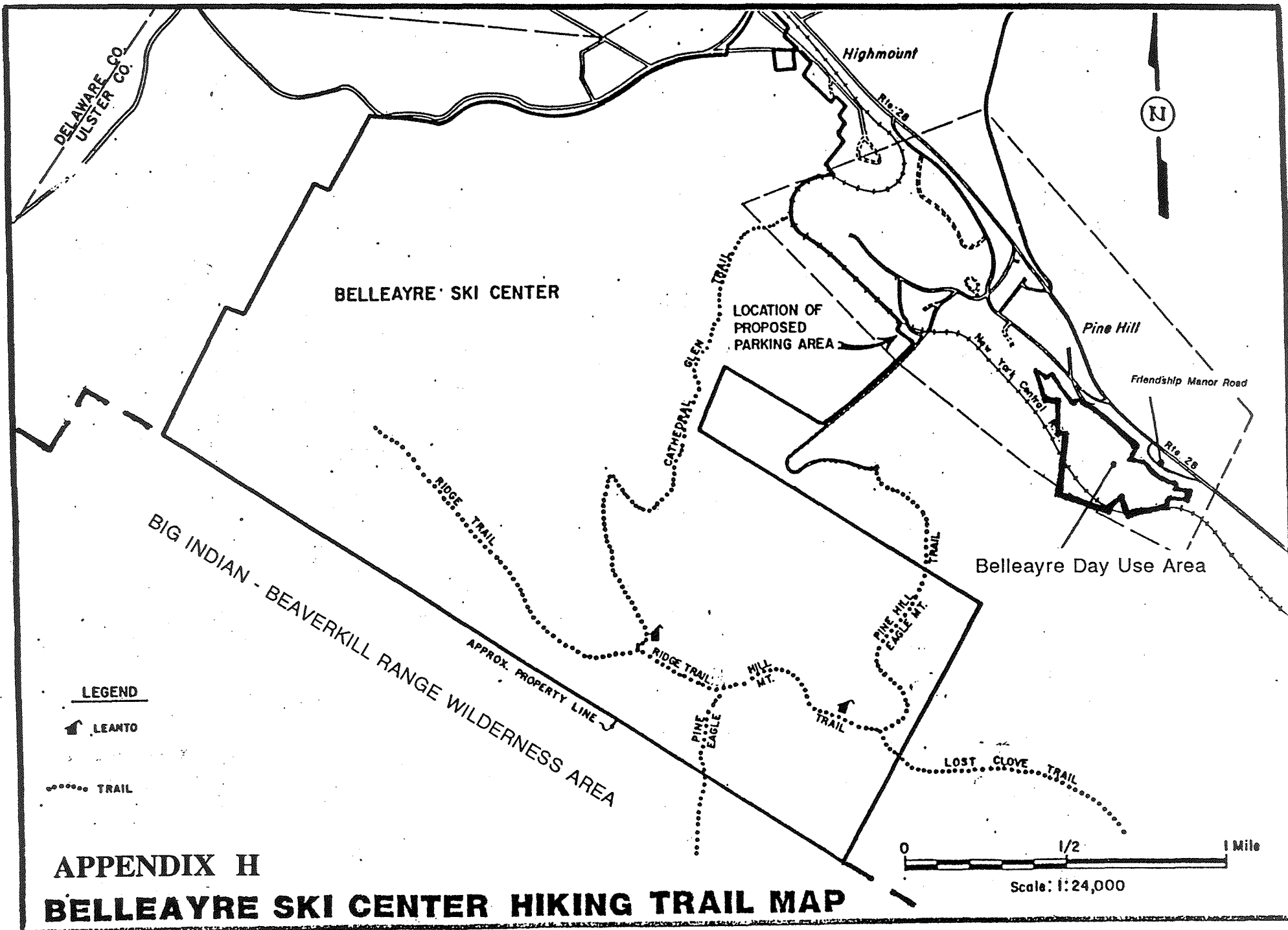
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W



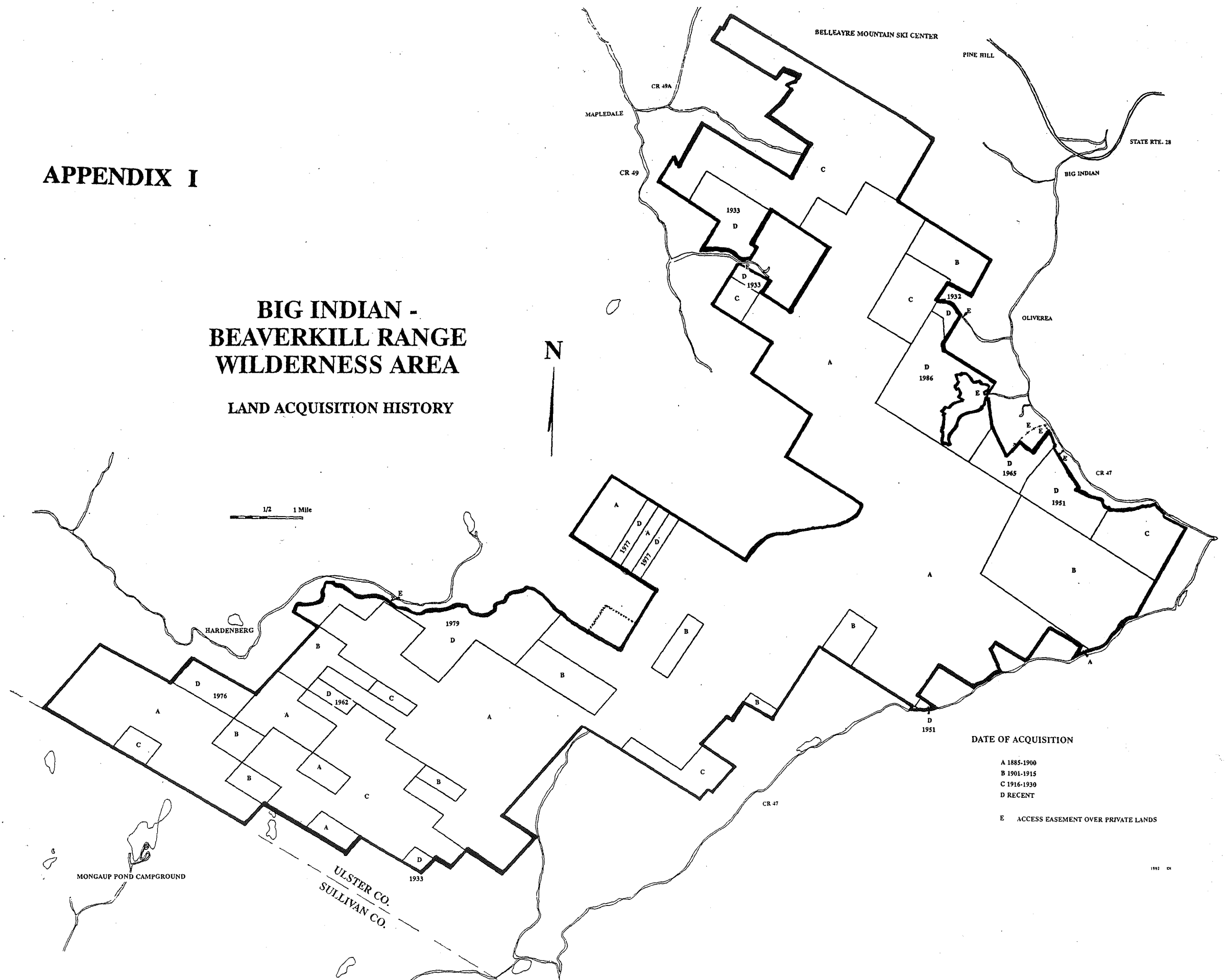
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APPENDIX I

BIG INDIAN - BEAVERKILL RANGE WILDERNESS AREA

LAND ACQUISITION HISTORY



APPENDIX J

BIG INDIAN -
BEAVERKILL RANGE
WILDERNESS AREA

GENERAL TOPOGRAPHIC MAP

N

1/2 1 Mile

BELLEVUE MOUNTAIN SKI CENTER

PINE HILL

STATE RTE. 28

BIG INDIAN

OLIVERIA

CR 47

BEAVERKILL STREAM

HARDENBERG

HARDENBERG

STATE FOREST RESERVE

DENNING

ULSTER CO.
SULLIVAN CO.

MONGAUP POND CAMPGROUND

CATSKILL STATE PARK

SHANDAKEN

CR 47

NEVERSINK RIVER WEST BRANCH

STATE FOREST PRESERVE

1992

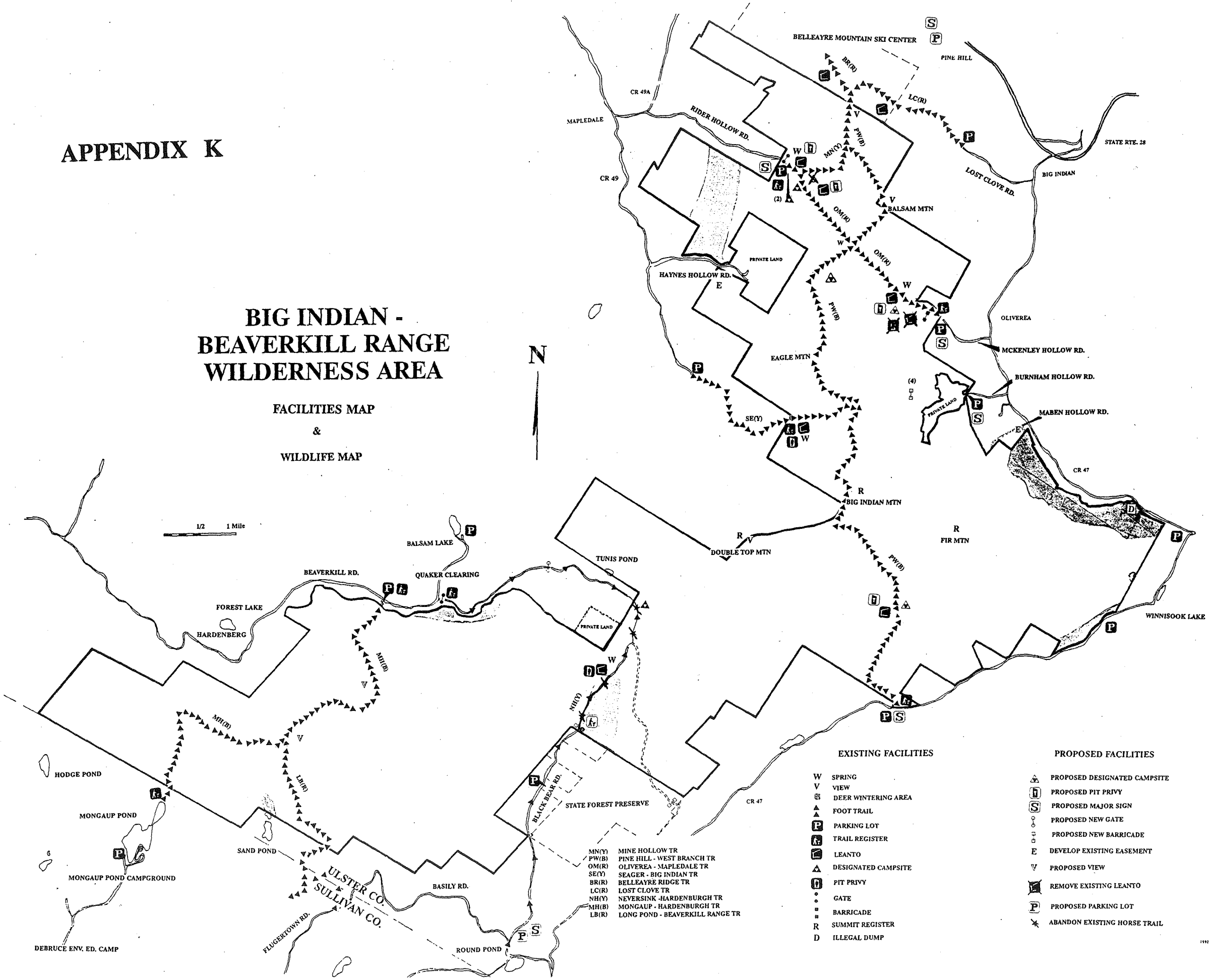
STATE FOREST PRESERVE

DENNING

APPENDIX K

BIG INDIAN -
BEAVERKILL RANGE
WILDERNESS AREA

FACILITIES MAP
&
WILDLIFE MAP



APPENDIX L

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADDRESSES AND PHONE NUMBERS

REGION 3 OFFICE:

NYS DEC
21 South Putt Corners Road
New Paltz, NY 12561
(914) 255-5453

FOREST RANGERS:

TOWN OF SHANDAKEN

Patricia Rudge
P. O. Box 25
Big Indian, NY 12410
(914) 254-4126

TOWN OF HARDENBURGH

Charles Platt
Arkville, NY 12406
(914) 586-3240

TOWN OF DENNING

Stephen Preston
Claryville, NY 12725
(914) 985-2215