

HELDERBERGS UNIT MANAGEMENT PLAN

A MANAGEMENT UNIT

CONSISTING OF THREE STATE FORESTS

AND THREE WILDLIFE MANAGEMENT AREAS

IN WESTERN AND SOUTHEASTERN

ALBANY COUNTY

HELDERBERGS UNIT MANAGEMENT PLAN

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PREFACE

It is the policy of the Department to manage State Forests and Wildlife Management Areas for multiple benefits to serve the People of New York State. This Unit Management Plan is the first step in carrying out that policy. The plan has been developed to address management activities on this unit for the next ten years, with a review due in five years. Some management recommendations may extend beyond the ten year period. Factors such as budget and manpower constraints, recreational demands, wood product markets and forest health problems may necessitate deviations from the scheduled management activities.

TABLE OF CONTENTS

	PAGE
INFORMATION ON THE UNIT	1
A. History of the Helderbergs Management Unit.....	1
B. Geographical and Geological Information.....	2
C. Vegetative Types and Stages Within the Unit.....	3
D. Wildlife Resources	6
E. Fisheries Resources.....	8
F. Wetlands and Water Resources	11
G. Significant Habitats and Endangered, Threatened and Special Concern Species..	12
H. Roads.....	14
I. Recreation.....	15
J. Other Facilities.....	15
K. Other Uses.....	16
L. Property Records.....	16
M. Archaeological and Historical Sites.....	16
RESOURCE DEMANDS AND MANAGEMENT CONSTRAINTS ON THE UNIT	
16	
A. Management Constraints.....	16
B. Resource Demands.....	17
THE GOAL OF MANAGEMENT	19
OBJECTIVES	19
A. Protection Management.....	19
B. Public Use and Recreation.....	20
C. Wildlife Management.....	20
D. Fisheries Management.....	20
E. Forest Resources.....	21
F. Education and Research.....	21
INFORMATION IN SUPPORT OF THE GOAL AND OBJECTIVES	21
A. Protection Management.....	22
B. Public Use and Recreation.....	22
C. Wildlife Management.....	22
D. Fisheries Management....	25
E. Timber Management.....	26
F. Education and Research.....	28
MANAGEMENT ACTIONS	28

PROTECTIVE ACTIONS	29
PUBLIC USE AND RECREATION ACTIONS	30
WILDLIFE MANAGEMENT ACTIONS	31
FISHERIES MANAGEMENT ACTIONS	32
TIMBER MANAGEMENT ACTIONS	32
COORDINATIVE ACTIONS	34
DATA COLLECTION ACTIONS	34
BORROW PIT ACTIONS	34
SCHEDULE OF MANAGEMENT ACTIONS	34
A. Timber Harvesting and Improvement Cuts.....	34
B. Apple Tree Release and Aspen Stand Rehabilitation.....	34
C. Grassland Maintenance.....	35
D. Boundary Line Maintenance.....	35
E. Maintenance of Public Forest Access Roads and Haul Roads.....	35
F. Forest Inventory.....	35
G. Trail Maintenance.....	35
H. Parking Area Maintenance.....	35
I. Litter Pickup.....	35
J. Construction Projects.....	35
CONSTRUCTION PROJECT COSTS	36
ANNUAL MAINTENANCE COSTS	36
REFERENCES	36
APPENDICES	37
1. Maps.....	37-42
2. Breeding Bird Atlas.....	43-45
3. Species Occurrence Lists.....	46-47
4. Mined Land Reclamation.....	48
5. Forest Inventory.....	49-51
6. Initial Comments.....	52-57
7. Property Taxes - 1998.....	58
8. Comments Received At Public Hearing.....	59-61
9. Comments Received After Public Hearing.....	62
10. Listing of Forest Stands.....	63-71
11. State Environmental Quality Review.....	72
- Full Environmental Assessment Form	

- Negative Declaration

INFORMATION ON THE UNIT

A. History of Helderbergs Management Unit

The Helderbergs Management Unit (Unit) is named after and located in the Helderberg Mountains, or more simply called the "Helderbergs" by local residents. Early settlers in the Helderbergs cleared the land for farming starting in the last half of the 18th century, when the Van Rensselaers opened the land for settlement. Lots were surveyed in ½ mile squares. Even today, over 200 years later, the outlines of some of these "great lots" can be seen from the air.

Early farming efforts met with limited success. After clearing, repeated cropping with buckwheat, barley and rye depleted soil fertility. Erosion was commonplace. The short growing season, poor shallow soils and economic changes resulted in the area becoming sub-marginal for agriculture. When the less fertile soils proved unproductive, they were abandoned and settlement was attempted elsewhere. Under the USDA Resettlement Administration of the 1930's, Federal money was used to purchase much of the unproductive farmland, much for \$2-4 an acre. In two years, the government helped to move most of the farmers to other areas where agriculture was more productive.

The New York State Conservation Department entered the picture about the same time the Resettlement Administration was buying much of the present State land in the Helderbergs. Eighty percent of the land was open farmland at the time. The State Reforestation Law of 1929 and the Hewitt Amendment of 1931 set forth the legislation which authorized the Conservation Department to acquire land by gift or purchase for reforestation areas. The State

Forests, consisting of not less than 500 acres of contiguous land, were to be forever devoted to "reforestation and the establishment and maintenance thereon of forests for watershed protection, the production of timber, and for recreation and kindred purposes." In 1930, Forest Districts were established and the tasks of land acquisition and reforestation were started. In 1933, the Civilian Conservation Corps (CCC) was begun. Thousands of young men were assigned to plant millions of trees on the newly acquired State lands.

In the early 1940's, the Federal government granted the New York State Conservation Department a 99 year lease for what is now much of the Partridge Run Wildlife Management Area for the sum of \$1.00. The lengthy agreement stated that the three "purposes of management" of the area were forestry, wildlife and recreation. On July 28, 1961, 4,016 acres were transferred from the U.S. Department of Interior (successor to the Resettlement Administration, USDA) to the Conservation Department by a quitclaim deed. The deed was accepted on September 5, 1962. In the interim, the total acreage had grown to 4,540 acres. The Division of Lands and Forests later added 938 acres, much of it in the 1960's as well, bringing the total acreage to 5,478 acres.

The three State Forests were acquired piecemeal during two separate time periods, the 1930's and 1960's. Margaret Burke and Louise Keir WMA's were gifted to the Department in 1958 and 1978, respectively.

Some notable historical events had their roots in the Helderbergs. One such event concerns Thomas Peasley of West Mountain. He was a strong leader in an Albany County

farmer's organization to prevent the collection of rents. He came from Massachusetts in the late 1700's. He settled on Henry Hill in 1777, in the farmhouse built by Abigail Taylor of Rhode Island. The first shot of the Anti-Rent War of the 1830's and 1840's was fired on the Peasley Farm. A member of the sheriff's posse was looking for the local farmers who were meeting in a wooded area near the Peasley Farm. Thomas Peasley's younger brother James was spotted crossing an open meadow with a basket of food. He was fired upon and hit. His wounds were minor. He ran into the woods and escaped. Wallace Peasley, great-grandson of James, operated the farm until the 1930's. He raised thoroughbred trotting horses. He once owned the famous stallion, Varrick, the subject of a Currier and Ives lithograph.

B. Geographic and Geological Information

The Helderbergs Management Unit is located in the Towns of Berne, Rensselaerville, Knox, and Coeymans in Albany County, and the Town of Broome in Schoharie County. Most of the Unit is in Albany County, just east of the Albany/Schoharie County line. The Unit lies 20-25 miles west-southwest of the City of Albany. The Helderbergs form a readily recognized escarpment extending north from the Catskill Mountains. The Hudson Valley is to the east of the Helderbergs, the Mohawk Valley to the north.

Three wildlife management areas and three State forests comprise the Unit. They are:

Partridge Run Wildlife Management Area
 Louise Keir Wildlife Management Area
 Margaret Burke Wildlife Management Area
 Albany RA #1 - Partridge Run State Forest
 Albany RA # 3 - Cole Hill State Forest
 Albany-Schoharie RA #1 - Rensselaerville State Forest

The Helderbergs Management Unit is located in the northeast corner of the

Appalachian Plateau in the Helderberg Highlands ecozone. Elevations range from 900 to 2,160 feet above sea level. Most are above 1,200 feet, with the higher elevations between 1,600 and 1,900 feet. The Helderberg Mountains consist of some relatively flat hill tops and a series of ridges. These ridges have gentle, southwest facing slopes and steep, north-northeast facing slopes that drop down into valleys. Creeks in the area drain south and east into the Hudson River, primarily by way of Lake, Ten Mile, Coeymans, Hannacroix, and Catskill Creeks, and north and west by way of the Little Schoharie, Switz Kill, Fox and Schoharie Creeks, the latter draining into the Mohawk River which, in turn, also drains into the Hudson.

Bedrock formations beneath the Helderberg Mountains are Middle Devonian in age (about 375 million years ago). The Lower Hamilton Group are the most extensive rocks. They are dark gray, thick-bedded, fossiliferous sandstones and shales and include the Copeland Hill-Wolf Hill (Louise Keir WMA), Irish Hill (Cole Hill SF), and West Mountain (Partridge Run WMA/SF) escarpments. The Kiskatom Formation, consisting of thick, red sandstones and shale beds, is located in the southwestern part of the county and includes Cheese Hill on Rensselaerville State Forest.

At least four major advances of glacial ice covered Albany County in the last million years. The latest, the Wisconsin Glaciation, covered the area from 70,000 to 16,000 years ago. The ice was a mile thick. The ice sheets plowed southwestward across the Helderbergs. They bulldozed and transported soil and rock debris deposited by the previous ice advance. It was redeposited in a mosaic of glacial tills and stratified sediments during the retreat. Till is the most common glacial deposit. Rarely carried more than five miles, the tills resemble the underlying bedrock. The gray shales and sandstones of the Lower Hamilton Group are the source rock of the gray to brown glacial till of the Lordstown-Kearsarge-Arnot soils. The higher clay

content of the Lower Hamilton Group also controls the high clay content of the Nunda-Burdett soils. The reddish Lackawana-Morris-Wellsboro soils overlie the Kiskatom Formation and its thick, red sandstones and shale beds.

The soils in the Unit formed mostly in very deep to shallow glacial till deposits derived from limestone, shale, or sandstone. The soils range from gently sloping to very steep and are mostly moderately well drained or somewhat poorly drained. In many areas the soils are deep and suitable for crop production associated with dairy farming. In areas where the soils are thin to bedrock with numerous large stones on the surface, rock outcrops, or steep slopes, the soils are used mostly as forest land or brush land. Soil limitations include a seasonal high water

table, shallow depths to hardpan, drought conditions during dry periods, low fertility, high acidity, and erosion on steeper slopes. These limitations effect plant growth and management activities such as forest road and trail construction, the location of recreational facilities, the harvesting of forest products, and the establishment of conifer plantations.

C. Vegetative Types and Stages Within the Unit

HELDERBERGS UNIT

VEG. TYPE	ACRES	ACRES	ACRES	TOTAL ACRES	%TOTAL
	0-5"	6-11"	12+"		
Nat Hwd Forest	223	2710	142	3075	31.8
Nat Conifer Forest	41	3	12	56	0.6
Mixed Nat Hwd/ Conifer Forest	23	1609	251	1883	19.4
Plantation	306	2987	308	3601	37.2
Wetland	578			578	6.0
Ponds	93			93	1.0
Open/Brush	328			328	3.4
Other	70			70	0.7
		GRAND TOTAL		9684	100.1

PARTRIDGE RUN STATE LAND COMPLEX (PRWMA & ALBANY RA#1)

VEG. TYPE	ACRES	ACRES	ACRES	TOTAL ACRES	%TOTAL
	0-5"	6-11"	12+"		
Nat Hwd Forest	193	1898	119	2210	39.5
Nat Conifer Forest	41	3	12	56	1.0
Mixed Nat Hwd/ Conifer Forest	15	810	182	1007	18.0
Plantation	96	1258	204	1558	27.9

Wetland	427	427	7.6
Ponds	67	67	1.2
Open/Brush	227	227	4.1
Other	42	42	0.8
		TOTAL	5594
			100.1

PARTRIDGE RUN STATE FOREST - ALBANY RA #1

VEG. TYPE	ACRES			TOTAL ACRES	%TOTAL
	0-5"	6-11"	12+"		
Nat Hwd Forest	0	23	0	23	2.6
Nat Conifer Forest	41	0	0	41	4.7
Mixed Nat Hwd/ Conifer Forest	15	264	0	279	31.7
Plantation	0	406	103	509	57.8
Wetland	16			16	1.8
Ponds	0			0	0
Open/Brush	12			12	1.4
Other	0			0	0
			TOTAL	880	100.0

PARTRIDGE RUN WILDLIFE MANAGEMENT AREA

VEG. TYPE	ACRES			TOTAL ACRES	%TOTAL
	0-5"	6-11"	12+"		
Nat Hwd Forest *	193	1875	119	2187	46.4
Nat Conifer Forest	0	3	12	15	0.3
Mixed Nat Hwd/ Conifer Forest	0	546	182	728	15.4
Plantation	96	852	101	1049	22.3
Wetland	411			411	8.7
Ponds	67			67	1.4
Open/Brush	215			215	4.6
Other	42			42	0.9
			TOTAL	4714	100.0

* There are 408 acres of "hardwood plantation" (red oak, white oak, black locust and red maple) on Partridge Run WMA. This acreage will not be managed similarly to the spruce and pine plantations located on the area. The plantations will be harvested and replanted with spruce. The "hardwood plantation" acreage will be allowed to revert to natural hardwoods and be considered part of the northern hardwood forests. These forests will be managed as unlogged forests or as forests where

we utilize group selection, long rotation cuts.

RENSSELAERVILLE STATE FOREST - AL-SCHO RA#1

VEG. TYPE	ACRES 0-5"	ACRES 6-11"	ACRES 12+''	TOTAL ACRES	%TOTAL
Nat Hwd Forest	8	600	20	628	22.0
Nat Conifer Forest	0	0	0	0	0.0
Mixed Nat Hwd/ Conifer Forest	0	415	54	469	16.5
Plantation	147	1382	104	1633	57.3
Wetland	73			73	2.6
Ponds	26			26	0.9
Open/Brush	5			5	0.2
Other	15			15	0.5
			TOTAL	2849	100.0

COLE HILL STATE FOREST - ALBANY RA #3

VEG. TYPE	ACRES 0-5"	ACRES 6-11"	ACRES 12+''	TOTAL ACRES	%TOTAL
Nat Hwd Forest	12	114	0	126	14.4
Nat Conifer Forest	0	0	0	0	0.0
Mixed Nat Hwd/ Conifer Forest	8	236	15	259	29.6
Plantation	63	347	0	410	46.9
Wetland	65			65	7.4
Ponds	0			0	0.0
Open/Brush	14			14	1.6
Other	0			0	0.0
			TOTAL	874	99.9

MARGARET BURKE WILDLIFE MANAGEMENT AREA

VEG. TYPE	ACRES 0-5"	ACRES 6-11"	ACRES 12+''	TOTAL ACRES	%TOTAL
Nat Hwd Forest	3	39	0	42	16.9
Nat Conifer Forest	0	0	0	0	0.0
Mixed Nat Hwd/	0	98	0	98	39.5

Conifer Forest					
Plantation	0	0	0	0	0.0
Wetland	13			13	5.2
Ponds	0			0	0.0
Open/Brush	82			82	3.1
Other	13			13	5.2
			TOTAL	248	99.9

LOUISE KEIR WILDLIFE MANAGEMENT AREA

VEG. TYPE	ACRES	ACRES	ACRES	TOTAL ACRES	%TOTAL
	0-5"	6-11"	12+"		
Nat Hwd Forest	7	59	0	69	58.0
Nat Conifer Forest	0	0	0	0	0.0
Mixed Nat Hwd/ Conifer Forest	0	50	0	50	42.0
Plantation	0	0	0	0	0.0
Wetland	0			0	0.0
Ponds	0			0	0.0
Open/Brush	0			0	0.0
Other	0			0	0.0
			TOTAL	119	100.0

The above data was compiled from existing inventory records.

“Natural hardwoods” contain trees that have been established through natural regeneration of new seedlings. Some common hardwood species include sugar maple, red maple, American beech, red oak, white birch, basswood, white ash and black cherry.

“Mixed hardwoods/conifers” contain trees that have been established naturally and are of at least 10% white pine, Eastern hemlock, or red spruce.

“Conifer plantations” contain trees established by mechanical means. These stands contain red, Scotch, white or jack pine, European or Japanese larch, Norway or white

spruce, white cedar, and balsam or Douglas fir.

D. Wildlife Resources

The Helderbergs are in the northeastern corner of the Central Appalachian ecozone. The ecozone is 8,830 square miles in size and covers much of the Southern Tier of New York State. It contains a wide array of land forms, from mountains and hills to valleys with extensive low-lying riverine systems, notably the Susquehanna, Allegany and Chemung. The six areas of State land comprising the Unit are located at higher elevations and are characterized by mixed hardwood and hardwood/conifer stands and conifer plantations in various stages of growth. They are enriched by the presence of many scattered wetlands and several small

lakes and ponds. This variety of habitats allows a wide diversity of wildlife species to exist on the State lands, including a few important game species.

Few formal wildlife surveys have been done on the Unit. There was a grouse survey completed recently, and winter deer browse and mortality surveys are conducted periodically. Chambers, in his handbook Integrating Timber and Wildlife Management (1983), compiled an extensive list of wildlife presumed to live within the Central Appalachians ecozone. Chambers further qualified his list by categorizing wildlife species by forest type, forest stage, and special habitat needs. Based on these understandably general characteristics and the habitats that occur on the Unit, 49 species of mammals, 19 species of reptiles, 22 species of amphibians, and 122 species of birds are likely to be found on the Unit (see Appendix 3). Common small game species found on the Unit include rabbits, squirrels, turkeys, and grouse. Varying hare are uncommon. Common furbearers include raccoon, skunk, opossum, red and gray fox, mink, coyote, and beaver. Otter and fisher also frequent the Unit.

Records compiled from 1980-85 for The Atlas of Breeding Birds in New York State (1988) list all bird species that are considered possible, probable and confirmed breeders in all blocks included in the survey. For blocks covering the Unit, 128 species were identified (see Appendix 2). The New York Amphibian and Reptile Atlas Project has recently been completed. Once available, it will include data specific to the Unit.

The many streams, ponds, and swamps in the area provide considerable habitat suitable for beaver. Beaver impoundments add to the habitat diversity of the Unit, but also have the potential for conflicting with human uses of the land. Low-lying roads are sometimes flooded. Water control structures at pond outlets and road culverts are frequently plugged, requiring periodic

maintenance.

White-tailed deer are an important component of the local fauna. Deer populations are managed by issuing deer management permits for harvesting antlerless deer and, hopefully, controlling their numbers in specific geographic areas called Wildlife Management Units (WMU's). The DEC management program strives to maintain deer herds at acceptable levels by balancing costs and benefits associated with deer at different population levels. Habitat conditions and local interests are considered. Citizen task forces, convened by the DEC to represent a broad range of public interests, participate in deer management by setting goals for deer population levels. Task forces consider many issues, including habitat availability, highway safety, and the interests of farmers, foresters, residential homeowners, and hunters to reach a consensus on the number of deer they want in a particular WMU. The Department sets the permit quotas for each WMU to move the deer populations in the direction recommended by the task forces. Many CTF recommendations are dated. The CTF process needs to be started again.

The DEC collects data from successful big game hunters who return the deer report card portion of their big game tags and deer management permits. DEC also gets information by checking deer at highway check stations and at meat processors. From this information the DEC is able to estimate the deer harvest and the buck take per square mile for each county, town and WMU. The 1999 deer harvest for the Towns of Knox, Berne, Westerlo and Rensselaerville, which includes most of the Helderbergs and are collectively known as the "Hilltowns," was 1,200, of which 643 were bucks. For Wildlife Management Unit 4H, which includes most of western Albany County and small portions of Greene and Schoharie Counties, the deer take in 1999 was 1,644; 894 bucks were taken. The deer harvest for the Town of Coeymans, which includes Louise Keir WMA,

was 287, of which 127 were bucks.

Game farm reared pheasants are released on Partridge Run and Margaret Burke Wildlife Management Areas.

The Unit is midway between the Adirondack and Catskill black bear ranges. Bears are infrequently seen in the Helderbergs when transients move through the area. Black bear hunting is closed in the Unit.

As with wildlife, no formal survey of plant species has been done exclusively on the Unit.

Biodiversity Inventories of Partridge Run, Louise Keir and Margaret Burke WMAs have been completed by the Department's Natural Heritage Program. These inventories describe the different vegetative communities found on each area. They also make recommendations for considering the needs of rare species which might be found on the WMA's (see Section G in "Information on the Unit").

E. Fisheries Resources

Partridge Run Lands Complex

Nine ponds 2 to 18 acres in size totaling 80.7 acres and 14 streams 0.2 to 3.4 mi. long and totaling 12.2 miles are located on this state land complex. Only three ponds (Fawn Lake, Tubbs Pond and White Birch Pond) currently support viable fisheries. Two ponds (Becker Pond and Woods Pond) are periodically drained to benefit waterfowl habitat which negate the development of any viable fisheries. Four ponds (Waxwing Pond, Woodduck Pond and two unnamed ponds) have never been sampled and their fisheries potential is unknown. Of the 14 streams, only one unnamed stream about 0.7 mi long supports a sparse population of wild brown trout. The remaining 13 streams totaling 11.5 mi are either dry, intermittent, or too small to support a sport fishery.

Pond Resources

Fawn Lake is a 20.8 acre impoundment with a maximum depth of about 12 feet. Aquatic vegetation is abundant. When last surveyed in 1979, the pond supported a self-sustaining warmwater fish population comprised of chain pickerel, smallmouth bass, brown bullhead, yellow perch, and pumpkinseed. Other fish species present include golden shiner. The pond should be resurveyed to update the current status of fish populations.

Access to the pond is good. There is a seasonal road to the pond and a 15 car parking lot. Launching of car top boats involves a 120 foot carry to the water's edge. Shore fishing access is limited because of the brushy shoreline around the lake.

White Birch Pond is a 14.8 acre impoundment with a maximum depth of 9 feet. When last surveyed in 1979, the pond supported a self-sustaining warmwater fish population comprised of largemouth bass, chain pickerel, smallmouth bass, black crappie, white crappie, yellow perch, brown bullhead and pumpkinseed. Other fish species include golden shiner and white sucker. The pond should be resurveyed to update the current status of fish populations.

Access to the pond is good. There is a seasonal road to the pond and a 12-15 car parking lot. Launching of car top boats involves a 30 foot carry to the water's edge. Shore fishing access is limited because of the brushy shoreline around the lake.

Tubbs Pond is a 18.0 acre impoundment with a maximum depth of seven feet. The pond is periodically drained by the DEC's Region 4 Wildlife Office to benefit waterfowl habitat by promoting emergent aquatic plant growth such as cattails and bulrushes. The pond was last drained in 1997 and will continue to be drained at periodic intervals thus negating any fisheries potential.

Becker Pond is a 11.4 acre impoundment with a maximum depth of about six feet. The pond is periodically drained by the DEC's Region 4 Wildlife Office to benefit waterfowl habitat by promoting emergent aquatic plant growth such as cattails and bulrushes. The pond was last drained in 1997 and will continue to be drained at periodic intervals thus negating any fisheries potential.

Woods Pond is a 6.7 acre impoundment with a maximum depth of four feet. The pond is periodically drained by the DEC's Region 4 Wildlife Office to benefit waterfowl habitat by promoting emergent plant growth such as cattails and bulrushes. The pond was last surveyed in 1992 and will continue to be drained at periodic intervals thus negating any fisheries potential.

Waxwing Pond is a 3.0 acre manmade pond that was created to provide waterfowl habitat. The pond is heavily vegetated and believed to be shallow. It must be surveyed to determine its fisheries potential and management needs.

Woodduck Pond (P5157) covers approximately two acres and was constructed to provide waterfowl habitat. The pond is heavily vegetated and believed to be shallow. It needs to be surveyed to determine its fisheries potential and management needs.

Unnamed Pond (P5158) This man made unnamed pond covers approximately two acres and was constructed to provide waterfowl habitat. The pond is heavily vegetated and believed to be shallow. It must

be surveyed to determine its fisheries potential and management needs. Access is good. It is reachable by a seasonal road and has parking for 2-3 cars.

Unnamed Pond (P5159) This man made unnamed pond covers approximately two acres and was constructed to provide waterfowl habitat. The pond is heavily vegetated and believed to be shallow. It needs to be surveyed to determine its fisheries potential and management needs.

Stream Resources

<u>Water (Key)</u>	<u>Miles on State Land</u>	<u>NYS Water Quality Class (Standard)</u>
Little Schoharie Creek (H240-82-89)	1.4	C(ts)
Unnamed Creek (H240-82-89-9)	1.1	C©
Unnamed Creek	0.4	C©

(H240-82-89-9-a) Unnamed Creek	0.3	C©
(H240-82-89-9A) Unnamed Creek	1.1	C©
(H240-82-67-24-5) Unnamed Creek	0.2	C©
(H240-82-67-24-8-a) Ashbrook Creek	3.4	C©
(H240-82-67-24-10) Unnamed Creek	0.7	C(ts)
(H240-82-67-24-10-1) Unnamed Creek	1.1	C©
(H240-82-67-24-10-2) Unnamed Creek	0.8	C©
(H240-82-67-24-10-P605B-5) Unnamed Creek	0.3	C©
(H240-82-67-24-10-P605C-6) Unnamed Creek	0.4	C©
(H240-82-67-24-10-P606-1) Unnamed Creek	0.7	C©
(H240-82-67-24-10-P606-1a) Unnamed Creek	0.3	C©
(H240-82-67-24-10-P606-1b) Unnamed Creek		

Albany-Schoharie 1 Reforestation Area

Two unnamed impoundments covering approximately 3 and 19 acres and 10 streams ranging in length from 0.2 to 1.9 miles and totaling 5.9 miles are located on the reforestation area. The two ponds have never been sampled and their fisheries potential is unknown. Of the 10 streams, two streams totaling 2.8 miles support sparse populations of wild brown, brook, and/or rainbow trout. The remaining eight streams totaling 2.1 miles are either dry, intermittent or too small to support a sport fishery.

Pond Resources

Unnamed Pond (P6566) This 3 acre man made impoundment has never been surveyed. It needs to be surveyed to determine its fisheries potential and management needs.

Unnamed Pond (P956a) This 19 acre man made impoundment has never been surveyed. It needs to be surveyed to determine its fisheries potential and management needs.

Stream Resources

<u>Water (Key)</u>	<u>Miles on State Land</u>	<u>NYS Water Quality Class (Standard)</u>
Lake Creek (H193-56)	0.2 mi	C(ts)
Unnamed Creek		

(H193-56-3) Unnamed Creek	0.7 mi	C©
(H193-56-3-1) Unnamed Creek	0.3 mi	C©
(H193-56-3a) Unnamed Creek	0.4 mi	C©
(H193-53) Unnamed Creek	1.9 mi	C(ts)
(H193-53-1a) Unnamed Creek	0.5 mi	a/
(H193-53-2) Fox Creek	0.5 mi	a/
(H193-50) Unnamed Creek	0.9 mi	C(ts)
(H193-50-6) Unnamed Creek	0.4 mi	a/
(H193-50-6A) Unnamed Creek	0.1 mi	a/

a/ Unclassified streams shall have the same classification and assigned standards as the waters to which they are directly tributary.

Cole Hill Reforestation Area

There are six stream segments totaling 3.1 miles and no ponded water resource on this reforestation area. These streams are dry or intermittent. This area offers no fisheries potential.

Stream Resources		
<u>Water (Key)</u>	<u>Miles on State Land</u>	<u>NYS Water Quality Class (Standard)</u>
Unnamed Creek (H240-82-67-31)	0.4 mi	C©
Unnamed Creek (H240-82-67-24-7)	0.6 mi	C©
Unnamed Creek (H240-82-67-24-7-b)	0.4 mi	C©

Unnamed Creek (H240-82-67-24-7-1)	0.2 mi	C©
Unnamed Creek (H240-82-67-24-9)	1.3 mi	C©
Unnamed Creek (H240-82-67-24-9-1)	0.2 mi	C©

F. Wetlands and Water Resources

<u>Area</u>	<u>Stand</u>	<u>Acres</u>	<u>Statu</u>	<u>Catalog No.</u>
Margaret Burke WMA	A-5	19	State Reg.	AL-17, Deciduous shrub swamp
Partridge Run WMA/SF	A-3	78	State Reg.	RE-47, Alder Swamp
	A-27	6		Alder Swamp
	A-54	6		Wetland
	A-61	10		Wetland
	B-11	11	State Reg.	RE-8, Deciduous Swamp
	B-16	21		Alder Swamp
	B-20	6		Alder Swamp
	B-71	4		Pond/Wet/Open
	B-73	16	State Reg.	RE-7, Emerg. marsh (Becker Pond)
	B-74	3		Pond/Wet/Open
	B-75	20		Pond/Wet/Open
	B-76	3		Pond/Wet/Open
	B-77	12		Pond/Wet/Open
	C-5	37	State Reg.	RE-50, Wetland
	C-7	1		Pond
	C-15	3		Alder Swamp
	C-17	16		Alder Swamp
	C-36	3		Pond
	C-38	125	State Reg.	RE-19, Alder Swamp
	C-51	3		Wetland
	C-54	3		Alder Swamp
	C-62	1		Pond
	C-63	1		Pond
	C-69	70		Alder Swamp
	C-73	9		Pond
	D-1	4		Pond
	D-7	6		Pond
	D-12	2		Alder Swamp
	D-21	5	State Reg.	RE-12, Sauer's Pond
	D-36	13		Pond
	D-47	15		Alder Swamp
	D-49	1		Alder Swamp
	D-55	20	State Reg.	RE-15, Alder Swamp
	D-64	4		Alder Swamp
	E-12	1		Alder Swamp
	E-26	8		Pond
	E-57	5		Pond

	E-71	1		Pond
	F-16	<u>1</u>		Pond
		390		
Partridge Run State Forest (Albany RA #1)	A-61	12		Open Wetland
	A-54	<u>9</u>		Swamp
		21		
Cole Hill State Forest (Albany RA #3)	B-5	62	State Reg.	W-6, Open Wetland
	A-8	<u>3</u>		Open Wetland
		65		
Rensselaerville State Forest (Albany/Schoharie RA #1)	A-4	31		Open Wetland
	C-20	4		Open Wetland
	D-4	14		Open Wetland
	E-17	8		Hardwood Swamp, Open Wetland
	G-4	10		Hardwood Swamp
	G-17	<u>9</u>		Hardwood Swamp, Open Wetland
		76		
Total Acres		571		

G. Significant Habitats and Endangered, Threatened and Special Concern Species

The Nature Conservancy's Heritage network specializes in conducting inventories of rare plants and animals and significant ecological communities. The New York Natural Heritage Program is one of fifty state programs belonging to this network. Biodiversity inventories of Partridge Run, Louise Keir and Margaret Burke Wildlife Management Areas were conducted by the New York Natural Heritage Program. These inventories produced the following results:

Partridge Run WMA - No significant ecological communities occur within the WMA boundaries. No rare animals (animal species on the Heritage Program's "Active Inventory" list) were found in 1992 and 1993. However, three species on the "Watch List" and currently listed as Special Concern, and one additional species currently listed as Special Concern, were documented during these surveys or from previous records. The

species include Cooper's hawk (*Accipiter cooperi*), wood turtle (*Clemmys insculpta*), Jefferson salamander (*Ambystoma jeffersonianum*), and spotted salamander (*Ambystoma maculatum*). No rare plant species were discovered. However, swamp pink (*Arethusa bulbosa*) was documented historically in a swamp adjacent to the WMA.

Margaret Burke WMA - No significant natural communities were found during the biodiversity inventory in 1995. No rare animal or plant species were present. None were documented from earlier records.

Louise Keir WMA - No significant natural communities were found during the biodiversity inventory in 1997. No rare animal or plant species were present. None were documented from earlier records.

Management recommendations are as follows:

1) Any plans for timber harvest on the areas should take the presence of nesting

sharp-shinned hawks (*Accipiter striatus*), Cooper's hawks (*Accipiter cooperii*), goshawks (*Accipiter gentilis*) and red-shouldered hawks (*Buteo lineatus*) into account to avoid negative impacts to those species. During the critical nesting period of March-August, disturbance should be restricted within 300 meters of nests. Human access in the vicinity of raptor nests should be minimized and restricted to individuals engaged in research and management. Additional surveys should be conducted prior to timber harvests to document these species presence. Cutting in riparian areas should be minimized.

2) If a timber harvest is planned in the hemlock-northern hardwood forest on the south side of Pleasant Valley Road within the Margaret Burke WMA, a selective logging method would cause the least amount of disturbance. This forest is the largest intact natural community within the WMA and should be maintained as such.

3) Considerable acreage of successional old field exists on Margaret Burke WMA and 60 to 70 acres occur on Partridge Run WMA. Some species of sparrows of management concern (vesper and grasshopper sparrows) were identified in the general area of the WMA's. The needs of these species should be considered in any "open field" management done on these two WMA's. Eastern bluebirds (*Sialia sialis*) may frequent the area.

4) Louise Keir WMA and surrounding woodlands form an extensive area of unfragmented, woodland habitat. This area is likely important for a variety of "forest interior" birds and other species preferring large blocks of forested habitat. A pitch pine-oak-heath rocky summit community, adjacent to the north side of Louise Keir WMA and forming the summit to Blodgett Hill, is worthy of further investigation. This community needs to be accurately classified and its size and quality determined.

5) The deciduous or mixed deciduous/coniferous forests on the areas are used by some Special Concern species; the spotted salamander, blue spotted salamander, Jefferson salamander, and the wood turtle. Vernal pools and other wetlands that contain some seasonal standing water are important habitats for these three salamanders as well as other more common amphibian and salamander species. Recommendations to protect these habitats will be to not alter their hydrology and to not fill them in or run roads through them. These areas should be identified and located on maps. Spring seeps are also important and should be protected as well. Wood turtles are associated with woodlands adjacent to streams running through deciduous woods. Use of DEC's Best Management Practices for timber harvest in riparian areas and for stream crossings will probably protect wood turtle habitat.

6) Biodiversity Inventories have not been conducted for the three State Forests. While there are few successional old fields on these other State lands, there is considerable acreage in deciduous and mixed deciduous/coniferous forests. As such, those management considerations for raptors, amphibians and reptiles made on the three WMA's surveyed should also be practiced on these other State lands wherever possible.

H. Roads

The State Forest/Wildlife Management Area road system provides for both public and administrative access to the Unit. The roads are constructed to standards that will provide reasonably safe travel and keep maintenance costs at a minimum. There are three types of roads - public forest access roads, haul roads and access trails. They provide different levels of access, depending on the standards to which they were constructed.

Public Forest Access Roads are permanent, unpaved roads. They may be designed for all-weather use depending on

their location and surfacing. These roads provide primary access within the Unit. The standards for these roads are those of Class A and Class B access roads as provided for in DEC's Forest Road Handbook.

Haul Roads are permanent, unpaved roads, but are not designed for all-weather travel. They are constructed primarily for the removal of forest products and provide only limited access within the Unit. As such, these roads may or may not be open for public use. The standards for these roads are those of Class C roads as provided for in the Forest Road Handbook.

Access Trails may be permanent, are unpaved and do not provide all-weather access within the Unit. These trails are originally designed for removal of forest products and may be used to meet other management objectives such as recreational trails. These trails are constructed according to DEC's Best Management Practices.

The following roads are located within the Unit: (See Appendix 1 for locations)

Public Forest Access Roads

Partridge Run WMA/Partridge Run SF -	5.5 miles
Louise Keir WMA -	0 miles
Margaret Burke WMA -	0 miles
Cole Hill SF -	0 miles
Rensselaerville SF -	2.8 miles

Haul Roads

Partridge Run WMA/Partridge Run SF -	1.0 mile
Louise Keir WMA -	0 miles
Margaret Burke WMA -	0 miles
Cole Hill SF -	0 miles
Rensselaerville SF -	2.8 miles

Access Trails

Partridge Run WMA/Partridge Run SF -	23.4 miles
--------------------------------------	------------

Louise Keir WMA -	0.5 miles
Margaret Burke WMA -	0.5 miles
Cole Hill SF -	5.6 miles
Rensselaerville SF -	9.4 miles

State, Town and County Roads

Partridge Run WMA/Partridge Run SF -
 Cty Rte 6 (Ravine Road)
 Cty Rte 13 (Sickle Hill Road)
 Bradt Hollow Road
 High Point Road
 Peasley Road
 Cook Hill Road
 Shultes Road
 Beaver Dam Road
 Partridge Run Road
 Wood Road

Louise Keir WMA -
 County Route 103 (Blodgett Road)

Margaret Burke WMA -
 State Route 156
 Cty Rte 254 (PleasantValley Road)

Cole Hill SF -
 County Route 2 (Cole Hill Road)
 County Route 3 (Willsey Road)
 Irish Hill Road

Rensselaerville SF -
 Cty Rte 353 (Delaware Turnpike)
 Cty Rte 358 (Baitholtz Road)
 Scutt Road
 Cheese Hill Road
 Kropp Road
 Kenyon Road
 Roney Road
 Gulf Road Extension

Road Regulations

Maximum speed limit on Public Forest Access Roads is 25 mph. Section 190.8(m) of the New York Code, Rules and Regulations, Title 6 states: "Use of motor vehicles on State Forests under the jurisdiction of the Department of Environmental Conservation outside the

Forest Preserve is prohibited, except where specifically permitted by posted notice or by permit issued by the Department.” The DEC sign “Motor Vehicle Trail” shall be the posted notice permitting motor vehicle use on the Public forest access roads on the State Forests in the Unit. Forest Access Roads on State Forests are generally posted to permit access using these signs. Public forest access roads on Wildlife Management Areas are all open unless posted as closed. These differing methods of posting public forest access roads causes the public some confusion. The public would like to see one set of rules.

No trails or haul roads are posted for vehicular use.

I. Recreation

Varied recreational opportunities exist throughout the unit including:

- | | |
|--------------------|----------------------|
| Hunting | Nature observation |
| Trapping | Cross-country skiing |
| Fishing | Camping |
| Hiking | Snowmobiling |
| Horseback riding | Mountain biking |
| Picnicking/day use | Snowshoeing |

J. Other Facilities

Boundary Lines:

- Partridge Run WMA/ Partridge Run SF - 24.7 miles
- Louise Keir WMA - 2.2 miles
- Margaret Burke WMA - 4.1 miles
- Cole Hill SF - 8.1 miles
- Rensselaerville SF - 10.5 miles

State Forest Identification Signs: (See Appendix 1)

- Partridge Run WMA/ Partridge Run SF- 2
- Louise Keir WMA - 1
- Margaret Burke WMA - 1
- Cole Hill SF - 3

- Rensselaerville SF - 2

Gates: (See Appendix 1)

- Partridge Run WMA/ Partridge Run SF- 19
- Louise Keir WMA - 1
- Margaret Burke WMA - 1
- Cole Hill SF - 0
- Rensselaerville SF - 0

Cemeteries: (See Appendix 1)

- Partridge Run WMA/Partridge Run SF- 2
- Louise Keir WMA - 0
- Margaret Burke WMA - 0
- Cole Hill SF - 1
- Rensselaerville SF - 0

Camp Cass Incarceration Facility

A portion of Rensselaerville State Forest adjacent to the camp will be restricted to public use.

K. Other Uses

Shale Pits: (See Appendix 1)

- Partridge Run WMA/ Partridge Run SF - 5
- Margaret Burke WMA - 1
- Louise Keir WMA - 0
- Rensselaerville SF - 2
- Cole Hill SF - 1

The shale from these pits is occasionally used to surface the public forest access roads on these areas. When shale from any of these pits has been depleted, the pits will be reclaimed according to the plan in Appendix 4. Most shale pits on the Unit will not be depleted and ready for reclamation for several years. The Peasley pit is nearly depleted.

L. Property Records

- Deeded Right-of-Way Margaret Burke WMA

Pipeline easement: NYS Natural Gas Corp
r.o.w. (underground pipeline).
Life occupancy and r.o.w. to 1.75acres

M. Archeological and Historical Sites

The New York State site location maps list no known archaeological or historical sites on the Unit. There are at least two cemeteries and numerous old house foundations and stone walls located on the Unit.

Protection of cultural resources of historic significance is provided for under the New York State Historic Preservation Act. Procedures for review and assessment of impacts are provided under the State Environmental Quality Review Act. Assistance in reviewing sites is available through the New York State Office of Parks, Recreation and Historic Preservation, Field Services Unit.

RESOURCE DEMANDS AND MANAGEMENT CONSTRAINTS ON THE UNIT

The Helderbergs Management Unit offers a number of diverse resources. Legislation, industry, individuals and the DEC alike have influence on these resources.

The flexibility of management programs is governed by the degree of restrictions imposed by legislative mandates and Department policies, rules, and regulations.

A. Management Constraints

The management plan has been developed within the constraints set forth by the ECL, Rules and Regulations of the State of New York, and established Policies and Procedures for the administration of the lands involved.

The following is a list of applicable laws, rules, regulations and policies which govern specific management actions on the Unit:

1. Environmental Conservation Laws

ECL Article 8 - Environmental
Quality Review
ECL Article 9 - Lands and Forests
ECL Article 11 - Fish and Wildlife
ECL Article 15 - Water Resources
ECL Article 23 - Mineral Resources
ECL Article 24 - Freshwater Wetlands
ECL Article 33 - Pesticides
ECL Article 51 - Implementation of
Environmental Quality Bond Act of 1972
ECL Article 52 -Implementation of
Environmental Quality Bond Act of 1986
ECL Article 71 - Enforcement

2. Parks, Recreation and Historic Preservation Law

Article 14
Chapter 354 - Cultural and Historic
Resources

3. New York Code, Rules and Regulations

Title 6
Chapter I - Fish and Wildlife
Chapter II - Lands and Forests
Chapter III - Air Resources
Chapter IV - Quality Services
Chapter V - Resource Management
Services
Chapter VI - State Environmental
Quality Review
Chapter VII - Subchapter A -
Implementation of EQBA of 1972
Chapter X - Division of Water
Resources

4. Department Policies - Divisions of: Lands and Forests and Fish, Wildlife and Marine Resources

Public Use
Temporary Revocable Permits
Motor Vehicle Use
Timber Management

Unit Management Planning
 Pesticides
 Prescribed Fire
 State Forest Master Plan
 Inventory
 Acquisition
 Road Construction
 Fish Species Management Activities
 Habitat Management Activities
 Public Use Development Activities
 Wildlife Species Management

5. Permanent and Ongoing Uses

These are of a permanent or ongoing nature which are regulated by Legislative Action, Memoranda of Understanding, Deeded Rights, Leases or Easements.

Electrical Transmission and
 Telephone Lines
 County and Town Roads
 Deeded Rights-of-Way
 Deeded Water Rights
 Ongoing Forest Products Agreement
 Contracts
 Cooperative Research Projects
 Reservation of Forest Products for
 DEC Operations Sawmill

B. Resource Demands

Within the constraints listed above, the legislative mandates allow a flexibility of management actions. This flexibility provides the opportunity to balance the available resources with the usage demands from public and industrial sources. The following show the perceived and actual demands on the resources that have formulated the objectives and resultant management actions.

1. Protection of Natural, Historic and Archaeologic Resources

There is recognition that protection of soil and water resources is of critical importance. Water quality is important for the welfare of all users, including wildlife, and enhances the

enjoyment of water-based recreational pursuits.

Soils are a fundamental component of biological productivity on the area. Any activities which cause erosion or reduce soil fertility must be avoided.

The area has supported human populations since the end of the last ice age. Artifacts of historic and prehistoric origin may be present in many areas. Because of their cultural significance, disturbance of these resources will be avoided.

NYS Archaeological Site inventory maps will be checked to identify sites. Apparently, records also exist in some town libraries; they will be checked as well, time permitting. Visual checks will be made before any harvesting or construction operations take place. A buffer zone will be maintained around known archaeological and historic sites.

2. Public Use and Recreation

State forests and wildlife management areas are open for public use with no fees and few restrictions. As subdivision, development and posting of surrounding private land continues, the recreational value of the State lands should increase. The easy accessibility of the State lands in the Unit allows for many illegal uses, including use by ATVs and motor vehicles, rubbish dumping, vandalism, partying, timber theft and trespassing. These activities have occurred and will continue to occur without close monitoring.

Demands on the Unit that have been identified include:

a. General accessibility.

2. Trails and roads for snowmobiling, hiking (the Long Path also goes through the Unit), bicycling, cross-country skiing, and horseback riding.

3. Hunting, fishing and trapping opportunities.

4. Camping (State Forests only) and day-use opportunities.

5. Nature observation and aesthetic appreciation opportunities.

The Department of Environmental Conservation's Forest Rangers and Environmental Conservation Officers are the individuals primarily responsible for seeing that recreationists using the various parcels of State land in the Unit do so responsibly. Routine patrols by the ECO's and Rangers insure that the forest resources, wildlife, and facilities on the areas are used appropriately and not abused. Bureau of Wildlife and Division of Lands and Forests staff who routinely work on the areas in the Unit also provide a measure of protection. All DEC personnel can advise recreationists on uses which are permitted and any restrictions there may be regarding use. The County Sheriff's Office also handles trespassing incidents.

The relatively new Adopt-a-Natural Resource Stewardship Program provides those wanting to help protect natural resources an opportunity to become stewards of the various units of State land. While some stewardship agreements have been entered into by the Department with interested groups and individuals in Region 4, participation to date has been somewhat limited. While maintenance and habitat management activities conducted by the stewards are not themselves considered recreational demands, they are intended to improve the enjoyment of those who do use the areas for those purposes. This stewardship program will be encouraged as it increases the sense of public ownership in State land, land which belongs to all residents of New York State.

3. Plant and Animal Habitats

The value of maintaining healthy populations of both plants and animals is

generally well accepted. There is a legislative requirement to provide for biodiversity on all State lands. The State also has a mandate to protect and manage species that are endangered, threatened or of special concern.

4. Timber Resources

There is a strong market for most of the variety of wood products which are found on State lands. Over the past two decades, the demand for hardwood saw timber, red pine logs and utility poles, and spruce sawlogs has increased. The demand for spruce pulpwood is stable, while the demand for red pine pulpwood and hardwood fuelwood has decreased.

5. Education and Research

It is well recognized that the ultimate survival of the human species depends on a healthy environment. Yet, serious study of the ecosystem as a science began less than a century ago. More information and greater understanding is needed. The Department will cooperate with colleges and other groups to assist in research and by providing an outdoor laboratory setting for such study.

As the world's population and standard of living grow, greater pressure is inevitably put on land, water and forests. This pressure is reflected by increasing use of the area for all types of recreation and a continuing demand for wood products. In many parts of the world these increasing demands result in conflicts and loss of natural habitat.

There is an opportunity to use the Helderbergs Management Unit as an example of the successful integration of natural resource use and protection. If effectively communicated, this will help the public to understand that it is possible to use resources without compromising the viability of the ecosystem.

THE GOAL OF MANAGEMENT

It is the goal of the Department to manage State lands for multiple uses to serve the needs of the people of New York State. This management will be carried out to ensure the biological diversity and protection of the forest ecosystem, and to optimize the many benefits to the public that forest lands provide. This goal will be accomplished through the applied integration of compatible and sound land management practices.

OBJECTIVES

State lands are managed for multiple uses including watershed protection, wildlife, timber crops, recreational use, and other kindred purposes such as aesthetics and appreciation of the out-of-doors. The objectives which are listed below are derived from the previously identified resource demands and the management goal statement. They form the basis for the schedule of management actions which follows.

A. Protection Management

A fundamental aspect of State land management is to ensure that the basic environmental integrity of the land is not damaged since it forms the basis for all life forms. These objectives will ensure that both cultural and biological resources that are present on the Unit will be protected from detrimental activities.

1. Protect 571 acres of wetlands.
2. Protect all streams.
3. Protect the forests against damaging fires, insects and diseases.
4. As resources permit, additional surveys will be made to determine if there are any rare, threatened and endangered plant and animal species on the Unit. Public input on the existence of these species is welcome. If these species are found, they will be protected and, where appropriate, habitat

manipulated to improve their chances of survival.

5. Protect cultural resources, where they exist, as provided for under the New York State Historical Preservation Act. Protect old house foundations, mill sites, and stone walls.

6. Protect State lands from trespass by maintaining well marked boundary lines.

7. Control trespassing, vandalism, dumping and other illegal activities by regular patrols of the Unit by Forest Rangers and Environmental Conservation Officers. Enforce the Environmental Conservation Law and Department rules and regulations. Use patrols to educate users.

B. Public Use and Recreation

The opportunity for public use and recreation is one of the most direct benefits these lands provide to the average citizen. These objectives will provide for a number of recreational opportunities that are basically compatible with each other and consistent with the natural characteristics of the land.

1. Provide access to the Unit, including access for people with disabilities.
2. Provide maps and informational brochures on Wildlife Management Areas and State Forests in the Unit
3. Identify State land by maintaining boundary lines, posting State land signs along public highways, and by maintaining State land area identification signs.
4. Continue providing present recreational opportunities.
5. Provide additional use opportunities, provided they are compatible with current uses.
6. Prevent overuse or degradation of the Unit.

7. Provide for trash pick-up on the Unit.

8. Protect and enhance scenic resources including vistas, stone walls, large old growth trees, wildflower beds, dogwoods, pinksters, etc.

9. Provide opportunities for individuals and organized groups to participate in the Adopt-A-Natural Resource Program.

10. Acquire inholdings and adjacent lands as opportunities present themselves and as funds are made available.

11. Maintain the existing trail system.

12. State Forests roads are closed to vehicle use unless posted as open. Wildlife Management Area roads are open unless posted or gated as closed. The Department recognizes this difference and the confusion it causes the public. Efforts may be made to address the issue.

C. Wildlife Management

These objectives will ensure protection of wildlife resources and ample wildlife related recreational opportunities.

1. Maintain native wildlife species, primarily deer, at a level compatible with the carrying capacity of their habitats, one that does not impact forest regeneration.

2. Maintain wildlife-related recreational opportunity for the public including hunting, trapping and wildlife observation; provide for 5,000 big and small game hunting and trapping visits/year on the Unit.

3. Provide for 5,000 recreational use visits (hiking, snowmobiling, snowshoeing, horseback riding, cross-country skiing, mountain biking, and day-use/nature appreciation)/year on the Unit.

D. Fisheries Management

These objectives will promote a healthy population of fish and ample fishing opportunities.

1. Manage Fawn Lake and White Birch and Tubbs Ponds to provide warmwater fishing opportunity that is easily accessible to the public.

2. Determine the warmwater fisheries potential of Woodduck Pond, Waxwing Pond, and four unnamed ponds and develop management plans, where appropriate, for each.

3. Manage the small coldwater streams to serve as trout spawning and nursery areas for larger waters.

E. Forest Resources on State Forests

These objectives will provide a sustainable yield of various wood products from the State Forest areas of the Unit that will provide income and employment opportunities without compromising the overall health and productivity of the forest ecosystem.

1. Maintain a variety of tree species and age classes on the Unit in order to provide for biodiversity of both flora and fauna.

2. Calculate an annual allowable cut that will allow for a sustained yield of wood products that is within the productive biological capacity of the forest and which does not significantly compromise other resource values.

3. Manage 1,619 acres of natural hardwoods and mixed natural hardwoods/conifers to develop even-aged forests which will be harvested at 100-120 years of age. Some acres presently in plantation will be converted to this type.

4. Manage 206 acres of the natural hardwood/conifers to develop all-aged forests with maximum age classes of 120-150 years.

All the areas needed to fulfill this objective presently exist.

5. Manage 2,263 acres of conifer plantations. These acres are made up of existing and newly established plantations. As the 1930's plantations are harvested, the percentage of plantations on the Unit will be reduced from 56% to 35% of the total acreage on the Unit. Most of the acreage which is not retained as conifer forest will grow into even-aged natural hardwoods.

6. Maintain 320 acres in an open-brush or a grassland condition. Thirty-one acres of this type presently exist. The remaining acres will come from openings in natural stands or by converting some plantations to this type. There will also be additional habitat of this type provided with the annual mowing of the forest access road edges. Some temporary habitat of this type (for 10-20 years) will be created when mature plantations or even-aged natural stands are harvested.

7. Conduct a forest inventory program on a 20 year cycle.

F. Education and Research

These objectives will provide for opportunities to learn about the area and natural resource management.

1. Encourage research and educational endeavors by accommodating researchers and educators where possible and appropriate.

2. Provide information to the general public about the Unit through brochures, kiosks, and press releases.

INFORMATION IN SUPPORT OF THE GOAL AND OBJECTIVES

Article 9, Titles 5 and 7, of the Environmental Conservation Law authorizes the Department of Environmental Conservation to provide for the management

of lands outside the Adirondack and Catskill Parks. Management as defined by these laws includes watershed protection, the production of forest products, recreation and kindred purposes. The State Forest Land Master Plan provides the overall direction and framework for meeting this legal mandate.

For the Helderbergs Management Unit, the land management goal has been established in recognition of the legal mandate and also closely follows the guidelines set forth in DEC's State Land Master Plan. The goal is a statement that incorporates the potential of the natural resources to provide benefits to as broad a constituent group as possible while maintaining a healthy environment over the long term. In meeting this goal, specific objectives have been listed to direct our management efforts. These objectives are a means of promoting biodiversity and maintaining the health of the plant and animal species on the Unit. The objectives will also maintain public use opportunities on the Unit.

A. Protection Management

Protection of wetlands and the maintenance of high water quality in several streams fulfill the watershed protection objectives on the Unit. For the most part, these lands and streams are at the top of the watershed and, as such, can considerably influence downstream uses of our water resources. These specialized habitats also bring vegetative diversity to an otherwise forested ecosystem. There will be no timber harvests on the wetlands in the Unit.

The objective which ensures that fire and insect and disease control systems are in place will provide a reasonable measure of protection from unpredictable outbreaks of fire, diseases and insects.

Those objectives which concern the protection of rare, endangered and threatened plant and animal species, as well as the protection of cultural resources, take into account an increasing awareness that rare

plant and animal species and cultural resources should be protected whenever possible.

B. Public Use and Recreation

The objectives provide direction for achieving public use of the Unit. Public use and recreation will be encouraged if the activities are compatible with the overall goal of management on State Forests and Wildlife Management Areas. Additional recreational opportunities, if they occur, will be provided for when they are compatible with the other objectives for this Unit. Some present uses will be restricted if they become incompatible with other objectives or if those uses are causing degradation of the Unit.

Adequate access to the State lands in the Unit must be maintained to insure recreational use of the natural resources continues at desirable levels. The road and trail systems must be maintained. Close working relationship with the town highway departments should be encouraged. Truck roads, trails and parking areas should be maintained using State Operations Unit staff, crews from the Summit Shock Facility, and by private contractors funded through Pittman-Robertson (Federal) accounts. Signage on the State lands needs to be sufficient to facilitate use and minimize confusion and the creation of problem situations. Proper signage is very important. The public needs to know where the State land is located and what they can and cannot do while there.

An ATV trail, located on Rensselaerville State Forest, had been proposed in the draft plan. Several people attending the public hearing on July 26, 2000 spoke out against the construction of an ATV trail. They believe patrol of the Unit is inadequate at the present time and any increased usage of the Unit would be unwarranted. There was very little support for an ATV trail voiced by those in attendance. Construction of an ATV trail will not be pursued.

C. Wildlife Management

The composition and structure of forest habitats exert a strong influence on the distribution and abundance of wildlife species. Timber management, or the lack thereof, is the primary determinant of the character of forest habitats. Commercial timber sales are a feasible way to manipulate habitat and wildlife populations on a large scale if that is one's goal. When the effects of timber harvests are looked at over the landscape, they create a mosaic of forest habitats of different types and age classes/stages. The overall impacts on wildlife species are significant, usually beneficial.

The three Wildlife Management Areas and three State Forests in the Unit are managed differently. The WMAs are managed with primary emphasis on wildlife; recreational use is a very important secondary consideration. The State Forests are managed for multiple use. Timber management has the potential to be the driving force to accomplish the management objectives on both areas. On WMA's, the annual mowing of fields complements any timber harvests that are implemented. The annual mowing of the trails and road shoulders on State lands also benefits many wildlife species as it creates additional forage.

Much of the work done on wildlife management areas statewide is funded by hunting license fees that support the Conservation Fund and a federal excise tax on the sale of guns and ammunition (Pittman-Robertson Federal accounts) which is returned to the states for wildlife-related work.

Wildlife Management Techniques

In the Helderbergs, the early stage of forest succession is the habitat type most lacking. The early succession forest is very important to deer, turkey, grouse, rabbits, and many species of birds. Turkeys and grouse use it for brood cover. Insects, so important to young bird's growth, are abundant in these

areas. Rabbits like the herbaceous forage and the overhead protective cover. As a habitat that is relatively uncommon and much needed, we will try to encourage its creation in our management efforts.

In addition to 1) the mowing of fields, 2) the cutting of plantations and their subsequent replanting, 3) brush-hogging clearcuts, and 4) the maintenance of trails and roadsides, we will create small forest openings through group selection cuts (GSC's) of .5 to 5 acres. GSC's should be widely dispersed over the area. They should be irregularly shaped. A few years after harvest, these forest openings are typified by an abundance of grassy-herbaceous forage, ground cover, woody browse, shrub cover and dead-down material if tree tops and branches (logging slash) are left on the site. Blackberries and other berries invade these areas and are used by many wildlife species. Many species produce soft and hard mast, valuable food for many wildlife species. Grape tangles and fruit-producing trees and shrubs (thorn apples, apples, viburnums, dogwoods, beech, black cherry, birch, maple, willow, ironwood, serviceberry, sumac, hawthorn, and hop hornbeam) will be encouraged and planted if necessary. The explosion of growth which follows clearcuts allows species preferred by deer for food, such as maple, ash and oak, to grow above the browse level and become established as seedlings and saplings.

Habitat will be managed for diversity, an interspersed of habitats of different ages and types. Forests in which small clearcuts are created have a high degree of structural heterogeneity and edge. These areas are visually interesting, aesthetically pleasing to the eye. They are good places to hunt, watch wildlife or just go for a walk. There is a very high plant species richness due to the presence of species which cover the entire range of shade tolerance. The most intolerant species will occur on the recent clearcuts, the most tolerant in older stands. Forests managed with some clearcutting and long rotation length have the potential of benefitting

the greatest number of wildlife species, including those that require early stage forest growth, late growth, or both.

Cutting rotations average approximately 100 years. There are 3,000+/- acres on Partridge Run WMA that could be worked under such a cutting regime, 1,000+/- in plantations and 2,000+/- of northern hardwood and mixed hardwood/conifer forests. If one could cut 30 acres a year, a reasonable and manageable amount, 600 acres or 20% of the 3,000 acres would be cut after 20 years. This acreage would be early successional forest. This is a desirable goal to strive for at Partridge Run WMA.

At least 1,000+/- acres of northern hardwood and mixed hardwood/conifer forests will not be logged, left to become old-growth forest. All wooded areas including those along stream corridors, in wetlands and on hillsides with steep gradients will be included.

Louise Keir WMA, because of its small size, forest character, and relative inaccessibility, will be managed entirely as mature forest. The relatively young oak forests on the area will be allowed to mature. Once mature, they will be thinned periodically using GSC's. The stands of white pine at the south end of the property will also be thinned as needed.

Forest openings may have an equal or greater aesthetic and recreational value to the public than intrinsic value to wildlife. It is necessary to consider the wildlife and the recreational values of openings when deciding the nature, frequency and distribution of openings to be included in the management scheme. Openings need to comprise only 5-12 percent of the total acreage to satisfy the needs of forest wildlife. It is generally agreed that a larger number of small openings distributed over an area is more desirable than a few larger ones.

The DEC will manage 45-100% of each WMA to produce mature timber (100-120 yr. rotation). With maturity, mast production is promoted.

Releasing and pruning apple trees is a recommended practice to improve wildlife habitat. The apples are consumed by grouse, deer and a great many other species of wildlife at various times during the year. Bud, twigs, fruit, and even the bark are eaten by birds and mammals. With farm abandonment and the continuing trend of reforestation, many apple trees are being lost. Initially, they establish themselves in forest clearings and abandoned fields. Some were planted on State lands by Ralph Smith and others. As the forest trees grow up, the apples are crowded out by shrubs and overtopped by larger trees. Apple tree vigor is reduced and they die. When releasing and pruning apples, the brush, apple tree branches, and dominant trees that are removed can be used to create cover in the form of brush piles. A better brush shelter is produced when the brush is piled over rocks, stumps or log structures. The cut stumps of trees and brush resprout quickly, providing browse and cover for wildlife. Many of the apples on State lands in the Unit are being released by work crews from the Summit Shock Facility. Ideally, apple trees should be pruned after they are released. They should not be pruned the same year they are released, however, otherwise they will be susceptible to sun scald. Apple trees will be planted in some of the plantation clearcuts.

Mature stands of aspen are clearcut in an effort to improve habitat for ruffed grouse. Mature stands do provide food in the form of catkins and buds, but intermediate age stands are more beneficial. Once cut, dense sprout regeneration will occur. It usually takes from 8-12 years for the new stands to thin out and be inviting to grouse. With thinning, the stands become available for courtship purposes and brood cover. The stands are used until 25+/- years of age, even longer if

there is a dense understory (alder, for example). Ideal stand size is 1-2.5 acres.

Timber harvesting occurs on very few acres at any given time. Significant numbers of snags and cavity trees likely occur on the remaining acreage such that this need is met on most units of State land without actively managing for it.

Small patches of grass cover will be established whenever opportunities present themselves. The DEC will routinely reseed logging roads and log landings with grasses and clovers, valuable as wildlife food and cover.

While trails are primarily designed to provide access, their maintenance also acts to create linear forest openings. Where light reaches the forest floor, herbaceous plant growth occurs and food resources are produced.

Water bodies, such as wetlands and ponds, will be protected and maintained to enhance habitat diversity. We will periodically clean out the small round water holes built during the 1930's which have since filled in with leaf litter.

The acreage in conifer cover (plantations) will be reduced. Conifer acreage is excessive at 30-70 percent; 20 percent is adequate. Stand size will vary, ranging from a few to as many as 20 acres.

Spruce plantations should be cut when mature and frequently replanted with more spruce. Some will be allowed to revegetate naturally. Others will be cut with a brush-hog periodically to maintain the early brush stage of growth. Some acreage can be cleared of all woody debris and planted to grasses. The grass fields can then be planted with apples, grapes, hawthorne, viburnums and dogwoods to expand acreage of soft mast producers. A lot of smaller plantations dispersed throughout the forest will produce a more diverse environment. Plantations provide thermal

(winter) and protective cover. When downwind of aspen stands, bulldozing clearcuts exposes the soil for enhanced aspen invasion.

Pine plantations should be removed as quickly as possible on WMA's. Red and Scotch pine plantations provide little beneficial habitat when mature.

Hemlocks, as well as cedars, should be promoted whenever possible. They are a preferred food source of deer and provide winter cover.

Fields should be maintained by mowing. With most fields, only a third or a half will be mowed annually, leaving some grass cover that is used by many species. Open fields provide feeding areas for wildlife and viewing and dog training areas for the public. Current acreage at Partridge Run and Margaret Burke WMAs is probably sufficient. Some additional fields may be created when plantations are clearcut.

D. Fisheries Management

The following needs must be met to achieve the fisheries management objectives for the State lands in the Unit.

1. Partridge Run State Lands Complex

Fawn Lake

1. Existing angler access to the fishery must be maintained.
2. A contemporary fishery data base must be developed.
3. Habitat and recruitment of sport fish must remain adequate to support the fishery.

White Birch Pond

1. Existing angler access to the fishery must be maintained.

2. A contemporary fishery data base must be developed.

3. Habitat and recruitment of sport fish must remain adequate to support the fishery.

Waxwing Pond

A contemporary fishery data base must be developed to determine its fisheries potential and management needs.

Unnamed Ponds (P5158 and P5159)

A contemporary fishery data base must be developed for each pond to determine its fisheries potential and management needs.

Woodduck Pond

A contemporary fishery data base must be developed to determine its fisheries potential and management needs. The pond may be too shallow to fulfill this need.

Stream Resources (Trout stream)

Habitat and recruitment of young trout must remain adequate to support the limited fishery that may exist.

2. Albany - Schoharie Reforestation Area

Unnamed Ponds (P6569 and P956a)

A contemporary fishery data base must be developed to determine its fisheries potential and management needs.

Stream Resources (Trout streams)

Habitat and recruitment of young trout must remain adequate to support the limited fishery that may exist.

Pond and Stream Water Quality

Habitat and water quality in the ponds and streams must be maintained and improved

where possible to promote growth, survival, and/or reproduction of desired fish populations. To assure that adverse impacts are recognized and mitigated, any proposed projects or actions in the watersheds of those ponds and streams should be reviewed carefully by DEC pursuant to State Environmental Quality Review (SEQR) protocols or other appropriate authority. Projects with the potential to cause the impacts listed below are of particular concern.

- a. Water temperature increases.
- b. Reduction in stream flow.
- c. Reduction in groundwater contribution to stream flows which may be caused by groundwater withdrawals for water supply or other purposes.
- d. Increase in turbidity or sedimentation which may be caused by land clearing and construction, or other earthwork operations, especially on steep slopes.
- e. Reduction in dissolved oxygen levels.
- f. Contravention of any state water quality standard.
- g. Any decline or change in stream benthos.
- h. Any addition of nutrients, especially phosphorus.
- i. Reductions in water transparency.
- j. Any deterrent to fish spawning.
- k. Loss of riparian vegetation.
- l. Loss of habitat due to construction activity.
- m. Stream bed or bank instability.

E. Timber Management

The harvest of pulpwood and timber is a basic objective as well as an important tool for achieving many of the other management objectives. For example, the removal of trees by a logging contractor can be used to make openings in the forest to create wildlife habitat. Tree removal can eliminate diseased or insect infested material that would otherwise spread to surrounding forest. The removal of slow growing trees stimulates the growth of residual trees resulting in a healthier forest. Tree removal results in the creation of skid trails and wood roads which can subsequently be used for recreational trails. Tree removal can be used to create conditions needed for the survival of specific species and thus contributes to the maintenance of biodiversity.

The acreages segregated by rotation age, hardwood/conifer type, plantation, open-grassland and brush land, and stands receiving no treatment, as well as snag retention rates, reflect the best information to date for the silvicultural requirements of various tree species and the habitat requirements of a variety of plant and animal species.

All-ages natural types provide a range of tree sizes from seedlings and saplings to large trees throughout the stand at all times. These stands provide some of the characteristics of old growth forest (there are always large trees, dead snags, breaks in the canopy, etc. present) and they provide habitat for those species that require these characteristics (barred owl, wild turkey, tufted titmouse, both nuthatches and kinglets, wood thrush, and blue-gray gnatcatchers). However, this type can only be sustained over the long run where shade tolerant species such as hard maple, beech and hemlock, which can regenerate under shade conditions, are present. These stands are difficult to maintain if deer browsing is heavy.

Even-aged natural types contain trees of one age class, such as seedling-sapling, intermediate, or large sized trees. Each of

these size classes provide differing habitats for breeding, forage and shelter for a variety of animal species. Intolerant species such as oak, cherry and ash are often found in even-aged stands since they require extensive sunlight on the forest floor to regenerate and will not reproduce well in full or mixed shade. At the present time, the majority of the stands of this type are in the intermediate size class. More balance is needed between the different age classes in order to maintain diversity. This will partially be obtained as intermediate size trees continue growing into the larger tree class. Additional acreage in the seedling-sapling class will be obtained by clear cutting some plantations and allowing hardwoods to seed in. It may be some time before a better balance of age classes is achieved.

Plantations are another type that add to the diversity of the area. Benefits to wildlife include escape and thermal cover, roosting and nesting areas, and a food source. Plantation species are often best suited to the hilltop sites that comprise the majority of the Helderbergs Unit. Fifty year old plantations on these sites often contain three to four times the volume of timber of adjacent 100 year old hardwood stands. Plantations are managed as even-aged types and when they are harvested, they are allowed to regenerate naturally or new plantations are mechanically established.

At the present time, there is not much age diversity within the plantation type on this unit. Most of the plantations were established in the 1930's. Some of them, especially the red pine, are now approaching biological maturity. Some of these plantations will be harvested by clear cutting, resulting in the establishment of new forest stands. The reasons for doing this include the following:

1. Once a stand of plantation pine has reached biological maturity, tree mortality is often excessive, occurring in just a few years. The dead and dying trees have little value for wood products, are often unsightly, constitute

a fire hazard, and provide a breeding ground for insects that may threaten healthy trees.

2. Young stands provide benefits, such as escape cover for some wildlife species, that are not provided by the older plantations.

3. Young stands are more vigorous and less susceptible to insect and disease attack.

4. Harvesting some of the mature stands now may alleviate future large scale mortality. In most cases, harvesting will be limited to blocks of 10 acres or less.

5. Establishing new stands now will help insure a future sustained yield of forest products. Hopefully, these new stands will be producing forest products before the last of the 1930's plantations are harvested. The 1930's red pine plantations are scheduled to be harvested over the next 60 years. Surveys of the 1930's red pine plantations have shown reduced tree vigor in recent years. This is indicated by reduced growth rates and mortality. If there is increased mortality at the ten year reevaluation, the rate of cutting may be increased.

There are several hundred acres where timber harvesting will not take place. These areas include stream corridors, areas around ponds and steep slopes. The purpose of these no harvest areas is to filter sediment, preserve vegetation that shades the streams and ponds, inhibit bank erosion, maintain stream integrity, and enhance recreational use. Interior wildlife species that require unbroken forest canopy, such as the pileated woodpecker, northern goshawk, red-shouldered hawk, wood thrush, and ovenbird, will utilize these areas. Several small stands will be allowed to go through the natural successional process and these stands will add further diversity to the area. (See fisheries, wildlife management and environmental protection actions for additional justification of this objective).

Adjacent to some of these untreated areas will be areas of the all-aged forest type. These areas, even after a timber harvest, will only have small openings in the forest canopy. This will increase the area of relatively unbroken forest canopy, and when added to the acreage of untreated areas, should provide sufficient acreage for interior wildlife species requiring the large acreage of unbroken forest canopy.

F. Education and Research

Periodic gathering of data must occur to properly manage some key wildlife species where concern exists for their continued well being or where information is sought to manage them properly. The assistance of students will be encouraged as the need for data is identified.

MANAGEMENT ACTIONS

The following scheduled management actions to achieve the stated objectives are dependent on several factors:

1. The markets for forest products are constantly changing. The treatment of some stands may be delayed by lack of markets at the time of scheduled treatment. If markets develop for the products from stands that are presently considered non-commercial, the plan may be amended to include these stands in the cutting schedule.

2. Disease, insect or storm damage may necessitate unscheduled salvage actions.

3. Budget constraints may also delay scheduled management actions. These actions will be completed as soon as possible within these constraints.

4. Many of the public use and recreation, wildlife, fisheries and land management actions will be accomplished with work crews from the Summit Shock Incarceration Camp. Any limitations in the availability of work crews from the Camp will delay or eliminate

scheduled actions. Operations Unit personnel, funded by the Conservation Fund, supervise the work crews. Operations Unit staff also perform many routine maintenance activities on State lands. Any limitations in the availability of Operations Unit staff will delay or eliminate scheduled actions. Funding for many of the management actions (mowing and road repair contracts and providing the supplies and materials necessary to accomplish maintenance activities performed by Operations Unit staff and the work crews from the Camp) comes from Pittman-Robertson accounts. This source of funding is variable.

PROTECTIVE ACTIONS

A. Insect and Disease

Authority to conduct forest and insect control activities is found in Title 13, Article 9 of the ECL and Chapter 11 of the New York Codes, Rules and Regulations.

The health of plant populations on the Unit will be maintained through the integrated pest management approach. Observations of harmful agents will be made and reported by State personnel. Public reports will be received and may be investigated. Problems will be monitored. When warranted, appropriate control strategies will be developed to keep damage within acceptable levels.

B. Fire Control, State Land Security and Public Safety

An adequate level of program involvement will be maintained so as to assure minimum risk of loss to the forest and land resources and facilities and minimum risk to the public. The authority to conduct this program is provided by Article 9 of the ECL.

Many public comments have identified a need for an increased law enforcement presence on the Unit. Illegal use of motor vehicles and vandalism are frequent

occurrences, with much of the activity occurring on Friday and Saturday nights from 11:00p.m. to 3:00 a.m. The Department will try to address this important need.

C. Temporary Revocable Permits

Authority for the issuance of temporary revocable permits is provided by Article 3-0301 of the ECL. Permits may be granted for the temporary use of State land by the public within stated guidelines and legal constraints so as to protect the State lands and their resources.

D. Wetlands

Protection of the significant benefits of both protected (12.4 acres and over) and non-protected wetlands will be sought by adhering to the requirements of ECL 3-0301 and 24-1301 in the Freshwater Wetlands Laws. In addition, Silvicultural Best Management Practices (BMP's) shall be followed.

E. Watersheds

Protection of streams and ponds from water quality degradation and visual pollution will be accomplished by adhering to Silvicultural Best Management Practices as detailed in the Timber Management Handbook, Chapter 200.

F. Cultural Resources

The Department has followed procedures established in concert with the New York State Office of Parks, Recreation and Historic Preservation (OSHP) in determining the presence of cultural resources on this Unit. This involved completion of the Structural-Archeological Assessment Form (SAAF) and reviewing the New York State Archeological Site Locations Map. OPRHP and the New York State Museum have been consulted in any instance where the Site Locations Map indicated an archeological or historical site

may occur on Unit lands. The SAAF will be updated at the time this plan is updated. The results of the SAAF evaluation indicate that no further cultural resources review is required.

Protection of the cemeteries and old house and mill sites will be provided for when planning timber harvests and construction projects. Major emphasis for the protection of stone walls will be placed on those walls that are well preserved. These walls will be protected by limiting damage during felling and skidding. New openings through the walls will only be allowed where absolutely necessary and disturbed walls will be rebuilt.

G. Public Roads

The removal of logs and pulpwood from State land by logging contractors requires the use of public forest access roads and haul roads . Some of these dirt roads do not have an adequate base. They can be damaged by heavy vehicular use during certain times of the year.

In order to minimize the chance of damage, any active logging operations will be stopped during mud season. In addition, private contractors will be held liable for any damage to public access roads as a result of their activities.

PUBLIC USE AND RECREATION ACTIONS

Public use shall be permitted and regulated according to provisions within Title 6, New York Codes, Rules and Regulations, as well as special regulations that apply to forests on this Unit. Whenever possible, logging activities will be used to increase recreational opportunities on the Unit. For instance, skid roads may be incorporated into the trail system and some landing areas may be used as parking areas after logging is complete.

1. Adequate access to the State lands in the Unit must be maintained to insure

recreational uses of the natural resources continue at desirable levels.

2. The public will be provided informational brochures on State lands in the Unit from the DEC offices at Stamford and Schenectady.

3. The road and trail systems will be maintained. Close, working relationships with the town highway departments will be encouraged. Some major improvements in the road system have occurred of late. However, the ongoing battle with wet roads and rutting continues; crowns on some roads needs to be re-established. Erosion continues to create problems at certain locations.

4. Truck roads, trails and parking areas should be maintained using State Operations Unit staff, crews from the Summit Shock Facility, volunteer groups and individuals participating in the Adopt-a-Natural Resource Stewardship Program, and by private contractors funded through Pittman-Robertson accounts. Area maintenance is identified as a priority item.

5. Signage on the State lands needs to be sufficient to facilitate use and minimize confusion and the creation of problem situations. Proper signage is very important. The public needs to know where the State land is located and what they can and cannot do while there.

6. Boundary lines will be maintained on a seven year cycle. Wildlife Management Area and State Forest signs will be put up at all corners and at 0.1 mile intervals along all public roads and truck trails. Boundary line maintenance is identified as a priority item.

7. The Forest Rangers and Environmental Conservation Officers patrol State lands to limit unauthorized use and trespass on adjacent properties. The Sheriff's Office also handles trespass cases. Patrol of State lands is identified as a priority item.

8. Maintain forest access roads through annual cleaning of ditches and culverts, mowing and grading. Resurface and brush forest access roads as needed.

9. Provide the public with an opportunity to view management types ranging from open-wetland, seedling-sapling stands, pole and saw timber stands to stream corridors with no harvest operations.

10. Top lopping will be done in harvest areas adjacent to public highways or forest access roads. Larger trees will be retained along roadsides whenever possible. On WMA's, substantial buffer zones will be left along roadsides to minimize visibility of group selection cuts (clearcuts).

11. Maintain trails annually.

12. Where possible, construct or enhance recreational opportunities for people with disabilities.

13. Produce maps of all areas for public distribution.

14. Place off-site directional signs along major roadways to show recreationists how to get to the various units of State land:

A. Partridge Run WMA/SF: at intersection of Ravine Road and County Route 1; at intersection of County Route 6 and State Route 85; at intersections of County Route 10 and Peasley and High Point Roads.

B. Louise Keir WMA: at intersections of County Route 103 and State Routes 143 and 396.

C. Margaret Burke WMA: at intersection of State Route 156 and County Route 254.

D. Cole Hill SF: at intersection of County Route 2 and State Route 443; and at intersection of County Routes 3 and 1.

E. Rensselaerville SF: at intersection of County Route 358 and County Routes 353 and 359; at intersection of State Route 145 and Cheese Hill Road; and at intersection of County Route 353 and Scutt Road.

15. Encourage various clubs and organized groups with interest in the Unit to participate in the Adopt-A-Natural Resource Program. This will provide people with “hands on” land management experiences, while they volunteer to help out with various land management projects on the Unit. Applications for this program are available through the Stamford and Schenectady DEC offices.

WILDLIFE MANAGEMENT ACTIONS

Actions specific to all State lands.

1. Protect wetlands.
2. Encourage winter cutting of hardwoods whenever practical.
3. Periodically clean out the small water holes built in the 1930s.
4. Manage and protect wildlife species through enforcement of the Environmental Conservation Law and pertinent Rules and Regulations.
5. Manage deer populations through hunting regulations developed for wildlife management units.
6. Clearcut mature stands of aspen to facilitate sprout regeneration.
7. Release and prune apple trees to perpetuate them as well as to stimulate bud and fruit production.
8. Routinely reseed logging roads, trails and log landings with grasses and clovers having value as wildlife food and cover.

9. All trails and roadsides will be mowed annually.

10. Stands of sumac should be periodically cut to stimulate more vigorous growth.

Actions specific to Wildlife Management Areas

1. All dikes and 1/3-1/2 of every field will be mowed annually.

2. An average of thirty acres of plantations, northern hardwood and mixed hardwood/conifer stands should be cut each year at Partridge Run WMA. Smaller acreages will be periodically cut at Margaret Burke and Louise Keir WMA's.

3. Over time, remove all red and Scotch pine plantations.

4. Locate group selection cuts in areas with minimal numbers of fruit and mast producing trees.

5. Maintain 15% of Partridge Run and Margaret Burke WMA's (PR 1,300 ac., MB 95 ac.) in ponds, wetlands, open grassy areas (mowed fields and dikes), brushy areas or early-stage forests

6. Maintain 45% (PR 2,000 +/- ac., MB 140 ac., LK 119 ac) of the stands on the WMA's by group selection, long rotation (100-120 yr.) management to produce mature forests.

7. Maintain 20% (PR 950 +/- ac., MB 25 ac.) of the WMA's as spruce plantations; maintain equal amounts of 4-6 different age classes in an 100 year rotation in highly interspersed stands.

8. Maintain 20% of Partridge Run WMA (1,000 +/- ac.) in unlogged forests in unit sizes of 50-100 acres. Stream corridors, steep slopes, wetlands, and other sensitive areas will all be included in this land class.

Hemlock and cedar stands will not be logged either.

9. Maintain 600 acres (20%) of the stands managed as mature forests and plantations on Partridge Run WMA in age classes of 1-20 years.

FISHERIES MANAGEMENT ACTIONS

A. Species Management and Public Use

Fawn Lake

1. A fishery survey of the pond will be conducted and a management plan prepared.

White Birch Pond

1. A fishery survey of the pond will be conducted and a management plan prepared.

Waxwing Pond/Woodduck Pond

1. A fishery survey of the ponds will be conducted to determine their fishing potential.

2. A management plan will be prepared where appropriate.

Unnamed Ponds (P5158, P5159, P6569, and P956a)

1. A fishery survey of the ponds will be conducted to determine their fishing potential.

2. A management plan will be prepared where appropriate.

Stream Resources

1. All streams and stream reaches will be managed for wild fish only.

2. Statewide angling regulations will apply.

TIMBER MANAGEMENT ACTIONS

The Timber Management Objectives will be accomplished on the State Forest areas of the Unit by using a broad range of silvicultural techniques. This will be the use of cutting methods such as selection, seed tree and clearcutting. The use of clearcutting will be limited and where applied will generally be kept to ten acres or less.

Sustained wood production will be achieved through the regulation of cutting schedules which target the practices of woodland improvement and harvest on an acreage control basis. These practices will be applied in an environmentally sound and silviculturally proven manner.

The majority of the natural hardwood and natural hardwood/conifer stands will be managed to produce trees of approximately the same age for a maximum of 100-120 years. This is an even-aged management system. Reasons for using this silvicultural method include promoting vigorous tree growth and high value wood production. The more productive sites (Site I & II) will have intermediate harvest or improvement cuts at 20-25 year intervals. The less productive sites (Site III) will have these cuts at 30 year intervals. Through the regulation of these intermediate and harvest cuts, an equal amount of acreage in all age classes will be created.

On the Helderberg Management Unit, it will take several rotations to achieve this regulation. The reason for this is the majority of the natural stands are in the 60 year age class. These stands will be due for harvest at about the same time, so during this rotation some stands will grow beyond 120 years. Preparations for assuring the regeneration of the forest will be made in advance of the final harvest.

The majority of the higher quality sugar maple/hemlock stands will be managed for trees of all ages on a continuous basis, with individual trees being harvested at a maximum age of 150 years (All Aged

Management). Sugar maple and hemlock are two species noted for their longevity and for their ability to regenerate under shaded conditions. At 20-30 year intervals, harvest cuts will be made to maintain a balanced distribution of age classes and promote habitat diversity.

Future red pine and larch plantations will be managed for a maximum of 80 years. At present, DEC will manage Norway spruce for a maximum of 100 years. As more experience is gained with 60 year old plantations, DEC may find these rotations will have to be adjusted. DEC will make this adjustment in future updates of the plan. Intermediate thinnings and harvest cuts at 15 years for Site I & II stands and at 20 years for Site III stands will maintain the health and vigor of the trees. Releasing may be necessary in some cases to maintain the vigor of young plantations. This will involve eliminating the competition from undesirable species by mechanical means or through the use of herbicides. Most new plantations will be established through planting, but some Norway spruce will be established through natural regeneration.

Site preparation will be necessary to reforest some plantation sites and to achieve desirable regeneration in some natural stands. Site preparation may include prescribed burning, herbicide application, mechanical methods or a combination of these.

Untreated stands will be exempt from timber harvesting, which indirectly provides for active wildlife habitat manipulation where practiced. The benefits of watershed protection, old growth habitat and aesthetics will be enhanced.

Natural hardwood and mixed hardwood/conifer stands will be managed to produce and/or maintain an average of four snags per acre. A snag is a tree which provides specific wildlife habitat needs for cavity nesting birds

and mammals as well as a food source for insect eating birds.

Open grassy areas and brushy herbaceous openings increase forage and provide shelter for wildlife. Openings also enhance the opportunity to view wildlife. These areas may be maintained through harvest cuts, non-commercial cuttings, mowing or by prescribed burning. Where appropriate, new haul roads and landings will be mowed and maintained as grassland.

COORDINATIVE ACTIONS

If a proposed management action will affect an adjoining landowner, notification and coordination activities may be required. These actions include, but are not exclusive of, trail networks and road reconstruction and rehabilitation. ECL regulations and local codes provide procedural requirements for other types of actions such as herbicide application and prescribed burning.

DATA COLLECTION ACTIONS

1. Inventory of all forest stands of the Unit will be conducted at least once every 20 years. In addition, all stands will be reinventoried after silvicultural treatment.

2. Pursue a survey of the Unit for endangered, threatened or special concern species and significant habitats.

BORROW PIT ACTIONS

The amount of shale in the borrow pits on State land in the Unit is limited. It is not an unlimited supply. The Department would like to have this source of shale for maintenance of Unit roads last as long as it is reasonably possible. As such, the Department will continue to limit the amount of shale taken out of any one pit to 1,000 tons a year.

During the annual work planning process, the Department determines its needs for that year. The difference between the

Department's annual needs and the 1,000 ton limit for each borrow pit will be made available to the Town of Berne for maintenance of Town roads on the Unit. The Town of Berne can apply for the use of the shale by obtaining a Temporary Revocable Permit from the Department. This practice has been followed many times in the past; it can be continued in the future.

When the supply of shale in the Unit borrow pits is exhausted, the pits will be reclaimed according to guidelines in the Mined-Land Reclamation Law (see Appendix 4). All shale needed to maintain Unit roads will then be purchased off-site from one of the many local shale-pit operators.

SCHEDULE OF MANAGEMENT ACTIONS

A. Timber Harvesting & Improvement Cuts

See Appendix 6 for a listing of stands by management system. Stands under an even aged management system will have a rotation age of 100-120 years with 20-30 year cutting cycles. Stands under an all aged management system will have a rotation age of 150 years with 20-30 year cutting cycles. Stands under a plantation management system will have a rotation age of 80-100 years with 15-30 year cutting cycles. Stands under an open field/brush management system will be maintained by mowing once every 2-3 years.

B. Apple Tree Release and Aspen Stand Rehabilitation

Apple trees will be regularly released as manpower and funds are made available. All brush and overtopping trees will be cleared from the immediate vicinity of all apple trees being released. Orchards in their entirety and individual, isolated trees will be identified for treatment. As time permits, apple trees will also be pruned to stimulate new growth and tree vitality. Pruning should not occur the year

of release. Older aspen stands/clones will be clearcut in an effort to produce sprout regeneration. All work on apple trees and aspen stands will be performed by inmates and staff from the Summit Shock Facility. Funding received from the Ruffed Grouse Society and National Wild Turkey Federation will be pursued and used to accomplish similar work.

C. Grassland Maintenance

All fields and dikes will be mowed annually. In the larger fields, only a half or a third of the field will be mowed any given year. Field borders will be mowed annually to prevent invasion of woody species (for example, black locust). Grassland habitat will also be maintained through the mowing of roadsides along the many miles of public forest access roads. Log landings and some of the skidder trails will be planted with grasses and clovers to create permanent grassland cover.

D. Boundary Line Maintenance

Boundary lines will be maintained as manpower is made available. The maintenance goal is to revisit all lines every seven years. Presently, the Department is three years behind schedule.

E. Maintenance of Public Forest Access Roads and Haul Roads

Annual maintenance of the public forest access roads includes ditch and culvert cleanout, headwall reconstruction, grading and mowing. Some haul roads are mowed to keep them open. Maintenance will occur as manpower and funding is made available.

F. Forest Inventory

Individual forest stands will be inventoried at the completion of any silvicultural activity. Entire State Forests/Wildlife Management Areas will be inventoried as follows:

<u>State Area</u>	<u>Year</u>
Rensselaerville SF	2006
Cole Hill SF	2008
Partridge Run SF/WMA	2017
Louise Keir WMA	2017
Margaret Burke WMA	2017

G. Trail Maintenance

All existing and proposed access, snowmobile, and Nordic skiing trails will be cleared and brushed annually or as manpower and funds are made available. Trail signs will be replaced as needed. Volunteers participating in the Adopt-A-Natural-Resource Program can assist with this activity.

H. Parking Area Maintenance

All existing parking areas will be rehabilitated as needed. Volunteers participating in the Adopt-A-Natural-Resource Program can assist with this activity. Parking areas will be modified to conform with ADAAG.

I. Litter Pickup

Litter will be picked up on an as needed basis as resources permit. Volunteers participating in the Adopt-A-Natural-Resource Program can assist with this activity.

J. Construction Projects

1. Place directional signs to Partridge Run Wildlife Management Area at intersections of Route 6 and Route 85, Route 1 and Ravine Road, and Route 10 and Peasley Road.

2. Place directional signs to Louise Keir Wildlife Management Area at intersections of Route 396 and Route 103 (Blodgett Road) and Route 143 and Route 103.

3. Place directional signs to Cole Hill SF at intersection of County Route 2 and State

Route 443 and intersection of County Routes 3 and 1.

4. Place directional signs to Rensselaerville SF at intersection of County Route 358 and County Routes 353 and 359, intersection of State Route 145 and Cheese Hill Road, and intersection of County Route 353 and Scutt Road.

5. Erect kiosk at Cole Hill State Forest at intersection of Routes 2 and 3 (Willsey Rd.)

6. Erect kiosk at Rensselaerville State Forest at intersection of Cheese Hill and Kropp Roads.

CONSTRUCTION PROJECT COSTS

1. Put up three off-site directional signs to Partridge Run Wildlife Management Area - \$750

2. Put up two off-site directional signs to Louise Keir Wildlife Management Area - \$500

3. Put up four off-site directional signs to Rensselaerville State Forest - \$1,000

4. Put up two off-site directional signs to Cole Hill State Forest - \$500

5. Put up two off-site signs to Louise Keir Wildlife Management Area.- \$500

6. Erect kiosk at Cole Hill State Forest - \$500

7. Erect kiosk at Rensselaerville SF - \$500

ANNUAL MAINTENANCE COSTS

Forest access road maintenance - \$250/mile
Trail maintenance - \$200/mile
Boundary line maintenance - \$110/mile
Site preparation & Reforestation - \$250/acre
Land Acquisition - Unknown

Costs do not include inmate labor from the Summit Shock Facility.

REFERENCES

Anderle, R.F. and J.R. Carroll, The Atlas of Breeding Birds in New York State, Cornell University Press, Ithaca, New York, 1988.
Chambers, R.D., Integrating Timber and Wildlife Management Handbook, S.U.N.Y. College ESF and NYS Department of Environmental Conservation, 1983.

Appendix 1. Unit Area Maps

Appendix 2. Breeding Bird Atlas Status

Common Name	Scientific Name	Status
Great Blue Heron	Ardea herodias	CO

Green-backed Heron	<i>Butorides striatus</i>	PO
American Bittern	<i>Botaurus lentiginosus</i>	PO
Canada Goose	<i>Branta canadensis</i>	CO
Mallard	<i>Anas platyrhynchos</i>	CO
Blue-winged Teal	<i>Anas discors</i>	PO
American Black Duck	<i>Anas rubripes</i>	PO
Wood Duck	<i>Aix sponsa</i>	CO
Turkey Vulture	<i>Cathartes aura</i>	PR
Cooper's Hawk	<i>Accipter cooperii</i>	PR
Sharp-shinned Hawk	<i>Accipiter striatus</i>	PR
Northern Goshawk	<i>Accipiter gentilis</i>	CO
Red-tailed Hawk	<i>Buteo jamaicensis</i>	CO
Red-shouldered Hawk	<i>Buteo lineatus</i>	PR
Broad-winged Hawk	<i>Buteo platypterus</i>	CO
American Kestrel	<i>Falco sparverius</i>	CO
Ruffed Grouse	<i>Bonasa umbellus</i>	CO
Ring-necked Pheasant	<i>Phasianus colchicus</i>	PR
Wild Turkey	<i>Meleagris gallopavo</i>	CO
Virginia Rail	<i>Rallus limicola</i>	PR
Killdeer	<i>Charadrius vociferus</i>	CO
American Woodcock	<i>Scolopax minor</i>	CO
Common Snipe	<i>Gallinago gallinago</i>	PO
Spotted Sandpiper	<i>Actitis macularia</i>	CO
Rock Dove	<i>Columba livia</i>	CO
Mourning Dove	<i>Zenaida macroura</i>	CO
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	CO
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	CO
Chimney Swift	<i>Chaetura pelagica</i>	PR
Eastern Screech-Owl	<i>Otus asio</i>	CO
Great Horned Owl	<i>Bubo virginianus</i>	CO
Barred Owl	<i>Strix varia</i>	PO
Long-eared Owl	<i>Asio otus</i>	CO
Whip-poor-will	<i>Caprimulgus vociferous</i>	PR
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	PR
Belted Kingfisher	<i>Ceryle alcyon</i>	CO
Northern Flicker	<i>Colaptes auratus</i>	CO
Pileated Woodpecker	<i>Dryocopus pileatus</i>	CO
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	PR
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	CO
Hairy Woodpecker	<i>Picoides villosus</i>	CO
Downy Woodpecker	<i>Picoides pubescens</i>	CO
Eastern Kingbird	<i>Tyrannus tyrannus</i>	CO
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	CO
Willow Flycatcher	<i>Empidonax traillii</i>	PO
Alder Flycatcher	<i>Empidonax alnorum</i>	PR
Least Flycatcher	<i>Empidonax minimus</i>	CO
Eastern Phoebe	<i>Sayornis phoebe</i>	CO
Eastern Wood-Pewee	<i>Contopus virens</i>	CO
Tree Swallow	<i>Tachycineta bicolor</i>	CO
Bank Swallow <i>Riparia riparia</i>	PR	

Northern Rough-winged Swallow	<i>Stelgidopteryx serripenn</i>	CO
Cliff Swallow	<i>Hirundo pyrrhonota</i>	CO
Barn Swallow	<i>Hirundo rustica</i>	CO
Blue Jay	<i>Cyanocitta cristata</i>	CO
American Crow	<i>Corvus brachyrhynchos</i>	CO
Black-capped Chickadee	<i>Parus atricapillus</i>	CO
Tufted Titmouse	<i>Parus bicolor</i>	CO
White-breasted Nuthatch	<i>Sitta carolinensis</i>	CO
Red-breasted Nuthatch	<i>Sitta canadensis</i>	PR
Brown Creeper	<i>Certhia americana</i>	PR
House Wren	<i>Troglodytes aedon</i>	CO
Winter Wren	<i>Troglodytes troglodytes</i>	PR
Northern Mockingbird	<i>Mimus polyglottos</i>	CO
Gray Catbird	<i>Dumetella carolinensis</i>	CO
Brown Thrasher	<i>Toxostoma rufum</i>	CO
American Robin	<i>Turdus migratorius</i>	CO
Wood Thrush	<i>Hylocichla mustelina</i>	CO
Hermit Thrush	<i>Catharus guttatus</i>	PR
Swainson's Thrush	<i>Catharus ustulatus</i>	PO
Veery <i>Catharus fuscescens</i>	CO	
Golden-crowned Kinglet	<i>Regulus satrapa</i>	CO
Eastern Bluebird	<i>Sialia sialis</i>	CO
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	CO
Cedar Waxwing	<i>Bombycilla cedrorum</i>	CO
European Starling	<i>Sturnus vulgaris</i>	CO
Solitary Vireo	<i>Vireo solitarius</i>	CO
Red-eyed Vireo	<i>Vireo olivaceus</i>	CO
Yellow-throated Vireo	<i>Vireo flavifrons</i>	PR
Warbling Vireo	<i>Vireo gilvus</i>	CO
Black-and-white Warbler	<i>Mniotilta varia</i>	PR
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	PR
Blue-winged Warbler	<i>Vermivora pinus</i>	CO
Brewster's Warbler	<i>V. pinus x V. chrysoptera</i>	PO
Nashville Warbler	<i>Vermivora ruficapilla</i>	PR
Yellow Warbler	<i>Dendroica petechia</i>	CO
Magnolia Warbler	<i>Dendroica magnolia</i>	PR
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>	CO
Yellow-rumped Warbler	<i>Dendroica coronata</i>	CO
Black-throated Green Warbler	<i>Dendroica virens</i>	PR
Blackburnian Warbler	<i>Dendroica fusca</i>	PR
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	CO
Prairie Warbler	<i>Dendroica discolor</i>	CO
Ovenbird	<i>Seiurus aurocapillus</i>	CO
Northern Waterthrush	<i>Seiurus noveboracensis</i>	CO
Louisiana Warbler	<i>Seiurus motacilla</i>	CO
Mourning Warbler	<i>Oporornis philadelphia</i>	PR
Common Yellowthroat	<i>Geothlypis trichas</i>	CO
Canada Warbler	<i>Wilsonia canadensis</i>	PR
American Redstart	<i>Setophaga ruticilla</i>	CO
House Sparrow	<i>Passer domesticus</i>	CO

Bobolink	Dolichonyx oryzivorus	CO
Eastern Meadowlark	Sturnella magna	CO
Red-winged Blackbird	Agelaius phoeniceus	CO
Orchard Oriole	Icterus galbula	CO
Northern Oriole	Icterus galbula	CO
Common Grackle	Quiscalus quiscula	CO
Brown-headed Cowbird	Molothrus ater	CO
Scarlet Tanager	Piranga olivacea	CO
Northern Cardinal	Cardinalis cardinalis	CO
Rose-breasted Grosbeak	Pheucticus ludovicianus	CO
Indigo Bunting <i>Passerina cyanea</i>	CO	
Evening Grosbeak	Coccothraustes verpertin	PO
Purple Finch	Carpodacus purpureus	CO
House Finch	Carpodacus mexicanus	CO
Pine Siskin	Carduelis pinus	PR
American Goldfinch	Carduelis tristis	CO
Red Crossbill	Loxia curvirostra	PR
Rufous-sided Towhee	Pipilo erythrophthalmus	CO
Dark-eyed Junco	Junco hyemalis	CO
Savannah Sparrow	Passerculus sandwichensis	CO
Vesper Sparrow	Poocetes gramineus	PR
Grasshopper Sparrow	Ammodramus savannarum	PO
Chipping Sparrow	Spizella passerina	CO
White-throated Sparrow	Zonotrichia albicollis	CO
Swamp Sparrow	Melospiza georgiana	CO
Field Sparrow	Melospiza pusilla	CO
Song Sparrow	Melospiza melodia	CO

Appendix 3. Species Occurrence Lists

Common Name

Scientific Name

Mammals

Opossum	<i>Didelphis virginiana</i>
Masked Shrew	<i>Sorex cinereus</i>
Smokey Shrew	<i>Sorex fumeus</i>
Longtail Shrew	<i>Sorex dispar</i>
Northern Water Shrew	<i>Sorex palustris</i>
Pygmy Shrew	<i>Microsorex hoyi</i>
Least Shrew	<i>Cryptotis parva</i>
Shorttail Shrew	<i>Blarina brevicauda</i>
Star-nosed Mol	<i>Condylura cristata</i>
Hairytail Mole	<i>Parascalop breweri</i>
Little Brown Myotis	<i>Myotis lucifugus</i>
Keen's Myotis	<i>Myotis keenii</i>
Small-footed B	<i>Myotis leibii</i>
Silver-haired B	<i>Lasionycteris noctivagans</i>
Eastern Pipistr	<i>Pipistrellus subflavus</i>
Big Brown Bat	<i>Eptesicus fuscus</i>
Red Bat	<i>Lasiurus borealis</i>
Hoary Bat	<i>Lasiurus cinereus</i>
Black Bear	<i>Ursus americanus</i>
Raccoon	<i>Procyon lotor</i>
Fisher	<i>Mustela pennanti</i>
Shorttail Weas	<i>Mustela erminea</i>
Longtail Weas	<i>Mustela frenata</i>
Mink	<i>Mustela vison</i>
River Otter	<i>Lutra canadensis</i>
Stripped Skun <i>Mephitis mephitis</i>	
Coyote	<i>Canis latrans</i>
Red Fox	<i>Vulpes vulpes</i>
Gray Fox	<i>Urocyon cinereoargenteus</i>
Bobcat	<i>Lynx rufus</i>
Woodchuck	<i>Marmota monax</i>
Eastern Chipmunk	<i>Tamias striatus</i>
Gray Squirrel	<i>Sciurus carolinensis</i>
Red Squirrel	<i>Tamisciurus hudsonicus</i>
Southern Flying Squirrel	<i>Glaucomys volans</i>
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>
Beaver	<i>Castor canadensis</i>
Deer Mouse	<i>Peromyscus maniculatus</i>
White-footed Mouse	<i>Peromyscus leucopus</i>
Southern Bog Lemming	<i>Synaptomys cooperi</i>
Boreal Red-backed Vole	<i>Clethrionomys gapperi</i>
Meadow Vole	<i>Microtus pennsylvanicus</i>
Yellownose Vole	<i>Microtus chrotorrhinus</i>
Pine Vole	<i>Microtus pinetorum</i>
Muskrat	<i>Ondotra zibethica</i>
Meadow Jumping Mouse	<i>Zapus hudsonicus</i>
Woodland Jumping Mouse	<i>Napaeozapus insignis</i>
Porcupine	<i>Erethizon dorsatum</i>
Snowshoe Hare	<i>Lepus americanus</i>
Eastern Cottontail	<i>Sylvalagus floridanus</i>
White-tailed Deer	<i>Odocoileus virginianus</i>

Reptiles

Common Snapping Turtle	<i>Chelydra serpentina</i>
Stinkpot	<i>Kinosternon odoratus</i>
Wood Turtle	<i>Clemmys insculpta</i>
Eastern Box Turtle	<i>Terrapene carolina</i>
Eastern Painted Turtle	<i>Chrysemys picta</i>
Northern Water Snake	<i>Nerodia sipedon</i>
Northern Brown Snake	<i>Storeria dekayi</i>
Northern Red-bellied Snake	<i>Storeria occipitomaculata</i>
Eastern Garter Snake	<i>Thamnophis sirtalis</i>
Eastern Ribbon Snake	<i>Thamnophis sauritus</i>
Eastern Hognose Snake	<i>Heterodon platyrhinos</i>
Northern Ringneck Snake	<i>Diadophis punctatus</i>
Northern Black Racer	<i>Coluber constrictor</i>
Eastern Smooth Green Snake	<i>Opheodrys vernalis</i>
Black Rat Snake	<i>Elaphe obsoleta</i>
Eastern Milk Snake	<i>Lampropeltis triangulum</i>

Amphibians

Jefferson Salamander	<i>Ambystoma jeffersonianum</i>
Blue-spotted Salamander	<i>Ambystoma laterale</i>
Spotted Salamander	<i>Ambystoma maculatum</i>
Red-spotted Newt	<i>Notophthalmus viridescens</i>
Northern Dusky Salamander	<i>Desmognathus fuscus</i>
Mountain Dusky Salamander	<i>Desmognathus ochrophaeus</i>
Redback Salamander	<i>Plethodon cinereus</i>
Slimy Salamander	<i>Plethodon glutinosus</i>
Four-toed Salamander	<i>Hemidactylium scutatum</i>
Northern Spring Salamander	<i>Gyrinophilus porphyriticus</i>
Northern Red Salamander	<i>Pseudotriton ruber</i>
Northern Two-lined Salamander	<i>Eurycea bislineata</i>
Longtail Salamander	<i>Eurycea longicauda</i>
American Toad	<i>Bufo americanus</i>
Fowler's Toad	<i>Bufo woodhousii</i>
Northern Spring Peeper	<i>Pseudacris crucifer</i>
Gray Treefrog <i>Hyla versicolor</i>	
Bullfrog	<i>Rana catesbeiana</i>
Green Frog	<i>Rana clamitans</i>
Wood Frog	<i>Rana sylvatica</i>
Northern Leopard Frog	<i>Rana pipiens</i>
Pickerel Frog	<i>Rana palustris</i>

Appendix 4. Mined Land Reclamation

1. All final slopes will be neatly graded off and left no steeper than one vertical on two horizontal (26 degrees from horizontal).

2. All mine floor areas shall be ripped and/or disked in order to alleviate compaction after grading. All final slope areas that are left one vertical on three horizontal or flatter shall be ripped and or disked in a contour fashion. If ripping shale, finish grading after replacement of available topsoil may be necessary.

3. All available topsoil shall be replaced (evenly spread) on all affected lands after grading and ripping/disking.

4. Following replacement of topsoil at reclamation, soils must be immediately seeded, fertilized, limed and mulched. Permittees must either obtain and follow specific written rate recommendations from the local SCS or Agricultural Extension offices or use the following general recommendation:

- a. Seed at 60 pounds per acre with a mixture that will provide an erosion resistant vegetative cover and will also provide for the long term productivity of legumes,

20% Perennial Ryegrass
20% Creeping Red Fescue
25% Birdsfoot Trefoil*
13% Kentucky Blue Grass
17% Annual Ryegrass
5% White Clover

* These legumes must be inoculated at time of seeding. If seeding by hand, use sticking agent, such as cola or milk to stick inoculant to seed. If seeding with hydroseeder, use 4 times the recommended rate of inoculant.

- b. Fertilize at 800 pounds per acre 10-10-10 fertilizer.
- c. Mulch with hay or straw to cover 100% of the soil surface (2 tons per acre); and
- d. Lime per soil test results (SCS or private lab).

Vegetative cover must be established without rill or gully erosion before reclamation shall be approved by the Department.

Appendix 5. Forest Inventory.

NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION STATE FOREST INVENTORY STAND DATA - STATE FOREST SUMMARY

MARGARET BURKE WILDLIFE MANAGEMENT AREA TOTAL ACRES INVENTORIED: 248

<u>Acreage by Mgmt. Class:</u>	<u>Forested Acreage:</u>	<u>Non-forested Acreage:</u>	<u>Site Class Acreage:</u>
Timber: 132	Natural Forest 137	Field (90% + plantable): 0	Site Class I: 104
Wildlife: 103	Natural Forest - S/S: 3	Field (75-90% plantable): 0	Site Class II: 3
Experimental: 0	Plantation: 0	Field (50-75% plantable): 0	Site Class III: 30
Recreation: 0	<u>Plantation - S/S:</u> 0	Brushy field: 82	
<u>Protection:</u> 13	Total 140	Ponds: 0	
Total 248		Wetlands - Open: 13	
		Wetlands - Alder: 0	
		<u>Other:</u> 13	
		Total 108	

LOUISE KEIR WILDLIFE MANAGEMENT AREA

TOTAL ACRES INVENTORIED: 119

<u>Acreage by Mgmt. Class:</u>	<u>Forested Acreage:</u>	<u>Non-forested Acreage:</u>	<u>Site Class Acreage:</u>
Timber: 0	Natural Forest 119	Field (90% + plantable): 0	Site Class I: 53
Wildlife: 119	Natural Forest - S/S: 0	Field (75-90% plantable): 0	Site Class II: 0
Experimental: 0	Plantation: 0	Field (50-75% plantable): 0	Site Class III: 59
Recreation: 0	<u>Plantation - S/S:</u> 0	Brushy field: 0	
<u>Protection:</u> 0	Total 119	Ponds: 0	
Total 119		Wetlands - Open: 0	
		Wetlands - Alder: 0	
		<u>Other:</u> 0	
		Total 0	

NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION
STATE FOREST INVENTORY STAND DATA - STATE FOREST SUMMARY

RENSSELAERVILLE STATE FOREST

TOTAL ACRES INVENTORIED: 2,849

<u>Acreage by Mgmt. Class:</u>		<u>Forested Acreage:</u>	<u>Non-forested Acreage:</u>	<u>Site Class Acreage:</u>			
Timber:	2,651	Natural Forest	1,089	Field (90% + plantable):	0	Site Class I:	759
Wildlife:	0	Natural Forest - S/S:	8	Field (75-90% plantable):	0	Site Class II:	359
Experimental:	79	Plantation:	1,486	Field (50-75% plantable):	0	Site Class III:	1,457
Recreation:	0	Plantation - S/S:	<u>147</u>	Brushy field:	5		
Protection:	<u>0</u>	Total	2,730	Ponds:	26		
Total	2,730			Wetlands - Open:	64		
				Wetlands - Alder:	9		
				<u>Other:</u>	<u>15</u>		
				Total	119		

COLE HILL STATE FOREST

TOTAL ACRES INVENTORIED: 874

<u>Acreage by Mgmt. Class:</u>		<u>Forested Acreage:</u>	<u>Non-forested Acreage:</u>	<u>Site Class Acreage:</u>			
Timber:	775	Natural Forest	395	Field (90% + plantable):	0	Site Class I:	270
Wildlife:	0	Natural Forest - S/S:	20	Field (75-90% plantable):	0	Site Class II:	103
Experimental:	20	Plantation:		Field (50-75% plantable):	0	Site Class III:	339
Recreation:	0	<u>Plantation - S/S:</u>	<u>63</u>	Brushy field:	14		
Protection:	<u>0</u>	Total	795	Ponds:	0		
Total	795			Wetlands - Open:	65		
				Wetlands - Alder:	0		
				<u>Other:</u>	<u>0</u>		
				Total	79		

NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION
STATE FOREST INVENTORY STAND DATA - STATE FOREST SUMMARY

PARTRIDGE RUN STATE FOREST				TOTAL ACRES INVENTORIED: 880
<u>Acreage by Mgmt. Class:</u>	<u>Forested Acreage:</u>	<u>Non-forested Acreage:</u>	Site Class Acreage:	
Timber:	852	Natural Forest 287	Field (90% + plantable):	8 Site Class I:376
Wildlife:	0	Natural Forest - S/S: 56	Field (75-90% plantable):	0 Site Class II:126
Experimental:	0	Plantation:	509	Field (50-75% plantable): 0 Site Class III:294
Recreation:	0	Plantation - S/S:	<u>0</u>	Brushy field: 4
Protection:	<u>0</u>	Total	852	Ponds: 0
Total	852			Wetlands - Open: 16
				Wetlands - Alder: 0
				Other: <u>0</u>
				Total 28

PARTRIDGE RUN WILDLIFE MANAGEMENT AREA				TOTAL ACRES INVENTORIED: 4,583
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<u>Acreage by Mgmt. Class:</u>	<u>Forested Acreage:</u>	<u>Non-forested Acreage:</u>	<u>Site Class Acreage:</u>
Timber: 2,693	Natural Forest 2,171	Field (90% + plantable): 46	Site Class I: 1,969
Wildlife: 1,611	Natural Forest - S/S: 193	Field (75-90% plantable): 0	Site Class II: 520
Experimental: 11	Plantation: 1,388	Field (50-75% plantable): 5	Site Class III: 1,043
Recreation: 13	Plantation - S/S: <u>96</u>	Brushy field: 164	
Protection: <u>138</u>	Total 3,848	Ponds: 67	
Total 4,466		Wetlands - Open: 46	
		Wetlands - Alder: 365	
		Other: <u>42</u>	
		Total 735	

Appendix 6. Initial Comments Received in Response to Public Notification of Plan's Proposed Development

The Department proposed development of the Helderbergs Unit Management Plan in May of 1997. These comments were received in response to: 1) a Departmental news release, 2) a notice in the Environmental News Bulletin, 3) a letter sent to several interested organizations and individuals, 4) a letter sent to all adjacent landowners, and 5) short articles which appeared in local newspapers. The Department told one and all that they were interested in comments on how the areas were managed, how recreationists liked to use the areas, and any problems the users or adjacent landowners experienced on the areas. Comments were received for two months following public notification.

Comment: Keep the maximum number of snowmobile trails open for public use. Some trails are in rough shape, in need of maintenance. Part of registration fee is dedicated for work on trails.
Response: The Department fully intends to keep the maximum number of trails open. The Office of Parks and Recreation awards grants from registration fee funds for trail maintenance. Clubs, as well as the Department of Environmental Conservation, can apply for this funding.

Comment: The Department should protect the precious natural resources and not succumb to the pressures of development and environmental destruction.

Response: State law mandates that the Department protect the land and water resources on State lands.

Comment: The mature conifer plantations on Partridge Run WMA contribute significantly to the diversity of bird life in the area. Harvest plans for the plantations should take this fact into account.

Response: Timber harvests occur at such a slow rate that there will always be a significant component in mature conifers in area State forests. Most conifer plantations are replanted to spruce when cut. However, conifer plantations on the Unit will be reduced from 56% to 35% of the acreage. That still leaves a lot of plantation acreage.

Comment: Foot bridges constructed in the future should be wider to accommodate horses.

Response: Bridges are generally constructed along roadways and are designed for vehicle use. They will accommodate use by those on horseback.

Comment: Snowmobiles trespass on ski trails.

Response: The Department clearly posts the ski trails against use by snowmobiles. This is a law enforcement issue.

Comment: The areas are essentially unavailable for use during the deer hunting season.

Response: Hunting is a permitted form of recreation on almost all DEC regulated State lands. The deer gun season is only 23 days in length. The Department does not believe that the areas are unavailable for use by other recreationists, although it certainly does advise caution and the use of brightly colored red and orange clothing by anyone in the woods at this time. Pittman-Robertson funds (a Federal excise tax on the sale of guns and ammunition purchased by hunters) routinely pay for much of the area maintenance and road construction costs on WMAs.

Comment: A demonstration forest should be incorporated into one of the areas under your management. What is lacking in the sustainable forestry picture is an educated public. The Cheese Hill area is suggested as an excellent location.

Response: A demonstration forest is certainly worth considering at some point in time in the future.

Comment: Forest Tax Law 480a needs to be revised to reduce the property tax burden. There needs to be a disincentive to the breakup of forest parcels and more residential development. We need to encourage responsible land stewardship and a holistic management approach.

Response: Section 480a of the Real Property Tax Law is a program that is intended to encourage the growing of a timber crop on private lands. This plan addresses the management of State lands in Albany County where 480a does not apply.

Comment: Maintenance of the Long Path should be emphasized in the plan.

Response: The Long Path uses designated trails and roads on Partridge Run WMA and Cole Hill State Forest. The trail will be maintained by DEC staff where it uses forest access roads and designated trails. Hiking clubs have volunteered to maintain the remaining portions of the Long Path on the Unit by participating in the Adopt-Natural-Resource Program.

Comment: There is a need for plowed parking areas for all winter uses.

Response: The Department and the Town of Berne do plow some of the parking areas in the winter as time and workloads permit.

Comment: More publicity is needed for the Rensselaerville State Forest.

Response: The development of informational brochures (with maps), showing locations, access points and uses of State lands, have been developed for Albany County. A kiosk will be installed at Rensselaerville State Forest.

Comment: It is important to maintain separate trails for snowmobilers and cross-country skiers.

Response: Separate trails are maintained at Cole Hill State Forest and Partridge Run Wildlife Management Area where designated snowmobile and cross-country ski trails exist. Snowmobiles are prohibited from using designated ski trails.

Comment: The plan should address management of mountain bike users.

Response: Mountain biking is a permitted use of the trails and roads on Wildlife Management Areas and State Forests. Current use of the Unit by mountain bikers is light and not a management concern at the present time.

Comment: Noise from passing dirt bikes and ATV's robs one of any experience of solitude.

Response: ATV's and dirt bikes are prohibited from using the State lands in the Unit.

Comment: There should be separate zones with trails for foot traffic and motorized uses.

Response: Snowmobiles are allowed on designated snowmobile trails on State land in the winter when snow and ice are on the ground. All motorized use of these trails is prohibited at all other times. Snowmobiles are not allowed on cross-country ski trails.

Comment: To put the plan into practical implementation, the DEC should consider user education and regulation enforcement.

Response: The Department does try to educate users by posting all areas with signage telling what is and is not permitted. The kiosks installed on the Wildlife Management Areas and State Forests have helped in this effort. More kiosks on State lands will be erected in the future. Regulation enforcement is certainly necessary and should be emphasized.

Comment: Wildlife management should be a top priority on these lands.

Response: Wildlife management is a major objective on Wildlife Management Areas. Timber harvest is used to create the diversity of habitats beneficial to wildlife. The mowing of grasslands also helps, as does the maintenance of the ponds and release of apple orchards.

Comment: Non-motorized trails for hiking and skiing should be a high priority.

Response: Non-motorized use of trails is a priority. The only motorized use permitted is that by snowmobiles on designated snowmobile trails when snow or ice is on the ground.

Comment: Horses should not be allowed on hiking trails.

Response: There are no designated foot or hiking trails on the Unit. Horses are permitted on all trails except snowmobile and ski trails when there is snow or ice on the ground.

Comment: Limit the number of roads open to motorized vehicles.

Response: Most roads and trails are closed to motorized use, with the exception of the snowmobile trails in the winter. Many roads are gated to prohibit this unauthorized use.

Comment: Timber management ruins the small islands of forest and makes them unattractive, no longer the peaceful sanctuaries people seek.

Response: Timber management is an integral part of State land management. Timber harvest helps maintain healthy forests, benefits wildlife, and provide users with access points, trails and clearings.

Comment: Timber harvest should be made in the winter.

Response: Timber harvests are scheduled to best achieve the objectives of the harvest, though the benefits of working in the winter when the ground is frozen and minimally disturbed are certainly recognized.

Comment: Trapping should not be allowed within 100 feet of hiking trails.

Response: Most trappers are knowledgeable and responsible individuals and recognize the need to stay away from trails used by other recreationists.

Comment: Partridge Run WMA should have more picnic tables, fire places, outhouses and garbage cans.

Response: Partridge Run WMA is not intended for intensive use. Users of the area can expect less developed recreational opportunities. Thatcher and Thompson Lake State Parks are nearby for those seeking more intensive recreational use such as camping, picnicking and swimming.

Comment: Logging roads are left messy after timber harvests.

Response: Timber harvests are certainly a disturbance, however, provisions for erosion control and clean up are included in all timber operations.

Comment: The Department needs more and better signs.

Response: The Department recognizes this need. Kiosks have been erected on all Wildlife Management Areas in the region and some of the State Forests. The kiosks have information on permitted uses and maps showing the area boundaries. The Department will also be placing off-site signs on major roadways, telling people that state land is nearby. Boundary lines will be routinely maintained.

Comment: Continue enhancements for wildlife, such as release of apple orchards, clearcutting small blocks of forest, and mowing the fields.

Response: Wildlife habitat enhancement is an objective of State land management and will continue.

Comment: Issue permits for field trials and small group camping.

Response: Permits are currently issued for such uses.

Comment: Make additional openings in stands of pine.

Response: Silvicultural operations will be based on individual stand objectives. Multiple large openings are usually avoided to prevent blowdown of remaining trees. Some pine plantations will be cut and replanted to spruce.

Comment: Replace pole barriers with boulders.

Response: The Department has done this at some locations in combination with gates to eliminate unauthorized use.

Comment: Increase patrols by law enforcement to discourage unauthorized uses, litter and vandalism.

Response: This need is certainly recognized, though demands on the Environmental Conservation Officer's and Forest Ranger's time are high.

Comment: Use shale pits for target practice. Clean up the eyesores near Zuk's Corners.

Response: Target practice at some shale pits on State land will continue to be permitted. The large shale pit north of Zuk's Corners is on Albany County property. It has been cleaned up and is posted against trespass.

Comment: Re-inventory Partridge Run WMA and review guidelines and policy for its use.

Response: Partridge Run WMA has been re-inventoried. This plan is evaluating current use guidelines, though few changes are expected.

Comment: Use volunteer environmental groups on projects such as posting, cleanup and inventory.

Response: The Adopt-A-Natural Resource Program now provides for such use of volunteer groups. A few groups have volunteered to assist with management activities, though participation in the program is minimal and disappointing.

Comment: Develop a brochure for using the different areas.

Response: Maps for most units of State land have been developed and are distributed from the regional offices and kiosks on State land. Handouts detailing permitted uses on the State lands in the different counties have also been developed. Besides uses, handouts list the units of land, Forest Rangers, Environmental Conservation Officers, and the Regional Office addresses and phone numbers.

Comment: Continue use of State lands by snowmobiles.

Response: Snowmobiles will continue to be permitted on State land.

Comment: Trail system maintenance needs to be addressed.

Response: The Department maintains the trail system using DEC staff, private contractors, staff and inmates from the Summit Shock Facility, and volunteers.

Comment: Could a trail be made from Henry Hill Road to North Road that would allow safer passage?

Response: By safer, we assume you mean a trail not open for use by snowmobiles. At the present time, there are no plans for developing a hiking/ski trail parallel to the snowmobile trail. A volunteer group could develop such a trail.

Comment: When timber is harvested, nasty messes should not be left behind. Logging trails should be cleaned up and made into new hiking, snowmobiling and skiing trails. Firewood or chipped wood could be left for public use.

Response: Timber harvests are a disturbance, however, provisions for erosion control measures and clean up are included in all timber operations. New trails can be developed using the haul roads created by the operators. The removal of any plant material including firewood requires a permit.

Comment: Trail markers should indicate trail names, direction and destinations.

Response: Maps provide all the information recreationists need to use the trail systems. A well marked and signed trail system is one goal of the plan.

Comment: Manage for successional forests/communities. Prescribe even-age silvicultural treatments. Establish small blocks of conifer plantings. Release and maintain soft-mast producing trees and shrubs.

Response: Hopefully, successional forest communities will become more prevalent on the State lands as time goes by. Even-aged and all-aged management systems are used on the State lands. Conifer plantations will continue to be prevalent though less so. Releases of apple orchards will also continue to occur as long as Summit Shock Facility help is available.

Comment: Keep recreational vehicles, motorcycles and ATV's from having easy access to the shale pit at Margaret Burke WMA. Gun fire and recreational vehicle use of the shale pit create problems for adjacent landowners.

Response: The problems are well recognized by the DEC. Patrol will continue in the area in an effort to curb this use.

Comment: I enjoy the wildlife, unpaved roads and few restrictions. Keep it that way. Carry in-carry out signs might help.

Response: Current management practices will continue as in the past. Carry in-carry out signs have been placed on kiosks and at key locations.

Comment: Concern for hikers on Long Path. Want to see signs prohibiting hunting and fishing. Are the areas ever patrolled, regulations enforced?

Response: All State land in the Unit is open to hunting and fishing. All are multiple use areas. Use by hikers does not preclude other recreational uses. The areas are patrolled though more patrol is necessary.

Comment: A member of the Long Path North Hiking Club would like to see foot trails not be commingled with vehicular or horse trails.

Response: The majority of the trails on the Unit are open to multiple uses. There are no designated foot trails in the Unit. Snowmobile and cross-country skiing trails can be used by horses when there is no snow or ice on the trails.

Comment: Concern about enlarging or improving Partridge Run WMA. Roads in area not suitable for use by timber cutters/haulers. ATV's and snowmobiles contribute to road deterioration. Are there rules controlling their use? Town cannot use shale from local shale pit to maintain the roads. Need spirit of cooperation. Need more guard rails in notoriously bad sections.

Response: There are no plans to enlarge the area other than to possibly acquire a couple of small inholdings. ATV's are prohibited from using the area. Snowmobiles are allowed on snowmobile trails and seasonal roads covered with ice or snow. Town roads provide access to the area for all users including timber harvesters. The Town of Berne has a permit from the Department to use shale from the shale pits on Partridge Run WMA. There is an annual limit to the amount that can be removed. The town highway departments are responsible for safety along the town roads. Guard rails are not used on forest access roads. Speed limit is 25 mph, so guard rails are not necessary.

Comment: See that bicyclists get fair consideration. Areas should be accessible to mountain bikers. Implement a limited season for mountain biking. Volunteers could construct and maintain a new single track on Partridge Run WMA.

Response: State lands in the Unit are open to mountain biking. Trails are for multiple uses.

Comment: Permitted uses must be consistent with the community that exists in the surrounding area. DEC has obligation to be a good neighbor. It is essential that the agency be able to police and enforce the laws. DEC must do a better job of informing users what the rules are for using the area. When logging takes place, landing sites, woods roads and general forest should be restored. Leave buffers between logging sites and homes and private land boundaries. DEC must assume some of the responsibility of town dirt roads that are torn up by recreationists playing on the area and by

logging trucks. Mow fields to meet needs of people who run field trials. Four-wheel-drive vehicles drive off-road where they are not permitted. Signs are removed and shot by vandals. Area is dumping ground for unwanted domestic pets.

Response: Rules, regulations and maps are posted on the five area kiosks. Enforcement officers' names and phone numbers are included. Unit is patrolled. Timber harvests are a disturbance, however, provisions for erosion control measures and clean up are included in all timber operations. Buffers are certainly a good idea. The Town of Berne has a permit from the Department to use shale from the shale pits on Partridge Run WMA. There is an annual limit to the amount that can be removed. Maintenance of town roads is a town responsibility. We do try to mow only half the fields annually, leaving some cover for field trailers and pheasant releases. Vandalism and dumping are recognized problems.

Comment: Trail conditions have deteriorated. Bridges have collapsed. Trails have been closed. Grooming is non-existent. Trails need marking and numbering.

Response: The Department maintains the trail system using DEC staff, inmates from the Summit Shock Facility, private contractors and volunteers. Area maps identify all trails; trailheads are well marked. For groomed trails, use ski areas.

Comment: Hunting should be allowed on all areas in the Unit. Motorized and non-motorized trails work well for snowmobiles or quadrunners. Picnicking is fine. Camping might present problems. Fishing should be permitted and canoes and boats with motors are fine. New projects should be at least 1,000 yards from property lines.

Response: Hunting, fishing and picnicking are permitted uses. Camping is prohibited on the WMA's, permitted on the State Forests. The use of ATV's and motorized boats on the areas is prohibited. New timber harvests will take into account any potential effect on neighboring properties.

Comment: State literature refers to trails for skiing only. Need more information at gates to show use behind gate. Maps should be available at trail junctions. Need kiosks; material at them is important. Need visible, larger trail markers. Need signs at gates. *The Conservationist* should be used to educate skiers and snowmobilers. Why not establish a trail use management board at the state level?

Response: Some trails are designated and marked for skiing only. Trails entrances are well marked. The kiosks do provide the necessary information. Rules for using the trail system and maps are prominently displayed. Trail markers are a standard size, readily visible while traveling the trail system. Articles for different areas periodically appear in *The Conservationist*. A State level trail use management board is beyond the scope of this plan, unnecessary to meet the local needs.

Appendix 7. Property Tax Tables - 1998

<u>State Forest</u>	<u>Acres</u>	<u>Town Tax</u>	<u>School Tax</u>	<u>Special District Tax</u>	<u>Total</u>
Town of Berne:					
Albany #1	938.12	\$3,029.64	\$17,742.21	\$1,771.13	\$22,542.98

Albany #3	506.28	\$1,665.15	\$ 9,231.77	\$ 973.45	\$11,870.37
TOTAL	1,444.40	\$4,694.79	\$26,973.98	\$2,744.58	\$34,413.35
Town of Rensselaerville:					
Albany/Schoharie #1	1,569.81	\$14,544.29	\$33,629.52		\$1,592.11
					\$49,765.92

Appendix 8. Comments Received at July 26, 2000 Public Hearing on Draft Unit Management Plan

Comment: Snowmobiles should keep off cross-country ski trails.

Response: All entrances to the cross-country ski trails are well marked to prohibit snowmobile use. Additional enforcement of regulations would certainly help.

Comment: DEC should help with the maintenance of town roads on Partridge Run WMA by allowing the Town of Berne Highway Department use of the shale in the Department's shale pits.

Response: The Town of Berne has been allowed use of the shale in the past through the issuance of Temporary Revocable Permits. They will be allowed use in the future. However, the DEC will continue to limit the amount of shale taken out of each borrow pit to 1,000 tons/year. This practice will provide for a continuing supply of shale for Unit road maintenance for as long a period of time as is reasonably possible. The DEC considers the limit to be wise use of the shale resource.

Comment: DEC should not be encouraging increased public use. They do not have the resources to control increased use. State land is not being adequately patrolled now and regulations are not presently enforced.

Response: The plan does not propose increased public use or any major changes, other than the proposed ATV trail, and that will not be pursued because of apparent opposition. However, we would expect modest increases in public use to occur if the population in the Capital District increases. Current staffing levels are, at times, strained and limited, as is the funding to maintain the Unit. Until additional resources become available, we will continue to do the best we can.

Comment: DEC is encouraging too much traffic on Partridge Run WMA and the Town of Berne cannot afford to maintain the roads.

Response: Where State Forests occur, the State makes payments in lieu of taxes to towns comparable to the taxes paid on undeveloped land. The DEC Region 4 Bureau of Wildlife has asked the Region 4 Open Space Plan Regional Advisory Committee to encourage the State to make similar payments in lieu of taxes for Wildlife Management Areas. The DEC recognizes the need to support town tax bases.

Comment: Snowmobiles and hunters trespass from State land onto private land.

Response: DEC does not condone State land users trespassing onto adjacent private lands. Trespassers should be reported to the Albany County Sheriffs Office or DEC Law Enforcement. The DEC does not believe that all trespassing in rural communities can be attributed to the presence of State land nearby. ATV and snowmobile use is commonplace in rural communities.

Comment: Encourage the shared use of trails. Tell users to respect the rights of others and to act courteous.

Response: The Department will do this with signage on Unit kiosks and by including this message in Department brochures/pamphlets.

Comment: Thanked DEC for making trails available for public use.

Response: The DEC will continue to maintain the trail system and permit use by all those currently using the trail system.

Comment: Not clear what the DEC intends to do.

Response: With the exception of the establishment of an ATV trail, which will not be pursued because of apparent public opposition, the DEC is not proposing any changes as it relates to use or management of the area. The amount of plantation acreage on the Unit will be reduced over time to a more reasonable amount. On Partridge Run Wildlife Management Area, early succession stages of habitat will continue to be encouraged.

Comment: Why was it decided to suddenly and dramatically develop the Unit.

Response: This planning effort was initiated three years ago. The Unit Management Planning process started in the mid 1980's, with several plans being written statewide annually in recent years. Plans for Eminence State Forest in Schoharie County, Hunter Mountain in Greene County, and the Leatherstocking Unit (Otsego County State Forests) were written in the last few years.

Comment: What sort of impact can residents and the town expect regarding traffic and people/users.

Response: The DEC does not expect any increase in use of the area other than that which may occur as the population of the general area increases.

Comment: Landowners incur a terrific liability if trespassers get hurt.

Response: The General Obligations Bill protects landowners from trespass by recreationists and others entering private property illegally or uninvited.

Comment: Supports construction of looped trails; roads are unsafe.

Response: This activity was associated with the construction of an ATV trail, which will not be pursued because of apparent public opposition.

Comment: Hikers do not like having horses on the trail system.

Response: The State encourages shared use of trails. The only trails on State lands in the Unit that one on horseback would have to avoid are snowmobile and ski trails when ice or snow is on the ground.

Comment: Pheasant stocking is not mentioned in the plan.

Response: It will be mentioned in the Information on the Unit - Wildlife Resources section of the plan.

Comment: Hunters, attracted by pheasant releases, are the vandals on Partridge Run WMA.

Response: Vandalism is not limited to the hunting seasons or hunters. Much of the vandalism is associated with the parking areas and groups that party there illegally on Friday and Saturday nights, late in the evening and early morning hours.

Comment: Loggers should be made to live up to the conditions of their contracts.

Response: The Department does monitor logging operations and enforces contract conditions.

Comment: Plan is not based on ecological principals and best possible science. Plan does not reference scientific articles.

Response: Actions recommended in the plan are well documented, time honored timber and wildlife management practices. Plan is not a scientific analysis of the area. It is a somewhat generic planning document.

Comment: Brush piles have no natural equivalent in nature; their creation thwarts nutrient cycling.

Response: The creation of brush piles does afford rabbits and other small mammals shelter. Acreage impacted by this management practice is very insignificant. Brush piling at some locations has been excessive and at times unsightly. Less brush piling will occur in the future.

Comment: Apples are not required by native animals.

Response: The benefits of apples for many wildlife species is well documented. Acreage in apple orchards on State land is insignificant. The orchards create habitat diversity. Their presence on State land is not a contributing factor to the overpopulation of deer and the problem it presents to forest regeneration. The Department is expending a lot of time and effort to address the need to control the size of the deer populations statewide. Regulation changes will be forthcoming which will liberalize the harvest of antlerless deer.

Comment: There is a need for a regional understanding of the Helderbergs. There is also a need for landscape planning.

Response: The Unit Management Plan is not the appropriate vehicle to address these issues. Landscape planning efforts usually try to direct development of rural areas. State lands are, for the most part, left in a forested state and, as such, do not contribute to development. They do provide

those using rural environments a place to recreate and in that regard are considered in some planning efforts for the benefits they provide.

Comment: The marking of boundary lines and trails is critical.

Response: The Department agrees and does the best it can to address this important need.

Comment: There is a need for an increased law enforcement presence on State lands.

Response: The Department recognizes this and does the best it can to address this important need.

Comment: Snowmobiles use ski trails. Barriers must be redesigned for better winter visibility. Gates should support stop signs. Signs prohibiting motorized use are missing.

Response: The only way to keep snowmobiles and cross-country skiers apart is through law enforcement efforts. Pipe gates were redesigned 10-15 years ago. They are now more visible (painted yellow) and do carry stop signs. Signs warning of "barrier ahead" have also been erected. Efforts are made to periodically maintain the area and replace missing signs.

Appendix 9. Comments Received After July 26, 2000 Public Meeting on Draft Unit Management Plan

Comment: Young people frequently hold beer parties at "hot spots" along County Route 6 on Friday and Saturday nights from 11 PM to 3 AM. Record these locations and coordinate patrol by Law Enforcement with Albany County Sheriff's patrol.

Response: The Department recognizes the need to prevent such activities. Vandalism (gates), littering, and construction of unsightly fire rings in parking areas likely occur at these times.

Comment: Proposed ATV trail poses its own security risks. How can Rangers ensure that ATV owners are staying on authorized trails? It is already impossible for Environmental Conservation Officers to adequately monitor State holdings.

Response: The Department agrees; construction of an ATV trail will not be pursued.

Comment: Foundations, wells, heritage plantings and cemeteries should be identified and documented.

Response: The Department agrees, however, staff levels and workloads are such at the present time that doing what is suggested is a very low priority. This would, however, make an excellent Adopt-A-Natural-Resource project, to be accomplished by a concerned, enthusiastic individual. A comment was made at the public meeting that information regarding the location of additional cemeteries is available at the Town of Berne library. That too could be researched by a volunteer. Any volunteers?

Comment: What efforts is the Department making to encourage schools and colleges to utilize State lands? Please aim some of your literature towards this "market."

Response: The Department has a close working relationship with the Fisheries and Wildlife Department at SUNY Cobleskill. SUNY Cobleskill students have conducted research on the area with some regularity for several years. A student from Siena College worked on Partridge Run WMA this year. There have been others, too. Bureau of Wildlife staffing levels and workloads are such that pursuing an active I and E program is a low priority at the present time. The Department almost always accommodates those who ask to use the State land for scientific or educational purposes, as long as the work does not infringe on the rights of others using the properties. The Department will try to make note of the availability of this use of State land in our literature.

Comment: It was disconcerting to learn that DEC does not keep a count of current use of the areas and has no estimate of likely increased use if plan is carried out.

Response: Staffing levels and workloads prevent the Department from conducting use counts at the present time. The last user surveys were conducted in 1976-77. They were very labor intensive. The plan does not call for increased use of the State land other than that which may occur as populations in the general area increase.

Comment: Realistically, how can one officer be expected to deal with such issues as littering and trespass.

Response: Probably one officer cannot meet this need. Hopefully, there will be an increased law enforcement presence in the future to patrol State lands.

Comment: I strongly urge you to not allow ATV's and snowmobiles on State areas in the Helderbergs.

Response: The construction of an ATV trail at Rensselaerville State Forest will not be pursued. ATV's do use State lands illegally, however. Snowmobiles are permitted on designated trails on State lands. This recreational use activity has been allowed for many years and will continue to be allowed. Some snowmobilers do use the ski trails illegally. The DEC needs a greater law enforcement presence on State lands during times of peak use.

Appendix 10. Listing of Forest Stands.

STATE FOREST ALL - AGED NATURAL FOREST

STATE FOREST	STAND	ACRES
COLE HILL	B-6	16
COLE HILL	B-9	11
COLE HILL	B-12	8

STATE FOREST	STAND	ACRES
COLE HILL	B-14	4
COLE HILL	B-18	18
RENSSELAERVILLE	A-10	17
RENSSELAERVILLE	B-10	27
RENSSELAERVILLE	D-18	48
RENSSELAERVILLE	D-33	18
RENSSELAERVILLE	D-35	19
RENSSELAERVILLE	D-37	20

STATE FOREST EVEN - AGED NATURAL FOREST

STATE FOREST	STAND	ACRES
PARTRIDGE RUN	A-39	30
PARTRIDGE RUN	A-45	20
PARTRIDGE RUN	A-46	15
PARTRIDGE RUN	A-49	7
PARTRIDGE RUN	A-63	40
PARTRIDGE RUN	A-67	37
PARTRIDGE RUN	B-19	50
PARTRIDGE RUN	B-30	4
PARTRIDGE RUN	B-33	19
PARTRIDGE RUN	B-38	20
PARTRIDGE RUN	B-42	41
PARTRIDGE RUN	B-43	8
PARTRIDGE RUN	B-44	23
PARTRIDGE RUN	B-49	12
PARTRIDGE RUN	B-50	17

STATE FOREST	STAND	ACRES
COLE HILL	A-1	8
COLE HILL	A-3	5
COLE HILL	A-5	28
COLE HILL	A-10	8
COLE HILL	A-12	8
COLE HILL	A-13	19
COLE HILL	A-19	6
COLE HILL	A-20	50
COLE HILL	A-21	17
COLE HILL	A-22	16
COLE HILL	A-23	7
COLE HILL	B-1	2
COLE HILL	B-2	5
COLE HILL	B-4	8
COLE HILL	B-8	5
COLE HILL	B-11	4
COLE HILL	B-16	8
COLE HILL	B-17	12
COLE HILL	B-19	6
COLE HILL	B-20	12
COLE HILL	C-1	2
COLE HILL	C-3	6
COLE HILL	C-5	14
STATE FOREST	STAND	ACRES
COLE HILL	C-9	6
COLE HILL	C-10	15
COLE HILL	C-12	5

STATE FOREST	STAND	ACRES
COLE HILL	C-13	7
COLE HILL	C-15	11
COLE HILL	C-18	28
RENSSELAERVILLE	A-1	48
RENSSELAERVILLE	A-12	9
RENSSELAERVILLE	A-13	7
RENSSELAERVILLE	A-15	11
RENSSELAERVILLE	A-16	34
RENSSELAERVILLE	B-1	8
RENSSELAERVILLE	B-3	14
RENSSELAERVILLE	B-4	21
RENSSELAERVILLE	B-8	18
RENSSELAERVILLE	B-14	22
RENSSELAERVILLE	C-1	14
RENSSELAERVILLE	C-3	14
RENSSELAERVILLE	C-9	51
RENSSELAERVILLE	C-10	41
RENSSELAERVILLE	C-11	15
RENSSELAERVILLE	C-15	17
RENSSELAERVILLE	C-16	24
RENSSELAERVILLE	D-7	61
RENSSELAERVILLE	D-8	5
RENSSELAERVILLE	D-11	15
RENSSELAERVILLE	D-19	54
RENSSELAERVILLE	D-20	14
STATE FOREST	STAND	ACRES
RENSSELAERVILLE	D-21	32

STATE FOREST	STAND	ACRES
RENSSELAERVILLE	D-22	4
RENSSELAERVILLE	D-26	18
RENSSELAERVILLE	D-27	10
RENSSELAERVILLE	D-29	14
RENSSELAERVILLE	D-32	21
RENSSELAERVILLE	D-34	7
RENSSELAERVILLE	D-36	9
RENSSELAERVILLE	E-3	5
RENSSELAERVILLE	E-5	20
RENSSELAERVILLE	E-8	8
RENSSELAERVILLE	E-9	37
RENSSELAERVILLE	E-21	12
RENSSELAERVILLE	E-22	18
RENSSELAERVILLE	E-23	14
RENSSELAERVILLE	F-2	8
RENSSELAERVILLE	F-4	15
RENSSELAERVILLE	F-5	9
RENSSELAERVILLE	F-6	29
RENSSELAERVILLE	F-8	3
RENSSELAERVILLE	F-10	6
RENSSELAERVILLE	F-12	13
RENSSELAERVILLE	F-14	5
RENSSELAERVILLE	G-4	10
RENSSELAERVILLE	G-7	12
RENSSELAERVILLE	G-10	14
RENSSELAERVILLE	G-13	23

STATE FOREST	STAND	ACRES
RENSSELAERVILLE	G-14	21
RENSSELAERVILLE	G-15	12
RENSSELAERVILLE	G-18	22

STATE FOREST PLANTATION FOREST

STATE FOREST	STAND	ACRES
PARTRIDGE RUN	A-40	32
PARTRIDGE RUN	A-41	27
PARTRIDGE RUN	A-42	15
PARTRIDGE RUN	A-43	16
PARTRIDGE RUN	A-44	9
PARTRIDGE RUN	A-47	30
PARTRIDGE RUN	A-48	17
PARTRIDGE RUN	A-50	11
PARTRIDGE RUN	A-51	15
PARTRIDGE RUN	A-52	38
PARTRIDGE RUN	A-53	11
PARTRIDGE RUN	A-55	25
PARTRIDGE RUN	A-56	17
PARTRIDGE RUN	A-58	17
PARTRIDGE RUN	A-59	10
PARTRIDGE RUN	A-62	11
PARTRIDGE RUN	A-64	7
PARTRIDGE RUN	A-65	13
PARTRIDGE RUN	A-66	2
PARTRIDGE RUN	A-68	17

PARTRIDGE RUN	B-17	9
STATE FOREST	STAND	ACRES
PARTRIDGE RUN	B-20	6
PARTRIDGE RUN	B-37	26
PARTRIDGE RUN	B-46	27
PARTRIDGE RUN	B-51	23
PARTRIDGE RUN	B-52	33
PARTRIDGE RUN	B-53	14
PARTRIDGE RUN	B-56	4
PARTRIDGE RUN	C-5	27
COLE HILL	A-2	19
COLE HILL	A-4	4
COLE HILL	A-7	5
COLE HILL	A-9	33
COLE HILL	A-11	5
COLE HILL	A-14	17
COLE HILL	A-15	21
COLE HILL	A-16	20
COLE HILL	A-17	10
COLE HILL	A-18	9
COLE HILL	B-3	70
COLE HILL	B-7	17
COLE HILL	B-10	5
COLE HILL	B-13	28
COLE HILL	B-15	5
COLE HILL	C-2	28
COLE HILL	C-4	14
COLE HILL	C-6	20

COLE HILL	C-7	18
COLE HILL	C-8	23
STATE FOREST	STAND	ACRES
COLE HILL	C-11	7
COLE HILL	C-14	17
COLE HILL	C-16	2
COLE HILL	C-17	13
RENSSELAERVILLE	A-2	26
RENSSELAERVILLE	A-3	10
RENSSELAERVILLE	A-5	10
RENSSELAERVILLE	A-6	13
RENSSELAERVILLE	A-7	4
RENSSELAERVILLE	A-8	5
RENSSELAERVILLE	A-11	10
RENSSELAERVILLE	A-14	7
RENSSELAERVILLE	B-2	36
RENSSELAERVILLE	B-5	42
RENSSELAERVILLE	B-6	31
RENSSELAERVILLE	B-7	32
RENSSELAERVILLE	B-9	16
RENSSELAERVILLE	B-11	56
RENSSELAERVILLE	B-12	49
RENSSELAERVILLE	B-13	10
RENSSELAERVILLE	C-2	7
RENSSELAERVILLE	C-4	8
RENSSELAERVILLE	C-5	51
RENSSELAERVILLE	C-6	2
RENSSELAERVILLE	C-7	15
RENSSELAERVILLE	C-8	4

RENSSELAERVILLE	C-12	47
RENSSELAERVILLE	C-13	18
STATE FOREST	STAND	ACRES
RENSSELAERVILLE	C-14	27
RENSSELAERVILLE	C-17	30
RENSSELAERVILLE	C-18	15
RENSSELAERVILLE	C-19	29
RENSSELAERVILLE	D-1	43
RENSSELAERVILLE	D-2	17
RENSSELAERVILLE	D-3	12
RENSSELAERVILLE	D-6	17
RENSSELAERVILLE	D-9	11
RENSSELAERVILLE	D-10	13
RENSSELAERVILLE	D-12	6
RENSSELAERVILLE	D-13	8
RENSSELAERVILLE	D-14	11
RENSSELAERVILLE	D-15	39
RENSSELAERVILLE	D-16	29
RENSSELAERVILLE	D-17	4
RENSSELAERVILLE	D-23	39
RENSSELAERVILLE	D-24	16
RENSSELAERVILLE	D-25	13
RENSSELAERVILLE	D-28	15
RENSSELAERVILLE	D-31	10
RENSSELAERVILLE	E-1	45
RENSSELAERVILLE	E-2	10
RENSSELAERVILLE	E-4	11
RENSSELAERVILLE	E-6	45

RENSSELAERVILLE	E-7	10
RENSSELAERVILLE	E-10	11
RENSSELAERVILLE	E-11	35
STATE FOREST	STAND	ACRES
RENSSELAERVILLE	E-12	27
RENSSELAERVILLE	E-13	6
RENSSELAERVILLE	E-14	8
RENSSELAERVILLE	E-15	22
RENSSELAERVILLE	E-16	9
RENSSELAERVILLE	E-18	28
RENSSELAERVILLE	E-19	6
RENSSELAERVILLE	E-20	12
RENSSELAERVILLE	E-24	22
RENSSELAERVILLE	E-26	10
RENSSELAERVILLE	E-27	6
RENSSELAERVILLE	F-1	73
RENSSELAERVILLE	F-3	7
RENSSELAERVILLE	F-7	13
RENSSELAERVILLE	F-9	5
RENSSELAERVILLE	F-11	7
RENSSELAERVILLE	F-13	34
RENSSELAERVILLE	G-1	13
RENSSELAERVILLE	G-2	15
RENSSELAERVILLE	G-5	6
RENSSELAERVILLE	G-6	7
RENSSELAERVILLE	G-8	33
RENSSELAERVILLE	G-9	56
RENSSELAERVILLE	G-11	34
RENSSELAERVILLE	G-12	7

RENSSELAERVILLE	G-16	46
RENSSELAERVILLE	G-19	5
RENSSELAERVILLE	G-20	36

Appendix 1. State Environmental Quality Review