

**FOREST MANAGEMENT PLAN**

for the property of

**The Town of Dixmont**

P.O. Box 100  
Dixmont, ME 04932  
(207) 234-2294

located in  
Dixmont, Maine

prepared by: Robert R. Nelson *Robert R. Nelson*  
Maine Licensed Forester #3770  
176 Bowden Road  
Corinna, ME 04928  
(207) 278-2361

Plan Date: June 10, 2015  
Planning Period: 2015-2025  
Renew By: 12/31/2015

**OWNER NAME AND ADDRESS:**

Town of Dixmont (207) 234-2294  
P.O. Box 100  
Dixmont, ME 04932

**LOCATION OF PARCEL:**

The property owned by the Town of Dixmont that is being addressed in this management plan is located in the far northeast corner of Dixmont, Maine. The parcel is further identified as Map 12, Lot 20. It is situated approximately 1.25 miles east of Route 143, and on the north side of the discontinued North Road.

The Dixmont Town Lot contains a total of 100 acres. Of this, approximately 94 acres are productive forest land. The remaining 6 acres are part of an unnamed bog. The western property boundary with Silke is marked with red paint and blazes. The northern and eastern boundaries are not well marked, but are discernible by old blazes, wire fence fragments, and intermittent sections of old stone walls. These lines should be marked with long-lasting boundary paint at the earliest opportunity. The southern boundary of the parcel is the discontinued North Road.

**STATEMENT OF OWNER'S OBJECTIVES:**

The Dixmont Conservation Commission desires to manage the town lot as a Community Demonstration Forest which is to be available for public educational and recreational use. They intend to manage the town forest to protect the health of the forest, maintain proper ecological function including the protection of soil and water resources and control of invasive plant species, maintain diverse wildlife habitat, and provide for opportunities for forestry research. The development of recreational hiking trails with interpretive signs is also a goal. Income from commercial timber harvesting is not a primary

objective, but would be desirable when compatible with the other stated management objectives.

As stated in the Project Canopy grant application, "A fundamental outcome of this project is to preserve the site and to educate the public about the value of a sustainably managed forest and habitat for wildlife. This will support the Comprehensive Plan's section on Forestry & Agriculture, which describes forestry as "essential to the rural character of Dixmont" (page 40)."

#### **GENERAL PROPERTY DESCRIPTION:**

The management history of the property is known fairly well. It is apparent that much of the forest land was once cleared and used for agriculture. When agricultural use ceased many years ago, a mixed forest of softwoods and hardwoods reclaimed the cleared areas. Some areas were farmed as recently as the Depression era. An aerial photo of 1943 shows that most of the central and southern parts of the parcel were still clear at that date. Possibly, however, some of the wetter land in the northern part of the property near the bog was never cleared. No timber harvesting has occurred on the property since 1942.

The land that is now the Dixmont Town Forest at one time consisted of two farms; one owned by Hirah Howes and the other owned by William P. Howes. William farmed his land until 1917. Both parcels were later owned by Shirley and Mabel Kenniston. The Kennistons mortgaged the land under a federal government program during the Great Depression of the 1930s. In 1942, the property was foreclosed on and subsequently given to the Town of Dixmont in 1980 with the condition that it would not be sold or developed, but be made available for public use.

Evidence remains of the property's agricultural past in the form of the crumbling foundations of the two former farmsteads, and an extensive network of old stone walls (see the map in the Appendix for more details of these features).

**SOILS:**

Six primary soil groups are found on the Dixmont property. These are:

- BaB, BaC, BmB, BnB, & BnC - Bangor silt loam
- PgB - Plaisted gravelly loam
- DxB, DxC, & DyB - Dixmont silt loam
- MrB, MsC - Monarda-Burnham complex
- BxB; RaB - Buxton/Scantic/Biddeford & Redhook/Atherton  
silt loams
- TkB - Thorndike Silt loam

The Bangor soils are deep, well drained upland soils of high productivity for both hardwoods and softwoods. Few management restrictions exist with this soil type, except for a seasonally high water table for short periods in the in the spring and fall wet seasons. Equipment use should be curtailed during these periods. Differing slightly from the Bangor soils, the Plaisted soil type is more gravelly. For forest management purposes, however, the two soils can be managed the same.

The Dixmont soil type is located on a somewhat lower landscape position than the Bangor and Plaisted soils, and is therefore wetter overall. It is moderately well drained where slopes exceed 8%, and somewhat poorly drained in flatter areas. The Dixmont soil is a highly productive forest soil, but does have some management limitations. A water table within 2 feet the surface would exist for much of the year in the lower sites, and a seasonally high water table would be found in the higher sites. Thus, equipment use should generally be limited to only the driest parts of summer and early fall, or the hard frozen conditions of midwinter. Windthrow would also be a concern in this soil type due to shallow tree rooting ability.

The Monarda-Burnham soil type is a poorly drained soil of the lower landscape positions found on the Dixmont town property. This soil type is found in one area of the southeastern section part of the property, and more generally

in the northern third. The Monarda-Burnham soil is a moderately productive forest soil, but its wetness requires that equipment use occur only during the brief dry periods of late summer, or when the ground is hard frozen. Windthrow is a severe concern for this soil type, and will limit the type of silviculture practiced. For practical purposes of management, the very poorly drained Buxton/Scantic/Biddeford and Redhook/Atherton soil associations can be managed the same as the Monarda/Burnham soils.

Lastly, the Thorndike soils are shallow-to-bedrock, and found on the highest parts of the landscape. These soils are well drained to excessively drained, and have no management limitations for equipment. Their shallow depth to bedrock does result in somewhat lower productivity in dry years. This is a very minor soil type on the Dixmont town property.

#### **INVENTORY:**

The forest areas on the Dixmont property were inventoried using a systematic point sample. 33 points were located on a grid pattern with approximately 330 feet between each point, or about 1 point per 2.5 acres. Each point was visited and information pertaining to tree health, past management practices, tree species present, tree age, regeneration, site quality, and management possibilities were recorded.

The trees present were divided into two classes, sawtimber and pulpwood. Those placed in the sawtimber class were at least 11 inches DBH (for hardwoods and hemlock) and at least 9 inches DBH (for spruce/fir), and of sufficient quality to be sold as sawlogs. Sawtimber volume is measured in board feet with 1 board foot representing a board 1 foot square and 1 inch thick. Sawtimber volumes were calculated using the International  $\frac{1}{4}$ -inch Log Rule. Trees less than 11 inches DBH or 9 inches DBH (hardwoods or softwoods, respectively), but greater than 5 inches DBH were placed in the pulpwood class. Also placed

in this class were those trees between 11 and 25 inches DBH that were of insufficient quality to make sawtimber. Pulpwood is measured in cords with 1 cord being a pile of wood 4 feet high, 4 feet wide, and 8 feet long, or 128 cubic feet. "DBH" stands for Diameter at Breast Height - the diameter of a tree measured at 4.5 feet above the ground.

**POSSIBLE MANAGEMENT RESTRICTIONS:**

No known rare, threatened, or endangered wildlife and/or plant species, or special wildlife habitats were encountered or noticed during the field examination of the property. Further, no known special historical, cultural, or archeological sites were seen, other than the former Howes farmsteads and associated stone walls previously mentioned. The Maine Natural Areas Program and the Maine Historic Preservation Commission were both contacted concerning the above issues. The results of their database searches can be found in the Appendix.

The bog in the northwest corner of the Dixmont town property is listed in the Comprehensive Plan as "of special concern." This area is subject to Shoreland Zone regulations. Any forest management activities planned for this riparian zone must closely follow the Maine Forest Service's Statewide Standards for Timber Harvesting in Shoreland Zones, including appropriate buffer distances, shade retention, and minimization of sediment runoff.

This property is subject to all provisions related to timber harvesting, protection of water quality, and forest improvement contained in the Maine Forest Practices Act.

**ACCESS:**

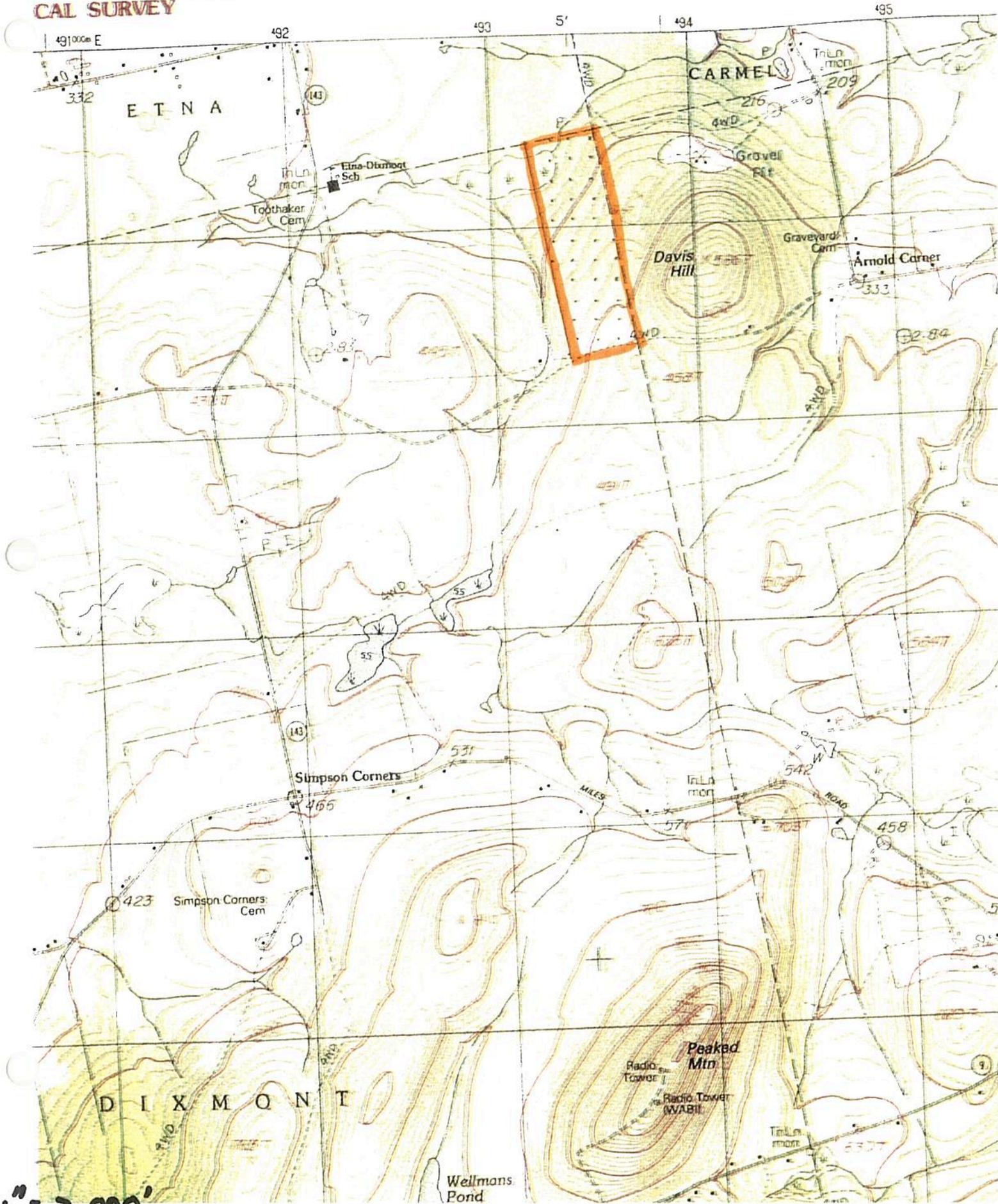
Access to the Dixmont town property is poor, and is the primary management challenge. Legal, deeded, public access is only by the discontinued North Road. However, extensive repairs will be required before this route can be used as a viable public access, or its use for timber harvesting purposes. In addition,

some of the other landowners abutting the discontinued North Road have expressed reservations about improving this road, and thus opening this quiet, remote area to increased vehicular traffic. Temporary access for harvesting purposes may be possible through the Silke property to the west. However, without a formal long-term agreement for continued use of this route, the expense in improving it may not be justifiable. Further, intermittent access on foot may be possible for research and management purposes with the permission of Robert Croul, who owns the property to the east in Newburgh. This route would not be an option, however, for timber harvesting or public access.

MAP SECTION

# LOCATION MAP TOWN OF DIXMONT - 100 ACRE LOT

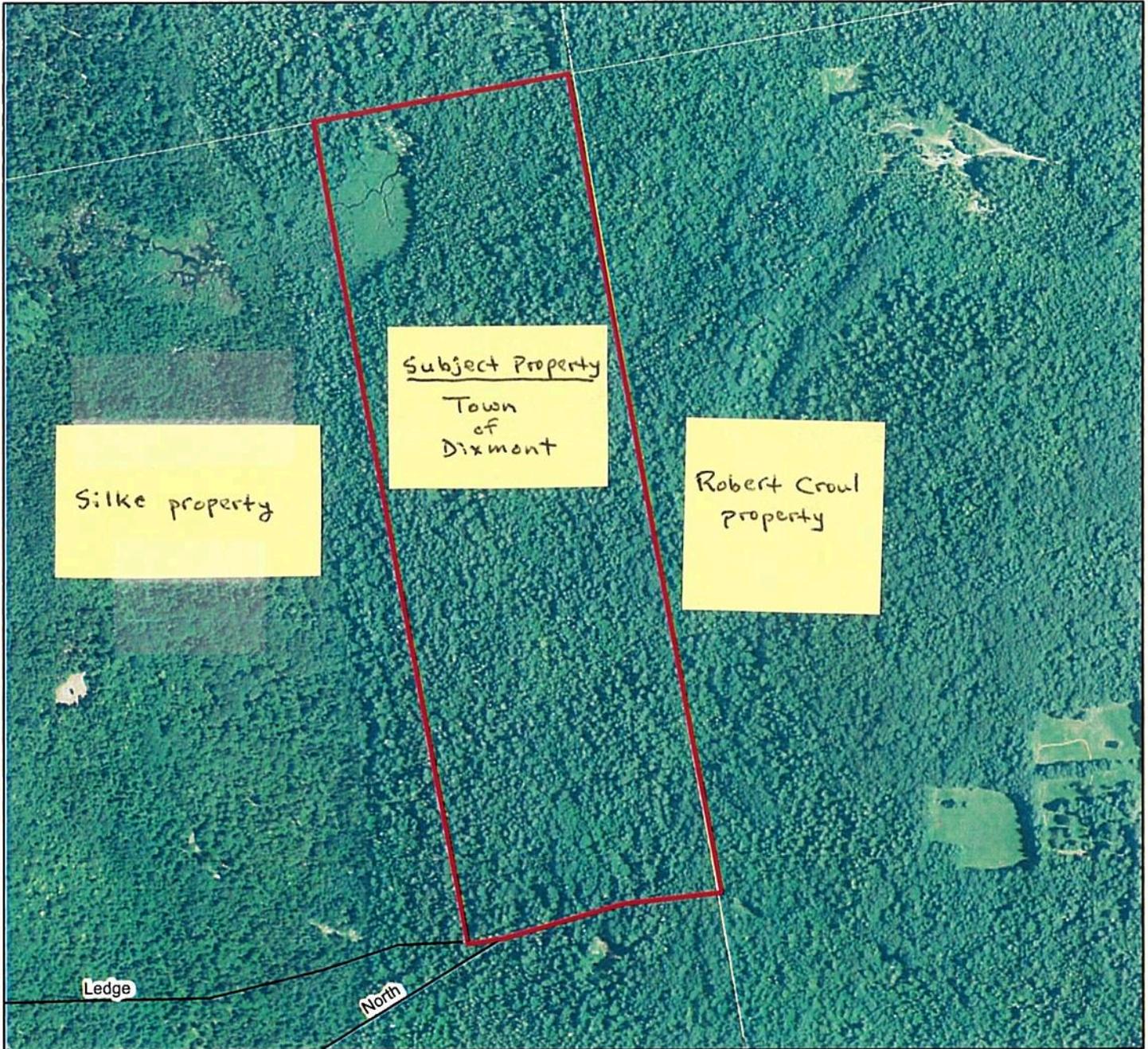
D STATES  
OF THE INTERIOR  
CAL SURVEY



1" = 2,000'

# Town of Dixmont

Assisted By: Robert Nelson, Intern Forester  
Madeline Lubas  
Scale 1:7920  
1"=660"  
Date: 5/1/2015

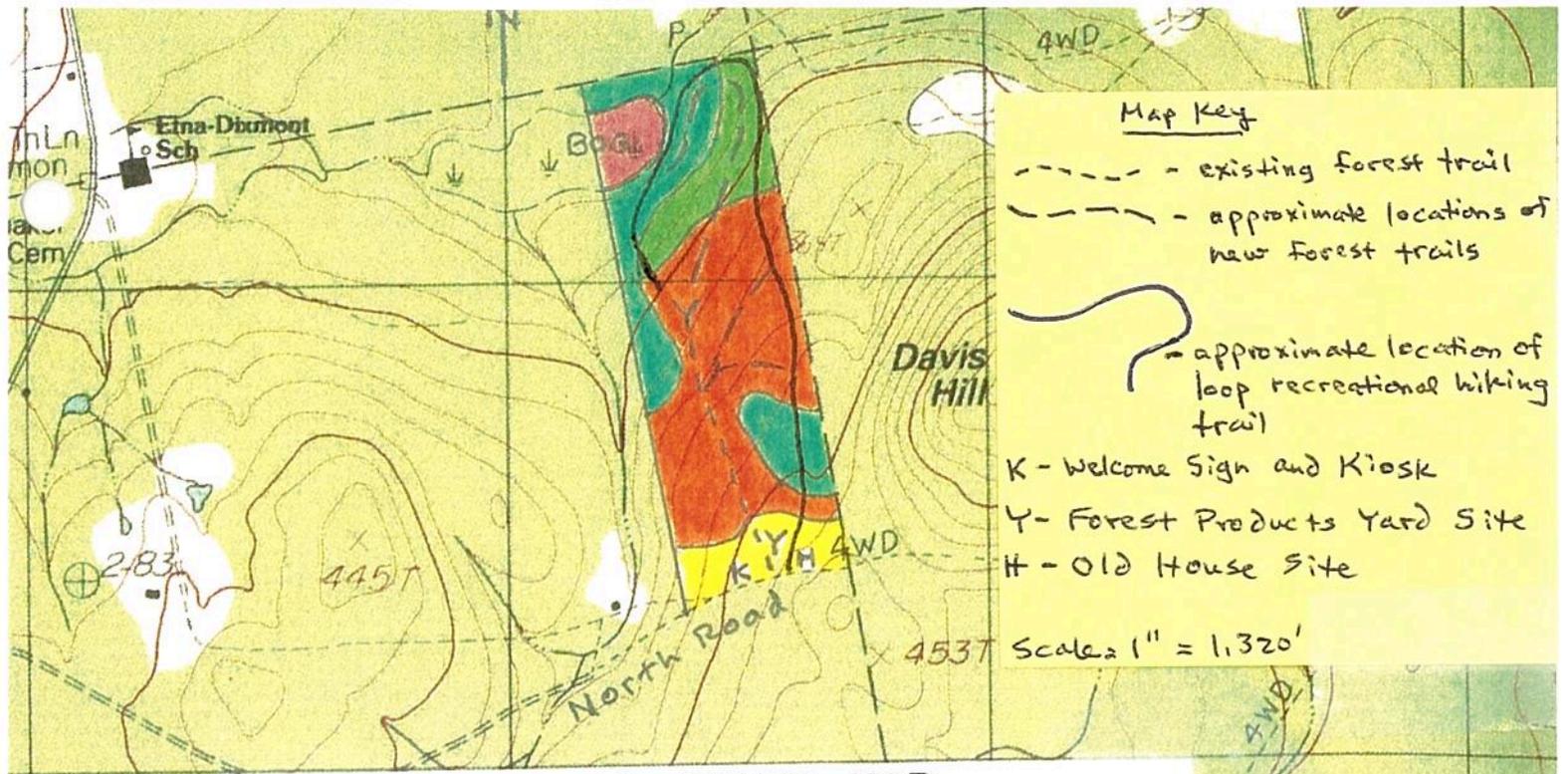


From lower left corner, counter clockwise:

- 69° 4'59.228"W 44° 44'7.603"N
- 69° 4'57.132"W 44° 44'7.74"N
- 69° 4'49.988"W 44° 44'9.036"N
- 69° 4'44.178"W 44° 44'9.923"N
- 69° 4'53.278"W 44° 44'44.687"N
- 69° 5'8.808"W 44° 44'42.91"N

Dixmont Newburgh





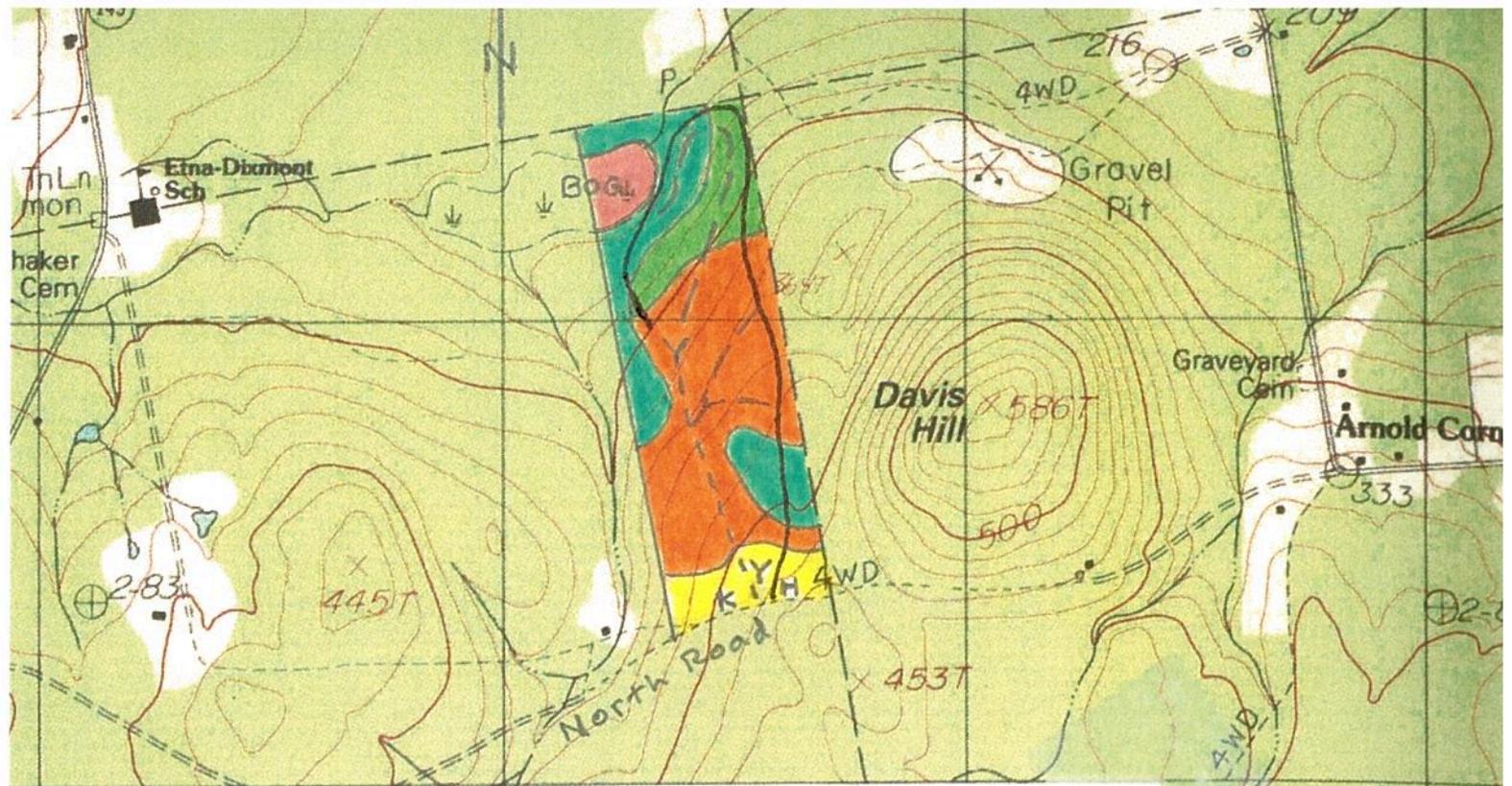
**FOREST STAND MAP**  
for the property of  
The Town of Dixmont, Maine

<u>Stand</u>		<u>Acres</u>
1	<span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black;"></span>	10
2	<span style="display: inline-block; width: 15px; height: 15px; background-color: orange; border: 1px solid black;"></span>	45
3	<span style="display: inline-block; width: 15px; height: 15px; background-color: green; border: 1px solid black;"></span>	13
4	<span style="display: inline-block; width: 15px; height: 15px; background-color: cyan; border: 1px solid black;"></span>	26
bog	<span style="display: inline-block; width: 15px; height: 15px; background-color: magenta; border: 1px solid black;"></span>	<u>6</u>
<b>TOTAL</b>		<b>100</b>

scale: 1"=1,320'

Note: this map does not represent a legal survey

*Robert R. Nelson LPF#3770*



**FOREST STAND MAP**

for the property of  
The Town of Dixmont, Maine

<u>Stand</u>		<u>Acres</u>
1		10
2		45
3		13
4		26
bog		6
<b>TOTAL</b>		<b>100</b>

scale: 1"=1,320'

Note: this map does not  
represent a legal survey

*Robert R. Nelson LPF#3770*



white ash seedlings. Of special interest are the many serviceberry trees in the midstory. This tree is a valuable wildlife food source. On a negative note, however, non-native and very invasive common buckthorn and Asian bush honeysuckle are found in the understory of Stand 1. The buckthorn is especially widespread, and has high stem densities. There is also a lot of poison ivy on the forest floor in parts of Stand 1.

The average total stand basal area for all stems 6 inches DBH and larger in Stand 1 is 60 square feet per acre. Average total number of trees per acre is 112. The average stand DBH is 13.2 inches.

The forest cover type for Stand 1 is **mixedwood**.

Stand 1  
Estimated Volume

<u>Sawtimber</u>		<u>Board Feet</u>
Red Oak		7,650
White Ash		7,330
White Pine		2,670
		-----
		17,650 BF or
		1,765 BF/acre
<u>Pulpwood</u>	<u>Tons</u>	<u>Cords</u>
Hardwood	230 or	92 or
	23 tons/acre	9.2 cords/acre
Pine	37 or	17 or
	3.7 tons/acre	1.7 cords/acre
Softwood	8 or	4 or
	0.8 tons/acre	0.4 cords/acre

Management Recommendations:

Construct Wood Yard and Informational Kiosk - A formal entrance for visitors to the property, and a work area available for the processing and storage of forest products, are a prerequisite for all other management activities to occur. Given the well drained site and location adjacent to the North Road, Stand 1 is the obvious choice for these activities. Therefore, the construction of a wood yard and welcome center should be among the first management activities conducted. Ideally, the yard should be spacious (at least 1 acre in size). The area should be cleared, stumped, and graded, then seeded with a grass/forb mixture beneficial to wildlife. A proposed location is just east of the stone wall that separates the two former farmsteads. At the eastern end of the yard could be the welcome center/informational kiosk that provides visitors with information concerning the property. This should be near the old cellar hole associated with the William Howes farmstead. This location could also serve as a trailhead for recreational hiking trails to be developed.

Control Invasive Plants - Control of the non-native, invasive buckthorn and honeysuckle in Stand 1 is an urgent management concern. This effort should be made at the earliest opportunity to preserve the ecological integrity of the rest of the property.

Small honeysuckle plants can be pulled by hand due to their shallow root system. When removing honeysuckle by hand, care must be taken to remove all of the roots, as new sprouts will grow from root fragments. Larger honeyuckles can be deadened by application of a glyphosate herbicide mixed 50% with water to the cut stump within minutes of cutting. This treatment works best in late summer/early fall, but may be conducted during the dormant season as well.

Seedlings and small buckthorn plants may be pulled by hand

when soil is moist after rains. Triclopyr herbicide (Garlon 3A or 4) has proven effective in controlling buckthorn as a cut-stump or basal bark treatment. The basal bark treatment works best on plants less than 5-6 inches DBH.

It should be stressed that complete eradication of invasive plants is difficult once established. Thus, repeated control efforts are likely to be necessary. Ongoing surveillance and maintenance control treatments will limit future reinfestations.

Chestnut Planting Sites - Stand 1 offers relatively better accessibility (as compared with the rest of the Dixmont town property), and a good to excellent growing site. Thus, this area would be a good location for the majority of the chestnut research plantings. Adjacent areas of Stand 2 could also be used if there is not enough room for all research plots in Stand 1.

Crop Tree Release - Stand 1 contains a number of promising young red oaks, and also many apple trees that remain from this area's days as an agricultural site. These trees are valuable wildlife food sources, and should be promoted. Therefore, a crop tree release is recommended within the next 5 years. This treatment would have the goal of giving full growing space to desirable oak and apple trees, thus allowing better mast production for wildlife.

To implement this recommendation, red oaks with full, healthy crowns, and all apple trees, should be identified as crop trees. Then, any tree whose crown touches and competes with the crown of the crop tree should be cut and removed.

As much as possible, while removing the competing trees, care should be taken to protect and preserve the serviceberry trees in the midstory.

Prune Apple Trees - Following the crop tree release, all apple trees should be pruned to stimulate their fruit production. See Appendix for more information.



local deer population.

The average total stand basal area for all trees 6 inches DBH and larger is 143 square feet per acre. Average number of trees per acre is 313, with an average stand DBH of 12.6 inches. The forest cover type is **mixedwood**.

Stand 2  
Estimated Volume

<u>Sawtimber</u>		<u>Board Feet</u>
White Pine		79,470
Red Oak		35,865
Red Maple		12,420
Poplar		8,820
White Birch		7,920
Spruce/Fir		7,245
White Ash		6,705
Cedar		2,790
		-----
		161,235 BF or
		3,583 BF/acre
<u>Pulpwood</u>	<u>Tons</u>	<u>Cords</u>
Hardwood	1,494 or	599 or
	33.2 tons/acre	13.3 cords/acre
Popple	693 or	302 or
	15.4 tons/acre	6.7 cords/acre
Softwood	428 or	203 or
	9.5 tons/acre	4.5 cords/acre
Pine	356 or	162 or
	7.9 tons/acre	3.6 cords/acre

Management Recommendations:

Control Invasive Plants - A small number of buckthorn saplings can be found in the southern  $\frac{1}{4}$  of Stand 2. These should be controlled as part of the similar effort in Stand 1.

Construct Forest Access Trail - Even with a primary wood yard in Stand 1, access to the interior portions of the Dixmont property would still be lacking. For this reason, it is recommended that a primary forest access trail be constructed through Stand 2 and further downslope, ending near the bog in in Stand 4. This trail would be used as a primary forwarder/skidder access route, but could also be used as a winter truck haul road. With some improvements (culverts, drainage), this trail could follow the route of the existing woods road until it ends. Farther north, a completely new trail should be layed out on grade downslope as described.

Following clearing of the trail right-of-way, only such grading and shaping as is necessary to provide for safe equipment operation and proper drainage should be done. This trail would be constructed to a lower standard than a true haul road. After construction, the trail should be seeded with a grass/forb mixture beneficial to wildlife.

As part of the trail, it is suggested that consideration be given to clearing a smaller, secondary winter-use wood yard at a suitable site in the northern part of Stand 2. This clearing will also provide small amount of permanent early successional wildlife habitat.

Irregular Shelterwood Harvest - Management challenges in Stand 2 include deer browse pressure, a relatively high proportion of short-lived, early successional tree species, and in some parts of the stand, moist site conditions conducive to windthrow. The stand also lacks vertical and horizontal structural diversity, tree age class diversity, and understory

development. Management assets in Stand 2 include the widespread presence of healthy white pine, and in some parts of the stand, red oak. These longer-lived tree species can be retained in the stand for an extended period, giving more management options. The above factors suggest adopting an irregular shelterwood management system. This silvicultural system would have the goal of creating an irregular stand structure with two primary age classes of trees. Regeneration harvests would be conducted approximately every 40 years, with the purpose of creating a new age class of trees. Tending harvests in the form of improvement thinnings would occur as necessary at 10 or 20-year intervals between the 40-year regeneration harvests. Individual specimen trees of long-lived species with special scenic and/or wildlife value can be retained in the stand for an extended, indefinite period, as desired.

Given its even-aged structure, and the presence of a large amount of short-lived tree species at their physiological maturity, Stand 2 is ready for the regeneration harvest entry now. Ideally, this harvesting should be done as soon as possible, and not later than 2020.

To implement this recommendation, the majority of the short-lived popple, white birch, and balsam fir should be harvested. In the parts of Stand 2 that are comprised predominately of these tree species, substantial canopy openings of  $\frac{1}{4}$ -3 acres will occur. In the parts of Stand 2 comprised predominately of white pine and red oak, harvesting activity will be much lighter. In these areas, only trees that are unhealthy, of poor quality and/or undesirable species, and those in competition with more desirable trees should be removed. Basal area reduction in these parts of Stand 2 would be approximately 25%-30%. In all cases, harvesting should be done so as to favor the healthiest, best quality trees of windfirm, long-lived species in the stand. This would include species such as white pine, red oak, red spruce, cedar, sugar maple, and yellow birch.

If possible, harvesting should be conducted in the late summer or fall to provide for the soil scarification necessary for good birch reproduction. All trees to be removed in the recommended harvest should be marked with paint by a forester. Care should be taken to leave at least 4 white birch seed trees per acre. All den and cavity trees should be retained when marking trees for harvest, and at least 2-3 large (18" DBH+), low quality trees per acre should be deadened by girdling and left standing as wildlife snag trees. Locally sourced red oak acorns could be planted before harvests are conducted in the parts of the stand that will become canopy openings to enhance regeneration.

Leaving the tops of harvested trees unlopped may help provide developing regeneration some protection against deer browse damage. Also, leaving at least one large (18"x16'+) low quality log per acre in harvested openings will provide future ruffed grouse drumming logs. Leaving at least some other large diameter, low quality pieces of wood on site after harvesting, especially if placed in clumps or piles, will provide habitat for ground-dwelling amphibians and small mammals.

Release/Prune Apple Trees - The central part of Stand 2 contains a number of old apple trees. When other management activities are conducted in this area, these apple trees should be released and pruned as described in the recommendations for Stand 1.



and dense shade caused by the generally closed forest canopy. Presently, most regeneration is balsam fir and small amounts of white pine and red spruce.

The average total stand basal area for all stems 6 inches DBH and larger in Stand 1 is 117 square feet per acre. Average total number of trees per acre is 367. The average stand DBH is 11.6 inches. The forest cover type for Stand 3 is **mixedwood**.

Stand 3  
Estimated Volume

<u>Sawtimber</u>		<u>Board Feet</u>
Red Oak		7,865
Hemlock		7,475
Balsam Fir		5,720
Poplar		3,471
White Birch		2,860
Red Maple		1,703
White Ash		1,547
		-----
		30,641 BF or
		2,357 BF/acre
<u>Pulpwood</u>	<u>Tons</u>	<u>Cords</u>
Hardwood	407 or	163 or
	31.3 tons/acre	12.5 cords/acre
Softwood	126 or	60 or
	9.7 tons/acre	4.6 cords/acre
Hemlock	78 or	33 or
	6.0 tons/acre	2.5 cords/acre

Management Recommendations:

Single Tree and Group Selection Harvest - Stand 3 has a relatively high proportion of longer-lived tree species such as hemlock and red oak. However, the shorter-lived species such as popple, white birch, and balsam fir are physiologically overmature and in a state of decline. For these reasons, a single tree and group selection harvest is recommended in Stand 3 within 5-10 years. This treatment would have the intended goal of providing the best growing conditions for the healthiest trees of longlived species in the stand, while allowing for the salvage of decadent, dying trees of short-lived species. Overall basal area reduction would be approximately 30%, but will vary as stand conditions dictate. In the parts of Stand 3 that are comprised predominately of popple, white birch, and/or fir, small canopy openings of  $\frac{1}{4}$  to  $\frac{1}{2}$ -acre will result. These openings will provide conditions suitable for the establishment of small groups of a new age class of trees, as well as browse and structural wildlife habitat diversity.

Trees to be removed in the recommended harvest should be marked with paint by a forester prior to harvest. When marking trees for harvest, all healthy red oaks should be retained, as should seed sources of long-lived softwoods such as hemlock, white pine, and red spruce. Den trees, cavity trees, and wildlife snag trees should be retained during the harvest.

After the initial harvest, this silvicultural treatment can be repeated on an approximate 15-year harvest cycle. The long term goal would be to allow Stand 3 to develop the structural characteristics of a less intensively managed, older growth forest over time.



Because of the wet site in Stand 4, any harvesting activities will be limited to the hard frozen conditions of mid-winter.

The average total stand basal area for all stems 6 inches DBH and larger in Stand 4 is 166 square feet per acre. Average total number of trees per acre is 418. The average stand DBH is 11.0 inches. The forest cover type is **softwood**.

Stand 4  
Estimated Volume

<u>Sawtimber</u>		<u>Board Feet</u>
White Pine		38,870
Cedar		23,322
Spruce/Fir		11,050
White Ash		4,836
Hemlock		3,562
Red Oak		2,314
		-----
		83,954 BF or
		3,229 BF/acre
<u>Pulpwood</u>	<u>Tons</u>	<u>Cords</u>
Hardwood	390 or 15 tons/acre	156 or 6 cords/acre
Popple	281 or 10.8 tons/acre	122 or 4.7 cords/acre
Softwood	213 or 8.2 tons/acre	101 or 3.9 cords/acre
Pine	128 or 4.9 tons/acre	58 or 2.2 tons/acre

Hemlock	112 or	47 or
	4.3 tons/acre	1.8 cords/acre

Management Recommendations:

Manage as Deer Yard Habitat - The wet site in Stand 4, and corresponding shallow tree rooting, will make intensive silviculture difficult in Stand 4. In addition, the stand has a high proportion of long-lived softwoods. These factors combine to suggest that a reasonable management option would be to manage Stand 4 as deer wintering habitat using a less intensive management system than recommended for Stand 2.

Deer wintering areas would ideally contain at least 50% of the area in older, functional softwood shelter at least 35 feet tall and a canopy closure of 70% or greater. The remaining area should be patches of regenerating future dense softwood cover, and patches of young hardwood regeneration for browse. The three habitat types should be interspersed with each other.

To implement this management system in Stand 4, it is recommended that small patch clearcuts of approximately  $\frac{1}{4}$ -acre in size be made in about 20% of the total area of Stand 4, or about 5 acres total. The patch removals should be located in the parts of the stand that are comprised predominately of overmature popple and balsam fir. Other parts of Stand 4 should remain unharvested during the present management cycle, except for selective, single-tree removal of trees with high risk of dying before the next management entry. A suggested management entry interval in Stand 4 would be 5 acres of patch cuts every 20 years.

Patch cut locations should be designated by a forester prior to harvest. The arrangement and size of patch cuts must comply with Shoreland Zone regulations.

All red oaks within Stand 4 should be retained during the present management entry, even if they are within patch cut boundaries.

## SUGGESTED SCHEDULE OF MANAGEMENT ACTIVITIES

<u>Month/Year</u>	<u>Stand</u>	<u>Activity</u>
July 2015	all	Locate and paint boundary lines
August 2015	1 & 2	Control invasive plants
August 2015	1	Lay out and prepare chestnut research plots
Fall 2015/ Winter 2016	all	Make decisions concerning property access. Mark & lay out road, trail, & wood yard locations. Prepare cost estimates.
May/June 2016	1 & 2	Mark trees for Crop Tree Release (St. 1), and initial Irreg. Shelt. (St. 2) harvests areas.
May/June 2016	all	Locate & Clear Hiking Trail
Summer 2016	all	Construct Access Road, Wood Yards, & Forest Trail. Install Informational Kiosk & signs.
Aug./Sept. 2016	1 & 2	Crop Tree Release and Irreg. Shelterwood Harvests
Winter 2017	1	Irreg. Shelt. Harvest
Spring 2017	1	Prune Apple Trees
Summer 2017	1 & 2	Repeat control of invasive plants

Summer 2017; Winter 2018	1	Continue Irreg. Shelt. Harvest
Summer 2018	1	Complete Irreg. Shelt. Harvest
Winter 2019	4	Patch Cut Harvest in Deer Wintering Area
Summer 2020	3	Sgl. Tree & Group Sel. Harvest
Summer 2020	all	Install additional interpretive signs in harvested areas.

**Approximate Costs & Income Associated with Recommended Practices**

<u>Stand</u>	<u>Practice</u>	<u>Est. Cost</u>	<u>Est. Income</u>
all	Paint Boundary Lines	\$ 375	\$ 0
1 & 2	Invasive Plant Control	\$ 2,575	\$ 0
1	Layout & Preparation of Chestnut Research Plots	\$ 2,575	\$ 1,695
all	Forest Trail & Hiking Trail Layout and Planning	\$ 350	\$ 0
all	Hiking Trail Construction	\$ 1,500	\$ 0
all	Forest Trail Construction	\$ 3,500	\$ 0
1	Landing Construction	\$ 1,500	\$ 1,518
all	Town Road Repair	\$ 23,325	\$ 0
1	Info. Kiosk & Trail Signs	\$ 3,000	\$ 0
1	Crop Tree Release	\$ 0	\$ 354
1	Apple Tree Pruning	\$ 1,000	\$ 0
2	Irregular Shelterwood Harvest	\$ 0	\$ 13,970
2	Snag Trees	\$ 840	\$ 0
3	Sgl. Tree & Gr. Sel. Harvest	\$ 0	\$ 3,223
4	Deer Wintering Area Patch Cut Harvest	\$ 0	\$ 3,059
1 & 2	Invasive Plant Control Follow-Up	\$ 1,740	\$ 0
all	Additional Interpretive Signs	\$ 2,000	\$ 0
		-----	-----
TOTAL		\$ 44,280	\$ 23,819

**Approximate Costs & Income, continued...**

A rough estimate of commercial quality wood produced as these recommendations are implemented is 421 cords.

It should be stressed that these are approximate values and volumes only, and further planning is required for more precise numbers.

Harvest income estimates reflect the types of harvests recommended in the plan. These harvests are comprised primarily of lower value, pulp quality material, and income estimates do not include the economic value of the trees remaining after harvest.

Also, the above estimates assume that all work recommended in the plan would need to be hired at prevailing market rates. The use of volunteer citizen labor for some activities could lower expenses.