



*Woodland Management Services
Green Certified Resource Managers*

MID-MAINE FORESTRY

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FOREST MANAGEMENT PLAN

Foreside Recreation Area Woodlot
Map R08 Lots 001 and 002
Sagadahoc County

Town of Topsham
100 Main Street
Topsham, Maine 04086

Prepared by:

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LPF #590

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This plan meets standards for the Maine Forest Service's Project Canopy cost-share program.

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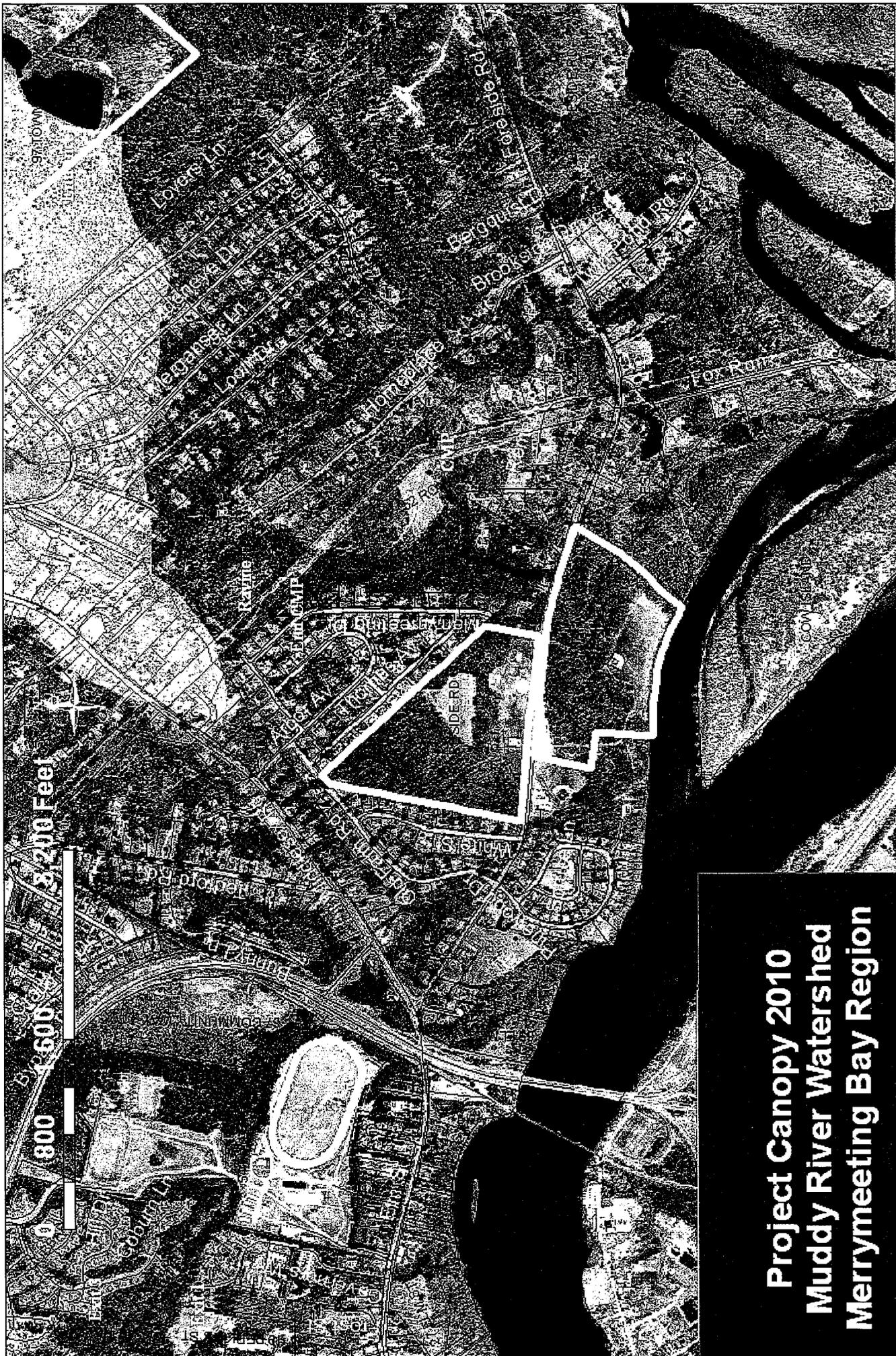
Looking up...

INTRODUCTION

This plan describes the Foreside recreation area woodlot owned by the Town of Topsham, Maine and makes suggestions for its management. It is intended to be a comprehensive educational and management tool for a 10-year planning period.

Forest management is a long-term endeavor. The recommendations given here are a continuing step towards achieving the Town's stated goals. As time passes and the recommendations are implemented, this plan will need updating. This will allow incorporation of changes to the forest arising from human as well as natural, non-human influences.

The plan begins with the Town's objectives. It then provides an overview of the woodlot regarding its history, topography, soils, timber, and wildlife resources. Legal restrictions on management activities are mentioned, as well as market conditions. Accompanied with a map, forest stands are described in more detail and specific management recommendations are presented. A final table lists the high priority activities, with estimates of income and costs. The plan concludes with a glossary of forestry terms and a listing of sources available for further assistance.



Topsham, Maine

Tax Map R08 Lot 001 & 002

Fore Road

Total Acreage - 60+/-

Management Plan Area - 50 Acres

Project Canopy 2010 Muddy River Watershed Merrymeeting Bay Region

MANAGEMENT OBJECTIVES

Providing recreation opportunities is the top priority for this property, along with creating a low-impact horse logging demonstration area. Public safety is a top priority as well, because of the high level of recreation use and the numerous abutters. Soil and water resources, along with wildlife habitat values, should be protected with any activity. Any timber harvesting should improve the quality, species composition, stocking, health, and growth of the remaining forest. Timber production for income is not a priority, but is an accepted activity as long as it does not interfere with recreation activities. Production of firewood for low-income citizens is a possibility. Large management projects will most likely be done by contractors.

The objectives for this property easily fit into the larger framework of the vision of the Topsham Natural Areas Plan (4/27/10). To quote from that document, "*...Most of the important wildlife habitats, wetlands, water bodies and scenic areas in this part of our town [rural] will be protected and access to them, especially our town's many rivers and forests, will be improved. Recreational trail networks will expand and connect town resources and neighborhoods...Also, of high importance will be maintaining the working farms and forests.*"

PROPERTY DESCRIPTION AND LAND USE HISTORY

The Foreside Recreation Area woodland is located in two adjacent lots on either side of Foreside Road. One lot has about 1,100' of frontage on the Kennebec River (called the river lot in this plan). The other lot is called the north lot in this plan. The property is significant as part of the larger surrounding landscape because of the river frontage and its relatively large size, areas of old forest, and undeveloped nature in a very developed part of mid-coast Maine. The town has owned the land since 1860. It was originally the town poor farm. Included in the property are two parking areas, three ball fields, public rest rooms, a basketball court, a sledding hill, and numerous walking trails. Forty-nine acres are wooded, 3 acres are shrub growth, parking and field areas total 17 acres, for a total of 70 acres. Lot 002 (the river lot) contains 33 acres, and lot 001 across the road contains 37 acres.

Although many human-induced changes have occurred in the developed recreation area of the property, the forested part of the property (the focus of this plan) has not significantly changed over recent years.



forest near river side ball field

TOPOGRAPHY AND ACCESSIBILITY

Highest elevation on the property is about 60', which includes most of the north lot. On this lot, a short but somewhat steep bank slopes down from the woodland to the field and parking area near the road. Other than the slope, the land is extremely flat and the soils are well drained. A small gravel pit, now overgrown, is located at the southwest corner of the north lot, adjacent to Foreside Road. On the south lot, a short but relatively steep slope exists between the field and the river. Short and slightly gentler slopes exist just south of Foreside Road. Other than that, the land is quite flat. Soils are noticeably moister here than north of the road. A small intermittent stream flows through the northeast corner of the river lot.

Access for recreation is already well established. The following discussion refers to access for timber harvesting, collecting harvested trees in a wood yard that is accessible for trucks to then haul away wood products. Vehicle access to the north lot is possible via a right-of-way to Thomas Avenue. Access is also possible via Foreside Road. However, if harvested wood is yarded to this road, careful skid trail layout will be necessary to get any wood down the slope to the field. On the river lot, any harvested trees could be skidded to the open area near the road and trucked from there. Any harvesting in the river lot should be limited to frozen or exceptionally dry ground conditions. Operability is much less limited in the north lot, with its well-drained soils. Skid trails used for timber harvesting could be cleared of any brush and used as recreation trails after harvesting is complete.

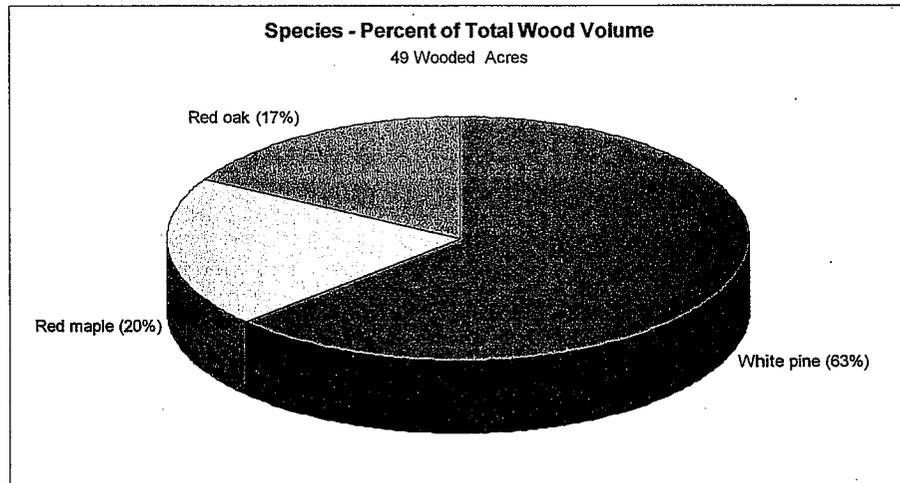
SOILS

Please refer to the soils map on page 4a, on which the soil types of the Town's property are delineated. The letter codes pertain to the particular soil types, as described



TIMBER RESOURCE

For purposes of accurately describing the forest and setting management priorities, different forest types and stands were identified. These are described in the Glossary and map legend. A timber inventory was conducted in May-July 2011. Inventory data was taken at 27 variable radius (15 BAF prism) plots on cruise lines running N27E (magnetic bearing) on the north lot, and S63E (magnetic bearing) on the river lot. Data was processed using the INVENT Forest Inventory Program from the University of New Hampshire. Overall volume estimate is accurate within $\pm 16\%$ nine times out of ten. Error is greater for individual species, products, and values.



In the inventory, 63% of the overall volume is white pine, followed by red maple (20%), and red oak (17%). A very few hemlock and balsam fir trees grow here as well. A high forty-seven percent of the overall volume is sawtimber quality.

Of the several types of timber harvesting systems that are available now, this author recommends the use of **horses and/or small equipment** on the north lot. Skid distances will be short, the ground is flat and not stony, some sawtimber (not just lower value pulpwood) is recommended for harvest, and (perhaps most importantly) public scrutiny will be at a high level here.

IF any harvesting is to be done on the river lot, a **cut-to-length harvesting system** could be appropriate. It generally involves two machines in the woods. One machine harvests the trees and cuts them into appropriate lengths for sale, leaving the tree tops and branches low to the ground in the woods, and one machine picks up the wood products, puts them on a trailer, and carries (not drags) them out of the woods. **Skidders** are a common type of machine used for harvesting wood, and they may be suitable for the river lot.

Whole tree chipping operations leave a "clean, vacuumed" appearance of the woods,

since most of the tops and limbs are removed rather than left on the ground. Although this type of harvest is aesthetically pleasing to many people, it is **not** recommended on this lot. First, removal of large amounts of biomass rob the soil of potential nutrients. Second, many types of wildlife utilize slash (tops and limbs, and unmerchantable wood) and the vertical diversity (trees of different heights, shrub layer, etc.) which is generally decreased following a whole tree chipping operation. Also, it is difficult to do a light harvest with a chipping operation. Anything more than a light harvest would likely result in blowdowns.

Perhaps even more important than the type of harvest system is the skill and attitude of the logger, and the choice of correct season for harvesting (avoiding operation on wet ground, and the subsequent soil damage.) When any harvesting is done, the area should be well-signed so the public knows what is going on. Active logging areas should be off-limits for the public. It's a good idea to notify abutters prior to logging activity.

Overall, the woodlot has excellent potential for long term production of quality wood products (sawlogs, boltwood, etc.) while providing recreation opportunities and maintaining a healthy, aesthetically pleasing forest.

INSECT, DISEASE AND WEATHER INFLUENCES

Both historic and current evidence of pine mortality due to the white pine blister rust is evident. This exotic disease spends part of its life cycle on currant plants (*Ribes* sp.) and enters the pine through live branches. Once it reaches the tree trunk, it effectively girdles its growth and eventually kills it. Control of this disease is difficult, since the rust spores can travel long distances with the wind. Infected trees should be harvested, within constraints imposed by harvesting logistics.

The effects of the white pine weevil are evident in the crooked, multi-top form of some of the larger trees which were more open grown earlier in their lives. This insect will kill the top leader of the tree at a young age, whereupon one or more of the side branches becomes a new leader(s). This may happen repeatedly on a given tree, causing a crooked and multi-stem top. Although these trees, when larger, have value as a seed source and as "character trees", their value for timber is quite low. Regenerating pine in areas of partial shade can help minimize future damage by this insect.

Hardwoods that are of poor quality often contain any one of many fungal infections that slowly rot the trees' wood. This is sometimes caused by overcrowding, which limits tree growth and vigor and makes them more susceptible to fungal infection. None, however, is significant; they are a normal component of the forest ecosystem.

FOREST HEALTH

The following essay is intended to provide food for thought on the subject.

“Forest health” is an often used, and often abused and misunderstood concept. In terms of forest management, forest health is often defined as growing trees that are vigorous, free of insects and diseases, of good form, of desirable (a.k.a. commercially valuable) species, and at a spacing in the forest that allows them to grow as quickly as possible without compromising timber quality. This definition frames health in terms of human (economic) values for wood products. Forest health can also be defined on an ecological basis. Dead, diseased, old, and slow-growing trees of all species naturally occurring on the site are part of a healthy forest from a biodiversity perspective.

It’s important to remember and acknowledge that we are most often discussing forest health in terms of human values. The forest doesn’t care if a large veneer quality tree dies, rots, or burns. We humans often do. When viewed through a set of ecological values, the number of reasons to justify timber harvesting decrease noticeably. They might include:

- 1) Infestation of an exotic, non-native insect or disease whose spread could be prevented or significantly reduced by harvesting.
- 2) Improving wildlife habitat or maintaining habitat for species that are rare or declining.
- 3) Significant mortality or blowdown resulting from exotic, non-native causes.
- 4) Applying the principles of restoration forestry, as we are beginning to understand them. This might include, for example, addressing years of build-up of fuels due to past human interference with natural fire cycles. It might also include attempting to increase species diversity.

Silviculture is a practice by which we respectfully remove products from the forest for human use, employing methods that we believe most closely imitate and least impact the “natural” processes occurring there. It’s important to acknowledge the distinction between our human and ecological definitions of forest health, and not to use the former to justify creating forests of diminished ecological value.

WILDLIFE

The property provides diverse habitat types for a variety of wildlife species. The most important habitat element is the River. Other habitats present include the field/forest edge, wetlands, shrubby and sprout growth, large den (live hollow) trees, and snags (standing dead) trees. Many animals feed on the nuts and seeds (hard mast) provided by the oaks and other species.

During any cutting, certain trees should be retained to benefit wildlife, even though they may not have sawtimber value. These include den trees, snags, and mast producers. Snags should not be cut unless they pose a safety hazard during logging. Recommendations vary as to how many trees per acre should be left. According to *Biodiversity in the Forests of Maine: Guidelines for Land Management*, recommended practices include retaining a minimum of four wildlife (den or snag) trees per acre, with one exceeding 24” DBH and three exceeding 14” DBH. Leaving downed woody material on site is important as well.

Wildlife trees do not have to be evenly distributed on the property. They may be clumped into areas such as along the River or field edges. In addition to the existing wildlife trees, potential future ones should be identified and allowed to grow old and die naturally.

Any recommended cutting should avoid sensitive habitats and be timed to minimize disruption of important nesting and young rearing seasons in spring and early summer. Harvesting can help maintain and increase age and structural diversity (both horizontal and vertical) within the forest ecosystem, which will in turn create more varied habitats.

No vernal pools were noted during the field work for this plan, although one or more may exist. Vernal pools are depressions that fill with water from spring runoff. The absence of fish in these pools makes them ideal breeding and feeding areas for local amphibian populations. Any management activity which impacts the pool directly or the water regime in a vernal pool indirectly may affect the survival of these amphibians. The best time to look for vernal pools is in the spring. They are usually found in shallow depressions in the ground, at the bottom ridges, etc. During harvesting, these pools should be identified and should not be driven through nor should tops of harvested trees be left in them.

The Department of Inland Fisheries and Wildlife has not identified any significant wildlife habitats on the property. Surprisingly, they do not mention the eagle nest that is near the southwest corner of the river lot (perhaps on the adjacent property, but very close to the Town lot nonetheless.) The property is within the Kennebec Estuary Focus Area of the Beginning with Habitat program of the Maine Natural Areas Program (MNAP). No evidence of threatened or endangered plants or animals was noted during the field work for this plan. MNAP has not identified any rare, threatened, or endangered plants on the property, or any rare or exemplary natural communities. Should such plants or animals be discovered, appropriate measures will be adopted to ensure protection of their habitat.



woodpecker holes in white pine

RECREATION, AESTHETICS, EDUCATION, & CULTURAL FEATURES

The town has an active recreation department, and numerous organized activities (ball games, summer camps, etc.) are enjoyed by many citizens of all ages. Hiking, cross-country skiing, non-motorized biking, and wildlife observation are some of the other popular recreational activities enjoyed by the public. The network of woods trails is actively used. Safety is a primary concern; large dead limbs, tipped-up trees, and hazardous dead trees near the trails should be cleared promptly. Simple signs could be established at the main entry points of the woodland, stating "Entering Topsham Town Forest", so people are aware of who owns the land. These signs could be placed high enough to hopefully discourage people from vandalizing and/or stealing them.

This property was once the town poor farm. In fact, what appear to be remnants of old drainage ditches can be found in stand 2.

Browntail moth infestations have been heavy in the past few years, with the exception of the summer of 2011. The caterpillars of this non-native insect shed hairs that produce an itchy rash in humans. They feed on leaves of hardwoods and shrubs, can cause reduction in their growth, and can cause occasional mortality of affected trees and shrubs. On this property, they are found primarily on the oaks near the river and around the ball field. The recreation department has actively tried to educate the public about these pesky creatures.

Since this property is already well-known and well-used by the public, potential is good for a variety of educational programs. Many of these programs may be eligible for grant funding. A possible list of topics includes: low-impact forestry, horse logging, tree ID, wildlife ID and observation, wildlife in your back yard, invasive plant ID and eradication, etc.

The Maine Historic Preservation Commission has identified no prehistoric or historic archaeological sites, historic buildings or structures on the property. However, most of the property is identified as being "archaeologically sensitive;" please refer to the MHPC map in Appendix C. No formal botanical inventory was conducted, but the shrubs noted during field work for the plan were: high and low bush blueberry, juniper, spirea, viburnum, beaked hazelnut, alternate leaf dogwood, alder, and winterberry holly. Ground plants noted were: wintergreen, Canada mayflower, partridgeberry, sarsaparilla, skunk cabbage, jewel weed, gold thread, jack-in-the-pulpit, trillium, star flower, and bracken, royal, sensitive, and cinnamon ferns. The poison ivy growing along the river bank is an effective deterrent to people walking up and down it, thus causing erosion of the sensitive soils.



trail to river side ball field

INVASIVE PLANTS

Unfortunately, several invasive plant species were noted on the property. These non-native plants, if left unchecked, will spread quickly. They take over habitat from native plants. Although they do provide wildlife food, the fruits are not necessarily as nutritious as native fruits. Also, when wildlife eat these non-native fruits, they are spreading those seeds rather than those of native plants. Mechanical or chemical control is possible. Mechanical control is possible using a tool called a weed wrench. The roots of these plants need to be pulled up, since they will quickly grow back if they are simply cut. Mechanical control works best where plants are scattered or not too numerous. For heavy infestations, chemical controls, used by a licensed pesticide applicator, may be the most effective and least costly method. Invasive plants do not respect property boundaries, so cooperation with the numerous neighbors to eradicate plants on their land is necessary for long term success of any eradication project.

Burning bush (*euonymous*), barberry, honeysuckle, were seen on the north lot. Honeysuckle, barberry, multiflora rose, bittersweet, staghorn sumac, Norway maple, and purple loosestrife were seen on the river lot. Infestations were most notable along trails and field edges.

LEGAL RESTRICTIONS

Before any commercial harvesting occurs, the landowners (or their agent) must file a harvest notification form with the Maine Forest Service. Year-end reports of harvested

volumes and stumpage prices are a part of this requirement.

For areas greater than 10 acres, all boundary lines within 200' of cutting must be clearly marked. It is highly recommended that these lines be marked even if the harvest area is less than 10 acres. During harvesting operations of any size, all slash must be removed at least 25' from adjoining property lines and 50' from public roads. Land within 250' of the River is mapped by the town as a resource protection district. Land within 75' of the intermittent stream through the northeast part of stand 2 is mapped as a stream protection district. Harvesting in these areas is limited to no more than 40% of the standing volume in any 10 year period, leaving a well-distributed stand of trees. In fact, the shoreland zone map shows several stream protection areas in the river lot where no streams actually exist, but where remnants of old drainage ditches can be seen. Timber harvesting in the resource protection zone along the river requires a permit from the town code enforcement officer.

During a harvest operation, procedures outlined in the Maine Forest Service's *Best Management Practices for Forestry: Protecting Maine's Water Quality* (2004) should be followed regarding working in and around wetlands and streams. By doing so will help the landowner comply with the Protection and Improvement of Waters Law (sections 413 & 417). Specifically, this law prohibits one from causing erosion of soil into water bodies and disposing of slash in streams, lakes and tidal waters. In the case of road construction, compliance of the Erosion and Sedimentation Control Law is necessary, which regulates activities involving filling, displacing or exposing soil. Specifically, erosion control practices (such as hay bales, silt fence and hay mulch) are properly installed and maintained whenever filling or soil disturbance occurs.

Maine's Natural Resources Protection Act (NRPA) regulates work in and adjacent (within 75') to lakes, streams, freshwater wetlands and tidal wetlands (as well as elevations greater than 2,700'). Activities regulated include disturbing soil, placing fill and building permanent structures in or adjacent to these areas. A permit is required from the Department of Environmental Protection (DEP) for work such as:

- Road building, excavating, filling, or otherwise disturbing the soil within 75' of lakes, rivers, streams and wetlands,
 - Building new bridges, fords, or installing culverts for road or trail crossings
 - Building or placing permanent structures in, on, or over lakes, rivers, streams, wetlands or fragile mountain areas, and
 - Harvesting operations above 2,700' in elevation
- Exempt activities include:**
- Temporary structures, such as a road crossing using a temporary bridge, if fill is not used.
 - Repair, maintenance, or replacement of an existing culvert, provided any replacement is not more than 25% longer than that being replaced and not longer than 75'. Erosion control must be used and fish passage may not be blocked.
 - Forest management, including associated road construction or maintenance, in or adjacent to forested wetlands, as long as it:
 - 1) meets minimum stocking requirements under the Forest Practices Act;
 - 2) meets "permit-by-rule" standards for any road crossing of a stream, or for soil

- disturbance adjacent to great pond, river or stream and DEP is notified prior to starting the activity;
- 3) the area is not a forested wetland mapped as a significant wildlife habitat; and
 - 4) road construction is not used to access development, but is primarily used for forest management activities.

MARKETS

Pulpwood (softwood, hardwood and poplar) would most likely be trucked to one of these mills: NewPage Co. in Rumford, Verso Paper Co. in Jay or Bucksport, Sappi in Hinckley, or Madison Paper in Madison. Firewood could be sold to local dealers or customers, or used by the town for needy citizens. There are several sawmills in Sagadahoc and the surrounding counties. Depending on the trucker, logs would likely be sold to one of these local mills. Wood markets fluctuate in price, product specifications, and demand. Current market conditions should be assessed as part of any timber harvesting activity.

COMMERCIAL HARVESTS OF WOOD PRODUCTS

Properly done, commercial harvests can be one part of an environmentally sound, multiple-use forest management system. Through cutting, a forester manipulates the vegetative structure within a forest stand to attain the landowner's objectives. Sawtimber can still be grown and harvested while managing wildlife habitat and improving recreational opportunities. Typically, low quality and unhealthy trees and/or mature individuals are chosen for removal. This allows for faster growth to occur in the more valuable, vigorous, immature trees. It also favors the release or establishment of natural regeneration of desired species. The regeneration is part of the property's long-term potential. Thus, proper harvesting not only generates immediate income for the owner, but, over time, can also improve the health and quality and overall value of the timber and wildlife resources of the property.

Commercial harvesting should be conducted on a marked tree or species designation basis (for example, harvest all merchantable fir in a given stand), and under the supervision of a professional forester. This will ensure that the selection of trees for cutting is in the town's best short- and long-term interest, and leaves a desirable residual stocking of trees. In addition, the forester supervises harvesting operations to ensure proper utilization, minimal felling and skidding damage to residual trees, and to help assure accurate payment for harvested wood products.

Recreational and aesthetic concerns and wildlife needs are given appropriate emphasis during timber marking and while supervising harvesting activities. Yards and skid roads are located to minimize soil erosion and visual impact, as well as to improve interior access. Cutting along existing roads, trails, streams and vistas needs to be especially carefully done to maintain an aesthetically pleasing appearance. Appropriate numbers of wildlife trees and other critical areas should be left to provide both cover and food. Some areas can be left uncut to provide habitat values with minimal human impact.

ESTIMATES OF TIMBER VOLUMES AND VALUE BY SPECIES

Town of Topsham – Transfer station lot

July 28, 2011

Products, Species	Volume ^{1,2}	Stumpage ³ Rate	Value
	<u>MBF</u>	<u>\$ per MBF</u>	
White pine - grade	287	165	47355
White pine - pallet	104	55	5720
Red oak	28	225	6300
Red maple	1	60	60
Totals:	<u>420 MBF</u>		<u>\$59,435</u>
	<u>Cords</u>	<u>\$ per cord</u>	
White pine	867	8	\$6,936
Hemlock	7	10	70
Balsam fir	3	15	45
*Hardwood pulp & firewc	898	14	12572
Totals:	<u>1,775 cords</u>		<u>\$19,623</u>

Total Estimated Stumpage Value = \$79,058

These numbers are estimates of the total standing volume, **not** the recommended harvest volumes.

¹ Total timber volume estimate is ±16% nine times in ten. Error is greater for individual species or products

² Pulpwood volumes include topwood from sawtimber trees.

³ Stumpage price estimates based on recent local averages, summer 2011.

*Species include red maple and red oak

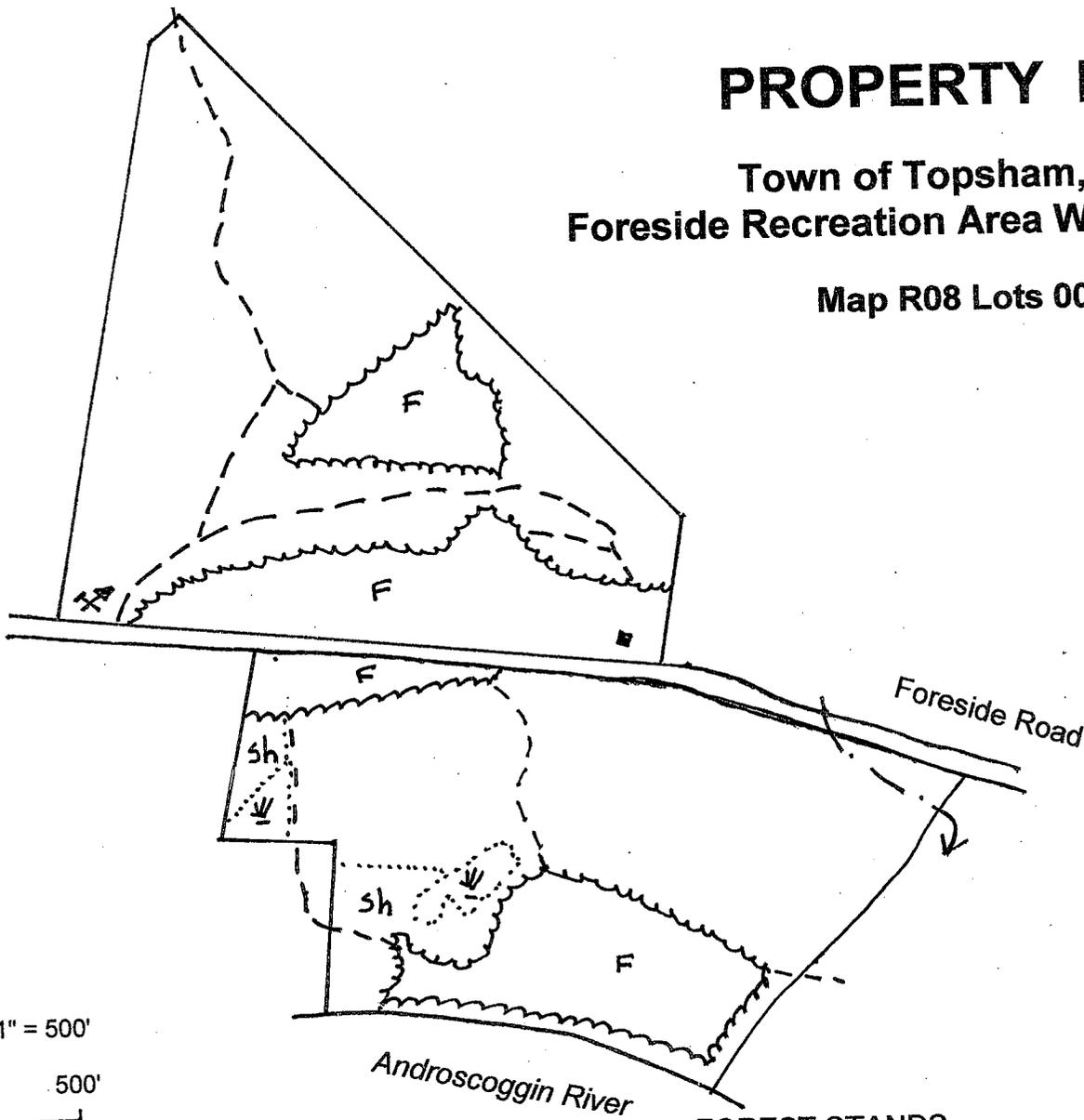
Barbara Brusila, LPF # 590

PROPERTY MAP

Town of Topsham, Maine
Foreside Recreation Area Woodlot

Map R08 Lots 001 & 002

True North



Scale: 1" = 500'



LEGEND

Stand number	2
Stand boundary
Woods trail	- - - -
Road	====
Field edge	~~~~
Wetland	≡
Intermittent stream	~>
Building	■
Gravel pit	⊗

FOREST STANDS

	Acres
1 M3A* Mixedwood sawtimber	27
2 M3A Mixedwood sawtimber	20
3 S3A Softwood sawtimber	<u>2</u>
TOTAL WOODLAND	49 ac.

S Shrub land	3
F South fields and parking area	7
F North fields and parking area	10
Wetland	<u>1</u>
TOTAL NON-FORESTED	21

TOTAL PROPERTY 70 ac.

*S=75%+ Softwood; H=75%+ Hardwood; M=Mixedwood
1=0-30' height; 2=30-60'; 3=60'+
A=70-100% crown cover; B=40-70%; C=15-40%

Barbara Brusila, LPF #590
October 28, 2011

For forest management purposes - Not a boundary survey.

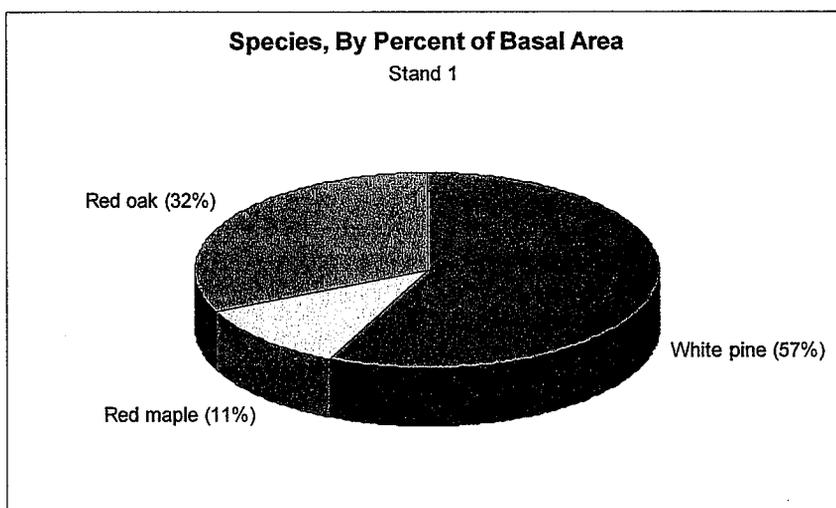
STAND DESCRIPTIONS AND RECOMMENDATIONS

Refer to Appendix A for additional stand attributes, including tree diameters, stand basal area, volumes, and a listing of most common tree species.

STAND 1 –MIXEDWOOD SAWTIMBER

27 acres

This stand includes all the woodland on the north lot. Slightly less than an acre of planted pine grows just south of the triangle-shaped field. Several trails pass through the stand. The soils are well-drained, level, and easily operable for harvesting by either machines or draft animals. The stand appears to have regrown from farmland abandoned around 1960. Thus, the stand is even-aged and most of the trees are about 60 years old. Accordingly, since they were field originated, many of the pine are large diameter but fairly low quality due to limbiness, crookedness, or thin tops. A few large pine were cut near the north corner.



As seen in the above chart, white pine is the most common tree with 57% of the total basal area, followed by red oak (32%) and red maple (11%). Most trees are over 60'. The forest canopy is fully closed. Quality of the oak is generally good to excellent; quality of the pine is fair to good. Potential growth, under management, is 0.350 MBF per acre per year. Regeneration, although not abundant, includes a few seedling and sapling red oak and white pine, and even fewer mountain ash and black cherry. The large oak trees provide an important source of acorns for wildlife food.

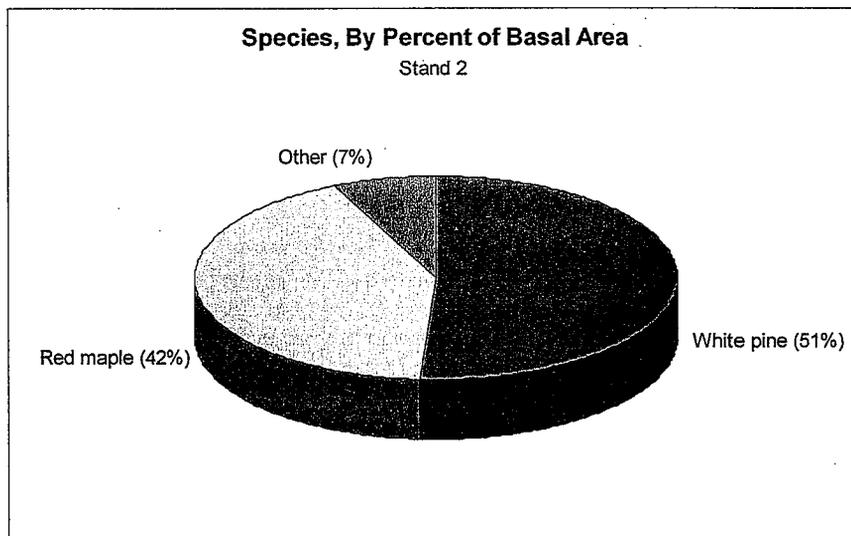
RECOMMENDATIONS

The long-term goal is to improve the quality, growth, health, and density of the forest. A marked wood improvement selection harvest could be conducted here, cutting low quality pine to favor higher quality pine and oak. This harvest could be done with horses. Approximately $\frac{1}{4}$ of the standing volume should be harvested. The recommended harvesting will create a more hardwood-dominated stand, and should stimulate the establishment of regeneration, and the eventual establishment of an uneven-aged forest.

STAND 2 –MIXEDWOOD POLE/SAWTIMBER

20 acres

This stand includes most of the woodland on the river lot. The soils are moister here, and richer. A well-built road leads to the back field from the west end of the parking area. A foot path leads from the other end of the parking area directly to the ball field. If additional trails are built, they should be laid out carefully. It's likely that fill will be needed in some places, as was used for the existing trail. A few old drainage ditches can be seen in the area closer to the field. In spite of the moist soils, site quality is very good; the trees are tall (many over 60'.) One intermittent stream flows near the northeast corner. No harvesting has been conducted here for many years, if ever, since the forest was allowed to regrow from farmland an estimated 80 years ago.



As seen in the above chart, white pine is the most common tree with 51% of the total basal area, followed by red maple (42%), and a few hemlock, balsam fir, white birch, and red oak (7% altogether). The forest canopy is closed, except for a few small gaps where blowdowns have occurred. Quality of the pine is variable, depending on size of the limbs and past weevil damage. Potential growth, under management, is 0.350 MBF per acre per year. Regeneration, although not abundant, includes scattered seedling and sapling red maple and white pine.

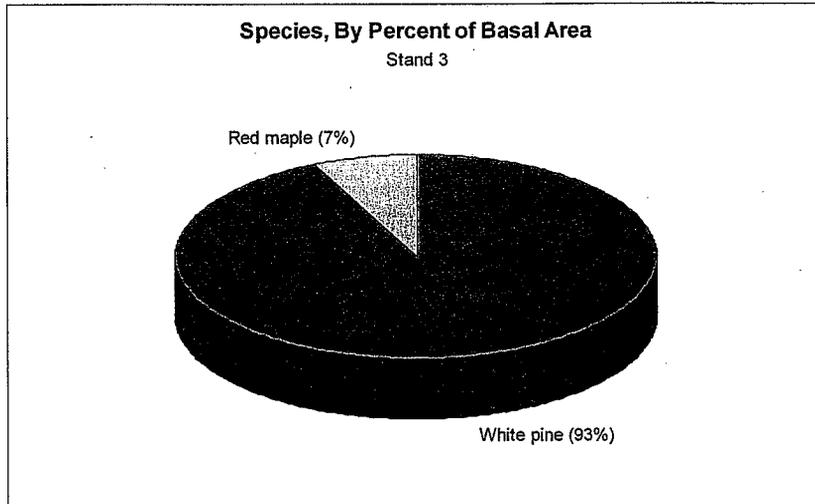
RECOMMENDATIONS

Because of the wet soils and the large size of the trees, conducting a harvest here would likely result in significant blowdowns. In addition, since this is a relatively old forest, this author recommends that it be left for now as an unmanaged forest reserve. No harvesting is recommended, other than cutting trees that are a direct safety hazard along the trail or road. The long-term goal is to maintain the old forest characteristics of the stand. That said, the forest should be regularly monitored for any new insect/disease problems, noticeable increase in blowdowns, or other drastic changes.

STAND 3 –SOFTWOOD SAWTIMBER

2 acres

This stand is located near the northeast corner of the field. It's impressive, and contains older (100+ years) and very tall (many 80'+) trees. Similar to stand 2, soils are moist but rich, and slightly better drained. Site quality is very good. No evidence of timber harvesting was seen here.



As seen in the above chart, white pine is the most common tree with 93% of the total basal area, followed by red maple (7%). The forest canopy is closed. Tree quality is variable, with some signs of decay and mortality, but also with numerous large, healthy trees. Tree growth is likely relatively slow now due to the age and density of the trees. Regeneration is sparse, but includes a few seedling and sapling pine.

RECOMMENDATIONS

Because of the wet soils, the large size of the trees, and the exposure to wind from the field, conducting a harvest here would likely result in significant blowdowns. In addition, since this is a relatively old forest, this author recommends that it be left for now as an unmanaged forest reserve. No harvesting is recommended, other than cutting trees that are a direct safety hazard along the field edge. The long-term goal is to maintain the old forest characteristics of the stand. That said, the forest should be regularly monitored for any new insect/disease problems, noticeable increase in blowdowns, or other drastic changes.

SHRUB AREA

3 acres

This early succession shrub areas provides habitat for ruffed grouse, chestnut sided warbler, eastern towhee, magnolia warbler, and other species. Maintaining this as an early successional area is important from a wildlife standpoint. Consideration should be given to harvesting or girdling trees as they grow over 25-30' tall. A much higher priority now is to eradicate the abundant invasive species here, such as honeysuckle, staghorn sumac.

WETLANDS

1 acre

One small winterberry wetland is located within stand 2, west of the ball diamond. A small cattail wetland is located between the road to the ball field and the west boundary line. These areas should be protected for the wildlife values they offer.

CONCLUSIONS

This property has excellent short and long-term potential for producing forest products for sale while maintaining a healthy, aesthetically pleasing forest ecosystem. This author recommends that the town establish a dedicated Town Forest Account to keep track of income, expenses and grants related to the town forest, if this has not already been done.

SUMMARY OF MANAGEMENT PRIORITIES 2011-22			
Year	Stand	Activity	Estimated Income/(cost)
2011	All	Blaze and paint boundaries	-\$275
2011-22	All	Establish a series of educational programs as desired, and as funding allows	-\$??
2011-22	1	Conduct marked wood selection harvest (estimate 240 cords & 56 MBF) (income may be lower if harvesting is done strictly with horses)	\$9,000
2011-22	All	Clear walking trails as desired	-\$ negligible
2022	All	Update management plan	(\$??)

GLOSSARY

Basal Area (BA) - a) of a tree: the cross-sectional area of the trunk at 4.5 feet above the ground; b) per acre: the sum of the basal areas of all the trees on an acre; a measure of tree density of a forest stand

Board Foot - a unit for measuring wood volume in a tree, log, or cut lumber. It is the volume of wood in a board 1 foot by 1 foot by 1 inch, equaling 144 cubic inches.

Boltwood - smaller diameter and/or shorter length sawlog grade hardwoods, usually birch or red oak, manufactured into items such as furniture blanks, dowels, etc.

Canopy - the top leafy layer of the forest, formed collectively by tree crowns

Commercial Harvest - a harvest operation that results in net landowner income

Cord - a measure of wood products 4 feet high, 4 feet wide and 8 feet long, equaling 128 cubic feet of wood, bark, and interior spaces

DBH - tree diameter at breast height, measured at 4.5 feet above the ground

Even-aged - a stand of trees of the same age class

Habitat - the type of ecosystem in which a particular wildlife species or group of species is commonly found

Improvement cut - cutting in a stand to improve composition and quality by removing less desirable trees

Maturity, biological - the age range in which abundant seed is produced, typically starting at about 40 years of age

Maturity, financial - condition of optimal tree value

MBF - log measurement unit; one thousand board feet; 1 MBF = approximately 2 cords

Operability - ease with which logging machinery could work a site; often limited by rockiness, steep slopes, or wetness

Overmaturity - the age range in which significant physical decline occurs

Patch cut - a clearcut of a relatively small area (less than an acre)

Poles - trees between 6 and 9 inches DBH

ADDITIONAL SOURCES OF ASSISTANCE

- 1) **Mid-Maine Forestry:** We can assist with all phases of implementation of this forest management plan, including establishing low-impact forestry demonstrations, marking trees for harvest, selection of competent loggers, and harvest administration and supervision. We also maintain boundary lines, administer forestry cost-share programs, as well as supervise TSI, tree planting, trail building, and wildlife habitat enhancement practices. Please contact us for further assistance.

- 2) **Maine Forest Service:** A good source of educational material and information, including taxation and utilization expertise. Information and applications for Federal forestry cost-share programs for practices such as tree planting, weeding, pruning, erosion control, and forest management plans.
State House Station #22, Augusta, ME 04330. 1-800-367-0223 (in Maine) or 1-207-287-2791 web site: www.maineforestservice.org

- 3) **University of Maine Cooperative Extension (UMCE):** A good source of educational materials and information.
web site: www.umext.maine.edu/topics/forestry

- 4) **Natural Resources Conservation Service (NRCS), formerly Soil Conservation Service, and the Androscoggin-Sagadahoc Co. Soil and Water Conservation District (SWCD):** Information on, and technical assistance with, conservation and erosion control practices.
Androscoggin-Sagadahoc Co.NRCS, or SWCD, 254 Goddard Road, Lewiston, Maine 04241. Tel. 207-753-9400 web site: www.androscogginswcd.net

- 5) **Small Woodland Owners Association of Maine (SWOAM):** A statewide non-profit organization which promotes long-term management of private woodland. It publishes a monthly newsletter, and sponsors educational programs on a variety of issues relating to forest management and ownership.
SWOAM, P.O. Box 836, Augusta, ME 04332-0836. 1-207-626-0005.
web site: www.swoam.org

Appendix A. Summary Table of Stand Type Attributes
Town of Topsham -Foreside Recreation Area Woodlot

Stand	Type ¹	Acres	Size	Average diameter all trees	Average diameter merch. trees ²	Basal area (BA) all trees (ft ² /acre)	Basal area (BA) merch. trees (ft ² /acre)	Volume/acre MBF	Cords	Top 3 species in descending order of BA
1	M3A	27	sawtimber	10"	13"	172	164	8.7 MBF	36c.	57% WP, 32% RO, 11% RM
2	M3A	20	sawtimber	7	11	171	161	7.4	35	51% WP, 42% RM, 3% BF
3	S3A	<u>2</u>	sawtimber	14	14	225	225	18.6	44	93% WP, 7% RM
			49 wooded acres							
	Non-forested acres	<u>21</u>								
	Total	70 acres								

¹S=75%+ softwood; H+75%+ hardwood; M=mixed wood 1=0-30' height; 2=30-60' height; 3=60'+ height

A=70-100% crown closure; B=40-70% crown closure; C=10-40% crown closure

²merchantable trees are those with diameters of 6" or more

³species codes: red oak (RO), red maple (RM), white pine (WP), balsam fir (BF)



MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

PAUL R. LEPAGE
GOVERNOR

EARLE G. SHETTLEWORTH, JR.
DIRECTOR

ARCHAEOLOGY AND HISTORIC RESOURCES REVIEW
FORESTRY PLAN

MHPC # F120-11
Township TOPSHAM
Parcel TOWN OF TOPSHAM LOT

Date Received 5/19/2011
Forester MID-MAINE FORESTRY

*****This worksheet was completed for informational purposes only*****

Prehistoric (Native American) Archaeology (for further information: arthur.spieß@maine.gov)

- No prehistoric archaeological sites known. Based on location, soils and topography, none are expected.
- No prehistoric archaeological sites known because no survey has been conducted. However, the following area is archaeologically sensitive: see attached map
- The property includes known sites of archaeological importance. (See attached info)

Historic Archaeology (e.g. 1800s farms, etc.) (for further information: leith.smith@maine.gov)

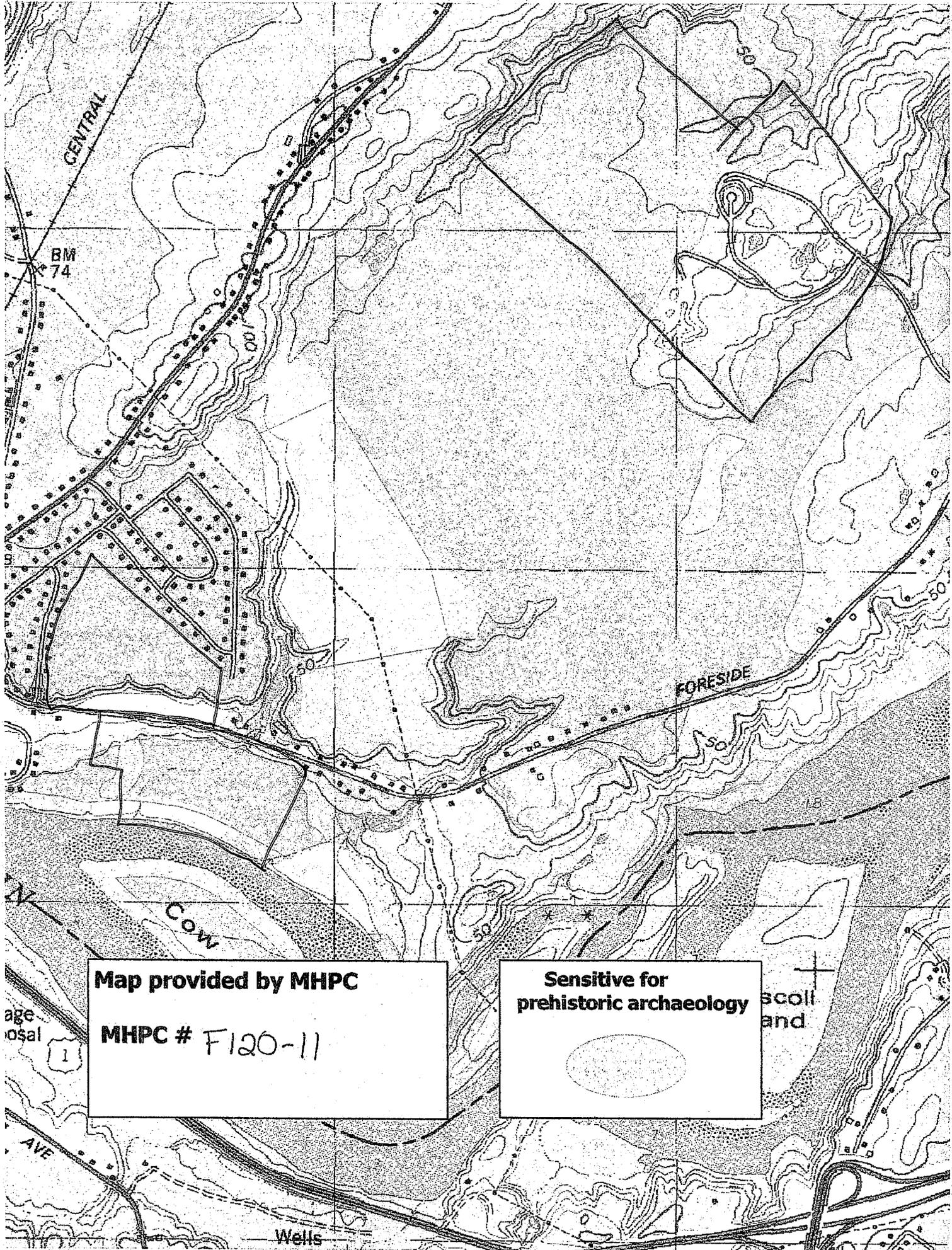
- No sites are known, and none are expected (based on historic maps and documents).
- There are possible sites from former houses, barns, and outbuildings shown on maps from 1850 to 1920, now possibly recognizable as foundations or cellar holes. (See attached map.)
- The property contains known sites of archaeological importance. (See attached info)

Historic Buildings or Structures (for further information: robin.stancampiano@maine.gov)

- No historic buildings or structures are known or expected on the property (based on 7.5' USGS topographic maps and MHPC records).
- Buildings or structures may exist on the property that have not been evaluated for National Register eligibility. Our office will provide an assessment if a request letter, photos of any buildings over fifty years of age that are on the subject parcel, and a 7.5' USGS topographic map with all photos keyed to it are submitted to our office.
- Buildings or structures exist on the property that are either listed in or eligible for nomination to the National Register of Historic Places. (See attached info)

The information on this worksheet is being provided for Forestry Management Planning purposes only.

If any construction or ground disturbing activities on these properties will utilize federal funding, permitting or licensing, initiation of Section 106 review with the Maine Historic Preservation Commission is required pursuant to the National Historic Preservation Act of 1966.



Map provided by MHPC
MHPC # F120-11

Sensitive for prehistoric archaeology





STATE OF MAINE
DEPARTMENT OF CONSERVATION
93 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0093

Appendix D

PAUL R. LEPAGE
GOVERNOR

WILLIAM H. BEARDSLEY
COMMISSIONER

May 24, 2011

Barrie Brusila
midmaineforestry@gmail.com

Re: Forest Management Plan Review

Dear Mr. Brusila:

In response to your request received on May 19, 2011, I have searched our data system for information on rare or unique botanical features, rare animal populations, and essential or significant wildlife habitats in the vicinity of the three properties owned by the town of Topsham.

For individual parcel reviews, we use a simple checklist that summarizes our findings. The enclosed checklist includes our review of several data sets, some of which are maintained by MNAP and others that are maintained by the Maine Department of Inland Fisheries and Wildlife (MDIFW), and the U.S. Fish and Wildlife Service (USFWS). If a parcel intersects with a data set maintained by MDIFW or USFWS, please contact the appropriate biologist indicated on the checklist for additional information.

According to the information currently in our files, there are no rare species or important habitats documented within these three properties. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare features.

The southern property, along the Androscoggin River, is within the Kennebec Estuary Beginning with Habitat Focus Area. The Beginning with Habitat program is a cooperative, non-regulatory effort between state and federal agencies, conservation groups, and regional governments in Maine. *For more information about focus areas, visit the Beginning with Habitat website, <http://www.beginningwithhabitat.org>, or call the Beginning with Habitat program at 207-287-5254.*

Thank you for using the MNAP in the forest management planning process. If you have questions about the MNAP, or if you would like more information about this site, please feel free to contact me. You can also visit us on the web at <http://www.maine.gov/doc/nrimc/mnap/>.

Sincerely,

Shonene Scott

Assistant Ecologist
Maine Natural Areas Program
17 Elkins Lane, 93 State House Station, Augusta, ME 04333
maine.nap@maine.gov
Phone: (207) 287-8044, Fax: (207) 287-8040

Enclosure

MAINE NATURAL AREAS PROGRAM
MOLLY DOCHERTY, DIRECTOR

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