FOREST MANAGEMENT PLAN

Prepared for

Alex & Molly London
131 Hovey Road #61
Milo, ME 04463

For property located in

Milo
Piscataquis County
Maine

Planning Period April, 2016 to April, 2026

This plan has been prepared to meet or exceed the requirements of Maine's Tree Growth Tax Law.

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FOREST MANAGEMENT PLAN
Alex & Molly London
Milo, Piscataquis County

March 1, 2017

PLAN FOR THE PERIOD March, 2017 THROUGH March, 2027

1. Property Description

1.1 Overview

This plan has been prepared for forest lands in Milo, Piscataquis County, Maine. This is a new plan that covers forest lands on one parcel. This is a new enrollment in the Tree Growth Tax Program, the land will be certified through the creation of this document.

Purchase Year	Town / County	Acres	Map / Lot
2016	Milo/Piscataquis	58.5	Map 2 / Lot 14

1.2 Scope of Plan

This plan meets or exceeds the requirements of Maine's Tree Growth Tax Law that requires a written document that outlines activities and recommendations to regenerate, improve, and harvest a stand of timber. The plan includes text and maps to show the location of water bodies and wildlife habitat identified by the Maine Department of Inland Fisheries and Wildlife as well as soils information and any legal restrictions.

1.3 Landowner Goals and Objectives

It is the objective of the landowner:
a. To maintain a healthy, productive and ecologically diverse woodlot.
b. To manage the land in a sustainable manner that provides for future generations.
c. To maintain diverse woodland habitat for local wildlife, specifically white tailed deer.

2. General Conditions of the Woodlot

2.1 Location

This lot is located on the southern side of Route 11, aka the Lyford Road, in Milo ME, just to the south of the Piscataquis River and north of the Orneville/Milo Town Line. The lot is bounded by the Orneville town line to the south, neighboring woodlots to the east and west, and Route 11 to the north. The property consists of 58.5 total acres, of which 56.75 are forested, 1.25 are wetlands, and 0.5 are roads. There are currently no structures on the lot.

Please refer to maps in Section 7 for more information.

2.2 History

This property was purchased in 2016 by Alex & Molly London. The previous owner had the property for over 50 years and never held a large scale, commercial timber harvest. Instead, the previous owner did quite a few small, private timber harvests for his own firewood or for improvements to the lot with a small bulldozer he owned. All harvesting since the mid 1900's was just light, selective cuts and thinnings. A small road has always been regularly maintained into the lot from Route 11, which turns to a skid trail about 200 feet into the lot, making a rough access road to get to the far reaches of the woodlot.

2.3 Access

All areas of the woodlot can be accessed from the Lyford Road, Route 11 in Milo. The Lyford Road is a year round, public access road, though it gets posted to heavy truck traffic in the spring of each year.

2.4 Terrain and Hydrology

This property sits on gentle north/north east facing slopes, with the most terrain change found in the southern half of the lot. The entire property drains to the northeast, into a small drainage stream that cuts through the property, then into the protected wetlands along the southern side of the Piscataquis river, then eventually into the Piscataquis River. The Piscataquis River joins nearby with the Penobscot River. There is a small wetland area in the middle of the woodlot at the base of the steepest slopes.

There are no other mapped streams, ponds, or open wetlands on this property.

Please reference the maps located in Section 7 and the shoreland zoning details located in Section 2.8.

2.5 Soils

The ability for trees to grow is directly related to soil characteristics. Soils can be generalized into three main soil types to better understand their productive capabilities.

Site class 1 soils are well drained, deep soils with a well-defined B horizon. Site I soils are very productive for growth of either hardwood or softwood species. Deep, well drained loams dominate Site I soils.

Site class 2 soils are moderately well drained with shallow B horizons. Site II soils represent transition zones from the very productive Site I soils to the much less productive Site III soils. Site II soils are best suited to softwood production. However, stands established on these sites tend to be less windfirm due to shallow, moist soils.

Site class 3 soils are poorly drained, shallow soils located primarily in lowlands. Site class 3 soils usually have a poorly developed B horizon or none at all. Softwood species (black spruce, cedar and balsam fir) and low quality hardwoods (red maple and poplar) tend to dominate these sites. All species grow poorly on these sites. Forested wetlands would also be included in this site class.

Vegetation on any site is directly correlated to soil productivity. Long term management decisions are partially based on soil productivity, slope and aspect.

There are three main soil series found on this woodlot, according to soil survey data from the USDA and NRCS. The series and their drainage ratings are listed below:

- AHC – Allagash-Adams complex, well drained to somewhat excessively drained fine sandy loam, site class 1. 7% of the lot is on these soils.
- BOB - Boothbay-Swanville association, somewhat poorly to poorly drained silt loam, site class 2. 60% of the lot is on these soils.
- PWC – Plaisted-Howland-Penquis association, well drained to moderately well drained gravelly silt loam, site class 1. 33% of the lot is on these soils.

For more information, please see additional soil information located in section 7.

2.6 Boundary Lines

The boundary lines on this property are visible and recently flagged in marginal condition. A surveyor was brought in in 2016 prior to writing this plan to verify that the pins and old blazes found were correct. As a result of this survey work, the western boundary line was freshly blazed and a new northwest corner pin established. The other corner pins and lines are visible, but need to be repainted. It is recommended that landowners clearly mark their boundary lines with red or orange paint and flagging and maintain those markings every few years. It is recommended that the landowner freshly paint the boundary lines and continue to maintain boundary line markings as needed over the next 10 year period.

2.7 Legal Considerations

There are no known legal restrictions on this property.

2.8 Regulatory Considerations

Timber harvesting in Maine is subject to a number of regulations. Water quality is protected by one of three regulations depending on the town or township. These include:

Organized Town Shoreland Zoning – regulates resource protection zones mapped by towns;
MFS Chapter 21 Statewide Standards for Timber Harvesting in Shoreland Areas – regulates shoreland areas in many towns that have adopted this rule in place of shoreland zoning;
MFS Chapter 27 Standards for Timber Harvesting and Related Activities within Unorganized and Deorganized Areas of the State – timber harvest restrictions on unorganized townships in certain protected areas including shoreland and protected wildlife habitat.

In the last five years, the State of Maine has attempted to streamline laws governing timber harvesting in shoreland zones to make education and enforcement easier on all parties involved. They developed what they call "MFS Chapter 21 Statewide Standards for Timber Harvesting in Shoreland Areas" and allowed towns to either adopt the standards as their own, choose not to act and maintain their previous DEP standards, or create their own new standards for their own town. The town of Milo *did not act*, and thus maintained their original DEP standards for Timber Harvesting in Shoreland Areas. A map of these DEP standards can be found on the wall at the Milo Town Office.

There are no protected water bodies on this property that these zoning laws apply to.

Other regulations for planning a timber harvest include:

Forest Operations Notifications (MFS chapter 26) – requires notification to the State prior to harvesting.
Forest Practice Act (MFS chapter 20) – requires pre-harvest notification, limits on sizes of clearcuts, requirements for separation zones for any clearcut over five acres, and reforestation of clearcuts.
Liquidation Harvesting (MFS chapter 23) – regulates the practice of harvesting all commercial timber on a woodlot followed by a land sale within five years.
Threatened and Endangered Species Act – regulates activities within critical habitat of animal species.
Maine Natural Areas Program – identifies areas of protected plant species and works with landowners to develop strategies to protect the communities where those plants are found.

Timber harvest activities require State notification prior to the start of harvest. A licensed forester should be retained in order to assure legal compliance and compliance with the objectives of this plan.

This plan has been prepared to be in compliance with the Forest Practice Act, Liquidation Harvesting Act, Threatened and Endangered Species Act, and the Maine Natural Areas Program.

2.9 Tree Growth Tax Status

Maine's Tree Growth Tax (TGT) law allows landowners to have their forested lands taxed at rates that reflect the productivity of the land for growing forest products instead of "just value". Non-forest lands

in the same ownership are taxed at just-value rates. Putting forest lands into TGT will result in significant savings in property tax payments. The program was started in 1971 for the purpose of keeping Maine's working forest productive and undeveloped for the benefit of Maine people.

Landowners who wish to enroll in TGT must have at least 10 acres of forested land, commit to commercial timber harvests, and will not develop their land for other uses. TGT status continues with the land when the land is sold to another owner. Taking a property out of TGT for other uses will result in a substantial penalty. To remain in TGT status, the landowner must have a professional forester certify every ten years that the landowner is following the documented forest management plan.

This property is enrolled in the Maine Tree Growth Tax Program and remains compliant until 2027 with the completion of this plan.

3.0 Long Term Resource Considerations

3.1 Threatened and Endangered (T&E) Species

This parcel has been reviewed by the State of Maine Natural Areas Program. No threatened and endangered species habitat has been identified on this parcel or within buffer limits established for nesting Bald Eagles or for the Northern Long-Eared Bat hibernacula.

3.2 Critical Wildlife/Plant Habitat

Critical wildlife and plant habitat is identified across the state and mapped by Inland Fisheries and Wildlife (IF&W) and the Maine Natural Areas Program (MNAP).

There have been no threatened and endangered species habitat or other critical habitat areas identified on this property.

3.3 Soil and Water Quality Protection

Activities in the woods that involve roads, log landings, and yarding or recreational trails can sometimes contribute to rutting, soil movement and pollution of the watershed. Improperly conducted logging operations can also cause damage. **Use of appropriate Best Management Practices (BMPs)** greatly reduces this risk. For more information, see the booklet entitled "Best Management Practices for Water Quality," available from the Maine Forest Service.

Both forested wetlands and other wetlands such as open marshes, bogs or beaver ponds provide habitat, flood control and scenic beauty. For more information, see the book Natural Landscapes of Maine, available from the Maine Natural Areas Program, 207-287-8044, your local MFS District Forester or go to: http://www.maine.gov/doc/nrimc/mnap.

3.4 Recreational Use

There are no designated recreational trails on this property and this land is not posted to prohibit public use. The landowner does value the land for its availability for hunting, recreational use and enjoyment. In the event of a timber harvest, any significant recreational areas should be protected at the discretion of the landowner.

4.0 Acreage Summary

4.1 Acreage Summary by Land Classification Type

CATEGORY	TYPE	TOTAL ACRES
Productive Forest Land	Softwood	25.5
	Mixedwood	21.75
	Hardwood	9.5
	Subtotal	56.75
Forest Land Not Suited To Production	Water bodies	
	Wetlands	1.25
	Ledge/ Barrens	
	Subtotal	1.25
Land Not Used for Forest Production	Building Areas	
	Fields	
	Gravel Pits	
	Trans.Line	
	Pipe Line	
	Roads, Class 1	
	Roads, Class 2	0.5
	Agriculture	
	Other	
	Subtotal	0.5
GRAND TOTAL ACRES		**58.5**

Please reference the Tree Growth Tax Map located in Section 7 for more information.

4.2 Productive Forest Land

Productive forest land is land where timber stands are accessible and operable for timber harvesting and other timber management activities. Property taxes on these acres are based on the value of the productive capacity of the timber produced annually based upon County averages.

Forest types are defined as follows:

- **Softwood** – having 75 percent or greater of stand volume in softwood species;
- **Mixedwood** – having a mixture of hardwood and softwood species neither of which are more than 75 percent or greater of the stand volume;
- **Hardwood** – having 75 percent or greater of stand volume in hardwood species.

There are 56.75 acres of productive forest land on this property, 25.5 acres of softwood, 21.75 acres of mixedwood, and 9.5 acres of hardwood.

4.3 Forest Land Not Suited to Production

Forest land not suited to production is forest land that is composed of non-timber types such as water, wetlands, and barren land. Property taxes on these acres are based on the local ad valorem tax rates.

There are 1.25 acres of wetland on this property that are counted as forest land not suited to production.

4.4 Land Not Used for Forest Production

Land Not Used for Forest Production are areas within the ownership that have been reserved or developed for other uses including buildings and grounds, gravel pits, roads, power lines, agricultural fields and pastures, and other. Property taxes on these acres are based on the local ad valorem tax rates.

Non-forest areas on this property include 0.5 acres of unimproved road.

5.0 Timber Description and Management

5.1 Timber Management Objectives

Timber management objectives for the owners are: (1) to maintain forest cover; (2) optimize forest health and diversity; and (3) capture mortality before the loss of value; 4) prepare the lot for long term timber investment opportunity

5.2 Timber Management and Regeneration Strategies

Site specific harvest prescriptions should be developed at the time of harvest under the direction of a State licensed professional forester. These treatments will be of two broad categories – intermediate harvests and regeneration harvests.

Intermediate harvests – thinning and improvement cuts for the purpose of improving the quality of the current stand by removal of undesirable species or poorly formed trees. Tree selection should be based on tree spacing, tree quality, and order. The goal being to leave a well distributed stand of desirable species. Where desirable species are not present, less desirable species should be retained in order to have full stocking.

Regeneration harvests – shelterwood and overstory removal cuts for the purpose of replacing the existing overstory with a new stand of desirable species. This is accomplished by a series of two or three harvests over the course of 10 to 20 years. The final harvest, known as an overstory removal, removes the remaining overstory so that the established saplings can grow.

5.3 Specific Silvicultural Treatment Recommendations

There has not been a large scale, commercial timber harvest on this property in close to 50 years. The woodlot is showing signs of stagnation, with areas that are beginning to self-thin and little to no regeneration on the majority of the lot. A commercial harvest of the entire lot is recommended in the next ten year period to help improve forest health and diversity as well as yield a financial benefit by capturing value before mortality, and to set the lot up for future financial gains. The low, softwood stands should be considered for an intermediate harvest, specifically a thinning, to get rid of some of the self-thinning spruce and fir, open up the young pine and to space out the residual stand for improved growth. The mixedwood and hardwood areas should be treated with a regeneration harvest, specifically an overstory removal with reserves, to target the large overstory trees that have reached their maximum life and value, retaining the second cohort of healthy mixedwood trees that show good success as future log trees, and to open growing space to allow for the establishment of desirable regeneration.

Please see section 7 of this plan for a more detailed stand map with specific harvest prescriptions.

5.4 Utilization and Marketing

Harvested trees are cut into products based on their species, bole size, and defects in the bole. The income received by the woodlot owner can vary greatly depending how well this task is performed. Loggers are challenged to maximize value for each tree by changes in mill specifications, changing market demand, and low volume of a few high value products. The landowner should employ the services of a State licensed forester and experienced professional logger at the time of timber harvest and sales to insure that the harvest is properly conducted and the full value of harvested trees is recovered.

Markets for timber in Maine include a wide variety of consuming mills and log yards. Products in decreasing order of value include high end specialty veneer, veneer, sawlogs, boltwood, pulpwood, and biomass chips. Market demand for harvested timber is constantly changing due to changes in the supply and demand for manufactured forest products at the international, national, and regional levels. Political climate and weather both play a role as well. Long, dry periods will allow loggers to operate efficiently and lead to over-supply in the market. Wet periods have the opposite effect as loggers cannot operate on water saturated soils. The return on investment for a woodlot owner is best when there is significant demand for the products on the woodlot. The owner should consult with a Maine state licensed forester about market conditions when considering offering timber for sale.

5.5 Timber Harvest Considerations

Woodlot owners usually sell timber to logging contractors as “stumpage,” meaning that the logger takes ownership of the timber when trees are harvested. The woodlot owner is paid by the logger a contracted price per unit, (ton, thousand board feet (MBF), or cord), based on the scale of the wood when delivered to a mill yard or log yard. Maine State laws require that each truckload of wood be accompanied by a “trip ticket” which must indicate the origin, landowner, Maine State forest operation number (FON), contractor, crew, trucker, destination and date. The receiving yard will sign the trip ticket. The logger will return a copy of the trip ticket along with a scale slip giving the amount of wood sold. All such stumpage sales are paid on net volume.

It is the responsibility of the landowner and logger in a stumpage sale to agree to payment terms for the costs of preparing for the logging operation including roads, yards, and boundary line preparation. They should also agree to payment terms for the costs of harvesting and yarding, trucking, and post-harvest stabilization. If a forester has been hired by the woodlot owner, the woodlot owner is responsible to pay for those services at a fixed rate or as a percentage of sales.

There should always be a written contract between the woodlot owner and the logging contractor and forester for a stumpage sale. The contract should specify prices, the specific location of the harvest, the specific harvesting instructions, post-harvest requirements, establish independent contractor status, insurance requirements, reporting requirements, the use of Best Management Practices, and other technical issues. The woodlot owner should receive a certificate of insurance to certify that the logger is covered for general liability, vehicle liability, workers compensation and employer’s liability insurance. The woodlot owner is at substantial risk without these documents.

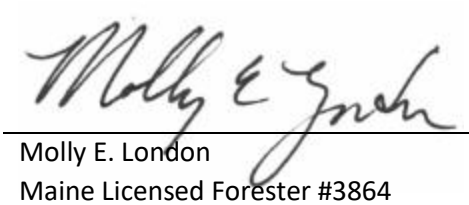
6.0 Planning Period Recommendations

This plan certifies this land until March of 2027. Suggested management activities were outlined in detail in the above paragraphs. The following summary lists the management activities that are recommended for the planning period of March 2017 through March 2027 in order to remain compliant with the Tree Growth Tax Law:

1. Re-blaze and paint all boundary lines
2. Commercial harvest of the entire lot

6.0 Certification

This plan contains numerous general recommendations for timber management. Failing to complete these tasks before the end of the ten year plan period does not necessarily constitute a failure in following this plan. Other factors must be considered on the timing of harvests including, but not limited to: availability of markets and prices, financial strategy of the landowner, availability of qualified timber contractors, and other needs. However, harvesting timber products is necessary in the long run to demonstrate compliance with tax laws under the Tree Growth Tax Law.



Molly E. London
Maine Licensed Forester #3864

March 1, 2017
Date

7.0 Appendix

7.1 Tree Growth Tax Map

7.2 Milo Shoreland Zoning Map

7.3 NRCS Soil Map and Information

7.4 Harvest Stand Description and Map