dcr

Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Conservation and Recreation

Certificate for Chapter 61/61A Forest Lands

Case Number 304-11861

Owner(s) Philip S. Wheelock, Jr. & Jacqueline B. Wheelock

Mailing Address 166 Henry St., Uxbridge, MA 01569

Pursuant to Chapter 61A of the General Laws, I/We request 10.24 acres of forestland of the 13.24 acres of land covered by a deed recorded in the Worcester County Registry of Deeds in Book 46914, Page 236, for property located in the Town/City of Uxbridge that the State Forester issue a Certificate of Management to cover those forested acres. The tract can further be described as Map # 20, Lot # 3531, on the Town/City Assessors Maps. Excluded from certification are 3 acres acres, which are described as follows (continue on back page if additional space is needed):
See attached map. 1 acre house lot and 2 acres pasture

I/We have read the various provisions of Chapter 61/Chapter 61A as well as the Rules and Regulations under which said Chapter is administered and agree to comply with the same

Submitted the 22nd day of September, year of 2020.

Signed by Owner(s) Jacqueline B. Wheelock
Philip S. Wheelock Jr

DEPARTMENT USE ONLY

The Department of Conservation and Recreation, 251 Causeway Street, Boston, Massachusetts, acting by and through its State Forester pursuant to the authority of Chapter61/Chapter61A of the General Laws hereby certifies that the described land is being managed under a planned program to improve the quantity and quality of a continuous forest crop. This certifies that the above listed acres of forestland, owned by the above, are being managed under an approved Forest Management Plan.

Certification is in effect from January 1, 2021 to December 31, 2030.

Signed by State Forester Peter Church Date 01-05-2021

ASSESSOR'S USE

The Board of Assessors have recorded the above acres of Classified Forest Land, and will cause evidence of a lien to be duly recorded in the Registry of Deeds. No recording is necessary for a recertification

Signed by Chairman _____ Date _____

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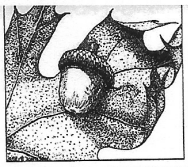
FOREST MANAGEMENT PLAN

Submitted to: Massachusetts Department of Conservation and Recreation
For enrollment in CH61/61A/61B and/or Forest Stewardship Program



CHECK-OFFS

CH61	CH61A	CH61B	STWSHP	C-S
cert. ☐	cert. X	cert. ☐	new X	EEA ☐
recert. ☐	recert. ☐	recert. ☐	renew ☐	Other ☐
amend ☐	amend ☐	amend ☐	Green Cert ☐	
			Conservation Rest. ☐	
Plan Change: _____ to _____			CR Holder _____	

Administrative Box

Case No.	304-11861	Orig. Case No.	
Owner ID	511454	Add. Case No.	
Date Rec'd	01-26-2021	Ecoregion	22/Ag
Plan Period	'21-'30	Topo Name	Blackstone
Rare Spp. Hab.	NO	River Basin	Blackstone

OWNER, PROPERTY, and PREPARER INFORMATION

Property Owner(s) Philip S. Wheelock, Jr. & Jacqueline B. Wheelock
Mailing Address 166 Henry St., Uxbridge, MA 01569 Phone 508-278-2534
Email Address philip.wheelock@gmail.com

Property Location: Town(s) Uxbridge Road(s) Henry St.

Plan Preparer Michael J.Bartlett Mass. Forester License # 12
Mailing Address 101 Hampton Rd., Pomfret Center, CT 06259 Phone 860-974-0127

RECORDS

Assessor's Map No.	Lot/Parcel No.	Deed Book	Deed Page	Total Acres	Ch61/61A 61B *Excluded* Acres	Ch61/61A 61B **Certified** Acres	Stewshp *Excluded* Acres	Stewshp Acres
20	3531	46914	236	13.24	1.0	12.24	3.0	10.24
			TOTALS	13.24	1.0	12.24	3.0	10.24

Excluded Area Description(s) **(if additional space needed, continue on separate paper)**
See attached map for excluded area

HISTORY

Year acquired 2011 Year management began 2020

Are boundaries marked: Yes x blazed/painted/**flagged**/signs posted (circle all that apply)? No ☐ Partially ☐

What treatments have been prescribed, but not carried out (last 10 years if plan is a recert.)?

stand no. _____ treatment _____ reason _____
(if additional space needed, continue on separate page)

Previous Management Practices (last 10 years)

Stand #	Cutting Plan #	Treatment	Yield	Acres	Date

Remarks: (if additional space needed, continue on separate page)

Name: Philip S. Wheelock, Jr.

STEWARDSHIP PLANNING WORKSHEET

These two sheets will help record your goals and visions for your property. Use the first page to start your thinking about issues to discuss or questions you may wish to ask your consulting forester prior to your plan's preparation. It is an optional worksheet for you to use as you wish. The second page will be included as part of the plan.

Ownership

1. How many years have you or your family owned this property? **10 years**
2. How many more years do you expect to own it? **11 or more**
3. Have you done any estate planning? **Yes**
4. What do you think you will eventually do with this property?

   1. Will it as is to heirs and:

   2. Protect some or all land from development
5. Are you interested in classifying the property under Chapter 61, 61A or 61B for tax purposes?

   Yes.

The Land

1. Are you aware of any important natural or cultural features on your land? (**Yes** to all below)
   Abandoned Well
   Springs or Seeps
   Brooks or Streams
   Stone Walls
   Rock Outcrops or Ledges
   Very Large or Unique Trees
   Vernal Pools
   Mowed Field

2. Is your property posted **Not at this time.**

3. Are your property boundaries well marked? **90% of property line are marked with stone walls**

Accomplishing Goals

1. How much of the management work do you plan on doing yourself?
   Some of it; currently limited by what can be done with chainsaws and small tractor/trailer
2. How many days of free labor per year do you have (self, family, friends)?
   more than 20
3. What percent of earnings from woodland are you are willing to reinvest in the land?
   more than 50%

4. How much out-of-pocket money are you willing to invest to improve your property?
   $1000 to $2000
5. Are you willing to work with your neighbors to accomplish mutual goals?
   Yes

Landowner Goals

Please **check** the column that best reflects the importance of the following goals:

Goal	Importance to Me			
	High	**Medium**	**Low**	**Don't Know**
Enhance the Quality/Quantity of Timber Products*	XX			
Generate Immediate Income		XX		
Generate Long Term Income		XX		
Produce Firewood	XX			
Defer or Defray Taxes	XX			
Promote Biological Diversity	XX			
Enhance Habitat for Birds	XX			
Enhance Habitat for Small Animals	XX			
Enhance Habitat for Large Animals	XX			
Improve Access for Walking/Skiing/Recreation	XX			
Maintain or Enhance Privacy	XX			
Improve Hunting or Fishing		XX		
Preserve or Improve Scenic Beauty	XX			
Protect Water Quality	XX			
Protect Unique/Special/ Cultural Areas		XX		
Other:				

*** This goal must be checked "HIGH" if you are interested in classifying your land under Chapter 61/61A.**

1. In your own words please describe your goals for the property:

Our land is scenic and rich in resources, and deserves to be placed under stewardship for future generations. This land is as good a candidate for the Forest Stewardship Program as they come.

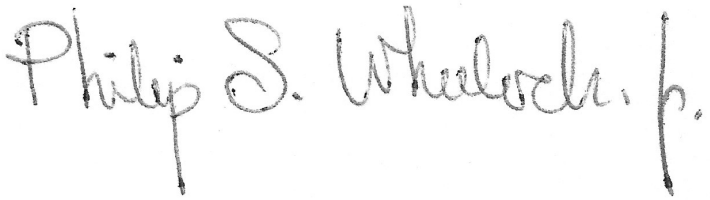
Name: Philip S. Wheelock, Jr.

Stewardship Purpose

By enrolling in the Forest Stewardship Program and following a Stewardship Plan, I understand that I will be joining with many other landowners across the state in a program that promotes ecologically responsible resource management through the following actions and values:

1. Managing for long-term forest health, productivity, diversity, and quality.
2. Conserving or enhancing water quality, wetlands, soil productivity, biodiversity, cultural, historical and aesthetic resources.
3. Following a strategy guided by well-founded silvicultural principles to improve timber quality and quantity when wood products are a goal.
4. Setting high standards for foresters, loggers and other operators as practices are implemented; and minimizing negative impacts.
5. Learning how woodlands benefit and affect surrounding communities, and cooperation with neighboring owners to accomplish mutual goals when practical.

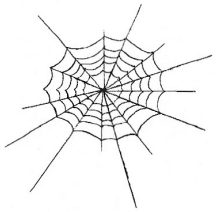
Signature(s):



Date: September 1, 2020

Stewardship Issues

Massachusetts is a small state, but it contains a tremendous variety of ecosystems, plant and animal species, management challenges, and opportunities. This section of your plan will provide background information about the Massachusetts forest landscape as well as issues that might affect your land. **The Stand Descriptions and Management Practices sections of your plan will give more detailed property specific information** on these subjects tailored to your management goals.



Biodiversity: Biological diversity is, in part, a measure of the variety of plants and animals, the communities they form, and the ecological processes (such as water and nutrient cycling) that sustain them. With the recognition that each species has value, individually and as part of its natural community, maintaining biodiversity has become an important resource management goal.

While the biggest threat to biodiversity in Massachusetts is the loss of habitat to development, another threat is the introduction and spread of invasive non-native plants. Non-native invasives like European Buckthorn, Asiatic Bittersweet, and Japanese Honeysuckle spread quickly, crowding out or smothering native species and upsetting and dramatically altering ecosystem structure and function. Once established, invasives are difficult to control and even harder to eradicate. Therefore, vigilance and early intervention are paramount.

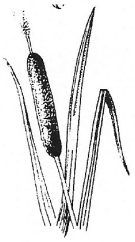
Another factor influencing biodiversity in Massachusetts concerns the amount and distribution of forest growth stages. Wildlife biologists have recommended that, for optimal wildlife habitat on a landscape scale, 5-15% of the forest should be in the seedling stage (less than 1" in diameter). Yet we currently have no more than 2-3% early successional stage seedling forest across the state. There is also a shortage of forest with large diameter trees (greater than 20"). See more about how you can manage your land with biodiversity in mind in the "Wildlife" section below. (Also refer to *Managing Forests to Enhance Wildlife Diversity in Massachusetts* and *A Guide to Invasive Plants in Massachusetts* in the binder pockets.)

Rare Species: Rare species include those that are **threatened** (abundant in parts of its range but declining in total numbers, those of **special concern** (any species that has suffered a decline that could threaten the species if left unchecked), and **endangered** (at immediate risk of extinction and probably cannot survive without direct human intervention). Some species are threatened or endangered globally, while others are common globally but rare in Massachusetts.

Of the 2,040 plant and animal species (not including insects) in Massachusetts, 424 are considered rare. About 100 of these rare species are known to occur in woodlands. Most of these are found in wooded wetlands, especially vernal pools. These temporary shallow pools dry up by late summer, but provide crucial breeding habitat for rare salamanders and a host of other unusual forest dwelling invertebrates. Although many species in Massachusetts are adapted to and thrive in recently disturbed forests, rare species are often very sensitive to any changes in their habitat

Indispensable to rare species protection is a set of maps maintained by the Division of Fisheries and Wildlife's Natural Heritage & Endangered Species Program (NHESP) that show current and historic locations of rare species and their habitats. The maps of your property will be compared to these rare species maps and the result indicated on the upper right corner of the front page of the plan. Prior to any

regulated timber harvest, if an occurrence does show on the map, the NHESP will recommend protective measures. Possible measures include restricting logging operations to frozen periods of the year, or keeping logging equipment out of sensitive areas. You might also use information from NHESP to consider implementing management activities to improve the habitat for these special species.



Riparian and Wetlands Areas: Riparian and wetland areas are transition areas between open water features (lakes, ponds, streams, and rivers) and the drier terrestrial ecosystems. More specifically, a **wetland** is an area that has hydric (wet) soils and a unique community of plants that are adapted to live in these wet soils. Wetlands may be adjacent to streams or ponds, or a wetland may be found isolated in an otherwise drier landscape. A **riparian area** is the transition zone between an open water feature and the uplands (see Figure 1). A riparian zone may contain wetlands, but also includes areas with somewhat better drained soils. It is easiest to think of riparian areas as the places where land and water meet.

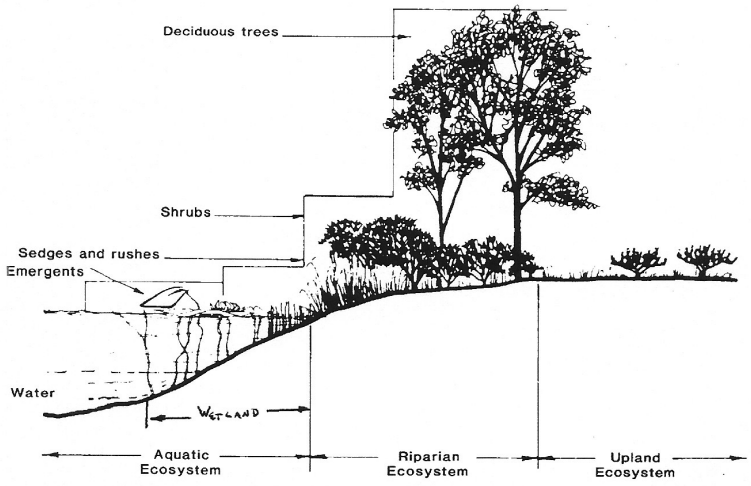


Figure 1: Example of a riparian zone.

The presence of water in riparian and wetland areas make these special places very important. Some of the functions and values that these areas provide are described below:

Filtration: Riparian zones capture and filter out sediment, chemicals and debris before they reach streams, rivers, lakes and drinking water supplies. This helps to keeps our drinking water cleaner, and saves communities money by making the need for costly filtration much less likely.

Flood control: By storing water after rainstorms, these areas reduce downstream flooding. Like a sponge, wetland and riparian areas absorb stormwater, then release it slowly over time instead of in one flush.

Critical wildlife habitat: Many birds and mammals need riparian and wetland areas for all or part of their life cycles. These areas provide food and water, cover, and travel corridors. They are often the most important habitat feature in Massachusetts' forests.

Recreational opportunities: Our lakes, rivers, streams, and ponds are often focal points for recreation. We enjoy them when we boat, fish, swim, or just sit and enjoy the view.

In order to protect wetlands and riparian areas and to prevent soil erosion during timber harvesting activities, Massachusetts promotes the use of "Best Management Practices" or BMPs. Maintaining or reestablishing the protective vegetative layer and protecting critical areas are the two rules that underlie these common sense measures. DCR's Massachusetts Forestry Best Practices Manual (included with this plan) details both the legally required and voluntary specifications for log landings, skid trails, water bars, buffer strips, filter strips, harvest timing, and much more.

The two Massachusetts laws that regulate timber harvesting in and around wetlands and riparian areas are the Massachusetts Wetlands Protection Act (CH 131), and the Forest Cutting Practices Act (CH132). Among other things, CH132 requires the filing of a cutting plan and on-site inspection of a harvest operation by a DCR Service Forester to ensure that required BMPs are being followed when a commercial harvest exceeds 25,000 board feet or 50 cords (or combination thereof).

Soil and Water Quality: Forests provide a very effective natural buffer that holds soil in place and protects the purity of our water. The trees, understory vegetation, and the organic material on the forest floor reduce the impact of falling rain, and help to insure that soil will not be carried into our streams and waterways.

To maintain a supply of clean water, forests must be kept as healthy as possible. Forests with a diverse mixture of vigorous trees of different ages and species can better cope with periodic and unpredictable stress such as insect attacks or windstorms.

Timber harvesting must be conducted with the utmost care to ensure that erosion is minimized and that sediment does not enter streams or wetlands. Sediment causes turbidity which degrades water quality and can harm fish and other aquatic life. As long as Best Management Practices (BMPs) are implemented correctly, it is possible to undertake active forest management without harming water quality.

Forest Health: Like individual organisms, forests vary in their overall health. The health of a forest is affected by many factors including weather, soil, insects, diseases, air quality, and human activity. Forest owners do not usually focus on the health of a single tree, but are concerned about catastrophic events such as insect or disease outbreaks that affect so many individual trees that the whole forest community is impacted.

Like our own health, it is easier to prevent forest health problems then to cure them. This preventative approach usually involves two steps. First, it is desirable to maintain or encourage a wide diversity of tree species and age classes within the forest. This diversity makes a forest less susceptible to a single devastating health threat. Second, by thinning out weaker and less desirable trees, well-spaced healthy individual trees are assured enough water and light to thrive. These two steps will result in a forest of vigorously growing trees that is more resistant to environmental stress.

Fire: Most forests in Massachusetts are relatively resistant to catastrophic fire. Historically, Native Americans commonly burned certain forests to improve hunting grounds. In modern times, fires most often result from careless human actions. The risk of an unintentional and damaging fire in your woods could increase as a result of logging activity if the slash (tree tops, branches, and debris) is not treated correctly. Adherence to the Massachusetts slash law minimizes this risk. Under the law, slash is to be removed from buffer areas near roads, boundaries, and critical areas and lopped close to the ground to speed decay. Well-maintained woods roads are always desirable to provide access should a fire occur.

Depending on the type of fire and the goals of the landowner, fire can also be considered as a management tool to favor certain species of plants and animals. Today the use of prescribed burning is largely restricted to the coast and islands, where it is used to maintain unique natural communities such as sandplain grasslands and pitch pine/scrub oak barrens. However, state land managers are also attempting to bring fire back to many of the fire-adapted communities found elsewhere around the state.

Wildlife Management: Enhancing the wildlife potential of a forested property is a common and important goal for many woodland owners. Sometimes actions can be taken to benefit a particular species of interest (e.g., put up Wood Duck nest boxes). In most cases, recommended management practices can benefit many species, and fall into one of three broad strategies. These are **managing for diversity, protecting existing habitat, and enhancing existing habitat**.

Managing for Diversity – Many species of wildlife need a variety of plant communities to meet their lifecycle requirements. In general, a property that contains a diversity of habitats will support a more varied wildlife population. A thick area of brush and young trees might provide food and cover for grouse and cedar waxwing; a mature stand of oaks provides acorns for foraging deer and turkey; while an open field provides the right food and cover for cottontail rabbits and red fox. It is often possible to create these different habitats on your property through active management. The appropriate mix of habitat types will primarily depend on the composition of the surrounding landscape and your objectives. It may be a good idea to create a brushy area where early successional habitats are rare, but the same practice may be inappropriate in the area's last block of mature forest.

Protecting Existing Habitat – This strategy is commonly associated with managing for rare species or those species that require unique habitat features. These habitat features include vernal pools, springs and seeps, forested wetlands, rock outcrops, snags, den trees, and large blocks of unbroken forest. Some of these features are rare, and they provide the right mix of food, water, and shelter for a particular species or specialized community of wildlife. It is important to recognize their value and protect their function. This usually means not altering the feature and buffering the resource area from potential impacts.

Enhancing Existing Habitat – This strategy falls somewhere between the previous two. One way the wildlife value of a forest can be enhanced is by modifying its structure (number of canopy layers, average tree size, density). Thinning out undesirable trees from around large crowned mast (nut and fruit) trees will allow these trees to grow faster and produce more food. The faster growth will also accelerate the development of a more mature forest structure, which is important for some species. Creating small gaps or forest openings generates groups of seedlings and saplings that provide an additional layer of cover, food, and perch sites.

Each of these three strategies can be applied on a single property. For example, a landowner might want to increase the habitat diversity by reclaiming an old abandoned field. Elsewhere on the property, a stand of young hardwoods might be thinned to reduce competition, while a "no cut" buffer is set up around a vernal pool or other habitat feature. The overview, stand description and management practice sections of this plan will help you understand your woodland within the context of the surrounding landscape and the potential to diversify, protect or enhance wildlife habitat.

Wood Products: If managed wisely, forests can produce a periodic flow of wood products on a sustained basis. Stewardship encompasses finding ways to meet your current needs while protecting the forest's ecological integrity. In this way, you can harvest timber and generate income without compromising the opportunities of future generations.

Massachusetts forests grow many highly valued species (white pine, red oak, sugar maple, white ash, and black cherry) whose lumber is sold throughout the world. Other lower valued species (hemlock, birch, beech, red maple) are marketed locally or regionally, and become products like pallets, pulpwood, firewood, and lumber. These products and their associated value-added industries contribute between 200 and 300 million dollars annually to the Massachusetts economy.

By growing and selling wood products in a responsible way you are helping to our society's demand for these goods. Harvesting from sustainably managed woodlands – rather than from unmanaged or poorly managed forest – benefits the public in a multitude of ways. The sale of timber, pulpwood, and firewood also provides periodic income that you can reinvest in the property, increasing its value and helping you meet your long-term goals. Producing wood products helps defray the costs of owning woodland, and helps private landowners keep their forestland undeveloped.

Cultural Resources: Cultural resources are the places containing evidence of people who once lived in the area. Whether a Native American village from 1,700 years ago, or the remains of a farmstead from the 1800's, these features all tell important and interesting stories about the landscape, and should be protected from damage or loss.

Massachusetts has a long and diverse history of human habitation and use. Native American tribes first took advantage of the natural bounty of this area over 10,000 years ago. Many of these villages were located along the coasts and rivers of the state. The interior woodlands were also used for hunting, traveling, and temporary camps. Signs of these activities are difficult to find in today's forests. They were obscured by the dramatic landscape impacts brought by European settlers as they swept over the area in the 17th and 18th centuries.

By the middle 1800's, more than 70% of the forests of Massachusetts had been cleared for crops and pastureland. Houses, barns, wells, fences, mills, and roads were all constructed as woodlands were converted for agricultural production. But when the Erie Canal connected the Midwest with the eastern cities, New England farms were abandoned for the more productive land in the Ohio River valley, and the landscape began to revert to forest. Many of the abandoned buildings were disassembled and moved, but the supporting stonework and other changes to the landscape can be easily seen today.

One particularly ubiquitous legacy of this period is stone walls. Most were constructed between 1810 and 1840 as stone fences (wooden fence rails had become scarce) to enclose sheep within pastures, or to exclude them from croplands and hayfields. Clues to their purpose are found in their construction. Walls that surrounded pasture areas were comprised mostly of large stones, while walls abutting former cropland accumulated many small stones as farmers cleared rocks turned up by their plows. Other cultural features to look for include cellar holes, wells, old roads and even old trash dumps.

Recreation and Aesthetic Considerations: Recreational opportunities and aesthetic quality are the most important values for many forest landowners, and represent valid goals in and of themselves. Removing interfering vegetation can open a vista or highlight a beautiful tree, for example. When a landowner's goals include timber, thoughtful forest management can be used to accomplish silvicultural objectives while also reaching recreational and/or aesthetic objectives. For example, logging trails might be designed to provide a network of cross-country ski trails that lead through a variety of habitats and reveal points of interest.

If aesthetics is a concern and you are planning a timber harvest, obtain a copy of this excellent booklet: *A Guide to Logging Aesthetics: Practical Tips for Loggers, Foresters & Landowners*, by Geoffrey T. Jones, 1993. (Available from the Northeast Regional Agricultural Engineering Service, (607) 255-7654, for $7). Work closely with your consultant to make sure the aesthetic standards you want are included in the contract and that the logger selected to do the job executes it properly. The time you take to plan ahead of the job will reward you and your family many times over with a fuller enjoyment of your forest, now and well into the future.

Invasive Species Management: Invasive species pose immediate and long-term threats to the woodlands of MA. Defined as a non-native species whose introduction does or is likely to cause economic or environmental harm or harm to human, animal, or plant health, invasives are well-adapted to a variety of environmental conditions, out-compete more desirable native species, and often create monocultures devoid of biological diversity. The websites of the Invasive Plant Atlas of New England, www.nbii-nin.ciesin.columbia.edu/ipane, and the New England Wildflower Society, www.newfs.org are excellent sources of information regarding the identification and management of invasive plants. Some of the common invasive plants found in MA are listed below.

- Oriental Bittersweet (Celastrus orbiculata)
- Glossy Buckthorn (Frangula alnus)
- Multiflora Rose (Rosa multiflora)
- Japanese Barberry (Berbis thunbergii)
- Japanese Knotweed (Fallopia japonica)
- Autumn Olive (Eleaeagnus umbellata)

Early detection and the initiation of control methods soon after detection are critical to suppressing the spread of invasive species. Selective application of the proper herbicide is often the most effective control method. See the next section for information on the use of chemicals in forest management activities.

Pesticide Use

Pesticides such as herbicides, insecticides, fungicides, and rodenticides are used to control "pests". A pest is any mammal, bird, invertebrate, plant, fungi, bacteria or virus deemed injurious to humans and/or other mammals, birds, plants, etc. The most common forest management use of a pesticide by woodland owners is the application of herbicide to combat invasive species. MA DCR suggests using a management system(s) that promotes the development and adoption of environmentally friendly no-chemical methods of pest management that strives to avoid the use of chemical pesticides. If chemicals are used, proper equipment and training should be utilized to minimize health and environmental risks. In Massachusetts, the application of pesticides is regulated by the MA Pesticide Control Board. For more information, contact MA Department of Agricultural Resources (MDAR), Pesticide Bureau at (617) 626-1776

On MA Private Lands Group Certification member properties, no chemicals listed in CHEMICAL PESTICIDES IN CERTIFIED FORESTS: INTERPRETATION OF THE FSC PRINCIPLES AND CRITERIA, Forest Stewardship Council, Revised and Approved, July 2002, may be used.

This is your Stewardship Plan. It is based on the goals that you have identified. The final success of your Stewardship Plan will be determined first, by how well you are able to identify and define your goals, and second, by the support you find and the resources you commit to implement each step.

It can be helpful and enjoyable to visit other properties to sample the range of management activities and see the accomplishments of others. This may help you visualize the outcome of alternative management decisions and can either stimulate new ideas or confirm your own personal philosophies. Don't hesitate to express your thoughts, concerns, and ideas. Keep asking questions! Please be involved and enjoy the fact that you are the steward of a very special place.

Property Overview, Regional Significance, and Management Summary

The owners of this property is very interested in being a good steward of the land. The owners lives in a house on the property. A portion of the property, 2 acres is used to provide pasture grazing for livestock. A portion is garden and yard. The wooded area provides important wildlife habitat in area that has become relatively developed in the past 20 years with the suburban sprawl asociated with the metro Boston area reaching this far west. The property lies in the Blackstone River Valley National Heritage Corridor. There is nice diversity on the property with a hardwood stand, a pine stand, a wetland/bog, maintained early successional growth on the powerline right of way and the grass area of the pasture. The property was once used for agricultural purposes, most likely from the early 1700's until mid 1800's, with several stone walls indicating such. With woodland acres decling in this region, the importance and value of the wildlife habitat that this property provides is increasing.

The owner has embarked on active management in recent years. Several trails have been established. Most of the trees that have died in recent years as a result of age, gypsy moth defoliation and droughts, have been felled by the owner and will be used for firewood. Course woody debris is present. Course woody debris plays an important role in returning nutrients to the soil that were removed by the trees during their growth. This material also plays an important role in retaining moisture for amphibians during period of dry weather, protection for small mammals such as chipmunks and mice, and forage sites for bird species that will search for insects in and on it. The understory is realtively open with ground cover present. A mid story is somewhat lacking.

There is an old "legacy" white oak present. This tree grew when the surrounding area was open pasture or field. There is old dug well present in the white pine stand. The bog is an important wildlife and ground water feature. There is a ncie view of the bog from a rock outcrop that is to the southeast of it.

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
Ch61a	1	OM	6.92	11.2"dbh	82sqft/ac	3900bf 6cds	55wp

This stand is primarily black oak, scarlet oak, and white oak with associates of soft maple, white pine, and black birch. There are 105 trees per acre. The overstory trees are around 120 years old. There are 1400 seedling/saplings per acre with black cherry and black oak being most common. Soft mape, black birch, white pine, American chestnut also present in the seedling/sapling stage. Also presnt in the understory is wild grape, sedges, witch hazel, huckleberry, green brier, and sweet pepper. There is one very large white oak, legacy tree so to speak. This tree is very likely in excess of 200 years old. There are very few invasive exotic plants present. There are a few winged euonymus (burning bush) present. The health of the overstory is declining due to age and other environmental factors. There has been signifcant mortality in recent years as a result of primarily from gypsy moth defoliation and droughts and secondarily from two-lined chestnut borer and armillaria root rot. The owner has felled most of the dead trees and will use them for firewood. The soils are Chatfield-Hollis-Rock outcrop and Scituate fine sandy loam. The soils are generally speaking better suited for the growth of white pine than oak trees. Site index was determined from the NRCS soil survey. The terrain is relatively level with a slight southerly aspect. There are occasional large bolders and a rock outcrop/ledge, north of the powerline near the eastern boundary. There is a nice view of the bog are from the top of this outcrop.

Ch61a	2	WP	1.52	13.8"dbh	112sqft/ac	11,800bf 3cds	55wp

This stand is primarily white pine with asscoiates of soft maple, scarlet oak, black oak and black birch. There are 95 trees per acre. The overstory trees are around 120 years old. There are 2000 seedling/saplings per acre with black birch and black oak being most common, with white pine and white oak presnt as well. Also presnt in the understory is low bush blueberry, green brier, huckleberry, sweet pepper, witch hazel and ferns. No invasive exotic plants were noted in this stand. It appears that there was a limited amount of harvesting in this stand 30-40 years ago. The soils are Chatfield-Hollis-Rock outcrop and Scituate fine sandy loam. The soils are generally speaking better suited for the growth of white pine. Site index was determined from the NRCS soil survey. There is an old dug well present in this stand, see map. The terrain is realtively level with a slight northerly aspect.

Ch61a	3	Bog	.80	n/a	n/a	n/a	n/a

It is likely that the bog functions much like a vernal pool even though it has an outlet. There is spagnum moss, sweet pepper and limited black alder present. The outlet appears to be a man made ditch that was done to provide water downstream. The bog also serves to recharged ground water locally. The bog provides diversity to the wildlife habitat and a breeding area for amphibians.

Ch61a	4	Powerline ROW	1.0	n/a	n/a	n/a	n/a

The powerline right of way provide an area of early successional species which adds to the diversity of habitat on the property. There is golden rod, high bush blueberry, sheep laurel and huckleberry present which provide pollinators with valuable source of pollen and important habiat for some bird species.

OBJECTIVE CODE: CH61 = stands classified under CH61/61A STEW= stands not classified under CH61/61A
STD= stand AC= acre MSD= mean stand diameter MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Wheelock Town(s) Uxbridge

MANAGEMENT PRACTICES

to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
Ch61a	1	OM	n/a	n/a	n/a		2020

Treatment of the winged euonymus sooner rather than later is advisable. There are very few stems present. They could be removed mechanically by pulling up or a basal (stump) treatment with herbicide once cut, to prevent futher spread.

Ch61a	1	OM	Shelterwood harvest	6.92	40	12mbf	2021-23

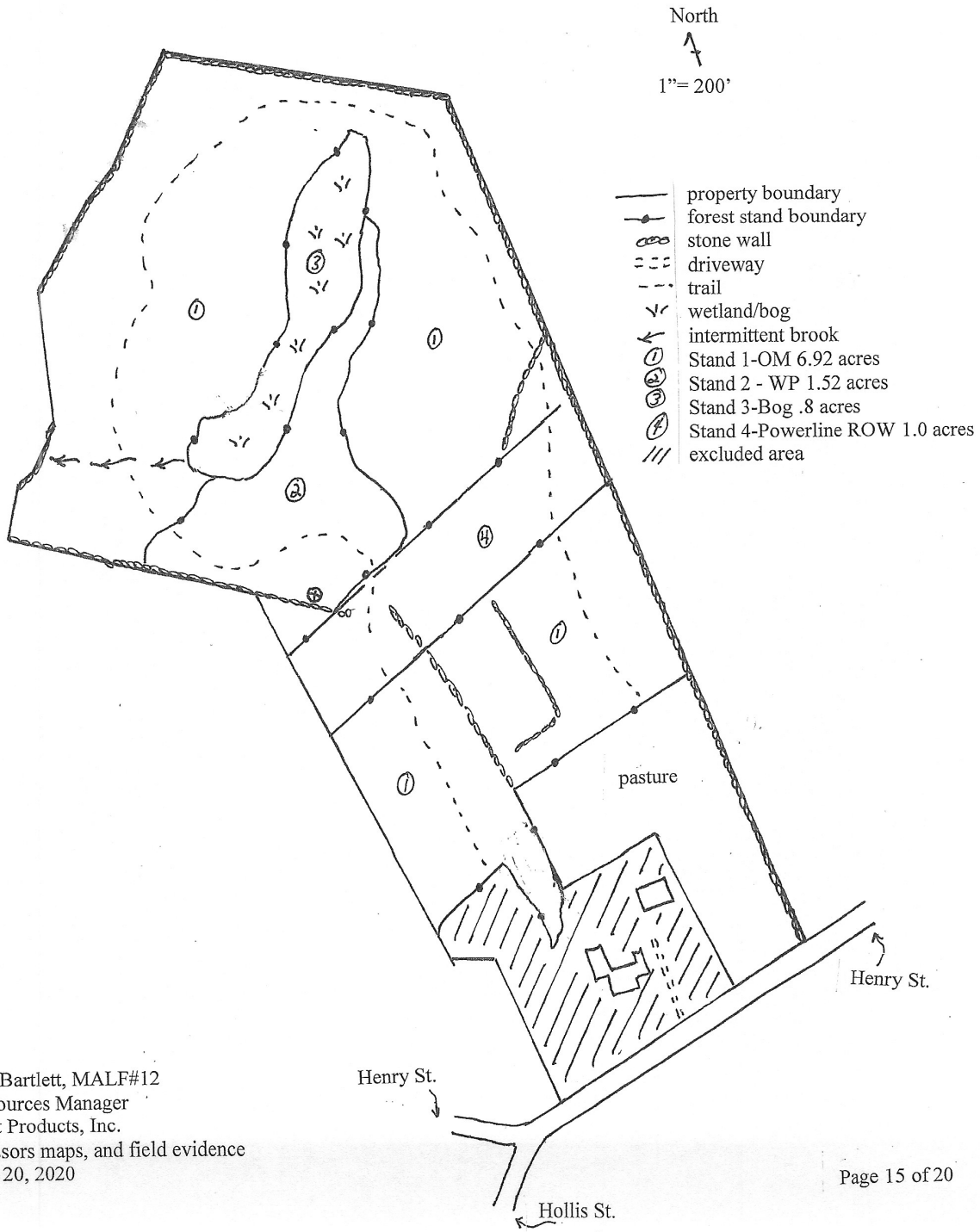
The regeneration process has begun as a result of the residual stand health and recent mortality. A shelterwood harvest removing approximately 50% of the residual trees is advisable to create conditions favorable to establish desirable regeneration. Trees removed should be those of poor health and quality with those of good quality and health left to provide a source of seed for regeneration. All nest or den trees should be retained for wildlife considerations. Course woody debris should be retained for ecological considerations. Timing of the treatment will depend upon market conditions.

Ch61a	2	WP	Shelterwood harvest	1.52	60	10mbf	2021-2023

The stand is mature from a timber quality perspective. A shlterwood harevst removing approximately 50% of the residual trees is advisable to create conditions favorable to establish desirable regeneration. Trees of good health and quality should be retained as a source of seed for seedling establishment. All nest or den trees should be retained for wildlife considerations. Course woody debris should be retained for ecological considerations. Timing of the treatment will depend upon market conditions and a good white pine seed crop.

BOUNDARY & FOREST STAND MAP
for land of
Philip S. Wheelock, Jr. & Jacqueline B. Wheelock
166 Henry St.
Uxbridge, MA

13.24 acres total



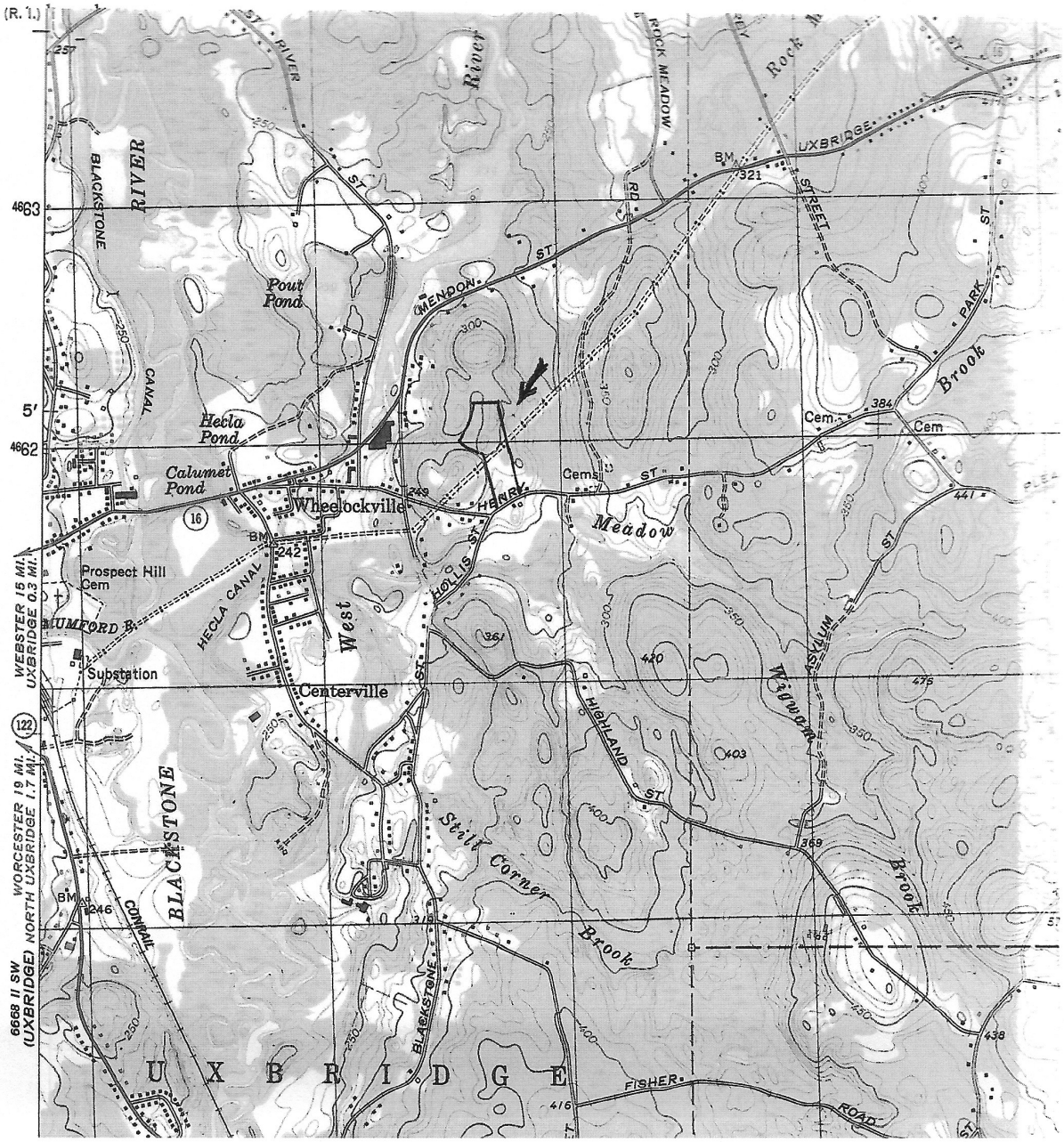
Sketch by
Michael J. Bartlett, MALF#12
Forest Resources Manager
Hull Forest Products, Inc.
From assessors maps, and field evidence
September 20, 2020

LOCUS MAP
for land of
Philip S. Wheelock, Jr. & Jacqueline B. Wheelock
166 Henry St.
Uxbridge, MA

13.24 acres total

North

1"= 2000'



Soil Map—Worcester County, Massachusetts, Southern Part
(Wheelock)

Map Scale: 1:2,410 if printed on A portrait (8.5" x 11") sheet.

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Worcester County, Massachusetts, Southern Part
Survey Area Data: Version 13, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 18, 2019—Jul 9, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
102C	Chatfield-Hollis-Rock outcrop complex, 0 to 15 percent slopes	3.8	29.1%
102E	Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes	2.1	16.2%
317B	Scituate fine sandy loam, 3 to 8 percent slopes, extremely stony	7.1	54.7%
Totals for Area of Interest		**12.9**	**100.0%**

Signature Page Please check each box that applies.

X **CH. 61/61A Management Plan** I attest that I am familiar with and will be bound by all applicable Federal, State, and Local environmental laws and /or rules and regulations of the Department of Conservation and Recreation. I further understand that in the event that I convey all or any portion of this land during the period of classification, I am under obligation to notify the grantee(s) of all obligations of this plan which become his/hers to perform and will notify the Department of Conservation and Recreation of said change of ownership.

X **Forest Stewardship Plan.** When undertaking management activities, I pledge to abide by the management provisions of this Stewardship Management Plan during the ten year period following approval. I understand that in the event that I convey all or a portion of the land described in this plan during the period of the plan, I will notify the Department of Conservation and Recreation of this change in ownership.

☐ **Green Certification.** I pledge to abide by the FSC Northeast Regional Standards and MA private lands group certification for a period of five years. To be eligible for Green Certification you must also check the box below.

X **Tax considerations.** I attest that I am the registered owner of this property and have paid any and all applicable taxes, including outstanding balances, on this property.

Signed under the pains of perjury:

Owner(s) Philip S. Wheelock, Jr. Date 9/23/20

Owner(s) Jacqueline B. Wheelock Date 9/23/20

I attest that I have prepared this plan in good faith to reflect the landowner's interest.

Plan Preparer Mark Bartlett Date 9/22/20

I attest that the plan satisfactorily meets the requirements of CH61/61A and/or the Forest Stewardship Program.

Approved, Service Forester Kym LaChance Date 1-5-21

Approved, Regional Supervisor _____ Date _____

In the event of a change of ownership of all or part of the property, the new owner must file an amended Ch. 61/61A plan within 90 days from the transfer of title to insure continuation of Ch. 61/61A classification.

Owner(s) Wheelock Town(s) Uxbridge