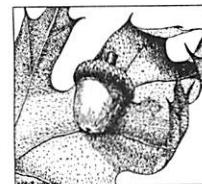




SAMPLE FOREST MANAGEMENT PLAN



Submitted to: DEM, Division of Forests & Parks
For enrollment in CH61/61A and/or Forest Stewardship Program

CHECK-OFFS

CH. 61 cert. CH. 61A cert. STWSHP. new C-S SIP 1
 recert. recert. revis. other
 amend. amend.

Case No. _____ Orig. Case No. _____
 Owner ID _____ Add. Case No. _____
 Date Rec'd _____ Ecoregion _____
 Plan Period _____ Topo Name Shutesbury
 Rare Sp. Hab. _____ River Basin Connecticut

OWNER, PROPERTY, and PREPARER INFORMATION

Property Owner(s) Joseph and Catherine Sample
 Mailing Address 132 Maple Rd. Shutesbury, MA 01072 Phone (555) 555-1212

Property Location: Town(s) Shutesbury Road(s) Maple

Plan Preparer Chris Stewart Mass. Forester License # 1
 Mailing Address 24 Big Wood Drive Lake Pleasant, MA 01347 Phone (555) 555-6778

RECORDS

Assessor's Map No.	Lot/Parcel No.	Deed Book	Deed Page	Total Acres	(non-Ch. 61/61A) Excluded Acres	(Ch. 61/61A) Certified Acres	Stew. Acres
<u>412</u>	<u>43</u>	<u>17115</u>	<u>181</u>	<u>37</u>	<u>1.5</u>	<u>35.5</u>	<u>35.5</u>
TOTALS				<u>37</u>	<u>1.5</u>	<u>35.5</u>	<u>35.5</u>

Excluded Area Description (if additional space needed, continue on separate paper)

Beginning at a point along the southern boundary approximately 787.25 ft. from the southeastern corner. Thence S85W 255.6', thence N5W 255.6', thence N85E 255.6', thence S5E 255.6'. Includes 1.5 acres more or less.

HISTORY Year acquired 1978 Year management began 2001

Is subdivision plan on file with municipality? Yes _____ no

Are boundaries blazed/painted? Yes _____ no _____ partially

Have forest products been cut within past 2 years? Yes _____ No

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	Value	Acres	Date
_____	_____	_____	_____	_____	_____	_____

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

STEWARDSHIP PLANNING WORKSHEET

Answering these questions will help record your goals and visions for your property. Your private forester and state Service Forester will use this information to insure that the management plan and recommendations accurately reflect your ideas. The resulting plan will help you learn about your property, achieve your goals, and become a better steward of the land.

Ownership

1. How many years have you or your family owned this property? _____
2. How many more years do you expect to own it? ___ 1 to 10 ___ 11 or more
3. Have you done any estate planning? ___ yes ___ no
4. What do you think you will eventually do with this property?
___ Will it as is to heirs ___ Divide among heirs ___ Sell for development
___ Protect some or all land from development Don't know ___ Other _____
5. Are you interested in classifying the property under Chapter 61, 61A or 61B for tax purposes?
___ Yes ___ No ___ Already is ___ Don't know

The Land

1. Are you aware of any important natural or cultural features on your land? (Check all that apply)
___ Abandoned Fields ___ Apple Trees
___ Beaver Pond ___ Springs or Seeps
___ Brooks or Streams ___ Waterfalls
___ Forested Wetlands ___ Stone Walls
___ Rock Outcrops or Ledges ___ Old Foundations
___ Very Large or Unique Trees ___ Vernal Pools
___ Mowed Fields ___ _____
2. Is your property posted against: Trespassing ___ Hunting ___ Fishing ___ Motorized vehic. ___
3. Are your property boundaries well marked? ___ Yes ___ No

Accomplishing Goals

1. How much of the management work do you plan on doing yourself?
___ None ___ Some of it ___ Most of it
2. How many days of free labor per year do you have (self, family, friends)?
___ None ___ 1 to 5 ___ 10 to 20 ___ more than 20
3. What percent of earnings from woodland are you are willing to reinvest in the land?
___ None ___ 10% to 25% ___ 33% to 50% ___ more than 50% ___ don't know
4. How much out-of-pocket money are you willing to invest to improve your property?
___ None ___ \$100 to \$500 ___ \$1000 to \$2000 ___ more than \$2000
5. Are you willing to work with your neighbors to accomplish mutual goals?
___ Yes ___ No ___ Don't know

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*	X			
Generate Immediate Income		X		
Generate Long Term Income	X			
Produce Firewood		X		
Defer or Defray Taxes	X			
Promote Biological Diversity				X
Enhance Habitat for Birds	X			
Enhance Habitat for Small Animals	X			
Enhance Habitat for Large Animals	X			
Improve Access for Walking/Skiing/Recreation	X			
Maintain or Enhance Privacy		X		
Improve Hunting or Fishing			X	
Preserve or Improve Scenic Beauty	X			
Protect Water Quality		X		
Protect Unique/Special/ Cultural Areas	X			
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:

We would like to improve the forest and generate some income over the long term

while improving wildlife habitat.

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:

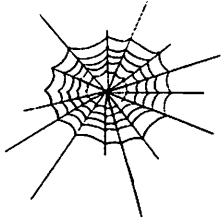
1. Managing for long-term forest health, productivity, diversity, and quality.
2. Conserving or enhancing water quality, wetlands, soil productivity, biodiversity, cultural, historical and aesthetic resources.
3. Following a strategy guided by well-founded silvicultural principles to improve timber quality 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: _____

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.

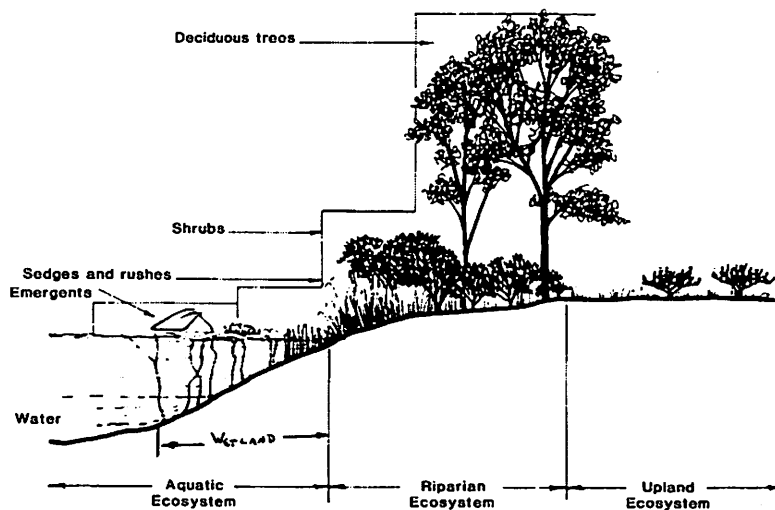


Figure 1: Example of a riparian zone.

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 keep 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 than 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.

History of Natural Disturbance:

As noted above, the mid 19th century was the height of forestland clearing for agriculture and pasturing. The availability of richer, more productive farmland in the Midwest resulted in farm abandonment and subsequent regrowth of white pine, chestnut, and mixed hardwoods including red oak. In the early 20th century these stands, particularly white pine, were cut to supply the wood container industry. Farm activity on the newly cleared land was truncated by World Wars I and II and brought about another wave of farm abandonment and regrowth. Natural disturbances since 1900 include the Chestnut blight of 1900-1908, the hurricane of 1938, the Gypsy Moth outbreak of 1980-1982, wind events, and ice damage, most notably in December 2008.



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.

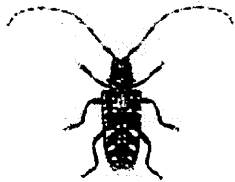


Invasive Species Management: Invasive species pose immediate and long-term threats to the woodlands of MA. Defined as a non-native species whose introduction does or is likely to cause economic or environmental harm or harm to human, animal, or plant health, invasives are well-adapted to a variety of 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.nbij-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 (*Berberis thunbergii*)
- Japanese Knotweed (*Fallopia japonica*)
- Autumn Olive (*Eleaagnus 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.



Asian Longhorned Beetle

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 non-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

Please refer to FSC Pesticides Policy: Guidance on Implementation (FSC-GUI30-001 Version 2-0 EN, May 5, 2007) for information on chemicals banned from use on MA Private Lands Group Certification member properties.

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 37-acre Sample woodland lies in the Pelham Hills (elev. 900+ ft.) in the southern part of sparsely populated Shutesbury along the Pelham town line. The property is typical of the surrounding landscape, which is predominantly forestland, broken only by occasional house lots and wetland areas. Small village centers can be found a few miles to the north and south, with more heavily developed suburban areas radiating from Amherst, five miles to the west.

The seasonally wet but productive soils support regionally typical forest cover on this gently sloped, west facing property. A mix of pole and timber sized hardwoods characterize the eastern half of the parcel. A dense, uneven-age grove of hemlock runs along the western boundary. A thirteen acre stand of young hemlock and mixed hardwoods bounds the west side of the driveway. Forest health is currently good, but hemlock wooly adelgid is a concern addressed in this plan. Habitat diversity is moderate and favors interior forest dwelling species. The intermittent stream traversing the property (and the associated spring) enhance the wildlife habitat value of these woods, as do the large old “wolf” trees scattered throughout the property. Invasive exotic plants are not currently found on this property or in the immediate vicinity. Stone walls and a stone cellar hole offer clues to prior use of the property for animal husbandry.

The stream flows toward the nearby Baker Reservoir, which in turn feeds the Atkins Reservoir (2 miles downstream), a significant portion of the Amherst water supply. Healthy forest cover on the Sample property and careful management activity will help safeguard the quality of that public water resource. The Sample property does not abut any protected lands, although the Metropolitan District Commission’s 45,000 acre Quabbin forest (the largest undeveloped tract in southern new England) and reservoir lie just 2.5 miles to the east. If maintained in forest cover, this parcel will continue to help support the wildlife species that depend on large unbroken tracts of forestland.

The Samples’ primary management objective is to balance wildlife habitat protection and enhancement with long term income generation. Both goals can be realized through several careful timber harvests designed to: 1)increase the health and vigor of the forest, 2)improve both tree species diversity and age class diversity, and 3)focus growth on more valuable timber species such as red oak. These harvests will result in more food for mammals and birds while protecting important nesting, perching and den trees. The income from the harvests can be put toward the goal of improved recreational opportunity by creating the proposed hiking/skiing trail loop.

Owner(s) Joseph and Catherine Sample

Town(s) Shutesbury

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
CH61	1	HK	6.0	12.0	135sqft	7MBF 15 cords	58 (HK)

This is a stand of predominantly small sawlog size hemlock (HK), ranging from fair to good quality. Associated species include scattered white pine, yellow birch, and red maple. The topography is relatively flat with a seasonally high water table. The site is rocky with poorly drained but moderately productive forest soils (Ridgebury very stony fine sandy loam). Access for harvesting would be difficult during the spring, but would not be a problem during dry or frozen conditions. Regeneration is sparse due to the heavy crown cover and includes scattered hemlock, red maple and yellow birch saplings. There is evidence of past cutting in this stand. The stone wall on the west side indicates past agricultural use. The stream and spring may have served as a watering spot for sheep or cattle, but the spring was never developed.

The dense hemlock overstory provides thermal and bedding cover for deer. Deer and grouse also feed on the hemlock needles and seeds. There is a seasonal spring near the stream in the center of the stand. Both of these areas provide excellent habitat for a variety of wildlife species. The early succulent growth around the seasonal spring provides critical spring forage for turkeys.

Although the current health is good, this stand is susceptible to invasion by the hemlock wooly adelgid. This introduced insect feeds on hemlock trees by attaching to small branches and feeding through their sucking mouthparts. Infestation usually results in the death of trees within three to five years. Control is difficult in a woodland setting and the best hope lies in maintaining healthy hemlocks that are better able to resist damage.

The desired future condition of this stand is a mixed hemlock hardwood stand with increased vigor. Emphasis will be placed on maintaining the wildlife benefits and water quality of this stand while trying to increase tree species diversity.

CH61	2	HH	13.0	8.0	97sqft	2.5MBF 10 cords	60 (RO)
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This stand is composed of a mixture of hemlock, red maple and red oak (HH). Also present are white pine, yellow and white birch. The majority of trees in this stand are in the pole (5-10") and small sawlog size classes. The soil is a well drained loamy sand (Scituate, extremely stony, fine sandy loam) and is capable of producing good quality upland oak, northern hardwoods, and white pine timber. The present quality of trees in this stand range from poor to excellent. Regeneration includes seedlings and saplings of red maple, red oak, yellow birch and white pine. In some areas regeneration is hampered by clumps of mountain laurel and witch-hazel.

The variety of tree species provides excellent vertical and species diversity to support interior forest wildlife species. The relatively young age of this stand, supports a different group of wildlife species than the rest of the property. Common animals using the area include deer, fox, turkey, grouse, songbirds, hawks, and upland reptiles and amphibians. The intermittent stream that flows into stand one provides a source of water and breeding habitat for amphibians.

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) Joseph and Catherine Sample Town(s) Shutesbury

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
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The driveway to the house runs through this stand and crosses the stream over a culvert. Some erosion at the crossing could be prevented by stabilizing the side slopes with vegetation. Using a fast growing conservation mix and mulching the area will help establish the needed vegetation. No other cultural resources were found in this area.

The hemlocks in this stand are also susceptible to the previously mentioned adelgid. The desired future condition of this stand is a mixed hardwood stand with well spaced trees that have reduced competition. Due to their value for wildlife and timber production, oak and pine will be favored over birch, hemlock and maple.

CH61	3	OH	16.5	13.0	108sqft	9.2MBF 8.7 cords	60 (RO)
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This stand is composed of pole and sawlog sized hardwoods. The majority of the stand consists of red oak, black oak, white oak, and red maple with some yellow and white birch (OH). The timber trees in this stand are of good to fair quality. The soils in this stand, similar to stand two, are well drained and slightly stony. An area of ledge creates a unique feature in the south central part of the stand. Regeneration in this stand is mainly red maple and birch saplings. These are well distributed and seem to be a result of a harvest that selectively removed the most valuable oak and pine approximately 15 years ago. There are also quite a few oak seedlings, especially in the more open parts of the stand.

Although the majority of the trees are hardwoods, there also is a component of overmature white pine trees in the overstory. These trees were left after harvesting and are known as wolf trees. A wolf tree is a large heavy-branched tree that is usually larger and older than the surrounding forest. These trees are important nest and perch sites, and add aesthetic diversity to the area. Several of these trees have hollow cavities that may be used by song birds, owls, flying squirrels, porcupines, and raccoons.

The stand contains a well preserved stone wall and cellar hole near the south boundary. The size of the cellar hole indicates that this was a smaller house. Some artifacts may be found in an old dumpsite behind the house.

The desired future condition is a mixed aged stand with healthy regeneration and an overstory of seed producing oak, birch, and pine. The stand has the capacity to grow high quality hardwoods. Red oak will be the favored species, due to its consistent timber value and its ability to support a wide range of wildlife.

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) Joseph and Catherine Sample

MANAGEMENT PRACTICES

to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	

CH61	1	HK	Commercial thinning	6	30	35 cords	2002
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The primary objective of this treatment is to improve the health and vigor of the hemlock trees. The secondary objective is to increase the amount of mixed hardwood regeneration. Suppressed trees and those with low vigor will be selected for removal. These trees can be identified by their smaller crowns, poor growth form and lower position in the canopy. By reducing the competition the remaining trees will be more vigorous and better able to resist any possible woolly adelgid infestation. Although this treatment is not designed to regenerate the stand, the increased sunlight is expected to result in some regeneration of shade tolerant species. This regeneration may become critical if the stand is eventually damaged by the adelgid. This treatment will generate hemlock and hardwood pulp as well as hardwood firewood. Entry should be limited to dry or frozen conditions to minimize any negative impacts to the soils and reduce damage to the root systems of the remaining trees.

CH61	2	HH	Crop Tree Management	13	20	40 cords	2002
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Treatment in this stand will be focused on improving the quality of the timber trees and maintaining the diversity of the stand. The stand contains well-distributed and desirable oak, white pine, and yellow birch. A crop tree release is recommended to reduce the competition and improve the vigor of the desirable trees. These desirable trees will be identified to meet the landowner's goals of timber production, wildlife habitat, and aesthetics. This will include valuable timber trees, mast producing trees, den and roost trees or trees that are unique and/or aesthetically desirable. After these crop trees (mostly dominant and codominant individuals) are identified, a three-side crown release will be applied. This will remove poorer to fair quality intermediate trees of all species. The products generated will be cordwood and a small amount of small diameter sawlogs. The remaining stand will consist of well spaced dominant and codominant oak, maple, birch and hemlock trees.

CH61	3	OH	Shelterwood	16.5	30	60MBF 70 cords	2005
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Unlike the previous thinning recommendations, this treatment will focus on establishing mixed hardwood regeneration. At present the stand is regenerating with shade tolerant red maple and birch. The landowner would like to encourage more high quality hardwood regeneration. This can be accomplished by using a shelterwood harvest that will allow more sunlight to reach the ground and will also stimulate seed producing trees of the desired species. The shelterwood harvest will remove a mix of sawlogs and cordwood. The concentration will be on removing trees from around desirable seed producing trees with well-formed crowns. The remaining overstory will consist of dominant seed producing oak and yellow birch, and a few mature white pine. The resulting regeneration is expected to consist of these species as well as the previously established white pine and red maple seedlings. This first cut will stimulate these seed producers and will be followed up by a second harvest designed to promote more regeneration. Throughout the stand small openings of 1/4 to 1/3 ac. will be created to release existing oak seedlings. The resulting new growth will create browse for mammals and a foraging area for birds.

OBJECTIVE CODE: CH61 = Forest Products (for Ch. 61/61A)

STEW= Stewardship Program practices

STD= stand Type= Forest type AC= acre

MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Joseph and Catherine Sample

Town(s) Shutesbury

MANAGEMENT PRACTICES
to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	

CH61 All All Paint and Blaze Property Boundaries NA NA NA 2002

All Boundaries will be painted and blazed in the first year of certification. Boundary marking will be examined and renewed if necessary in five years

FOR STEWARDSHIP PROGRAM ONLY

STEW All All Hiking/Skiing Trail

Several proposed trails totaling 3,800 ft. are shown on the stand map to complete loops to the existing road system. If the trail system were constructed prior to logging, the landowner can locate the trails and design scenic areas and vistas to be protected during logging. The alternative is to use the skid roads created during logging as the basis for the trail system. This is generally a lower cost option, but the landowner has less control over location and aesthetics, unless the trail locations are carefully selected prior to and protected during logging. The ledge feature may be an interesting destination to consider in locating the trail. Landowner will review options and explore feasibility of obtaining SIP cost sharing to create the trail network.

OBJECTIVE CODE: CH61 = Forest Products (for Ch. 61/61A) STEW= Stewardship Program practices
 STD= stand Type= Forest type AC= acre MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Joseph and Catherine Sample Town(s) Shutesbury

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 Environmental Management. 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 Environmental Management of said change of ownership.

Forest Stewardship Plan. I pledge to abide by the management provisions of this Stewardship Management Plan for a period of at least ten years, 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 Environmental Management of this change in ownership.

Signed under the pains of perjury:

Owner(s) _____ Date _____
_____ Date _____

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

Plan Preparer _____ Date _____

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

Approved, Service Forester _____ Date _____

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) Joseph and Catherine Sample Town(s) Shutesbury