FOREST MANAGEMENT PLAN

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

CHECK-OFFS

CH. 61	CH. 61A	STWSHP.	C-S
cert.	cert.	newXX	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 Milford
Rare Spp. Hab. _____ River Basin Blackstone

OWNER, PROPERTY, and PREPARER INFORMATION

Property Owner(s) Town of Upton
Mailing Address Conservation Commission P.O. Box 518 Upton, MA 01568 Phone (508)529-3067

Property Location: Town(s)Upton and Hopkinton Road(s) Crockett Road/Taft Street

Plan Preparer **John R. Clarke/Lincoln C. Fish** Mass. Forester License # 69
Mailing Address 1040 North Pleasant Street #277 Amherst, MA 01002 Phone (413)218-7069

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
13(Upt.)	22	8841	70	293			293
R32-2(Hop.)	0	16475	131	17			17
			TOTALS	310			310

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

HISTORY

Year acquired 1985 Year management began 2002
Is subdivision plan on file with municipality? Yes _____ no XX
Are boundaries blazed/painted? Yes _____ no XX partially _____
Have forest products been cut within past 2 years? Yes _____ No XX
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)
Private inholding exisiting.
Purchase of private inholding under consideration.
Boundaries to be blazed/repainted by August 2004 or prior to next harvest.

Property Overview, Regional Significance, and Management Summary

Landscape/ Regional Context

The area west of Route 495 and north of Route 140 in Upton and Hopkinton, Massachusetts is mostly suburban with areas of rural and forested land. There are two major roads, Rts. 495 & 140, and extensive primary and secondary paved roads, as well as woods roads and trails used for recreation and forest operations through much of this hilly landscape. Some of the properties in this area are under Chapter 61, while many are not and would not qualify as the general parcel size of this area is under ten acres. As for other disturbances to the forests, this area has been greatly affected in the last century by the chestnut blight, which eliminated chestnut; the hurricane of 1938, evidence of blowdown is still present on the Town of Upton's property; and the gypsy moth outbreak of the early 1980's, which thinned out many oak stands. However, development is the largest and most devastating disturbance to the forest layer throughout this region.

The development pressure on the land within Upton is great as the eastern United States megalopolis expands west and engulfs the areas around Route 495. These areas west of, but in proximity to Route 495 have become more desirable for living due, in part, to their easy access to industrial and commercial areas, but also for their more natural settings than those of high density residential areas, such as Metropolitan Boston. Conversion of forested and otherwise vegetated land to roads, residential and commercial landuse is, for forest and wildlife purposes, permanent. Further, in areas where vegetation is maintained around homes in a suburban setting, contiguous habitat is lost and many species are eliminated through the loss of core habitat areas.

With the current development trend throughout the region, land conservation and land preservation become even more important. Integral to land conservation is forest management with goals for providing high quality wildlife habitat and critical plant communities for supporting potential wildlife species. It is also important to note that town lands have unique potential for providing these habitat areas since their land is owned in perpetuity and is being managed not only for current citizens and users, but for generations to come who will witness further changes in landuse throughout the region.

The terrain throughout the region is generally sloping with areas of exposed rock, streams, and wetlands including vernal pools and beaver ponds. There are many stone walls and some other cultural resources, such as cemetaries and cellar holes that are found in this area and much of the region. This particular property and the abutting lands are situated between East Street, Fiske Road, West Main Street, and North Pond. These roads are all paved and receive moderate to heavy traffic, while North Pond experiences heavy recreational use.

Property Overview

This 311-acre property is located between Fiske Road, East Street, and Crockett Road with road frontage on Crockett Road. The parcel has gentle to steep slopes with aspects in every direction. Peppercorn Hill is located in the central northeast portion of the property with its highest elevation at 175 feet above sea level. The soils found on this property are varying from very well drained and thin to very deep and very poorly drained to bare rock. In general, the soils of the slopes are moderately to well drained with those of the uplands being very well drained and sandy. The soils of the lowlands around streams and within wetlands are generally very deep, poorly drained, and mucky, to paraphrase the Soil Survey for South Worcester County. The terrain of this property is mostly the result of the last

(continued on the next page)

Ice Age, which also deposited much of the base material on which these soils have developed. Further soil descriptions will be made in the stand descriptions of this management plan..

Several unnamed brooks run through this property and feed the Mill River, which is the southeastern boundary of the property. There are several wetlands on this parcel as well: just west of Peppercorn Hill, in the center of the area south of the powerline right-of-way, just north of the power line, and the southeastern area of the portion north of the power line.

The parcel is dominated by several different forest types which are all typical of this region: white pine-hardwoods, white pine-oak, oak-other harwoods, upland oak, swamp hardwoods, and northern hardwoods. In addition to these forest types, other vegetative cover types exist on the propery in the form of vernal pools, shrub swamp, meadow, fen (a man made wetland with an earthen dam), upland brush, and maintained shrubland (along the powerline right-of-way). The general size of the trees on this parcel is 2-30 inches with a mean stand diameter for the whole property of about 7 inches. Past forest practices in some areas where stumps that appear to be about 30 years old are present. There is tree regeneration present through most of property with good representation of most overstory species. The overall health of the forest is good and the current value of the timber stock is high due to the time allowed for growth. However, most of the forest is currently inaccessible and establishment of access to some areas through woods road construction and existing road improvement would facilitate active forest management through more of the forest, although access to some areas would not be feasible. The wildlife habitat value of the property seems high for many species as this property contains a variety of forest types in various stages of maturity. There is some evidence of past gypsy moth damage but this insect has been deterred from large outbreaks by a fungus. Fire poses a threat to some areas of the forest and management of such dry sites should be further evaluated. There are some standing dead trees, or snags, on this property which provide wildlife habitat for several species of bird and mammal and plenty of downed logs. There are many stonewalls found along the border and throughout the interior, but there are no cultural resource areas of concern. The presence of several species of concern has been noted. The following species have been identified on the property: graminoid fern, arethusa (submitted to NHESP), spotted turtle, and blue-spotted salamander.

Property Role

Due to the location of the parcel so near two highways and located in a region experiencing development, this property plays a vital role in providing recreational and educational opportunities for the people of Upton and vital wildlife habitat through contiguous and unique plant communities. The achievement of the management objectives will serve to increase the amount of late seral forest throughout the property. Late seral and early seral conditions are lacking in Massachusetts as many of our forests are within the near mature age classes. This provides a window of opportunity for a property such as this whose limited access can be advantageous for conserving areas for this old growth condition. The achievement of the objectives should also serve to minimize siltation in streams, provide educational and recreational opportunities, and provide income to the town into the future. Forests provide one of our most valuable renewable resources, wood. Active forest management under the sound scientific and ecological guidelines will provide high-value wildlife habitat, clean water, and income for generations to come.

Management Summary

The management recommendations, summarized, state that the forest on this property will be enhanced by allowing unimpeded growth into the future, on most stands. Further, the overall forest health will be improved through the elimination of invasive exotic species and suppressed trees.

Continued on next page

Also, in order to promote healthy tree regeneration, harvesting should take place in limited areas of the forest. These guidelines are being establish to begin the management of Peppercorn Hill Conservation Area. In ten years, the plan should be rewritten under the guidelines of a new decade.

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

*** 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:

Protect rare species habitat and provide open space for passive recreation for the residents of Upton

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.

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	I	WO	30	10"	110	3MBF 2CDS	60WP

Narrative:

This stand is one of two on this 310-acre property with presently feasible road access. The stand is composed largely of white pine, red oak, and black oak with associates of white oak, black birch, hickory, and red maple. The stand is nearing maturity and contains some medium sawtimber size individuals of the species white pine, red oak, black oak, and black birch.

The site is located along Crockett Road and west into the property. Underlying the stand are several soils, primarily Canton and Chatfield fine sandy loam. These soils are deep, well drained, and relatively productive. The terrain throughout this stand is gently sloping with no steep areas.

The understory vegetation is comprised primarily of young trees and shrubs with some ground cover. The shrub layer is codominated by wild sarsaparilla, lowbush blueberry, huckleberry, and Indian cucumber with a glossy buckthorn individual here and there. The tree regeneration is dominated by white pine with associates of white oak, red oak, red maple, black cherry, hickory, and black birch. The ground vegetation consists of Canada mayflower, wintergreen, and staghorn clubmoss.

Because of its proximity to the parking area and Crockett Road, its gentle terrain, and valuable growing stock, this stand would benefit all parties through forest management. The desired future condition of the stand is a towering overstory comprised of white pine and red oak species, with vigorous regeneration of these species. The achievement of this condition will be through active forest management. The management of this stand for such a condition will most likely entail a timber harvest of low quality hardwoods for firewood and a selective harvest of the overstory to promote vigorous growth of both the best overstory individuals and the regeneration present. This condition will also provide succulent growth of young hardwoods for large mammal browse, increased mast (seed and fruit) production for a multitude of species, and a mature overstory for such species as the pileated woodpecker.

STEW	II	OM	32	9"	96	2.5MBF 3.5CDS	52RO

Narrative:

The stand is located on a steep slope with a generally eastern aspect. The overstory is codominated by red oak, black oak, and hickory. The stand is nearing maturity and contains valuable sawlog size trees. However, the stand's steep slope, road inaccessibility, and rocky terrain make it unlikely that a commercial operation will take place. However, enough small poor quality trees exist to make the removal of firewood trees a possibility with the use of smaller equipment, such as ATVs. This would also make the operation more labor intensive.

The site is also located just west of Crockett Road. Supporting this stand are Canton and Chatfield fine sandy loams.

There is little understory vegetation with a midstory composed of sassafras, red maple, black cherry, hickory, and alternate-leaved dogwood. Where understory vegetation is present, it is composed of maple leaved viburnum, beaked hazelnut, wild grape, and wild oats. The desired future condition of this stand is a mature growing stock that may or may not be harvested. This condition may be achieved through light harvest of the overstory with a removal of poor quality, suppressed individuals for cordwood. This condition may also be achieved by allowing the forest layer to progress naturally to a late seral condition. This condition is achieved when large mature trees begin to die and single tree fall disturbance allows small amounts of sunlight to the forest floor. This minimal sunlight encourages the growth of shade tolerant species, which then promote only themselves, unless larger disturbance, such as fire or windstorm, topple the overstory.

STEW	III	OT	38	8"	75	1MBF 3CDS	58WP

Narrative:

This dry site is codominated by scarlet oak, black oak, and white pine. The stand is found along a ridge and is extremely well drained and very dry. The oak growing stock is almost entirely in poor form and/or condition. The pine growing stock exhibits some potential, but the site is dry even for pine, which is better adapted than oak to sites such as these.

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

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX

Continued from previous page

The soils on this site are primarily Gloucester and Chatfield fine sandy loams. These soils are moderately deep with excessive drainage. There is a slight erosion hazard on soils such as these and the best suited vegetation is that adapted for dry sites

The understory is almost entirely comprised of huckleberry, which forms a near blanket at 3 ft. Given the excessive drainage of the sandy soils, Stand III is the most fire susceptible stand of the property. Dealing with wildfire has become an important issue throughout the nation and much research and literature is available on the subject.

The desired future condition of this site, due to its lack of productivity and inaccessibility, is a stand resistant to large, destructive fires. The prevention of devastating fire is accomplished through several means, although the common solution is the reduction of large fuels, such as dead trees and branches on the forest floor. The removal of such fuels may be accomplished by means of small, controlled burning, or harvesting of this material before it accumulates. Either of these methods may prove to be valuable and both have advantages and disadvantages. Prescribed burning will tend to simulate natural ecological systems on sites such as these, which have evolved with occasional fire, but may also alarm citizens and pose a threat if improperly performed. Harvesting trees which may be at risk will tend to reduce fuels, while providing resources to the community, although this practice would be very difficult due to inaccessibility and would tend to inhibit a more natural system of occasional fires.

STEW	IV	OR	22	10"	120	3.4MBF 3.5CDS	70RO

Narrative:

This red oak dominated stand is located on the western slopes of Peppercorn Hill at lower elevations than Stand III. The soils are deep and moderately well-drained to saturated and support some impressive near-mature individuals. The overstory is predominately red oak with associates of scarlet oak, black oak, white oak, sugar maple, red maple, bigtooth aspen, and white pine. In the low lying areas, American elm is present. The species present are well adapted and suitable for such growing conditions.

The growing conditions and species present would make this area desirable for timber management. However, like with much of the property, the stand's inaccessibility make forest management nearly impossible, except for removal of any invasive exotics and possibly the elimination of suppressed individuals to allow more growing space to the healthiest trees. Due to the lack of access, except for recreational traffic, this stand should be left to progress without anthropogenic influence until a future revision of this Forest Stewardship Plan determines otherwise.

The soils found on this site are Chatfield fine sandy loam and are considered well drained. In areas where terrain prevents drainage, soils are moist, but only saturated around streams. This site is excellent for supporting the growth of hardwoods, such as sugar maple, red oak, and white ash.

Desired future conditions for this site are large, mature hardwoods, which will continue to provide valuable mast for wildlife and, as they begin to experience mortality, snags. These conditions will be achieved by allowing the stand to progress without human influence. This stand has good potential for providing large individuals in a late seral condition due to high soil moisture and shelter provided to the stand by surrounding terrain.

STEW	V	BP	6	N/A	N/A	N/A	N/A

Narrative:

This wetland, considered a fen, is being classified under state as a beaver pond for its similarity to that feature. The area, however, is flooded by a man-made earthen dam. It is suspected that the dam was built at the height of agriculture (~1850) and may have been created for flood protection and agricultural uses. This wetland is an important habitat feature.

The soils in this wetland are Freetown muck (as described by the Soil Conservation Service Soil Survey for South Worcester County) and are very deep and acidic. This area supports a few trees and many shrubs typical of wetlands. These shrubs include speckled alder, winterberry, and highbush blueberry. The presence of round-leaved greenbrier further suggests that this area is abandoned agricultural land.

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Owner(s) Town of Upton Town(s) Upton and Hopkinton

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX

Continued from previous page

Desired future conditions of Stand V may include wildlife viewing areas, but this wetland will experience no active management.

STEW	VI	WO	12	11"	115	3MBF 2CDS	70WP

Narrative:

This white pine/ oak stand is located west of the large wetland classified as Stand V. This area is currently supporting an overstory dominated by white pine with red and black oak as chief associates. The growing stock is near mature to mature in much of the stand and is of merchantable size. However, access to the stand through private property is the only current option for timber harvest making timber management only possible through cooperation with abutters.

This stand is supported by Chatfield fine sandy loam and is moderately drained. In areas, the stand is supporting dense winterberry (a moist soil shrub) with sphagnum moss ground cover under a white pine over story. In other areas of the stand, young white pine and poorly formed black and scarlet oak dominate.

At the eastern edge of this stand, atop a steep slope, there are rock outcroppings that would be nice areas for viewing of the Peppercorn Hill Conservation Area. Trails could be constructed off of those existing from southeast of Stand V to enter into this area. Trail construction could possibly highlight some large white pines and small clearings could be made around rock outcroppings for aesthetic views.

The desired future condition of this stand would be one of a thinner overstory, but comprised of 25"+ white pine, where possible, with a layer of white pine regeneration on the forest floor. However, due to current inaccessibility, this condition may be impossible. Instead, trail construction should be considered for recreational purposes.

STEW	VII	BR	4	N/A	N/A	N/A	N/A

Narrative:

Stand VII is located atop Peppercorn Hill. This stand is being classified as upland brush. It is composed of juniper, scrub oak (*Quercus ilicifolia),* lowbush blueberry, black oak, white pine, and various other shrubs. This area is very rocky and also prone to burning. Some consideration of Stand VII may be taken when planning for fire management of Stand III.

Given the relatively high elevation and exposure of this site, viewing areas should be enhanced. A major trail runs through this stand and bare rocks exist that provide excellent views. Some removal of trees may be performed in order to enhance viewing areas.

The desired future condition of Stand VII is the same vegetative status with enhanced viewing areas. Also, it should be noted that migratory birds often follow ridges. Therefore, it would be in the best interests of wildlife habitat values to avoid establishing any towers atop Peppercorn Hill.

STEW	IIX	WO	36	9"	88	2.7MBF 4CDS	70WP

Narrative:

Stand IIX is located on the southern end of Peppercorn Hill as well as the far western part of the property north of the transmission lines. This stand is codominated by red, black, and scarlet oak and white pine. The stand is dry and well drained. White pine is the species better adapted to growth on sites such as these and exhibits better form and health within much of this stand. Because part of this stand is near Stand I, access may be sufficient to allow active forest management.

This stand is supported by Chatfield fine sandy loam and is well drained. The stand is sloping and very well drained. Parts of the stand are steep and boulders are present in some areas, particularly near the top of Peppercorn Hill. Huckleberry is present through much of this stand as the dominant shrub with lowbush blueberry as ground cover. Some of the oak overstory is of sawlog size, while most of it is of such poor quality that it may be valued as cordwood or for wildlife food, although black and scarlet oak produce the least favorable acorns due to high levels of tannins in the acorns compared to the relatively sweet acorn of the white oak species. White pine exhibits much better form as it is better adapted to such dry growing conditions.

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STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX

Continued from previous page

Desired future conditions for Stand IIX are a healthy white pine overstory with established white pine regeneration. The accomplishment of these conditions is dependent on whether forest management will be feasible on this stand due to accessibility and terrain. Where possible, oaks, both of good and poor quality , should be removed through harvesting to allow for the regeneration of white pine and the enhanced growth of established pine. These goals should also serve to create a more dense canopy in the long run (~20-30 years), which will serve to shade the forest floor, decrease evaporation from the forest floor and help to minimize forest fire potential.

STEW	IX	OH	28	9"	95	2MBF 1CD	70RO

Narrative:

Stand IX is a mixed oak/hardwood site located on gentle to steep slopes and uplands. Red oak is the predominating species with chief associates of scarlet, black, and white oak, black birch, yellow birch, and red maple. The growing stock is nearing maturity and is comprised of individuals exhibiting both excellent and inferior form. On slopes and upland areas, the Chatfield fine sandy loams become increasingly well drained and dry. These areas are stocked with scarlet, black and red oak. These upland sites are better suited for the growth of white pine.

The understory vegetation is sparse, except on the upland sites where huckleberry is dense.

The desired future condition of this stand is one of a greater white pine component and better hardwood growing stock. In general, these changes in condition will tend to increase wildlife habitat suitability for many species through increased mast production and small openings that will encourage the growth of various tree, grass, forbs, wildflower, and shrub species. However, the desired future condition may not be possible due to lack of access to this stand located in the interior of the property. Instead, the stand may be left to progress without the assistance of man or, some low quality, suppressed individuals may be killed by girdling in order to create a higher density of large snags for wildlife habitat purposes.

STEW	X	RZ	5	12"	110	1.5MBF 2CDS	57RO

Narrative:

Located along the stream that flows into the property through the western border, this stand is being classified as riparian zone. The character of the hardwood overstory vegetation suggests, in some areas, that there has been little human influence for quite some time. This stand is not stocked with all large trees, like the old growth of the Pacific Northwest, but instead is stocked with some large, medium, and small individuals. This stand also exhibits single tree fall disturbance, which is characteristic of late seral conditions. The riparian zone is sheltered by the local terrain.

Desired future conditions on this wet site with deep Ridgebury fine sandy loam are similar to those present today. Stream crossings should be avoided and where already present should be planned in order to prevent any siltation of the stream. The site should be left to progress without human interaction in order to promote a late seral condition and to provide coarse woody debris and shelter for the stream.

STEW	XI	SS	4	N/A	N/A	N/A	63WP

Narrative:

Two stands are being classified under Stand XI, shrub swamp. These sites are very wet with standing water throughout most of the year and support few trees. The vegetation is well adapted to wet sites and is typical of these stand types.

The soil of Stand XI is Whitman mucky sandy loam. This soil is very deep and is found on wet areas with slopes of 0-5%. Operation within this stand is impractical and unperceived, for ecological and feasibility reasons.

The vegetation consists of shrubs such as winterberry, speckled alder, black alder, and witch hazel. The tree species are also typical of wet sites: red maple, white pine, and, less common, black gum. The desired future condition for this stand is one of minimal disturbance for ecological and water and habitat quality purposes.

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STEW	XII	RM	6	9"	80	3MBF 2CDS	52RO

Narrative:

This small stand, located in the southeastern portion of the property north of the transmission lines, is a red maple/swamp hardwoods site. The stand has saturated Canton fine sandy loams and is currently supporting sphagnum moss as ground vegetation.

The overstory of this stand is of merchantable size and quality and because of the lack of standing water, operations could be possible in this stand, particularly in the winter when soils are frozen. The lack of access to the stand makes any operation currently impractical.

Stand XII is codominated by red maple, white ash, and black birch with some white pine. The understory is comprised of winterberry, glossy buckthorn, and highbush blueberry. The site is near to the transmission lines and access may be possible in the future along the easement to Crockett Road, which would facilitate forest management in this area of the property.

Desired future condition of this stand is currently as it is. If access is established, a timber harvest could be performed in order to improve growing stock and gain some value for forest conservation projects.

STEW	XIII	BR	12	N/A	N/A	N/A	N/A

Narrative:

This open stand is being classified as upland brush, although it is actually maintained shrubland. Stand XIII is located on the transmission line easement. This area is maintained to prevent the growth of trees while encouraging the growth of a dense shrub layer. The vegetation of this stand consists of mostly shrubs with some young trees. The shrubs found here are mountain laurel, autumn olive, glossy buckthorn, lowbush blueberry, huckleberry, speckled alder, witch hazel, raspberry, sheep laurel, and labrador tea. The area also supports some round-leaved greenbriar, red oak, and white pine. It should also be noted that the shrubland/forest interface is a valuable habitat feature. This edge habitat may be enhanced by scalloping the edge of the shrubland by removing some of the trees to increase the area of this edge habitat.

The value of this easement, for forest management purposes, lies completely with wildlife habitat. The area will never be allowed to progress through seral stages, so a valuable shrub layer will be the desired future condition. This shrubland does support some invasive shrubs, which with cooperation from the New England Power Company or their righ-of-way managment company, may be removed to encourage only native shrub growth. The containment of exotic shrubs on power line easements is not threatening to the wildlife habitat value of the stand, as many birds enjoy the fruits of such shrubs as autumn olive, but does pose a threat of invasion to the surrounding forest.

STEW	XIV	WH	16	11"	105	6MBF 1CD	58WP

Narrative:

Stand XIV is a white pine/hardwood dominated site just south of the transmission line easement. This area is well stocked with white pine timber, which, for forest management purposes, should be thinned. The area is also being choked by invasive exotic species. The canopy is dominated by white pine with associates of white ash, red oak, black oak, black birch, and hickory. The two invasive exotics that are damaging this stand are oriental bittersweet and Japanese barberry.

The site is supported by Canton and Chatfield fine sandy loams and is well drained. This is an excellent site for white pine growth, which has established regeneration. The understory vegetation consists of beaked hazelnut, grape (also posing a threat to the overstory), maple leaved viburnum, juniper, wild oats, and huckleberry.

The desired future condition of Stand XIV is a healthy forest stand unimpeded by invasive exotics. The poor access to the site makes timber harvesting impractical, although thinning should be performed to remove poorer quality individuals. At least, invasive exotic, such as oriental bittersweet and Japanese barberry, as well as wild grape, should be eliminated from the stand to allow a healthy forest layer to progress until Taft Street is improved to the condition where forest management operations may utilize this road.

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STEW	XV	MW	1	N/A	N/A	N/A	N/A

Narrative:

This small stand is classified as true meadow. It is unmaintained, but supports grasses as it is saturated through the growing season and experiences standing water in the spring. This area is a unique habitat feature on this property.

The soil in this area is Swansea muck. It would support few tree species and there is a possibility that some may eventually be established. The desired future condition is a natural wetland area. Any operations occurring around this wetland should avoid disturbing Stand XV. Also, a brook flows out of this meadow, which serves as a collection point for water from the surrounding terrain.

STEW	XVI	BB	26	8"	96	3.5MBF 1CD	65SM/70RO

Narrative:

Stand XVI is a hardwood dominated site. The overstory is codominated by red oak, sugar maple, black birch, hickory, white ash, black oak, and black cherry with an occasional white pine. The overstory is nearing maturity and many of the trees are in excellent form with a portion of the growing stock in cordwood condition. There are areas that are in need of invasive exotic elimination, but overall, the stand needs a cordwood thinning with a light thinning of the dominant overstory. This management would serve to increase the value of the growing stock and establish regeneration, hopefully of these hardwood species.

A midstory consisting of hop hornbeam (a valuable wildlife species), sassafras, sugar maple, and hickory exists, which should be released as these species provide excellent mast for wildlife and high valued timber for future generations of Upton residents. The understory vegetation is typical of a site with Chatfield fine sandy loam and a hardwood overstory. These hardwoods tend to enrich soils and promote their own regeneration. Hardwood sites such as this provide an excellent opportunity for long-term planning for high value (both wildlife and timber) forest management. With so much of this property being dry, forest management of a moist hardwood site such as this should be considered. Further, access is not easy to this stand, but may be gained to the south through Stand XVII or through Taft Street after improvement.

Desired future condition of this stand is one of a multi-aged, high value hardwood tree layer. This should be accomplished through commercial forest management and light thinning of the overstory with a cordwood removal.

STEW	XVII	WO	30	12"	122	4MBF 2CDS	70WP

Narrative:

Stand XVII is a white pine/oak site that has the greatest potential, along with Stand I for active forest management, as long as access can be gained through an abutting town property listed as Lot 48 Map 22 (2.01 Ac.) in the Town Assessors office. This stand is well stocked with an impressive white pine and mixed oak overstory with advanced white pine regeneration. This regeneration should be released and the overstory should be thinned. The terrain of Stand XVII is gentle compared to most of the property.

The soils of this stand are Chatfield fine sandy loam and are moderately drained. There are areas of rocky outcropping and many stonewalls though this stand. The understory vegetation consists of white pine, red oak, red maple, hickory, and sassafras regeneration as well as high- and lowbush blueberry, huckleberry, beaked hazelnut, maple leaved viburnum, and witch hazel.

The desired future condition of this stand is a large mature white pine overstory with advanced regeneration of white pine and mixed hardwoods with ample sunlight to avoid being suppressed by the overstory. This condition would best be achieved by removing cordwood and thinning the overstory. This condition would provide excellent wildlife browse and large snags that are typical of mature sites. Accomplishment of these goals hinges on access to East Street.

STEW	XIIX	RZ	2	N/A	N/A	N/A	N/A

Narrative:

Stand XIIX is being classified as riparian zone as a planning measure to avoid any damage to the banks of the Mill River during any forest operation. The riparian zone is 50 foot buffer to the west of the river

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) Town of Upton Town(s) Upton and Hopkinton

MANAGEMENT PRACTICES
to be done within next 10 years

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

STEW ALL BOUNDARIES 2002-2003

Narrative:
All boundaries are to be delineated and blazed and painted. There has been discussion on the damage created by blazing, but the minimal damage to trees is far outweighed by the advantages of long-lasting identification that blazing provides. Boundaries must be blazed/painted before other management practices in order ensure accurate mapping of the property, both on paper and geographic information systems.

STEW ALL BOUNDARY MAPPING 2002-2003

Narrative:
While boundaries are being blazed/painted, a GPS unit should be carried to obtain accurate geographic coordinates of this property for mapping purposes. This will make map overlays more accurate and informative regarding spatial relationships, topography and, therefore, watersheds.

STEW ALL RESOURCE MAPPING 2002-2003

Narrative:
While boundaries are being mapped, it will valuable to accurately locate and map all stonewalls, wetland features, abandoned foundations, bridges, streams, stream crossings, and so on. This data should be well organized and GPS and GIS should be utilized to provide clean mapping of all of these features for future forest management purposes.

STEW ALL TRAIL MAPPING 2002-2003

Narrative:
This practice is being listed separately in order to highlight its importance. One of the best uses of this property is recreation. Trail mapping will assist recreational users and will also serve to locate, highlight, and evaluate all stream crossings. The identification of critical stream crossings is essential to trail upgrading and its relation to erosion and water quality.

STEW ALL TRAIL/ROAD IMPROVEMENT 2004-2006

Narrative:
Once trails and their critical areas are identified through mapping, costs and labor associated with upgrading trails should be assessed. The improvement of trails and their stream crossings will largely be concerned with diverting overland flow of water, restoring areas of ecological damage, and prevention of future trail damage, which tends to threaten water quality. This improvement may consist of fill application, creation of switchbacks, and the implementation of broad-based dips and water bars.

STEW XIII,XIV,XVI INVASIVE/EXOTIC ELIMINATION 2003-2005

Narrative:
Utilizing volunteer efforts, this practice should be performed immediately to prevent further invasion. This practice is in the best interests of local and regional forest health.

NOTE: The above management practices are critical to land conservation, including, but not limited to: water quality, wildlife habitat, forest management, and recreational use. They should be considered requirements of forest stewardship.

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) Town of Upton Town(s) Upton and Hopkinton

MANAGEMENT PRACTICES
to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	I	WO	Uneven-aged Selection	20	30	36MBF/30CDS	2003-2005

Narrative:

This selection thinning would be performed to demonstate well-planned, sustainable forestry, while improving wildlife habitat values, residual timber stock, and future growing stock. This operation would serve to generate income to the Town of Upton, which if possible, could be deposited into a land conservation fund for future forest conservation purposes. The terrain of this stand is of gentle to moderate slopes and drainage and soils are well suited for timber harvest operations.

Further, this management practice would serve as an educational expereince for all parties involved. Planning would be done by a professional forester and signs could be posted after harvesting in order to explain techniques and silviculture to the public.

Timing is described as above in order to allow for necessary organization of operation.

STEW	XVII	WO	Commercial Thinning	20	37	44MBF/25CDS	2007-2012

Narrative:

Stand XVII is the other area of the property with road access, which is necessary for forest operations. The stand is well stocked and the operation would provide income to the town. The thinning would be designed by a professional forester in order to ensure healthy tree regeneration and residual overstory.

This thinning would remove a portion of the overstory and would release the understory. The remaining timber stand would be of the most excellent quality regarding form and growth potential in order to provide forest management options for the town into the future.

Timing is described as above to allow for evaluation of above practice and to ensure the needed road access to East Street.

NOTE: Other forest management practices may be extrapolated from the stand descriptions, but are not primary goals in forest management. As this is the first Forest Stewardship Plan being written for the Peppercorn Hill Conservation Area, it should serve as an introduction to forest management options until 2012, when the plan will be rewritten. This plan and the completion of its suggested practices should provide ample opportunities to the town, its Conservation Commission, and its volunteers to discover the possibilities of active forest management.

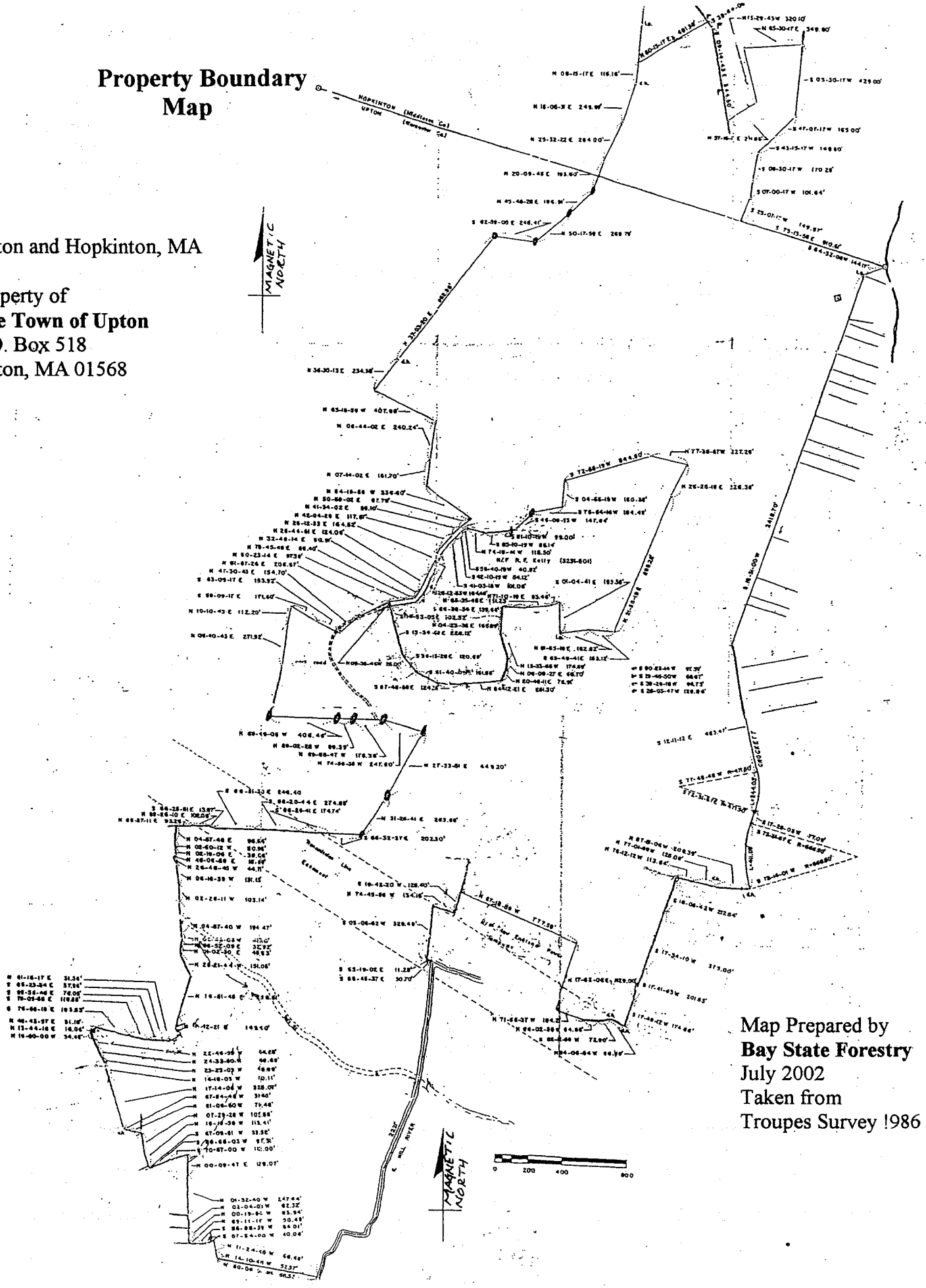
OBJECTIVE CODE: CH61 = Forest Products (for Ch. 61/61A) STEW= Stewardship Program practices
STD= stand Type= Forest type AC= acre MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Town of Upton Town(s) Upton and Hopkinton

Property Boundary Map

Upton and Hopkinton, MA

Property of
The Town of Upton
P.O. Box 518
Upton, MA 01568



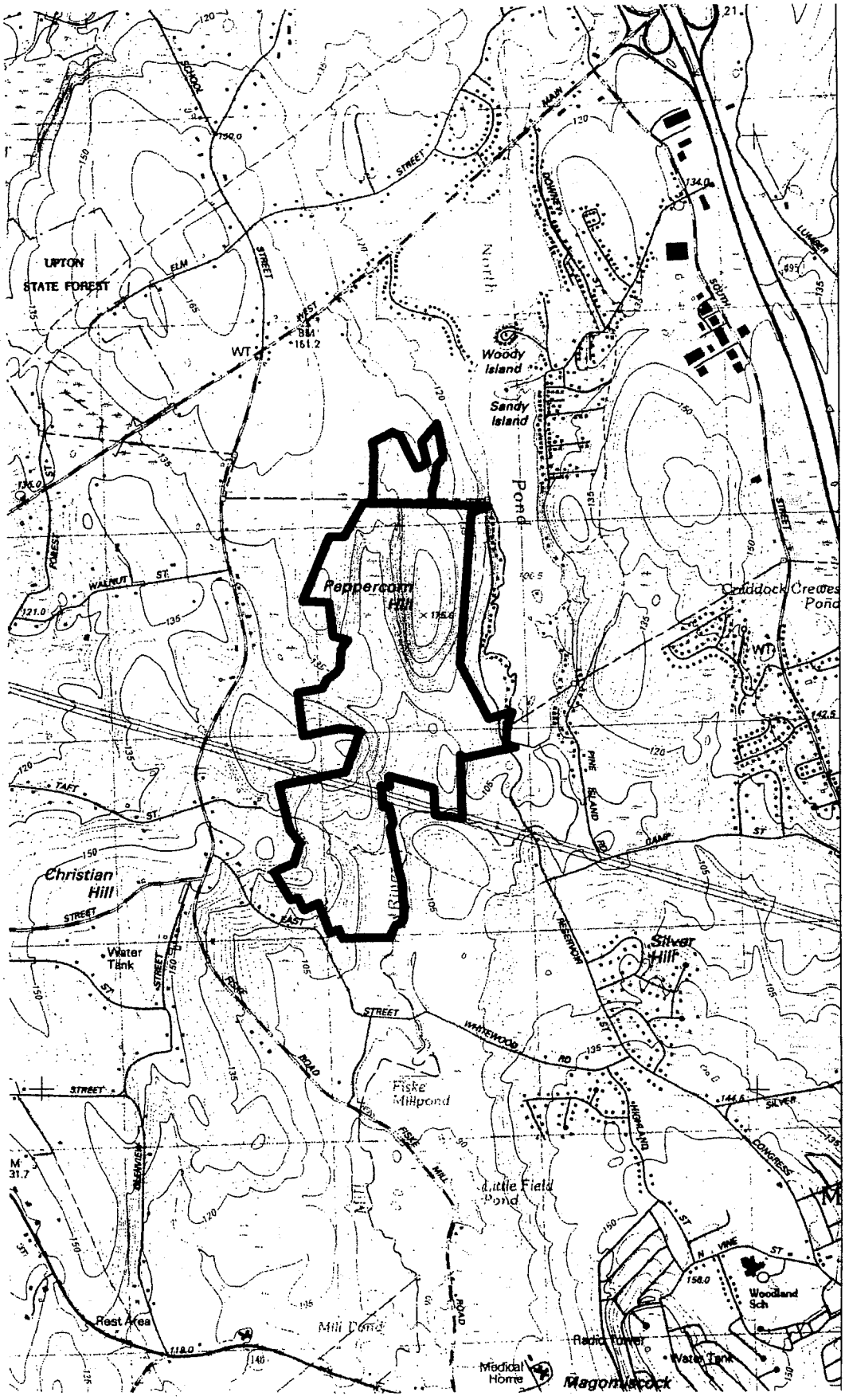
Map Prepared by
Bay State Forestry
July 2002
Taken from
Troupes Survey !986

Peppercorn Hill Conservation Area
Upton, MA

500 0 500 Feet

Property of
the Town of Upton

Aerial Photograph (Courtesy of MassGIS)



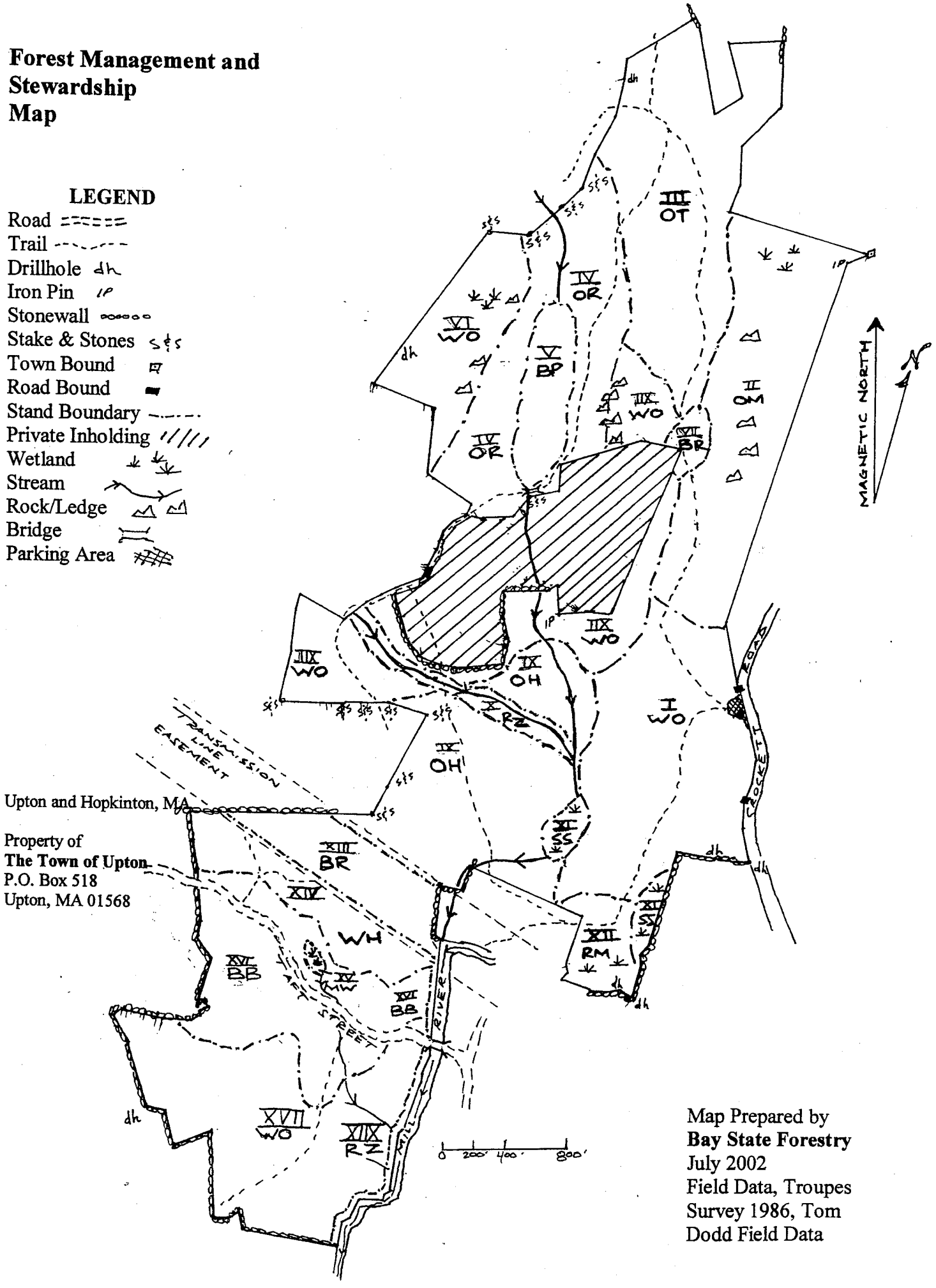
Peppercorn Hill Conservation Area
Upton, MA

1000 0 1000 2000 Feet

Property of
the Town of Upton

Milford Quad

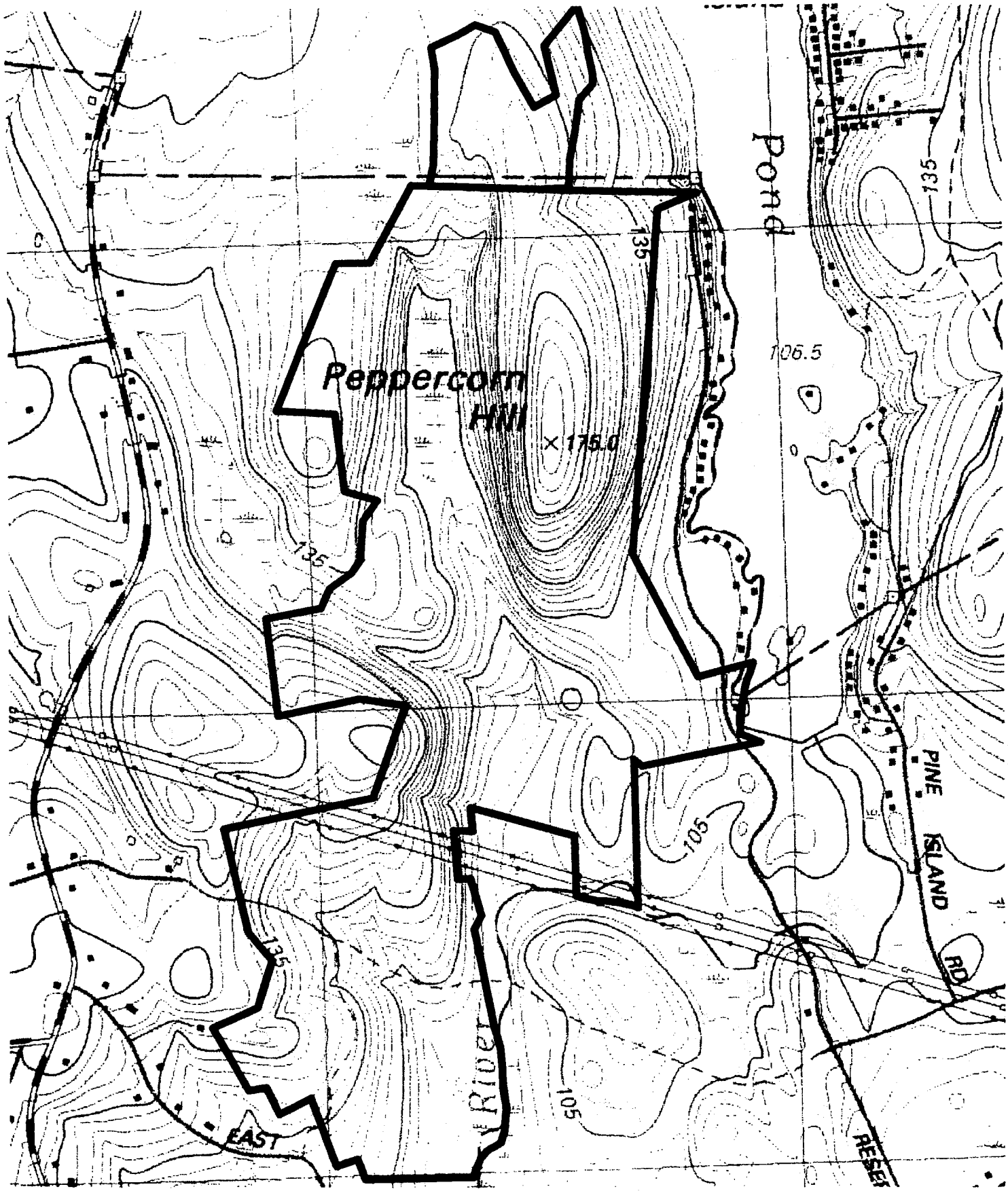
Forest Management and Stewardship Map



Upton and Hopkinton, MA

Property of
The Town of Upton
P.O. Box 518
Upton, MA 01568

Map Prepared by
Bay State Forestry
July 2002
Field Data, Troupes Survey 1986, Tom Dodd Field Data



Peppercorn Hill Conservation Area
Upton, MA

700 0 700 Feet

N

Property of
the Town of Upton

Signature Page Please check each box that applies.

☐ **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 7/14/02

_____ Date _____

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

Plan Preparer Lincoln C. Fish Date July 11, 2002

JULY 11, 2002

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) TOWN OF UPTON Town(s) UPTON & HOPKINTON