

**Massachusetts Department of Conservation and Recreation
Bureau of Forest Fire Control and Forestry
Forest Management Proposal
Name: Sherlock Lot**

Date Posted: November 27, 2012
End of Comment Period: January 11, 2013

Region: West
Recreation District: Lakes
Forest Management District: Central Berkshires
State Forest: October Mountain State Forest
Closest Road: Watson Road
Town: Washington

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Overview:

The Sherlock Lot Forest Management project is on the eastern slope of the October Mountain State Forest (see Locus Map). The conditions that led to selecting this project for forest management are:

- Significant portions of the project area have been affected by abiotic (ice) and biotic (beech bark disease) agents and the overstory trees are in significant decline.
- Due to the loss of the overstory trees there is a danger of heavy sprouting of American beech and subsequent loss of site diversity.
- This project area offers an excellent opportunity to demonstrate and fulfill objectives for DCR Woodlands.

The Sherlock Lot Forest Management Project endeavors to:

- Demonstrate thinning for stand improvement and group selections for regeneration in Northern Hardwood forests that have been damaged by ice storms and beech bark disease.
- Demonstrate multi-age silvicultural systems including irregular shelterwood and group selection and even age silvicultural systems to regenerate forests primarily composed and dominated by severely diseased American beech.
- Prevent proliferation of American beech with beech bark disease complex.
- Demonstrate harvesting techniques and best management practices that protect forest productivity, soil and water resources.
- Fulfill management approaches for Woodlands as directed by the Forest Futures Visioning Process (2010) and subsequent Management Guidelines (2012)

The Sherlock Lot Forest Management Project will result in two or more timber sale entries.

Stand Description:

- **Topography:** This proposed project area is located along the southern boundary of the Town of Washington within the October Mountain State Forest. The project area is bound by Watson/Stanley Road to the east, Shaker Mill Brook to the south and west, a wetland complex associated with Shaker Mill Brook to the northwest and a change in forest cover type to the north. The east, west and southern sides of this area rise in elevation from a low of 1650 feet at the intersection of Shaker Mill Brook and Watson Road to the northern boundary where at the top of the hill is an elevation of 1900 feet.

Along with Shaker Mill Brook there is one other perennial stream with associated wet lands located in the eastern portion of the project area. This unnamed stream runs parallel with Watson Road. There are also numerous seeps, intermittent streams and small forested wetland areas located throughout the area.

Much of this area is covered in sporadic rocks and boulders that become denser in and around drainage areas. Along the higher elevations in the northern portion of the stand several outcroppings occur.

- **Soil:** There are five soil types associated with this project area, ranging from very poorly drained flat bottom types to excessively drained upland soils. As with topography the forest composition changes with the soil types. The five types are described below (excerpts from "Soil Survey of Berkshire County Massachusetts", NRCS 1988).
 - **PmC - Peru-Marlow Association:** (109.2 ac) This map unit consists of very deep, moderately well drained Peru soils and very deep, well drained Marlow soils. Peru soils are typically on the lower parts of slopes or in slightly concave areas and Marlow soils are on the upper parts of slopes on in convex areas.
 - **BmE - Berkshire-Marlow Association:** (22.5 ac) This map unit consists of very deep, well drained Berkshire and Marlow soils. The soils are on the sides of hill and mountains.
 - **ToC - Tunbridge-Lyman Association:** (19.2 ac) This map unit consists of moderately deep, well drained Tunbridge soils and shallow, somewhat excessively drained Lyman soils. These soils are on the sides and tops of hill and mountains.
 - **LtE - Lyman-Tunbridge Association:** (14.6 ac) This map unit consists of shallow, somewhat excessively drained Lyman soils and moderately deep, well drained Tunbridge soils. These soils are on the mountainous uplands.
 - **PoB - Pillsbury Loam:** (20.5 ac) This is a nearly level to gently sloping, very deep, poorly drained soil on foot slopes of drainage ways and in slightly concave areas of glacial till uplands.

Stand Information: The proposed project area consists of 166 acres of northern hardwood forest types. Throughout the project area the dominate tree species that were observed are white ash (*Fraxinus Americana*), sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), American beech (*Fagus grandifolia*), black cherry (*Prunus serotina*), quaking aspen (*Populus tremuloides*), yellow birch (*Betula alleghaniensis*), white birch (*Betula papyrifera*), and Eastern hemlock (*Tsuga canadensis*). This project area has been shaped in recent years by beech bark disease, white ash die back, recent history of forest tent caterpillar outbreaks and the ice storm of 2008. These events are pushing all these forest types into beech dominated forest.

The DCR Management Guidelines of 2012 stated that forest stands will be “classed . . . and considered for silvicultural treatments that generally fit their productivity, structural complexity (or potential thereof) and diversity”. An analysis of the Sherlock Lot site history (land use; agriculture/logging) and conditions (soil types, productivity; vegetation cover) suggests a moderately high level of complexity indicating that uneven age methods of regeneration may be appropriate.

There are individual forest stands within the major forest type that range from less than one acre to 40 plus. In many cases these smaller forest types will be lumped together for operational needs into larger stands as this project progresses.

- Northern Hardwood Stands – The majority of the project area, approximately 105 – 115 acres, is in a mixed northern hardwood type. These stands are located in the PmC, BmE, LtE, and PoB soil types. This forest type will be broken down into individual stands for management purposes based on dominant tree species, topography and soils to assist planning in proper management decisions. The current size class in this forest type range from small to large diameter trees. The density of the northern hardwood stands is generally a high but there are some gaps in the forest canopy mostly caused by white ash mortality. Throughout the project area white ash has been in decline for several years. It is anticipated that the emerald ash borer (EAB) will kill the remaining stressed trees upon its arrival. The stand age is approximately 80-100 years old.
- Beech Stands – This forest type is found along the higher elevations located ToC soil type in the middle and northern portions of the project area. Beech dominates these stands with associates of other northern hardwood species. The understory is also dominated by beech with small amounts of other hardwood species present. This forest type represents approximately 50-60 acres of the project area. There is a moderate infestation of Beech Bark Disease throughout this forest type, and the project area as a whole, causing moderate to high mortality of the beech trees. This is beginning to cause natural gaps in the forest canopy which are becoming occupied by diseased beech clones. The current size class of this forest type is small to large trees with a medium to high stocking level. The estimated age is 80-100 years old.
- **Previous Silvicultural Treatments:** During the late 1970's and early 1980's commercial fuel wood and home fuel wood cutting occurred in this project area.
 - Home fuelwood harvests occurred along Watson Road and was conducted by individual homeowners for firewood. Material harvested for this purpose was generally poor quality small and medium sized trees located within 200 feet of the road. Wood was generally removed from the forest by hand, wheel barrel or small truck. This practice was used to maintain road shoulders and safety, enhance views into the forest, and provide firewood to homeowners.
 - A commercial fuelwood project was conducted along the northern portion of this project area in the early 1980's. The goal of this project was to thin low quality and undesirable growing stock from maturing overcrowded stands. This operation allowed the remaining forest to grow with more vigor.

Aesthetic, Recreation, Wetlands, Cultural, Rare Species and Wildlife Considerations:

- **Aesthetic:** Watson and Stanley Roads located in Washington and Becket are both gravel secondary roads which are maintained year round for vehicle traffic. There is a private dwelling located 0.6 miles to the east along Watson Road in Washington and a private dwelling located 1.5 miles to the south on Stanley Road in Becket. As per the "Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines", there will be a 50 foot buffer along Watson road where no more than 50% of live basal area will be harvested and no slash within 25' of the road will remain. The Massachusetts Slash Law will be observed beyond the 25' no slash zone.
- **Recreation:** There are no formal trails or recreational activities to buffer for this project. The project area is however open to all legal passive recreation activities that are allowed on DCR properties.
- **Wetlands:** There are several identified water resources on this proposed project area. They will all be treated at or above the minimum standards set forth in "Massachusetts Forestry Best Management Practices Manual". There will be no timber management in regulated wetlands.
 - Shaker Mill Brook and the associated wetland complex which make up the southern and western boundaries of this project area will have at minimum a 100 foot filter strip where no harvesting will occur and will follow filter strip standards of the "Massachusetts Forestry Best Management Practices Manual" as needed beyond 100 feet. The one exception to this will be the portion of this filter strip within 100 feet of Watson Road where trees determined to be a public safety issue may be removed. There are no anticipated stream or wetland crossings for this stream and wetland complex.
 - The unnamed stream and associated wetland complex which runs parallel to Watson Road will have at minimum a 50 foot filter strip with where no harvesting will occur and will follow filter strip standards of the "Massachusetts Forestry Best Management Practices Manual" as needed beyond 50 feet. It is possible on wetland/stream crossing may be needed in order to access certain parts of the project area. This will be located in the wetland system that parallels Watson Road. If possible this will be avoided.
 - All additional upland drainages, intermittent streams, seeps and wetlands, and vernal pool resources found within the active project area will be mapped and protected to filter strip standards of the "Massachusetts Forestry Best Management Practices Manual" as needed.
 - It is not anticipated that any other live stream or wetland crossing will be needed. Any stream or wetland crossing will be designed using standards of the "Massachusetts Forestry Best Management Practices Manual" and "Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines"
- **Cultural Resources:** Within the proposed project area one stone foundation has been found along Watson Road. This stone foundation site and any others found within the project area will be protected from disturbance during any operation and will be treated according to guidelines set forth in the "Bureau of Forestry – Cultural Resource Management Protection Standards & Guidelines"
- **Rare and Endangered Species:** According to the NHESP "Massachusetts Natural Heritage Atlas 13th Edition" there is no priority or estimated habitat sites located in this proposed

project area. No rare plants have been identified in the field to date. Care will be taken to address the needs of any rare/endangered plant if found.

- **Wildlife:** No rare animals or critical habitat were noted upon the initial site visit. Large mammals noted were deer, moose, bear and coyote. Small mammals noted were squirrel and porcupine. It has been observed in previous forestry operations nearby that large herbivore pressure is not a concern. The proposed project area is a small portion of the total land in these forest types in the immediate vicinity.

Due to the deteriorating nature of the forest types in this project area there is an abundance of large diameter course woody debris (CWD) and both live and dead wildlife trees (snags).

Sale Layout and Harvesting Limitations:

- The Sherlock Lot will be divided into multiple timber sales.
- **Project Access:** Access to the proposed project area will be from either State Route 8 in Becket, to County Road to Stanley Road which turns in to Watson Road upon crossing the town line into Washington or State Route 8 in Washington to Frost Road to Pittsfield Road (also known as Washington Mountain Road) to Watson Road.
- **Landings:** There are no currently existing landing areas large enough to support a modern timber harvest operation. Currently three landing will be proposed for use in this project. Not all proposed landing may be needed.
 - Near the beginning of the main un-named access road into the northern portion of the project area off of Watson Road
 - Near the end of the un-named access road at an appropriate location
 - Off of Watson Road in the southern portion of the project area
- **Skid Road and Trails:** Throughout the project area there are existing skid trail segments still visible from the previous harvest. These existing segments will be evaluated and connected as needed to gain access to necessary areas of the project area.
- **Wetland & Stream Crossing:** There will be a need of one stream crossing along the intermittent stream drainage near Watson Road. Skid road and trails will be laid out to minimize the number of other crossings throughout the remaining project area. Shaker Mill Brook will not be crossed. All regulated stream and wetland crossing will be bridged and/or corduroyed.
- **Road and Trail Buffers:** As per the "Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines", there will be a 50 foot buffer along Watson road where no more than 50% of live basal area will be harvested and no slash within 25' of the road will remain. The Massachusetts Slash Law will also be observed beyond the 25' no slash zone. There are no recreation trails in the project area to buffer.
- **Equipment Limitations:** Currently there are no harvesting equipment limitations and restrictions, it will be determined upon further review and field work if any limitations or restrictions are necessary for this project area.
- **Excluded Areas:** The wetland areas with associated filter strips mentioned above will be excluded from harvest. Forest types of pure beech may not be harvested during initial project implementation.

- **Erosion and Sedimentation:** Unwanted movement of soil will be controlled by following recommendations in the “Massachusetts Forestry Best Management Practices Manual”. All work will be limited to dry or frozen soil conditions.
- **Site Restoration:** Upon completion of activity in the Project area all roads, skid roads and skid trails will be left in a stable state by grading and installing water bars as needed. All landing will be clear of debris, graded and seeded with “Berkshire Conservation Mix” and straw.
- **In-kind Services:** There are no definitive in-kind services to be attached to this project to date. Below is a list of possibilities:
 - Chemical control of beech, to help these stands retain a diverse northern hardwood forest type.
 - Equipment and materials to maintain/restore roads and trails within October Mountain State Forest.
 - Installation of a gate and small parking area for recreational use at proposed landing on un-named access road in northern portion of project area.
- **Proximity to Designated Forest Reserves:** There is no forest reserve located adjacent or near this project area.
- **Sensitive Public Issues:** There are no anticipated highly sensitive public issues.

Silviculture:

- **Northern Hardwood Stands:** Silvicultural practices in these stands will demonstrate patch regeneration of northern hardwoods as well as control of undesirable beech regeneration. These stands will be managed for a high level of tree and understory plant species diversity. Forest management efforts will also be aimed at creating and maintaining vertical (tree heights) and horizontal (down woody material) stand complexity. Not all delineated stands will be a part of the initial treatment. To aid in administration of this project it is anticipated approximately 40-70 acres will be initially harvested. With secondary a secondary harvest in 5-10 years.
 - **Primary/Secondary goals:** The primary goal of treatment in these stands will be to ensure future diversity of tree, shrub and herbaceous layer. These stands are currently in decline due to ice damage and insect damage, mortality due to disease, and a dense understory of beech. If left unchecked these stand will become dominated by diseased beech, with little diversity. If left unmanaged these stands will continue to lose complexity and diversity. Secondary goals of this project are to capture value of damaged and/or diseased trees and to assist the town of Washington with danger tree maintenance along Watson Road.
 - **Silviculture Methods:** The anticipated practices used in these stands will be a quality based commercial thinning with occasional patch openings of up to 1/3 acre in areas that have acceptable advanced regeneration. The thinning area will remove an average of 30% of the basal area; the patches will remove all trees over 5 inches in diameter leaving behind all advance regeneration. These patches will not exceed 10% of the total stand base. Chemical control of beech may be used in these stands to ensure other native species can emerge.
 - **Desired Future Conditions:** By removing a large portion of the damaged, diseased and dying trees through thinning and patch removal the remaining stand will be

comprised of a larger percentage of healthy trees with patches of regeneration advancing into the upper canopy.

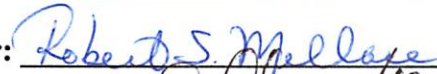
- **Anticipated Future Treatments:** This stand should be looked at in approximately 10-15 years for re-entry. It is anticipated that the next silvicultural treatment will be to expand and create new patch openings to further regenerate the stand.
- **Beech Stands:** The silvicultural practices in these stands will demonstrate the regeneration/conversion of a diseased/dying stand of beech. This forest type will be managed for improvement. Stands will be deferred for approximately 5-15 years.
 - **Primary/Secondary goals:** The primary goal of treatment in these pure beech stands will be to convert them to mixed northern hardwoods with diversity of the tree, shrub and herbaceous layers. These stands are currently in decline of tree health due to ice damage and mortality due to beech bark disease.
 - **Silviculture Methods:** These stands will be treated using a combination of irregular shelterwood, group selections and patch cuts throughout the pure beech types. Openings will not cover more than 50% of this forest type and will retain all non beech tree species. Between these patches the stands will be thinned, removing approximately 50% of the basal area. Chemical control of beech may be used in these stands to ensure other native species can emerge.
 - **Desired Future Conditions:** Ten years after this treatment it is anticipated that the pure beech stands will have a much higher component of other northern hardwood species. These stands will have two age classes.
 - **Anticipated Future Treatments:** These stands should be looked at in approximately 7-10 years to ensure regeneration techniques have worked. If there is acceptable regeneration no further treatment is needed, if beech is still the dominant species more chemical control of beech may be prescribed.

District Forester: 

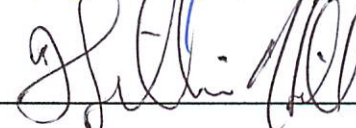
Date: 10-31-12

Field Operations Team Leader
Or Park Supervisor: 

Date: 10-31-12

Regional Director: 

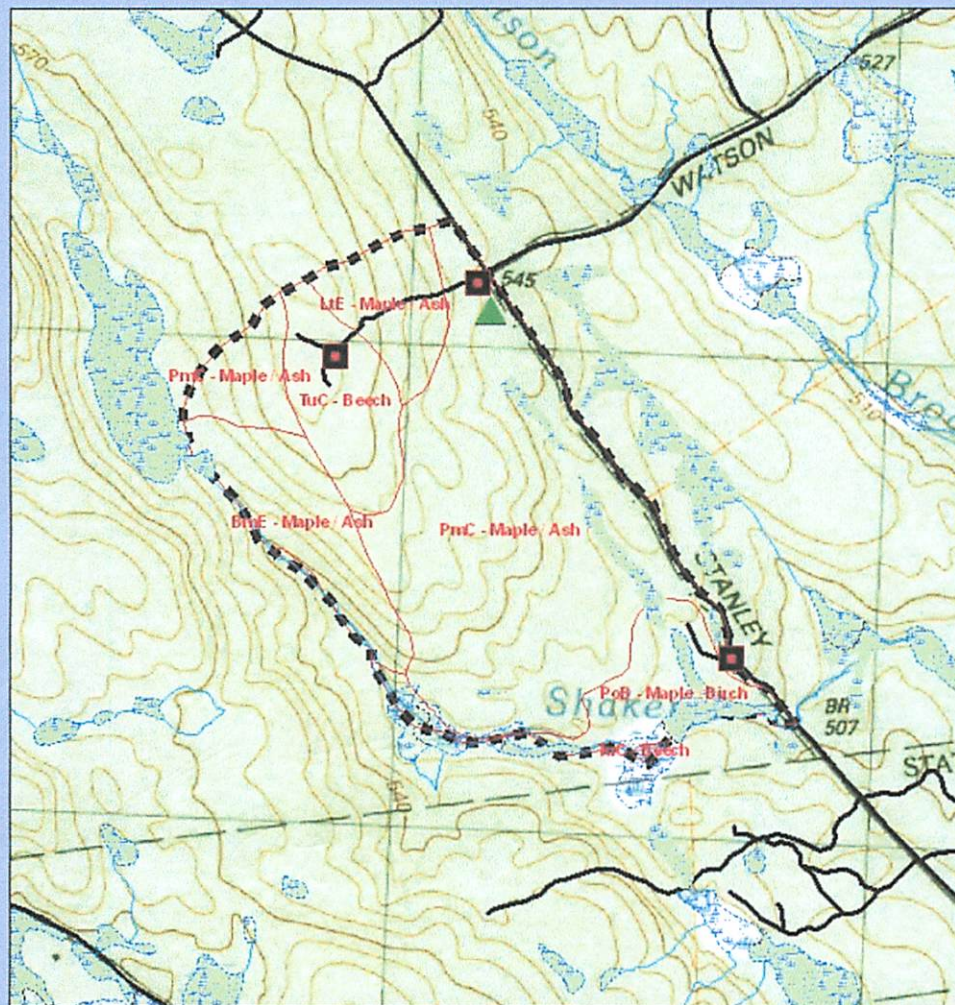
Date: 11-1-12

Management Forestry
Program Supervisor: 

Date: 11/2/12

Attached: Topographic and Locus Map showing location of Forest Products Sale Area

October Mountain State Forest Sherlock Lot



Legend

- Proposed Project Area
- Soil / Forest Type
- Woods/Skid Road
- Proposed Landing
- Possible Historic Site

