

**Massachusetts Department of Conservation and Recreation
Bureau of Forest Fire Control and Forestry
Forest Management Proposal
Name: No Signal Lot 2018**

Date Posted: February 9, 2018

End of Comment Period: March 26, 2018

Region: West

Recreation District: Lakes

Forest Management District: Central Berkshires

State Forest: October Mountain State Forest

Closest Road: Schermerhorn (Lower Tower or Felton Pond) Rd
Town Washington

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Overview:

The No Signal Lot 2018 Forest Management project is located on October Mountain State Forest adjacent to Schermerhorn Rd near the intersection of Lenox Whitney Rd. It comprises of approximately thirty-nine acres remnant non-native Norway spruce plantations with small amounts of native northern hardwoods, as well as an adjacent twenty acre stand of mixed native red spruce/northern hardwoods. The Norway spruce was planted in the 1920's, and in 2003 the first harvest of a two-cut shelterwood removed roughly half of the basal area of spruce was cut, leaving 90 sq/ft of ba per acre. The stand is now in the process of succeeding to northern hardwoods (likely the original forest type prior to agricultural conversion in the 1800's). This proposed treatment will be the second installment of management planned prior to the initial 2003 harvest.

The conditions that led to selecting this project for forest management are:

- Due to the initial (first) shelterwood harvest in 2003, there is an acceptable regeneration density of desirable hardwood tree species such as sugar maple, yellow birch, and black cherry in a condition where it can/should be fully released.
- Delay in conducting the planned second entry would likely result in mortality of portions of the established regeneration, thus bypassing an opportunity to secure survival and succession of these desirable young trees.
- Portions of the remnant Norway spruce plantations are in decline and suffering from a root rot fungus (*Armillaria* spp.).
- Desire to capture monetary value of the non-native Norway spruce trees prior to mortality due to root rot and to prevent further public hazards along Schermerhorn Rd.

- The proposed harvesting in the mixed red spruce/norther hardwood stand offers an opportunity to retain and enhance native softwood stands by applying a regeneration harvest.
- This project area offers an excellent opportunity to demonstrate and fulfill objectives for DCR Woodlands including the restoration of a native forest ecosystem.

The No Signal Lot 2018 Forest Management Project proposes to:

- Remove an overstory of mature non-native Norway spruce to release an existing understory dominated by regeneration of native tree species with small amounts of Norway spruce.
- Remove/reduce the costs and safety concerns of damaged or declining Norway spruce along traveled roads and trails.
- Demonstrate a shelterwood harvest of a red spruce/northern hardwood stand with an emphasis on regeneration of native red spruce and northern hardwoods.
- 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) including the restoration of a native forest ecosystem.

Stand Description:

Stand Information: Stand 1 is approximately 30 acres of Norway spruce plantation which was planted in 1925. Within this stand the dominant tree species that were observed are Norway spruce (*Picea abies*) with small amounts of sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), black birch (*Betula lenta*), white birch (*Betula papyrifera*), white ash (*Fraxinus americana*), black cherry (*Prunus serotina*), American beech (*Fagus grandifolia*) and quaking aspen (*Populus tremuloides*). The Norway spruce present in the stand is of mature sawtimber size and has provided a the shelter under which the regeneration has become established since the overstory was thinned in 2003. The understory is now fully stocked with pole-sized hardwoods such as black cherry, yellow birch and sugar maple. This young emerging stand is approximately 10-20 feet tall with an average diameter of 2-5 inches. There is also an existing component of mature hardwoods that is the same age as the planted spruce that were left to provide a seed source throughout the stand area.

Stand 2 is about 9 acres, composed of northern hardwoods with scattered mature Norway spruce. The Norway spruce in this stand was planted in 1925 in an already regenerating area of northern hardwood. This stand has an abundance of red spruce seedlings and saplings in the understory.

Stand 3 is an approximately 20 acres stand of native red spruce/northern hardwoods dominated by red spruce (*Picea rubens*), sugar maple, red maple, white ash, black cherry and American beech. This stand was thinned and the retained red spruce was pruned in 1957. The understory is comprised of advanced regeneration of the same tree species mixture as well as other common herbaceous species.

Topography: This proposed project area is located in a portion of the forest that is generally flat. The slopes within the stand do not exceed 10% and there are no major water features present except for a man made fire pond (draft hole) along the main road and small seep on the eastern edge of the stand.

Soil: The soils on this site are of the Tunbridge-Lyman Association. This presents as well drained, moderately to extremely stony soil on slightly sloping to steep slopes. The two main soil types are Lyman-Tunbridge and Peru Marlow. Lyman soils are shallow, very well drained, and are generally located on upper slopes with steep, to less sloping areas, Peru Marlow soils are deep, moderately drained and located on the sides or crests of glacial till uplands. Both have a moderate productivity for forest growth, slight erosion hazard, and few equipment limitations. (Excerpts from "Soil Survey of Berkshire County Massachusetts", NRCS 1988).

Previous Silvicultural Treatments: Stand 1 was treated in 2003 as part of a two stage shelterwood cut, with a ten year interval in between treatments to allow for adequate regeneration under the remaining canopy. The initial harvest focused on removing spruce that were suppressed or intermediate crown class and/or unacceptable in vigor and stature. This removed about 100 sq./ft. of basal area per acre and retained roughly 90 sq./ft. per acre of dominant, wind-firm spruce to shelter the developing regeneration. In areas where there was existing black cherry stems, an additional 20-30 sq./ft. of basal area was removed to allow space and sunlight to regenerate that shade-intolerant species (black cherry is highly preferred both for its substantial timber value, and for the wildlife food value of the soft fruit). In all, roughly 299 Thousand Board Feet (MBF) of Norway spruce sawtimber, 253 tons of softwood pulp and 5 cords of firewood were harvested from the stand.

In 1957 there was a partial harvest in stand 3 that removed small logs to release potential red spruce sawtimber trees and foster competition with the native hardwoods. Many of this retained red spruce were pruned to increase saw log quality.

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

Recreation and Aesthetics: There are no recognized trails within this project area, though the existing woods road will be maintained and protected so as to ensure its continual use for timber harvesting projects in this sale area. Due to the proximity of this sale to Lenox Whitney Rd and its frontage on Schermerhorn Rd, timber marking will account for the aesthetic quality of the forest as seen from these roads. All slash from the harvest will be dealt with accordingly as per the regulations of Ch. 48 of MGL, the Massachusetts Slash Law.

The October Mountain Marsh Trail is located approximately 1000 feet to the south of the project boundary. There are no anticipated concerns associated with the trail.

Streams and Wetlands: The project area is located within the Upper Housatonic River Valley Area of Critical Environmental Concern (ACEC). This ACEC is especially important for containing public and private water supply, complex river ecosystems, important wetlands, and critical habitats for a wide variety of both common and rare plant and wildlife species. ACEC's provide increased protection for wetland resource areas, associated habitats and fisheries, biodiversity, public and private groundwater supplies, storm damage prevention or flood control functions, historic and archeological resources, scenic and recreational resources, and other natural resource values of the area. Therefore, in order to minimize any impacts on the site there will be no cutting within wetlands. In addition to the variable width filter strips located along each regulated stream, a 50 foot no cut buffer from wetland resources and regulated streams will provide additional protection to these valuable areas. Within the no cut buffer white ash may be removed if it is

infested or imminently infested with EAB. All stream crossings within the project area will use temporary bridges.

There several small water features within the project area which will be protected. A fire hole constructed by the CCC's is located on Schermerhorn Rd, a small intermittent stream/seep on the eastern edge of the stand, and a small (<1acre) forested wetland. All features will be protected as directed in the "Massachusetts Forestry Best Management Practices Manual" and "Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines". There are no mapped certified vernal pools by NHESP located in this project area.

Cultural Resources: There is an existing stone wall that circles the southern contour of the stand boundary. Care will be taken not to damage it or cross it outside of existing bar-ways.

Rare and Endangered Species: According to the NHESP 2017 mapping there is priority habitat for rare species located within a portion of the proposed harvest area. This "bubble" of Priority habitat encompasses the October Mt Marsh (Dry Lake). Care will be taken to properly report and address the needs and recommendations for any state-listed rare plant, wildlife species or priority natural community.

Wildlife: There was not an abundance of wildlife evident prior to the 2003 harvest due to the uniformity (low structural and species diversity) of the plantation. There is evidence of browsing from large herbivores such as moose and deer along the skid roads following the 2003 harvest, but the damage was not inhibiting to the next crop of trees in the rest of the sale area. Some of the remaining hardwoods that weren't harvested in 2003 have developed into good wildlife trees due to their vertical structure above the even-aged regeneration, and development of cavities and poor form due to weather and exposure.

Sale Layout and Harvesting Limitations:

Project Access: Access to the proposed project area will be from County Rd in Becket or West Branch Rd in Washington. This project is anticipated to utilize existing roadside landing areas from the previous harvest for both forwarder and truck landings. Landings off the road may be established based on operational needs.

Skid Road and Trails: A woods road runs through the eastern and southern section of the stand, this will be the main Forwarder access road. All forwarder trails will be designated during the timber marking of the project area by the forester. Existing trails will be utilized when possible and new trails will be laid out as directed in the "Massachusetts Forestry Best Management Practices Manual" and "Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines".

Wetland & Stream Crossing: There is no anticipated wetland or stream crossing within this project area and every effort will be made to avoid stream and wetland crossings if water features are found. All regulated water features found in the area will at minimum follow the guidelines of the "Massachusetts Forestry Best Management Practices Manual".

Road and Trail Buffers: All hazard trees within one tree length of the Schermerhorn Rd will be cut and felled. All large 'legacy' trees (30+ inches) found on the roadside will be left regardless of

quality as long as they pose no threat to safety. Due to previous wind throw of Norway spruce into the road only hardwood species will be left within the roadside buffer. This may reduce the residual basal area below 50% in some areas.

Equipment Limitations: This project will require a cut-to-length harvester and forwarder for the protection of understory regeneration in the plantation area.

Excluded Areas: Identified wetlands within the project area will be clearly marked and will be excluded from harvest. Equipment will be excluded from areas of sustained 40% or greater slopes.

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, forwarder roads and forwarder trails will be left in a stable state by grading and installing water bars following the guidelines of the "Massachusetts Forestry Best Management Practices Manual". All landings will be clear of debris, graded and seeded with "Berkshire Conservation Mix", then mulched with straw to both minimize soil erosion and retain conservation mix seed on site for germination.

Proximity to Designated Forest Reserves: The portion of October Mountain which is in reserve is located across Schermerhorn Rd from this project. These adjacent stands in the reserve are also Norway spruce plantations that have had previous timber harvests.

Silviculture: Due to the previous management, species composition, susceptibility to root rot and wind throw, even-aged silviculture will be utilized in all three stands during this project. Management of Stand 1 will continue to convert the Norway spruce plantation to a northern hardwood stand, and Stands 2 and 3 will be treated to promote a diverse mix of native red spruce and northern hardwoods. Allowing these exotic softwood trees to die "on the stump" will create a public safety issue for people using the state forest for recreation, and result in the agency having to spend public funds to remove standing dead hazard trees. Proactively harvesting the planted trees while they still have market value will reduce costs for the Commonwealth, provide greater economic stimulus from higher value wood products (timber vs. chipwood), and foster better control of regeneration (active harvesting will put variable amounts of sunlight on the forest floor, which will in turn favor regeneration of a diversity of native trees species including both shade-intolerant species like cherry, birch, aspen, and oak in the more heavily cut portions of the treatment area, and sugar maple and hemlock in the less heavily cut portions of the treatment area).

Silvicultural Methods:

Stand 1: An overstory removal with reserves will be the final step in the two-step shelterwood treatment prescribed and begun in 2003. Adequate desired regeneration has since grown up in the 14 years since the stand was treated. This treatment will remove the remaining 90 sq/ft of Norway spruce in the overstory to allow for a full release of the native regeneration. Native hardwood trees within the plantation canopy will be retained. The understory regeneration will be protected by restricting logging equipment and techniques to control disturbance. This will create a fully stocked

seedling/sapling layer of 1-5 inch dbh native northern hardwoods with an interspersed Norway spruce.

Stands 2 & 3: The first step of a two stage shelterwood will be conducted in these stands. This partial overstory harvest will be designed to promote the regeneration of red spruce with associated northern hardwoods ensuring the continuance of this mixed wood stand. The overstory will be reduced by approximately 1/3-1/2 by removing lower quality hardwood trees. Advanced red spruce regeneration will be protected throughout the harvest.

Goals: The primary goals of treatment in these stands include removal of the mature Norway spruce while retaining, protecting and releasing the advanced regeneration currently in place. The other primary goal is the retention and regeneration of the native mixed wood stand. The secondary goal of management in these stands is to capture the potential product and value of the Norway spruce prior to its decline. Forest management efforts will also be aimed at creating and maintaining vertical (tree heights) and horizontal (down woody material) stand complexity.

Desired Future Conditions: By releasing the understory of northern hardwoods present in Stand 1, the resulting stand will grow up and continue its development into a mature, sawtimber size northern hardwood stand with small amounts of Norway spruce. A successful harvest in Stand 2 will result in a two story stand with a mixture of red spruce and northern hardwoods in both the overstory and understory regeneration.

Anticipated Future Treatments: Both stands should be examined in approximately 5 years to ensure the advanced regeneration has survived and additional regeneration is of desired species. Within Stand 1 no further treatment is expected until this stand reaches 40-50 year old, at which time commercial thinning may be conducted. Within Stand 2 a second shelterwood entry should be conducted in approximately 7-10 years to release regeneration secured through the current planned operation.

District Forester: 

Date: 02/09/18

Field Operations Team Leader
Or Park Supervisor: 

Date: 2/9/18

Regional Director: 

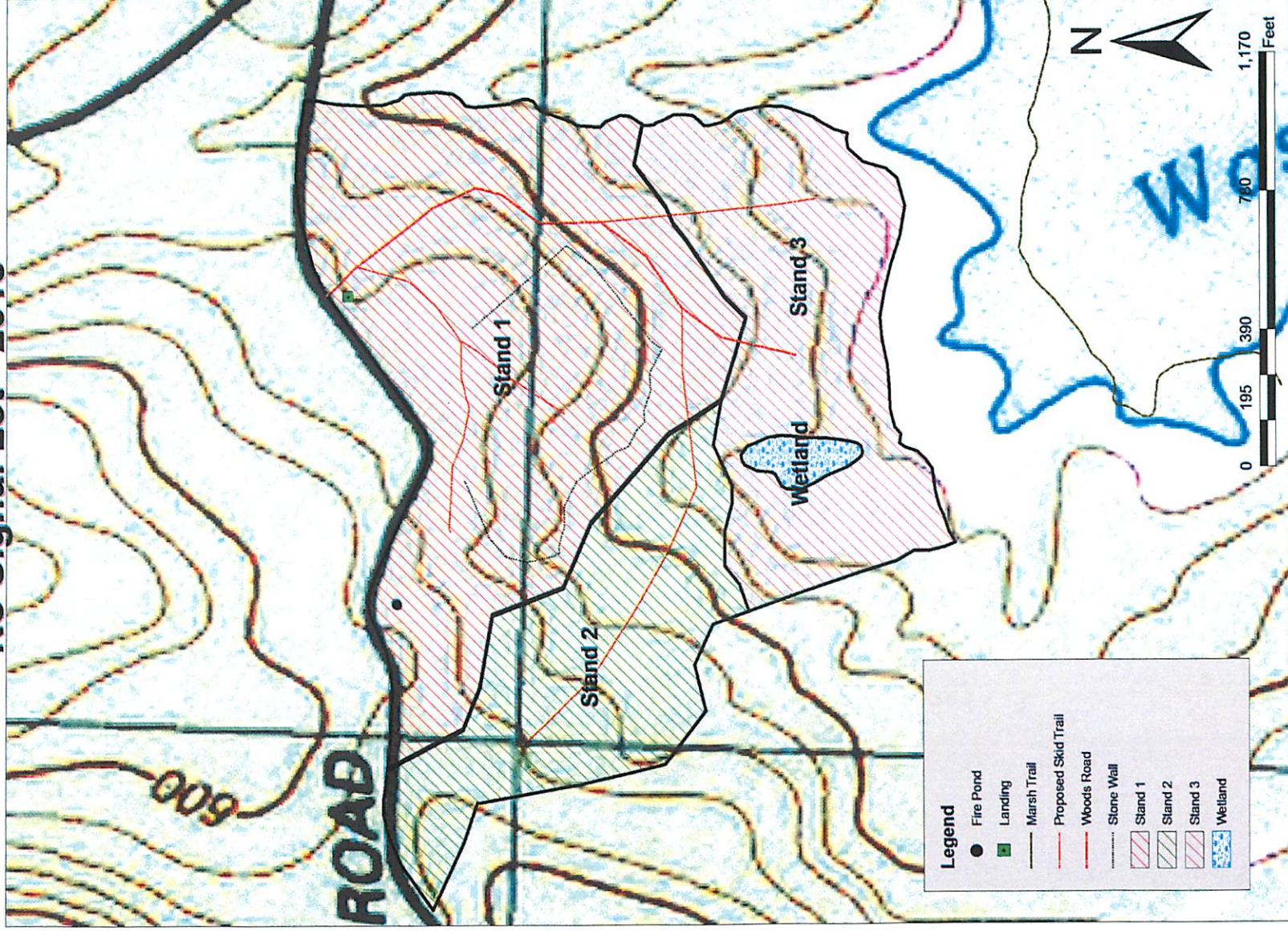
Date: 2/9/18

Management Forestry
Program Supervisor: 

Date: 2/9/2018

Attached: Topographic map showing project details. Locus map showing project location within regional context.

October Mountain State Forest No Signal Lot - 2018



No Signal Lot 2018 - Locus Map

October Mountain State Forest

