

**Massachusetts Department of Conservation and Recreation  
Bureau of Forest Fire Control and Forestry  
Forest Management Proposal  
Name: South Hawley Crossroads**

**Date Posted:** February 16, 2017  
**End of Comment Period:** April 2, 2017

**Region:** West  
**Recreation District:** Mountain  
**Forest Management District:** Western CT Valley  
**State Forest:** Dubuque State Forest  
**Closest Road:** State Forest Road  
**Town:** Hawley

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**Overview:**

The Dubuque State Forest is located in southwestern Franklin County along the Hampshire county border in the towns of Hawley and Plainfield. The forest is approximately 5000 acres in size and is located in the towns of Hawley, Plainfield, Savoy and Buckland. Origins of this state forest date back to the 1920's when abandoned farm land was acquired by the Commonwealth of Massachusetts for reforestation purposes with additional purchases added more recently. Much of this abandoned land was left behind as more fertile, and less rocky, lands to the west were made available for farming. It was originally named the Hawley State Forest and later renamed in 1981 the Kenneth M. Dubuque State Forest. This was in honor of a former forester and regional director that worked this area for his entire career starting in the 1930s. A Civilian Conservation Corp camp was established on the forest in 1936 and closed down in 1937. During this time the personnel of the camp built and repaired gravel roads, conducted forest stand improvement work, fire hazard reduction and various other conservation activities. Kenneth Dubuque worked here as a forester providing supervision for the crew members. This forest has had a very active forest management program from this period forward due to the quality and quantity of the roads constructed by the CCC.

The guiding criteria to select this site for forest management are:

- There has been observed ongoing mortality of the Norway spruce plantation overstory..
- The plantations are at risk for significant loss due to its age.
- Portions of this forest were damaged during the 2008 ice storm.
- It offers an excellent opportunity to demonstrate and fulfill objectives for DCR Woodlands.
- A long history of past forest management and demonstration of forest management practices.

The Dubuque State Forest South Hawley Crossroads Forest Management Project will:

- Demonstrate even and uneven age silvicultural techniques to regenerate native species within a currently even age plantation regime and native forest stands.
- Demonstrate harvesting techniques and best management practices that protect forest productivity, soil and water resources.
- Create and provide ecosystem services from this Woodland as directed by the Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines (2012).
  - o Provide locally grown forest products to the local economy
  - o Create a more diverse forest structure that is resilient to disturbance
  - o Sequester carbon in retained overstory trees, permanent forest products produced from the harvest, and in the vigorous regenerating forest.
  - o Provide the conditions for early seral or regenerating forest that will support diverse species.
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- Follow general guidelines of the Western Connecticut Valley Forest Resource Management Plan.
- Increase species diversity in the Norway spruce plantations.
- Generate income to maintain forest infrastructure.

### **Stand Description:**

There are 5 separate forest stands as identified in the Sewell Vegetation Classification map which groups the forest based on tree species, density and height. These stands totaling approximately 249 acres are identified as Norway spruce plantation, red spruce, hemlock-hardwoods, white pine-hardwoods and northern hardwoods.

The Norway spruce plantations (10 acres) labeled SN on the project map were established in the 1930s and consist primarily of non-native Norway spruce (*Picea abies*) planted in narrow rows. There are several small stands that are characterized as being very dense with large amounts dead trees standing and on the ground with minimal regeneration in the understory.

The red spruce (*Picea rubens*) forest type (8 acres) labeled SR on the project map is a mix of spruce (native red spruce) and a mix of hardwoods such as red maple (*Acer rubrum*), yellow birch (*Betula alleghaniensis*), American beech (*Fagus grandifolia*), eastern hemlock (*Tsuga canadensis*), balsam

fir (*Abies balsamea*). Other hardwood species may be present and the species composition varies throughout the type. This area was severely damaged in the 2008 ice storm.

The hemlock-hardwood stand (67 acres) labeled HH on the project map is similar to the red spruce except eastern hemlock is the predominate species. The species composition and density is highly variable and many micro-factors such as storms and mortality contribute to this.

The white pine-hardwood stand (105 acres) labeled WH is dominated by eastern white pine (*Pinus strobus*) with a mix of hardwoods including red maple, white ash (*Fraxinus americana*), sugar maple (*Acer saccharum*), yellow birch, American beech and other hardwoods. This stand is also an old-field type which usually has origins in abandoned pastures. It also has a highly variable species composition and density.

The final forest stand is the Northern hardwoods (59 acres) labeled NH on the project map is a mix of sugar maple, red maple, yellow birch, American beech, white ash and basswood (*Tilia americana*). These stands tend to develop on the better growing sites and exhibit a higher complexity of both soils and species composition.

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 site history (land use; agriculture/logging) and conditions (soil types, productivity; vegetation cover) suggests lower soil and forest complexity. Even-aged forest management methods of regeneration are appropriate in the spruce stands and uneven age methods will be used to regenerate the remaining stands.

**Topography:** This proposed timber sale is located on a gently rolling hilltop with a northerly aspect. There are several major drainages that border the area and at least one small stream that flows through it.

**Soils:** The major soil groups found in the proposal area are the well-drained Berkshire stony loams, Sutton sandy loam, Ridgebury very stony loam, the poorly drained Whitman and Pillsbury soils, moderately drained Tunbridge/Lyman and Peru/ Marlow soils. Management activities will be concentrated on the better drained soils and avoid the poorly drained soils. These soils have lower productivity and harvesting equipment can only be used under frozen conditions to avoid site damage.

**Previous Silvicultural Treatments:** No information is available on previous harvest activity in this area of the forest. The Norway spruce plantations appear to be planted by the Civilian Conservation Corps in the 1930's when there was a CCC camp located off of Hallockville Road in the center of the forest. These stands appear to have had minimal silvicultural work after they were established and the remainder of the proposal area appears to have had little work done other than several home fuelwood projects.

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

**Aesthetic:** The Dubuque State Forest is not located within or near any designated scenic by-ways. There is public road frontage in the sale area tree which will require marking techniques to minimize aesthetic impacts. Trees will be felled so as to not impact wetland and stream buffers or stonewalls. All slash will be dealt with in a way that meets or exceeds the regulations of Chapter 48 of MGL, the Massachusetts Slash Law.

**Recreation:** There are several primitive camping shelters in this state forest and recreational opportunities consist of hiking, mountain biking cross country skiing, hunting, fishing, bird watching and snowmobiling.

**Wetlands:** There is at least one stream in the proposal area and several larger streams adjacent to the area. Several seeps are also present. Adequate filter strips will be implemented according to Chapter 132 regulations. Crossing will be minimized or avoided.

**Cultural Resources:** There is at least one cellar hole and many stone walls in the project area and they will be protected during forestry operation. If a portion of a stonewall needs to be dismantled, it will be rebuilt at the conclusion of the sale to presale conditions. Trees will also be felled away from stonewalls in order to prevent damage. The timber sale will be reviewed by DCR's archeological/cultural resource expert.

**Rare and Endangered Species:** According to the Natural Heritage Endangered Species Program atlas, there are no known endangered species (animals or plants) in the proposed project area. The project area does abut a NHESP polygon to the north but sufficient buffers will be put in place to avoid any possible impacts.

**Wildlife:** This project area does not fall within any NHESP delineation. However, the streams and wet areas mentioned above will be protected for both water quality and wildlife corridor reasons. The gradual transition of the monoculture of Norway spruce to a mixed hardwood and softwood stand will add to both the diversity of trees and wildlife. Snags and potential snags will be retained according to the Management Guidelines document. Within the project area a minimum of 1-2 trees per acre at least 18 inches in diameter will be left that show characteristics favorable to wildlife such as large holes and dead branches. Large snags that do not pose a danger to the operator will be retained.

#### **Sale Layout and Harvesting Limitations:**

**Project Access:** Primary access will be from North Union Street in Plainfield to South Road in Hawley.

**Landings:** A main landing will be located on South Road with secondary landings on North Union and South Road as needed.

**Forwarder Roads and Trails:** Forwarder trails will be utilized to access the forest. These will also provide access to future harvests.

**Wetland and Stream Crossings:** Stream and wetland crossings will be avoided and crossed by using existing roads and culverts.

**Road and Trail Buffers:** There is one recreational trail that will be buffered 50' either side of the trail according to the DCR Management Guidelines and the existing state forest/town roads will also be treated with a buffer zone according to the MA Forest Cutting Regulations.

**Equipment Limitations:** Roads will be planned in advance of the sale in order to facilitate access of harvesting equipment. Timber harvesting equipment will be restricted to a mechanized cut-to-length system with the wood products being transported to the landing by forwarder. No ground skidding will be permitted. Hand –falling of larger trees will be permitted provided that proper directional-falling techniques are used to protect residual trees and any cultural resources.

**Excluded Areas:** The small stand of red maple and several other areas with poorly-drained soils will be excluded from the timber sale.

**Erosion and Sedimentation and Site Restoration:** All forwarder roads and trails and the landing areas will be stabilized with water bars, and seeded and mulched according to the recommendations found in the “Massachusetts Forestry Best Management Practices Manual”.

**In Kind Services:** Steel gates will be purchased to control unauthorized access by off-road vehicles. Several sections of state forest road are in need of grading, gravel and drainage. Services would include purchasing and spreading gravel, culverts and bulldozer/excavator time.

### **Silviculture:**

**Primary and Secondary Goals and Objectives:** The primary silvicultural goal is to begin the process of converting the spruce plantations to a northern hardwood stand with a softwood component. A secondary goal is to promote tree species that are deep-rooted in order to provide a forest that is resistant to wind damage. Another secondary goal is to modify the vertical structural diversity of the forest.

**Methods Used To Accomplish These Goals:** The plantations will be regenerated using the irregular shelterwood system. This is a silvicultural system that retains canopy cover throughout the rotation and utilizes a series of gaps to regenerate the forest. The remainder of the harvest area will be treated with an uneven age management system utilizing the selection method of regeneration which will implement variable sized openings to mimic small scale natural disturbance and encourage an uneven-aged forest.

**Short and Long Term Desired Conditions:** The immediate desired condition is to establish regeneration of desirable species and release existing patches of regeneration in the spruce plantations. Long term desired conditions include creation of small gaps throughout the project area filled with a mix of northern hardwood and spruce regeneration with eventual conversion to a northern hardwood stand with a component of spruce and white pine. A long term desired condition would also be the creation of both vertical structural diversity and diversity among age classes represented in the stand. This would be present in the form of retained large trees, living and dead snags and a wide variety of age classes represented though out the forest. The irregular shelterwood

system is flexible enough in its application that it can be used to eventually shift the stand to multiple age classes found in all-aged forests.

**Future Silvicultural Treatments:** The irregular shelterwood system will be used to re-enter the plantation in another 10 to 15 years. Established regeneration will continue to be released by expanding the prior gaps and creating new ones to regenerate. Single tree and group selection will be used to re-enter the other stands in a similar time frame.

District Forester: Timothy M. Arger

Date: 1/4/17

Field Operations Team Leader  
Or Park Supervisor: Ch. Bullitt

Date: 1/5/17

Regional Director: Michael R. Craig

Date: 1/4/17

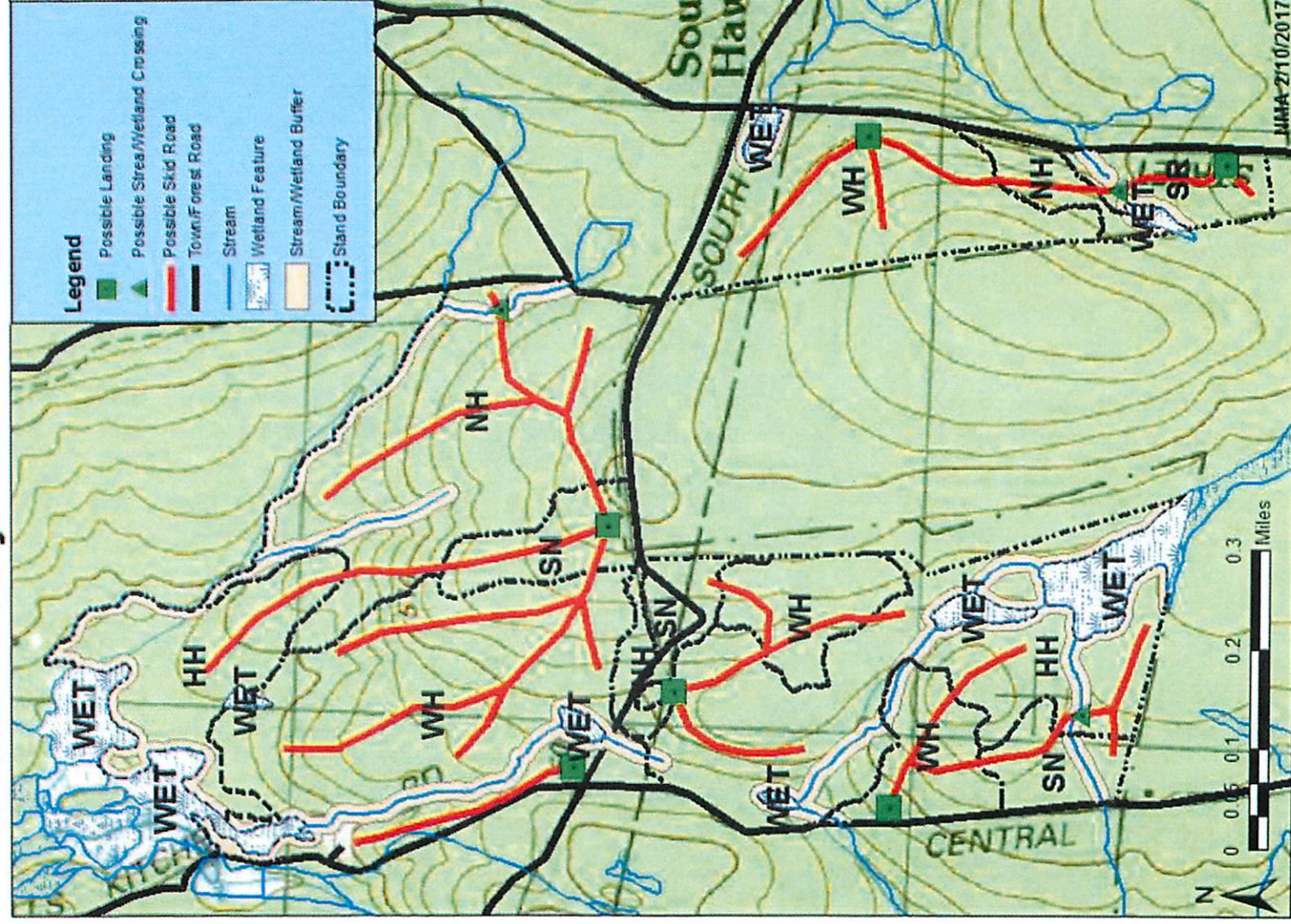
Management Forestry  
Program Supervisor: John D. Hill

Date: 2/13/2017

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



# Western Connecticut Valley District South Hawley Cross Roads Lot





# South Hawley Crossroads Sale Locus Map Kenneth Dubuque State Forest

