

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

**Date Posted: March 2, 2020**

**End of Comment Period: April 16, 2020**

**Region:** West  
**Recreation District:** Mountain  
**Forest Management District:** Northern Berkshires  
**State Forest:** Florida State Forest  
**Closest Road:** South County Road  
**Town:** Florida

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**Overview:**

The proposed project area is located in Florida State Forest on both sides of South County Road. The sale contains 31 ± acres of Norway spruce (*Picea abies*) plantation and 76 ± acres of mixed northern hardwoods and oak. This area was originally the South County Road project, however, there has been an expansion to include all Norway spruce plantations within the immediate area.

*Conditions that led to selecting the area for active management*

- The Norway spruce plantations are in decline and are being colonized by northern hardwoods, oak, and native softwoods.
- Northern hardwoods and oaks have reached a point in their development allowing residual trees to respond well to additional growing space and reduced competition provided by a silvicultural treatment.
- Beech bark disease complex (BBD) is rampant within the stand, reducing biodiversity.
- On a spatial scale, this treatment fits well with other anticipated treatments in and around Florida and Savoy Mountain State Forest.
- Much of the hardwood component, to include the oak, has poor form and this project would promote the ingrowth of younger trees that are present with better growth forms.
- Provides an opportunity to fulfill MA DCR objectives for Woodland Zones.
- The Town of Florida requested assistance in mitigating the issues with frequently downed trees near the South County Road and Church Road Intersection, identified on MAP 1 as

the “Hazard Removal Strips”. As the Norway spruce plantations continue to decline the hazards to the road will also continue, and therefore all plantations immediately adjacent to South County Road, within the project area, will have a “Hazard Removal Strip” installed. The total area of all strips combined is 5 acres.

- The original South County Road Project was not appealing to most purchasers due to much of the hardwood in the original sale being of a grade with very poor markets and not enough softwood to offset that aspect of the sale.

### *Goals and Objectives of the Cold River Sale*

Goal 1: Increase biological diversity and introduce more complexity into existing stands.

Objective: Install gaps within the existing stand, and expand upon existing gaps, in order to create early successional forest and begin a new age class of trees.

Goal 2: Improve wildlife habitat, specifically browse and cover.

Objective: Establish gaps between 1/3 and 1 acre in size in order to ensure the recruitment of a new age class and reduce the opportunity for beech to dominate the opening.

Goal 3: Improve recreational experiences primarily associated with hunting and wildlife viewing.

Objective: The hardwood and oak stand has a strong uneven-aged structure and this project will maintain that structure while providing opportunities for ingrowth and/or regeneration. Within Norway spruce plantations, trees with poor form, health, and/or vigor will be removed in favor of the colonizing hardwoods and native softwoods present. This will increase the attractiveness of the area for use by a wider variety of wildlife.

Goal 4: Increase the distribution and density of sugar maple to combat regional sugar maple decline.

Objective: Sugar maple (*Acer saccharum*) was favored for retention during marking as part of the previous South County Road Project. Small pockets of regenerating maple were found and had competing overstory trees removed.

Goal 5: Remove beech infected with Beech Bark Disease Complex (BBD)

Objective: Beech that showed clear signs of BBD were focused on during the marking phase of the previous South County Road Project. A 10-acre beech treatment area was also established immediately north of the sale and abuts the sale boundary.

Goal 6: Create and provide ecosystem services from this Woodland as directed by the Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines (2012).

Objectives:

- Provide locally grown forest products to the local economy
- Create a more diverse forest structure that is resilient to disturbance through single tree selection and group selection.
- Sequester carbon in retained overstory trees, permanent forest products produced from the harvest, and in the vigorous regenerating forest.
- Provide the conditions within the stand for early seral or regenerating forest that will support diverse species.

Goal 7: Begin the process of removing Norway spruce plantations

Objective: Remove diseased and/or dying Norway spruce in order to: reduce interrupted electric service, road blockages, and maintenance costs to the Town of Florida and its residents; recover any remaining economic value; and expedite the process of succession by native hardwoods, eastern white pine (*Pinus strobus*), eastern hemlock (*Tsuga canadensis*), and red spruce (*Picea rubens*).

Goal 8: Demonstrate harvesting techniques and best management practices that protect forest resources.

Objectives:

- Ensure harvesting contractor compliance with all BMP's
- Frequently monitor operations to minimize and/or mitigate damage to the site
- Ensure full understanding of contractual requirements by the harvesting contractor
- Develop a comprehensive silvicultural prescription

## **Stand Description:**

### *Species Composition*

Norway Spruce Plantations: There are six plantations totaling approximately 31 acres within the project area that are even-aged with little or no understory or ground cover, save for areas with canopy gaps. The canopy gaps are a result of storms impacting dead and/or dying spruce and have since been colonized by highly desirable hardwood species; most notably red oak and sugar maple. These plantations occupy the lowest category of the site productivity complexity analysis developed in 2012, primarily because they are a monoculture with very little diversity. The plantations are in decline showing evidence of windthrow and potential root disease. Harvesting strategies that will remove Norway spruce with poor form, health, and/or vigor will be utilized.

Mixed Northern Hardwood and Oak Stand: This stand has already been marked as a single tree selection under the South County Road project. The primary stand components include red oak (*Quercus rubra*), red maple (*Acer rubrum*), eastern white pine, and eastern hemlock. Other merchantable species within the stand include yellow birch (*Betula alleghaniensis*), white birch (*Betula papyrifera*), black birch (*Betula lenta*), sugar maple, American beech (*Fagus grandifolia*), black cherry (*Prunus serotina*), and red spruce. This stand is demonstrating uneven-aged diameter distribution with an average basal area of 133 ft<sup>2</sup>/ac and 98% relative density. Though there is not any evidence of previous logging operations, there are numerous indicators of natural disturbance that have contributed to the uneven-aged condition; i.e.: blowdowns, ice damage, uprooted stems, etc. Most of the natural regeneration present is red oak and red maple. The overstory trees show strong evidence of storm and ice damage, and this project would be used as a means of removing that from the stand in favor of younger trees in the understory with better form and more vigor.

Groundcover in this stand consists mainly of ferns, hobblebush (*Viburnum lantanoides*), and highbush blueberry (*Vaccinium corymbosum*).

#### *Previous Silviculture Activity*

Both stands demonstrate typical land-use patterns consistent with the northeast. This area is noted for having sheep farms, and the land was most likely cleared for livestock within the last 100 ± years. Further evidence of the cleared lands is present via stone walls; scattered, very old open-grown trees; and a cellar hole located near South County Road. At some point the farms were abandoned and the land was left to reforest naturally. The fact that the area had been completely deforested within roughly the same time frame as the efforts by the Civilian Conservation Corps to perform reforestation work, likely drove the decision to install the Norway spruce plantations. Since that time active harvesting has occurred on Savoy Mountain State Forest, and surrounding private lands. However, it appears that the Commonwealth has not conducted any previous harvesting activities in this particular area of Florida State Forest.

#### *Topography and Soils*

The primary soil associations included within the project area is the Tunbridge-Lyman association. This soil association is characterized as extremely stony with a mica schist parent material, and located on slopes of 3% - 15%. The soils are found at elevations between 10' and 2,500', receive between 34" and 52" of precipitation each year, and are subjected to a mean annual temperature between 37° F and 45° F. The site index for this association is between 50 and 60 depending on species and microsite.

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

#### *Aesthetics*

Roads/trails that will be impacted by the harvest are South County Road and Flat Rock Hill Snowmobile Trail. Though none of these are specifically designated as scenic byways, maintaining the visual experience for the users of these roads and trails is a high priority. In

order to ensure that this occurs, slash management guidelines outlined in the 2013 2<sup>nd</sup> Edition of the Massachusetts Forestry Best Management Practices Manual will be followed.

### *Recreation*

There are a number of resource-based recreational activities that forest users participate in throughout the sale area, to include: snowmobiling, hiking, biking, hunting, and wildlife viewing. This project will occur primarily during frozen ground conditions and is likely to have an impact on snowmobilers using the Flat Rock Hill Snowmobile Trail. Though closures are not anticipated, signage advertising an active sale, and early communication with snowmobile clubs and/or their representatives will be required.

### *Wetlands*

Wetlands within the project were identified during the stand exam process and marking phases of the South County Road Project. Additional wetland resources may be identified during the marking phase of the expanded project area. Encountered wetland resources are delineated and detailed within the cutting plan. All BMP's listed in the current Massachusetts Forestry Best Management Practices Manual are followed.

### **Cultural Resources**

A stone wall has been located north of the intersection of South County Road and the Cold River tributary that is located within the sale. A cellar hole was also located immediately north of South County Road on the westerly side of the sale area. Stone walls and cellar holes are to be protected from damage due to harvesting. If a stone wall does need to be crossed, it will be done at a designated crossing, and rehabilitated to the condition it was in prior to harvesting. Additional cultural resource protection measures may be necessary once the area is cross referenced with the master site file for the Commonwealth of Massachusetts and are done so in accordance with DCR policy and procedure.

### **Listed Species**

The Massachusetts Natural Heritage GIS data layer, was referenced for this project. The southeast portion of the sale in the area of the intersection of South County Road and Church Road, outside of the plantations, is listed as priority habitat for a state listed butterfly.

### **Wildlife**

#### *Species*

The wildlife occurring in this area is typical of a northern mixed hardwood and softwood forest. Observed species include black-capped chickadee (*Poecile atricapillus*), white-tail deer (*Odocoileus virginianus*), blue jay (*Cyanocitta cristata*), and American crow (*Corvus brachyrhynchos*). Other species expected to occur are black bear (*Ursus americanus*), moose (*Alces alces*), various songbirds, ruffed grouse (*Bonasa umbellus*), snowshoe hare (*Lepus americanus*), raccoon (*Procyon lotor*), various fur bearers, grey squirrel (*Sciurus*

*carolinensis*), red squirrel (*Sciurus vulgaris*), various raptors, and other small mammals such as bats and rodents. Various reptiles and amphibians also occur in the sale area.

#### *Snags and Retained Live Trees*

Snags are retained on-site provided they do not pose a hazard to humans during or after operations. Live trees that appear to be a den or nest site either currently or in the recent past are also retained. Beech that have evidence of bear foraging or are in excess of 14" DBH, showing no signs of beech bark complex, and in good health are retained.

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

#### *Infrastructure*

Landings will continue to be selected based on a number of factors to include existing vegetation, slope, access by haul vehicles, wetland proximity, etc. During harvesting operations excess slash building up at the landing will be evenly distributed back through the sale area within the skid trails. Prior to the conclusion of the sale, all landings will be cleared of any debris that will inhibit seeding. MAP 1 shows the current and planned locations of the landings.

Primary skid roads have been identified and will be expanded upon during the marking phase of the project. Existing skid trails, agricultural trails, or appropriate recreation trails will be utilized when possible. Skidding will occur along contours, and sharp pitch or grade changes by skidding equipment will be avoided. Skid trails are rehabilitated in accordance with Massachusetts Forestry BMP's, DCR Policy, and are outlined in the harvesting contract. MAP 1 shows the planned and current locations of skid trails.

#### *Harvesting Equipment*

No individual piece of equipment shall exceed 40 tons. Delimiting operations shall not be conducted on landings unless the tops and branches are being used for stabilization. The maximum log length for skidding shall not exceed 40'. There is no restriction on log lengths for forwarding. Wheelbases and equipment length will be appropriate for operating in confined stands.

#### *Areas Excluded From Harvesting*

Any areas that are identified as having cultural significance will be excluded from the sale area, as well as areas that are considered sensitive and will be negatively impacted for a prolonged period post-harvest. Typically harvesting is very limited, if conducted at all, within filter strips or wetlands.

#### *Erosion and Sediment Control*

The unwanted movement of soil and sediment across the landscape will be minimized by following and exceeding the requirements and guidelines of the most recent edition of the Massachusetts Forestry Best practice Manual, currently the 2013 2<sup>nd</sup> Edition. Routine

activities associated with erosion and sediment control are the installation of filter strips, water bars on skid trails, seeding and mulching skid trails at the conclusion of the harvest, etc.

### *In-Kind Services*

The following items have been identified for inclusion as in-kind services:

- Timbers and boards for use in repairing infrastructure within Florida State Forest and Savoy Mountain State Forest
- 10-acre beech treatment immediately north of the harvest area

### *Proximity to Forest Reserves*

The southwest area of this project area abuts a Forest Reserve.

## **Silviculture:**

### *Norway Spruce*

Encouraging further hardwood and native softwood colonization within the plantation will be the primary goal of silvicultural treatments.

- Methods: Openings of 1/3 to 1 acre in size will be installed within the Norway spruce plantations (MAP 1). Healthy hardwoods that are established within the plantation will have competing Norway spruce removed as part of a single tree selection.
- Future Silvicultural Entries: Thinning the hardwoods that have colonized the site, removing the residual plantations, install group selection openings in colonizing hardwoods, and single tree selection within the recruited native softwoods.
- Desired Future Conditions: The desired future condition of the current Norway spruce plantations is a hardwood stand with occasional softwoods such as white pine and/or hemlock, and some residual Norway spruce. The former plantation will become two-aged and healthy, vigorous, fully stocked, and have an increase in both vertical and horizontal complexity. Depending on site conditions, it may be possible to move this stand to a fully uneven-aged system in the future.

### *Mixed Northern Hardwoods and Oak*

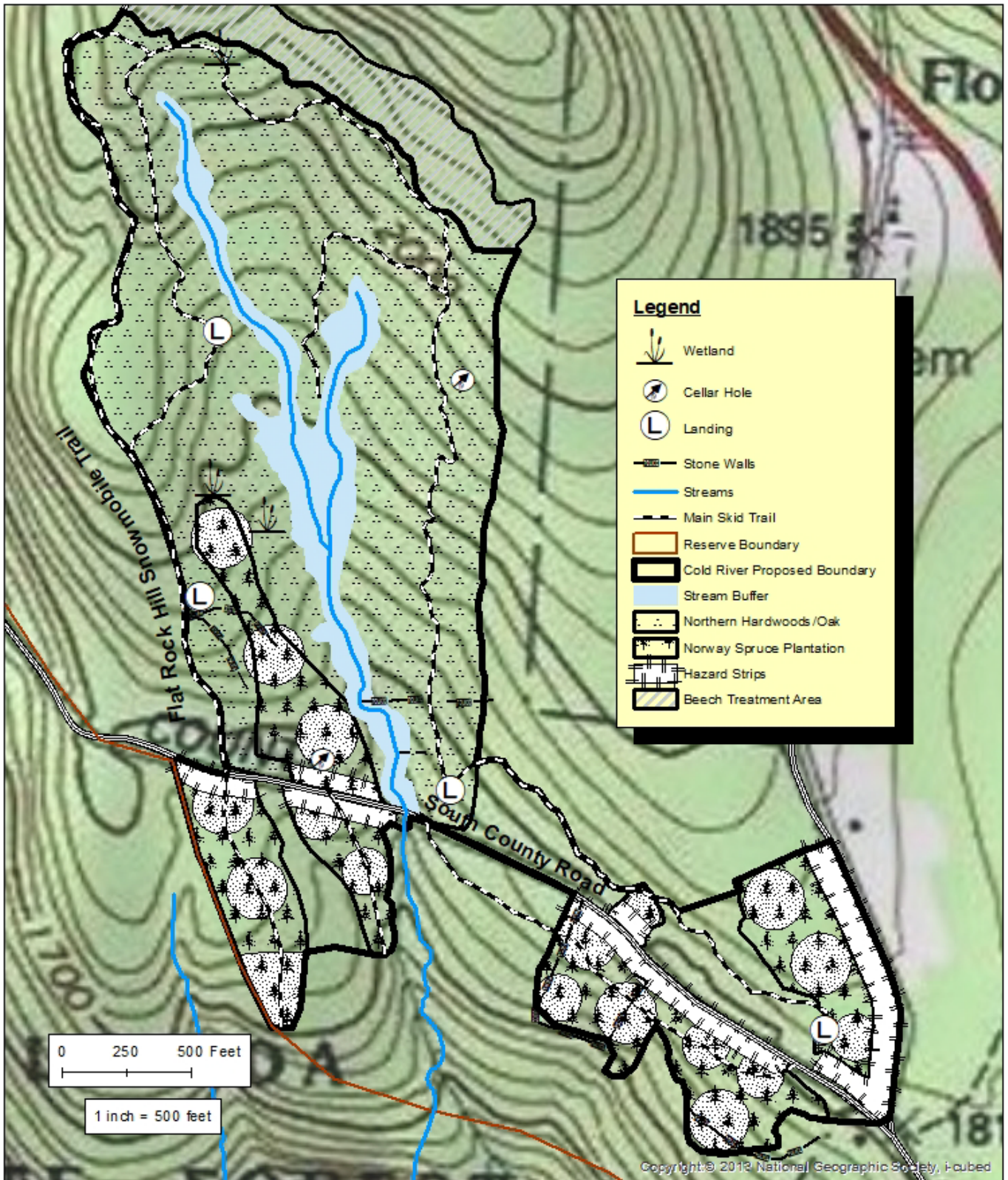
Single tree selection has been used to maintain complexity and will eventually improve the growth form and vigor of the residual trees within the stand. During marking diseased beech were biased for cutting while sugar maple; disease free beech over 14" in diameter, and white ash less than 10" in diameter were biased for leaving.

- Methods: A single tree selection system was used in the original area and will not be expanded with this project. In this system the stand was marked according to a curve created by determining the desired residual basal area, the largest diameter tree desired, and an expression of the stand structure for uneven-aged management.
- Future Silvicultural Treatments: Future treatments will most likely be composed of group selection treatments, as the current science is favoring that approach over single tree selection in stands with significant BBD issues. Treatments will also include expanding on existing gaps, and thinning for continued improvement in quality and quantity of desirable tree species. Herbicide application to control excess beech proliferation may also be required in order to ensure a diversity of desirable growing stock in the gaps and/or expanding gaps.
- Desired Future Condition: The desired future condition for this stand is a healthy, vigorous, fully stocked stand free of insect and disease issues. Noxious weed issues will be minimal, and over the course of time the stand will be well diversified in ages so as to include early successional stages in certain areas of the stand and old growth characteristics in others.



# Cold River Forest Management Project

Florida State Forest  
Florida, MA





# Cold River Forest Management Project LOCUS MAP Town of Florida

