

**Massachusetts Department of Conservation and Recreation
Bureau of Forest Fire Control and Forestry
Forest Management Proposal
Name: Shear Pin Sale**

Date Posted:	March 15, 2019
End of Comment Period:	April 29, 2019
Region:	West
Recreation District:	Mountain
Forest Management District:	Northern Berkshires
State Forest:	Savoy Mountain State Forest
Closest Road:	Adams Road
Town	Savoy
Contact Information:	Kevin Podkowka 740 South Street PO Box 1433 Pittsfield, MA 01202 413/442-8928 ext. 125 kevin.podkowka@mass.gov

Overview:

The project area contains 55+/- acres of Beech-Birch-Maple, 21+/- acres of Sugar Maple, 5+/- acres of Spruce-Fir, and 5 acres of upland Birch-Red Maple, totaling 86+/- acres.

Conditions that led to selecting the area for active management:

- The project area includes white ash trees which are subject to high mortality due to the spread of Emerald Ash Borer (EAB) and/or Ash Yellow's disease.
- The harvest area is even aged, and is at a point in maturity appropriate to introducing a new age classes
- Lack of previous management
- Provides an opportunity to fulfill MA DCR objectives for Woodland Zones including maintaining diverse and resilient native forests.

The Shear Pin Sale Management Project will:

- Increase forest resilience by removing declining ash trees and ash trees at high risk for mortality due to EAB and Ash Yellow's disease.
- Increase biological and structural diversity through combinations of even-aged and uneven-aged management systems.
- Improve wildlife habitat, specifically browse and cover through the introduction of new age classes and increasing species diversity.

- Increase the distribution and relative density of sugar maple to combat sugar maple decline.
- Demonstrate harvesting techniques and best management practices that protect forest resources through compliance with all BMPs, and frequent monitoring of operations to minimize site damage.
- Create and provide ecosystem services from this Woodland as directed by the Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines (2012).
 - Provide locally grown forest products to the local economy
 - Create a more diverse forest structure that is resilient to disturbance through improvement thinnings 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.
- Follow the general guidelines of the Northern Berkshire Forest Management Plan.

Stand Descriptions:

There are four major types of stands within this sale and a treatment area.

Beech-Birch-Maple
 Spruce-Fir
 Sugar maple
 Upland Birch-Red Maple

Beech-Birch-Maple

This stand consists of 55+/- acres of even-aged forest. The overstory is comprised of red maple, sugar maple, yellow birch, white birch, white ash, and American beech. Other plants in the understory include lycopodium, Indian cucumber, Canada mayflower, serviceberry, striped maple, sensitive fern, hay-scented fern, and woods fern. Stocking level or trees density is relatively high; approximately 110 ft²/acre of basal area. This stand has a high component of mature white ash, indicating a rich site and deep soils. The American beech present within the stand is showing signs of beech bark disease complex (BBD), however, this represents relatively small areas (typically less than 2 acres) within the stand. Stand treatments will focus on creating a new age class, removing white ash over 10" dbh, and removing trees of low health and/or vigor.

Spruce-Fir

Composed primarily planted Norway spruce and native red spruce this stand is approximately 5 +/- acres in size. Eastern hemlock and scattered balsam fir are also present. Groundcover and shrubs are very limited within this stand due to shading and acidification of the soils. The trees have narrow crowns, the stocking is approaching 200 ft²/ac, and are primarily within a single age class. Even though the particular area within this project does

not display the level of mortality that has been seen in other Norway spruce plantations on the state forest, these trees are at risk for health issues because of tree high density and competition between cohorts. Harvesting techniques that create a new age class and encourage recruitment of native species will be utilized.

Sugar Maple

The sugar dominated portions of the project area total approximately 21 +/- acres and located immediately adjacent to Beech-Birch-Maple stands. The sugar maple stands are also the richest sites in the project area. Other tree species include white ash, red maple, yellow birch, white birch, American beech, and black cherry. Within this stand most of the other competing hardwoods will be biased for removal in favor of increasing the size, density, and distribution of sugar maple. The preferred management technique will be thinning, however gaps will be installed when appropriate. Ground cover associated with this stand is very similar to the Beech-Birch-Maple stands.

Upland Birch and Red Maple

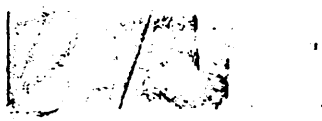
This stand is located on the highest point within the sale area and is approximately 5 +/- acres in size. This stand is also the lowest in productivity, has the most xeric moisture regime, and coarsest soils of the 3 hardwood stands. Ground cover and shrubs are consistent with the Beech-Birch-Maple and Sugar Maple stands with a lower frequency and is more dispersed. Management activities will focus on the creation of an early seral / young forest condition.

Previous Silviculture Activity

This area is indicative of typical New England land use patterns. Based on the single age class, the area was most likely cleared around the turn of the century and used as pasture. Since the soils on site remain deep, and there is evidence of pit and mound topography, the area was likely kept open by the action of grazing but not intensively worked. According to the Savoy State Forest Master Plan Map dated March 19, 1937 the area proposed for this forest management project was designated as a Forestry Area, and the Spruce-Fir stand is part of a larger plantation most likely installed by the Civilian Conservation Corps.

Topography and Soils

The soil associations included within the project area are Pillsbury Fine Sandy Loam, Berkshire-Marlow Association, Lyman-Tunbridge Association, Peru-Marlow Association, and Tunbridge-Lyman Association. These soils are all sandy loams that are very stony, derived from glacial till, and have a depth of 20" – 40" to restrictive features. They are also well drained and are not disposed to ponding or flooding. As mentioned earlier, these soils are considered very rich with nutrients, and have a high potential for erosion. Measures beyond standard BMP's will be required to protect the site.



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

Aesthetics

There are no scenic landscapes associated with this project area.

Recreation

There are a number of resource based recreational activities that forest users participate in throughout the project area, and include: snowmobiling, hiking, biking, hunting, and wildlife viewing. The Lewis Hill Snowmobile Trail is located within the project area, and measures to ensure the safety of both the riders and harvesters will be implemented. Additionally, the trail will be left free of litter and debris during logging operations. The project is intended to have no impact but will improve the experiences of users and visitors to the forest. None of the activities associated with harvesting are anticipated to restrict known, legal, recreation.

Wetlands

Wetlands within the project will be thoroughly identified during the stand exam process and when the timber marking has concluded. A review of the DEP wetlands map does not indicate the presence of any certified vernal pools; or major streams, rivers, or lakes. The streams that are currently shown on the map have been located, and filter strips will be installed during the marking process. Currently one stream crossing is anticipated, however this may change over the course of project development. If additional wetlands such as non-certified vernal pools, additional intermittent streams, upland wetlands, etc. are encountered; standards outlined in the most recent edition (currently 2013 2nd edition) Massachusetts Forestry Best Practices Manual will be followed as they relate to harvesting requirements, crossings, filter strips, water bars, slash management, etc.

Cultural Resources

There are no known resources of cultural significance. However, a review of the project will be conducted by the DCR Archeologist and any cultural resources that are identified during operations will be documented and protected as per Department of Conservation and Recreation policy and procedure.

Listed Species

This project contains NHESP (Natural Heritage and Endangered Species Program) Priority Habitats of Rare Species, but no NHESP Estimated Habitats of Rare Wildlife. This area also contains species of special conservation concern. The natural Heritage and Endangered Species Program will be consulted for recommendations in order to minimize the potential for negative impacts to listed species and critical habitats.

Wildlife

Species

The wildlife occurring in this area is typical of a northern hardwood forest. Observed species include white-tail deer, ruffed grouse, chipmunk, porcupine, red and grey squirrels, and common crow. Other species expected to occur are black bear, moose, various songbirds, snowshoe hare, raccoon, various fur bearers, various raptors, and other small mammals such as bats and rodents. Additionally various reptiles and amphibians are expected to occur in the area since there are known streams and wetlands adjacent to and within the project area.

Snags and Retained Live Trees

All snags will be retained on site provided that they do not pose a hazard to humans during or after operations and a minimum of 5 snags greater than 10" dbh where they exist. Live trees that appear to be a den or nest site either currently or in the recent past will also be retained. Beech that have evidence of bear foraging, or are in excess of 14" in diameter and showing no signs of beech bark complex and in good health, will not be designated for removal.

Sale Layout and Harvesting Limitations:

Infrastructure

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

Primary skid roads will be identified following the stand exam, and confirmed upon the completion of timber marking. Existing skid trails, old agricultural trails, and 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 when possible. Skid trails will be rehabilitated prior to the conclusion of the sale.

Harvesting Equipment

This operation is anticipated to be hand felled and downed timber will be removed by either a forwarder or cable skidder. Restriction will be placed on equipment size with maximum wheelbase lengths and ground pressure requirements. All equipment and activities will comply with the most recent version of the Massachusetts Forestry Best Management Practices manual, currently the 2013 2nd Edition.

Areas Excluded From Harvesting

Within the project area, filter strips along streams and identified wetlands are anticipated to be no-cut zones. Additionally, any areas that are identified as having cultural significance

will be excluded from the project area, as well as areas that are considered sensitive and/or will be negatively impacted for a prolonged period post-harvest.

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 2nd Edition. Typical practices that mitigate erosion potential include waterbars along skid trails; seeding and mulching skid trails and landings; and placing logging slash within skid trails.

In-Kind Services

The following items are being considered for in-kind services as part of this forest management project:

- New Bridge on Lewis Hill Snowmobile Trail
- Improvements to Adams Road
- New Bridge on Balanced Rock Trail
- Bog Bridge Materials for Savoy Mountain State Forest

The bridges on Lewis Hill Snowmobile Trail and on Balance Rock Trail will require a Request for Determination of Applicability (RDA) to be submitted to the Town of Savoy Conservation Commission for approval. Any improvements to Adams Road that require culvert replacements within a resource area will also require an RDA. Approval from the Conservation Commission for activities associated with the repair of bog bridges and surfacing on Adams Road are not anticipated to require approval by the Conservation Commission as these are routine repairs to existing infrastructure.

Other items may be added based on identified needs over the course of sale marking and preparation.

Silviculture:

Beech-Birch-Maple

This stand has moderate to high complexity and productivity and a combination of even and uneven-aged silvicultural techniques will be utilized. Irregular shelterwood with group selection and variable density thinning will be used to free up space and resources for mature overstory trees and create gaps for species of lower shade tolerances. Thinning operations will focus on the removal of ash trees over 10" at high risk for EAB, trees with poor form, trees that are diseased, and trees of low vigor. Decreased stocking will improve the health and quality of the residual trees. During operations diseased beech will be biased for cutting while sugar maple; disease free beech over 14" in diameter, and superior white ash will be biased for leaving. Third-acre or smaller openings will be created to allow more light to reach the forest floor to begin regeneration. Gaps will be centered on dominant and/or codominant trees. In between gaps the area will be thinned to a range of densities to include no thinning at all in spots. The desired future condition is a resilient stand with

large mature northern hardwoods in the overstory and a diversified understory, including early successional stages in certain areas of the stand and old growth characteristics in others. Future harvests will be focused on expanding gaps and thinning in areas where needed. Herbicide treatment to control beech proliferation, barberry and other invasive species will be used as necessary.

Spruce-Fir

This stand is very dense, with a poorly developed understory, and has a high potential for disease. Red spruce and hemlock can persist for long periods of time within the understory, and respond well to release. The clearcut with reserves silviculture method will be utilized, and all Norway spruce over 5" in diameter will be removed and all healthy eastern hemlock, red spruce, and balsam fir will be left behind as either a source of seed or as advanced regeneration. Residual tree densities are anticipated to be in the range of 5-10 trees per acre, however, the distribution will not be uniform across the stand. The native residual vegetation will occur as both scattered clumps and scattered individuals with large gaps in-between. Removing the Norway spruce will significantly reduce competition and provide the opportunity for native softwoods to reclaim the site. Desired future conditions are for native softwoods to dominate the site.

Sugar maple

The objectives for this stand are focused on maintaining the health and vigor of the sugar maple, thinning will be used to remove other hardwoods, and ensure adequate spacing and resources for the residual trees until the next entry. In small areas where no sugar maple are present, or those present are damaged or otherwise undesirable, openings of 1/3 acre or smaller will be installed in order to begin the process of regeneration, and hopefully recruit more sugar maple. Natural stands dominated by sugar maple are not common in Massachusetts, and the desired future condition is for these stands to continue to be sugar maple dominant with a diverse groundcover.

Birch-Red Maple (Uplands)

These types of areas are most naturally productive as early seral habitat. Early successional forests are required for a number of different species to complete their life cycles, and provide additional opportunities for forage and cover to generalist species. Within a landscape context, early successional forests have the highest biological diversities of any other forest type

This stand is made up of white birch that is reaching the end of its biological life, and poor quality red maple. Since the site condition is not rich enough to encourage significant recruitment from species such as white ash or sugar maple, and there is no seed source for red or white oak; without significant disturbance this stand is anticipated to remain as a Birch-Red Maple stand with a potential for BBD susceptible American beech to encroach from adjacent areas. The preferred silvicultural technique will be clearcutting in order to provide more desirable species such as white birch, yellow birch, and potentially aspen the opportunity to colonize and occupy the site prior to any additional American beech recruitment within the stand.

District Forester:

Kevin M. Pollack

Date:

11/13/2018

Field Operations Team Leader

Or Park Supervisor:

[Signature]

Date:

11/15/2018

Regional Director:

Dom F. Sacco

Date:

11/13/18

Management Forestry

Program Supervisor:

[Signature]

Date:

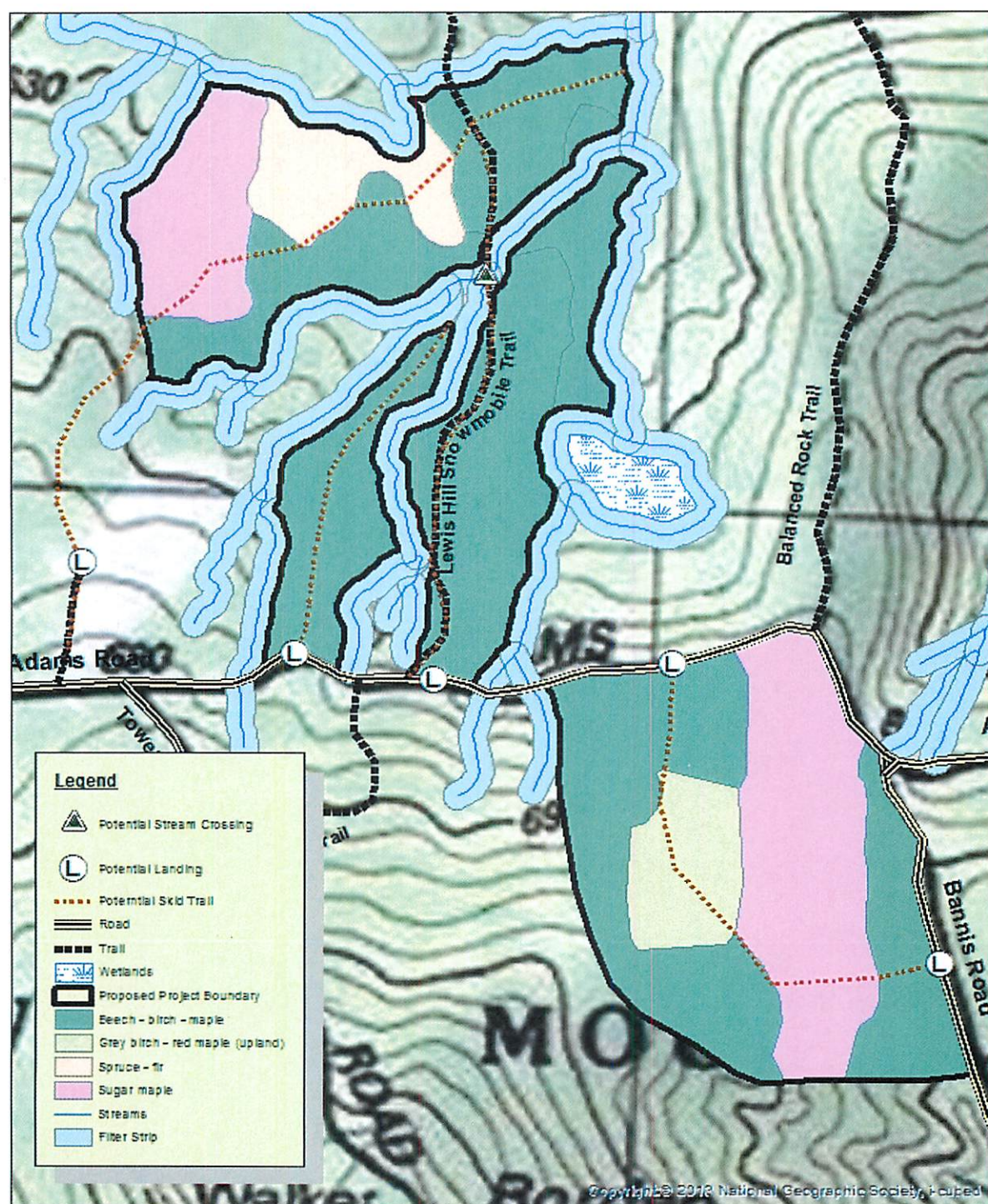
1/2/2019

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

MAP 1



SHEAR PIN FOREST MANAGEMENT PROJECT Savoy Mountain State Forest



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0 250 500 1,000 Feet

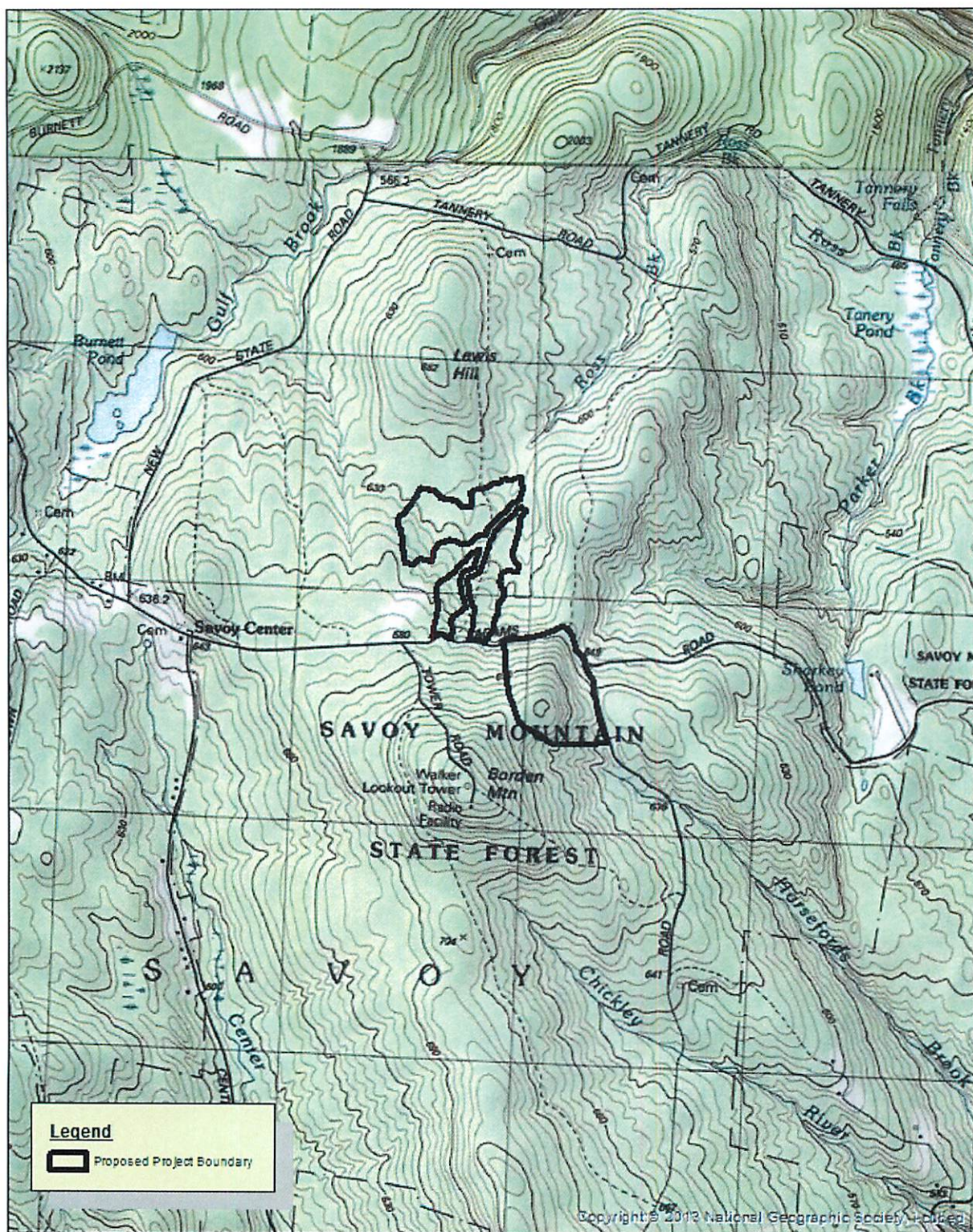
1 inch = 500 feet



SHEAR PIN FOREST MANAGEMENT PROJECT

Savoy Mountain State Forest

Locus Map



0 1,000 2,000 4,000 Feet

1 inch = 2,000 feet