

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

Date Posted:	February 26, 2016
End of Comment Period:	April 10, 2016
Region:	West
Recreation District:	Lakes
Forest Management District:	Central Berkshires
State Forest:	October Mountain State Forest
Closest Road:	Tyne Road
Town	Becket
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Overview:

The Heaphy-Richardson Lot Forest Management project is located on the southern 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 decline.
- The project area has a high percentage of white ash which is or will be infested with Emerald Ash Borer (EAB) soon.
- 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 including maintaining and establishing diverse and resilient native forests.

The Heaphy-Richardson 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.
- Remove/salvage white ash prior mortality from infestation of EAB.
- Demonstrate harvesting techniques and best management practices that protect forest productivity, recreation values, soil and water resources.

- Fulfill management approaches for Woodlands as directed by the Forest Futures Visioning Process (2010) and subsequent Management Guidelines (2012)

The Heaphy-Richardson Lot Forest Management Project may result in two or more timber sale entries.

Project Area Description:

- **Stand Information:** The proposed project area consists of 230 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*), red oak (*Quercus rubra*), 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 and the ice storm of 2008. These events are pushing all these forest types into high risk / low quality beech dominated forest.

The northern hardwood forest type within this project area has variations of species density and size classes creating a mosaic effect. This general forest type will be broken down into individual stands for administration purposes based on topography and species composition to assist planning in proper management decisions. Size classes in this project area range from small to large diameter trees with high density levels. Portions of the project area are populated by Norway spruce (*Picea abies*) and white pine (*Pinus strobus*) in the overstory as individuals that survived and flourished after a 1935 planting by the CCC's. Some portions have Norway spruce in the understory as well from the same planting.

There are existing natural small gaps in the forest canopy mostly caused by white ash mortality and beech bark disease. 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 90-110 years old.

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 Heaphy-Richardson 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.

- **Topography:** This proposed project area is located in the southern portion of October Mountain State Forest in the town of Becket. The project area is bound by Tyne Road to the North, planted and native softwood stands to the east, State Forest boundary to the south and softwood stands and wetland features to the west. The highest elevation is located within the northern portion of the project area and is at 2070 feet. Slopes drop to the west and south to an elevation of approximately 1470 feet along the western project boundary.

Drainage from approximately 90 percent of the project area travels through several intermittent drainages that flow directly south or west through a large wetland then south out of the project area. After leaving the project area these streams cross under Route 20 and enter Green Water Pond, part of the Housatonic Watershed. The remaining 10 percent of the project area drains to the east through intermittent drainages outside of the project area to

Tyne Swamp, part of the Westfield Watershed. There are currently no known regulated wetland features within the project area.

- **Soil:** There are five soil types associated with this project area, ranging from shallow to deep well drained upland soils. As with topography the forest composition changes slightly with the soil types. The five types are described below (excerpts from “Soil Survey of Berkshire County Massachusetts”, NRCS 1988).
 - PmC – Peru-Marlow Association (12ac): This map unit consist of very deep, moderately well drained Peru soils with deep, well drained Marlow soils. These soils are found on lower slopes.
 - BmE – Berkshire-Marlow Association (16ac): This map unit consists of very deep, well drained Berkshire and Marlow soils. These soils are on the sides of hill and mountains.
 - TuC – Tunbridge-Lyman Association (22ac): 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-Trunbridge Association (180ac): 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.
- **Previous Silvicultural Treatments:** Forest management maps created in 1932 show the project area as a young forest of sparse small (2-4”) pioneer species including grey birch (*Betula populifolia*), red maple, paper birch, yellow birch, beech and sugar maple. This indicates the area mostly likely was cleared or heavily harvested in the early 1920’s.

The Commonwealth purchased the project are in two phases, 1924 and 1931. The northeast portion of the project area was planted by the CCC’s in 1935 with follow a follow up release of individual trees in the mid 1940’s. There is no known further silvicultureal work in this area under state ownership.

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

- **Aesthetic:** Tyne Road is a paved secondary road owned and maintained year round for vehicle traffic by the Town of Becket. DCR owns both sides of this road for proximally 1.5 miles with this project lying in the middle of this owned section. There are private dwelling located beyond the DCR boundaries. As per the “Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines”, there will be a 50 foot buffer along Tyne road where no more than 50% of live basal area will be harvested and no slash with in 25’ of the road will remain. The Massachusetts Slash Law will be observed beyond the 25’ no slash zone.
- **Recreation:**
 - The Appalachian Trail traverse south to north in the western portion of this project area. This project will follow guidelines set forth in the “Memorandum of Understanding Guidance Document for the Appalachian National Scenic Trail in the Commonwealth of Massachusetts” established in 2003. Coordination between DCR and the Appalachian Mountain Club Berkshire Chapter will be sought for project planning within the both the primary and secondary zones of the “Appalachian Trail Corridor”. It is anticipated that the AT will be crossed at one existing woods road location.

- There are no other formal trails or recreational activities that require buffering within this project, however there is along standing existing snowmobile trail which connects Cordonier Road to the Snowmobile Association of Massachusetts (SAM) trail network to the south of October Mountain. Although this is not an accepted trail, every effort will be made to protect the trail from damage and keep it clear of debris during this project. There will be no formal buffer protection for this trail. It is anticipated that this trail will be crossed twice by skid trails.
- The project area is also open to all legal passive recreation activities that are allowed on DCR properties.
- **Water Resources:** There are several 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. Due to the potential skid road/trail layout there are only two anticipated regulated stream crossing in the project area and no anticipated wetland crossings. If it is necessary to cross additional unregulated drainages these stream 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”

All regulated streams, upland drainages, intermittent streams, seeps and wetlands, and potential 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.

- **Cultural Resources:** There are no known cultural resources except stone walls within the project area. These stone walls and any other resource found within the project area will be protected from disturbance during operations and will be treated according to guidelines set forth in the “Bureau of Forestry – Cultural Resource Management Protection Standards & Guidelines”. Any additional features found will be mapped and protected.

To the east of the project area on Tyne road is the location of the former CCC camp. No parts of the camps foot print are within the proposed project area.

- **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 or the immediate 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. There are no certified or potential vernal pools mapped by NHESP.
- **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, turkey 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 Heaphy-Richardson Lot may be divided into multiple timber sales.

- **Project Access:** Access to the proposed project area will be from Route 20 in Lee, to Becket Road which turns in to Tyne Road upon crossing the town line into Becket. Becket/Tyne Road are town owned and maintained roads.
- **Landings:** There are no currently existing landing areas large enough to support a modern timber harvest operation. Currently two landing will be proposed off of Tyne Road. Effort will be made to set the landing back approximately 50 feet from the road to ensure the required buffer strip is kept intact where feasible.
- **Skid Road and Trails:** Throughout the project area there are existing skid trail segments still visible from the previous land use. These existing segments will be evaluated and connected as needed to gain access to necessary portions of the project area.
- **Wetland & Stream Crossing:** Skid road and trails will be laid out to minimize the number of crossings throughout the project area. 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 Tyne 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. Along the Appalachian Trail guidelines from the existing MOU will be followed along the trail buffer. There are no other formal recreation trails in the project area to buffer, however the existing snowmobile trail will be left intact and clear of logging debris.
- **Equipment Limitations:** Currently there are no harvesting equipment limitations or restrictions, it will be determined upon completion of field work if any limitations or restriction are necessary for this project area.
- **Excluded Areas:** There may be portions of the project area removed from active management due to excessive slope, wet ground or rocky ground. These exclusions will be documented and mapped within the Silvicultural Prescription or the Forest Cutting Plan.
- **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 harvest 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 the eastern most proposed landing on Tyne Road.
 - Field mowing/restoration in the Shepardson Parcel of October Mountain State Forest.
- **Proximity to Designated Forest Reserves:** There is no forest reserve located adjacent or near this project area. Approximately ½ mile and across Tyne Road from the project area is

the park land designated land surrounding Buckly Dunton Lake. This project will have no effect on these lands.

- **Sensitive Public Issues:** Due to the proximity of the harvesting to both the Appalachian Trail and Snowmobile trails there may be concern from users of these recreation features. Working cooperatively with the local representatives of the Appalachian Mountain Club, the Appalachian Trail Conference and the Snowmobile Association of Massachusetts to address concerns prior beginning field work will hopefully alleviate concerns from these user groups.

Silviculture: Silvicultural practices in these stands will demonstrate a mix of irregular shelterwood and group regeneration of northern hardwoods. 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.

- **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 existing ice and insect damage with additional significant mortality of white ash due to the emerald ash borer. If left unchecked these stand may become dominated by diseased beech, with little overstory diversity.

A secondary goal of this project is to capture value of current damaged and/or diseased trees and to pre salvage and capture the value of white ash.

- **Silviculture Methods:** The anticipated practice used in these stands will be irregular shelterwood with occasional group openings of up to 1/3 acre in areas that have acceptable advanced regeneration. This method of management will begin the transformation of the current even aged forest into an un-even aged condition.

The irregular shelterwood area will remove an average of 30 - 80% of the basal area based on conditions such as species composition, size and health of trees. The groups will remove all trees over 5 inches in diameter leaving behind all desirable advance regeneration. These groups will not exceed 10% of the project area. Chemical control of beech may be used within the project area 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 group removal the remaining stand will be comprised of a larger percentage of healthy trees with groups of regeneration advancing into the upper canopy. This will provide the desired condition of an uneven aged forest.
- **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 group openings to further regenerate the stand.

District Forester: [Signature]

Date: 1-27-2016

Field Operations Team Leader
Or Park Supervisor: [Signature]

Date: 1-27-2016

Regional Director: [Signature]

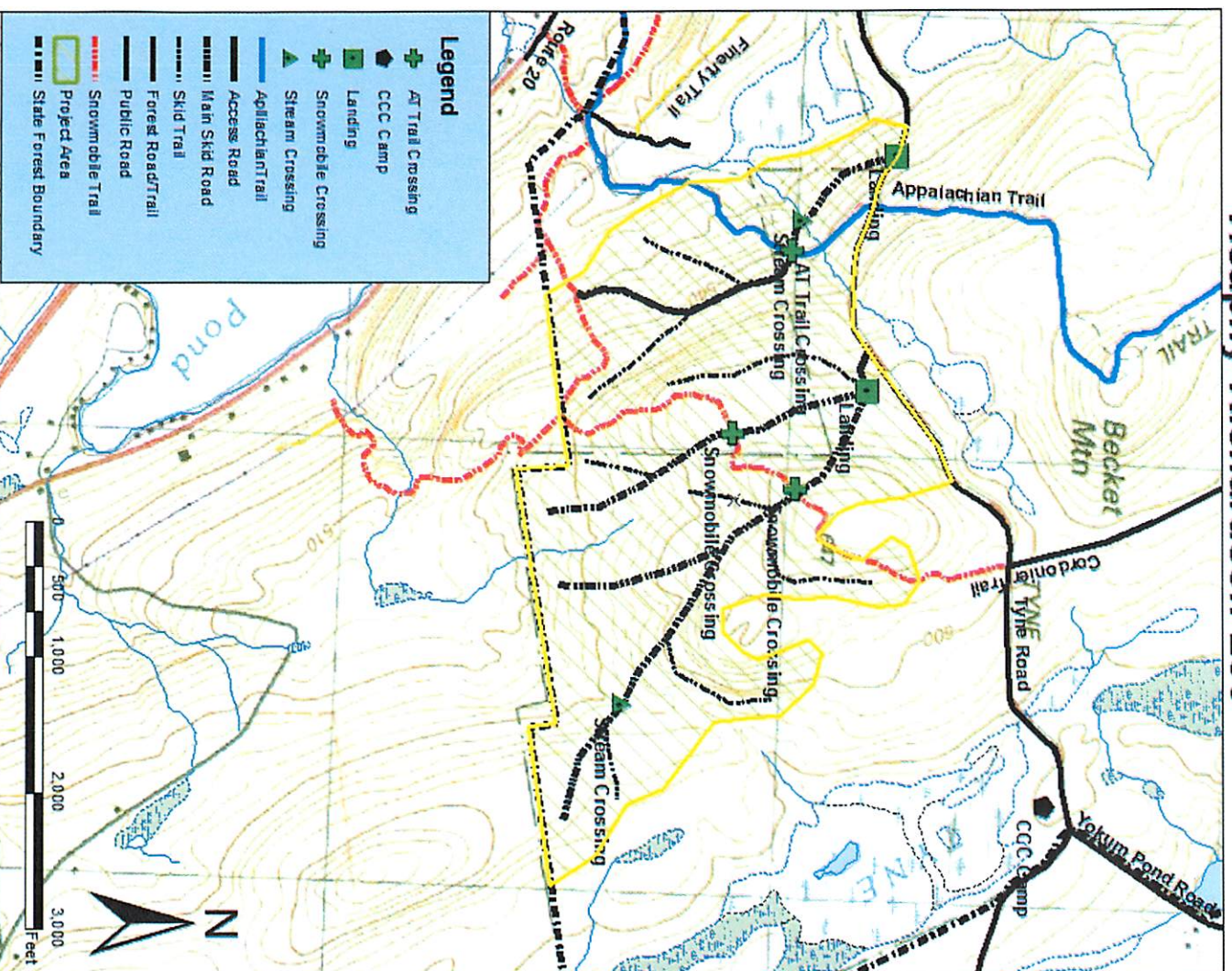
Date: 1-27-2016

Management Forestry
Program Supervisor: [Signature]

Date: 2/16/2016

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

October Mountain State Forest Heaphy-Richardson Lot



KMM 12/22/2015

Heaphy-Richardson Lot - Locus Map October Mountain State Forest

