

**Massachusetts Department of Conservation and Recreation
Bureau of Forest Fire Control and Forestry
Forest Management Proposal
Name: King's Corner Road**

Date Posted: September 4, 2013
End of Comment Period: October 18, 2013

Region: West
Recreation District: Mountain
Forest Management District: Western CT Valley
State Forest: Dubuque State Forest
Closest Road: King's Corner
Town: Hawley

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Overview:

General information: The Dubuque State Forest is located in the south west corner of the town of Hawley with portions of the forest in Plainfield and Savoy. The major state roads serving this area are State Route 8A and State Route 116. This forest has over 6,000 contiguous acres and was once home to dozens of working farms in the early to mid-1800s. It also has a forest management history dating back to the 1920s. There is a major forest road network that provides access to most of the forest. It is within this framework that the King's Corner Road site selected for vegetation management.

The total acreage for this proposal is approximately 365 acres and multiple sales will be generated from this proposal over a five year period.

Reasons for Site Selection: The Massachusetts Department of Conservation and Recreation publication "Landscape Designations for DCR Parks and Forests: Selection Criteria and Management Guidelines" established guidelines for silviculture and forest management. The King's Corner section of the Dubuque State Forest was chosen for this project because of the combination of forest types, age classes and soil

types that would respond favorably to forest management under the provisions outlined in the Landscape Designation document. A variety of parameters were utilized to select this site based on prime forest soils, stand complexity, age class, road access and stand composition. It was determined that this site would provide an opportunity to begin conversion from an even-aged forest to a more complex all-aged forest with a more diverse species and age mix. The site will also provide for the demonstration of silvicultural techniques and the application of Best Management Practices to prevent erosion and protect wetland resources.

General Objectives and Goals: The following goals and objectives will be achieved through the successful implementation of this project.

- Demonstrate current silvicultural techniques.
- Create a more resilient, diverse multi- aged forest.
- Establish a network of forest access skid roads and trails.
- Repair and stabilize portions of existing road network.
- Protect cultural resources from forest encroachment.
- Reduce American beech component in management area.

Stand Description:

Forest Types: This area is comprised of four major forest types based on the Sewell Vegetation Maps that will be treated. These maps are based on aerial photographs and will be further delineated with additional field work.

Approximately 250 acres of Beech-Birch-Maple (BB4), which is a northern hardwood forest with a species mix of sugar maple (*Acer saccharum*), white ash (*Fraxinus americana*), yellow birch (*Betula alleghaniensis*), black birch (*Betula lenta*), black cherry (*Prunus serotina*), red maple (*Acer rubrum*) and American beech (*Fagus grandifolia*). Tree heights are up to 90' tall and average diameter range is in the 12" - 16" range. These stands are approximately 100 years old based on past land use records. Stocking levels are in the moderate range and overall health and vigor appear to be fair to good.

A second forest type found in the treatment area is Sugar Maple (SM4), which is similar in size and stocking to the BB4 forest type except sugar maple is the dominant species with associates of northern hardwoods. This type covers 40 acres. The overall health and vigor of the overstory trees is also fair to good. The 2008 ice storm impacted this area and some of the tops show damage in the crowns.

A third forest type to be treated is mapped as White Pine- Hardwoods (WH4) and is a white pine (*Pinus strobus*) northern hardwood mix. Once again northern hardwoods are the associate species and the white pine is also larger in size than most of the hardwoods with diameters exceeding 24" and heights over 100'. Stocking levels here are moderate and it is approximately 30 acres in size.

The fourth forest type which covers 45 acres is Hemlock-Hardwood (HH4), which is a hemlock/northern hardwood stand. Eastern hemlock (*Tsuga canadensis*) is predominant with components of the northern hardwood forest type mixed in. The tree heights, stocking levels and size distributions are similar to the northern hardwood forest type BB4.

Soils and Topography: The topography is dominated by three major drainages and two ridges oriented in a north-south direction. The ridge tops are flat with rock and ledge outcrops while the flanks gradually drop to Basin Brook and several of its tributaries. The soils are of the Peru and Lyman type. Woodland suitability for the well-drained, finely structured Peru soils is very high due to its moisture holding ability and resistance to windthrow. The Lyman soils are lower on the suitability scale due to shallowness to bedrock and somewhat draughty nature. Both soils will contain varying amounts of stone and surface rocks.

Previous Silvicultural Treatments: A thinning was conducted in 1958 in portions of BB4 northwest of King's Corner Road. This treatment covered approximately 36 acres and removed white birch trees in a commercial thinning that released northern hardwood crop trees. Access was from King's Corner Road to the south of the thinning area. Several treatments were also conducted in the WP4 stands approximately 25 – 30 years ago. Little to no documentation on the silviculture in the WP4 stands is available but it appears to have been a shelterwood harvest.

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

Aesthetic: The sale area is not near any designated scenic by-ways. Roads and legally designated trails will be treated with appropriate buffers as required by DCR guidelines. Slash will be treated according to Chapter 132 and the Slash Law regarding disposal of slash along roads and any DCR guidelines for treating slash near designated trail corridors. Directional tree-felling will be used to protect residual trees, cultural sites and artifacts and trail/road corridors. King's Corner Road is a moderately used recreational corridor and will be protected from any unnecessary

harvesting damage. This will be accomplished by limiting harvesting operations to dry or frozen conditions to avoid causing ruts and protecting residual trees from damage by physical contact with harvesting equipment. Logging slash will be lopped and scattered for a natural appearance.

Recreation: Trails in the sale area are the Basin Brook Trail and the Hawley Pass Trail. King's Corner Road is an active snowmobile corridor and also used by hikers, mountain bikers, snowshoers and horse riders. Basin Brook is used by fisherman and hunters frequent the area in pursuit of deer, bear, turkeys and small mammals. The western section of the road is in poor condition and not passable to non-four wheel drive motorized vehicles. Deep ruts, exposed bedrock and muddy conditions exist due to poor water drainage and continuous use by off-road vehicles.

Wetlands: Major water features are Basin Brook, unnamed tributaries of Basin Brook, and potential vernal pools. All streams, functional vernal pools will be protected by filter strips of appropriate widths as directed by Massachusetts Forest Cutting Practices Act and the Massachusetts Forestry Best Management Practices. All wetlands will be properly identified and clearly marked on site prior to review of forest cutting plan and any harvesting operations.

Cultural Resources: Six known cellar hole sites are in the sale area according to "The 1989 Guide to Historical Sites in the Hawley State Forest" prepared by the Historical Commission of the Town of Hawley. Stone walls are present along King's Corner Road and throughout the forest. These features will be reviewed by the state archeological staff and any recommended practices will be followed. These features are important reminders of past land use and of the fact that this area of Hawley was once part of a thriving agricultural community.

Rare and Endangered Species: No known state-listed rare species or Priority Habitats are within the proposed sale area. One Estimated and Priority Habitat polygon is on the southern boundary. This forest management plan will be reviewed by the Natural Heritage and Endangered Species Program staff.

Wildlife: Wildlife species observed directly or by sign include deer, moose, black bear, porcupine, eastern coyote, red fox, turkey, ruffed grouse, porcupine, pileated woodpecker, fisher in addition to a wide variety of woodland songbirds. It is expected that deer and moose will impact any regeneration created by the proposed management activities. Deer populations are kept within Massachusetts Department of Fish and Wildlife population guidelines by hunting and there appears to be no abnormally high levels of browse. Moose are common in the sale area and it is

unknown at this time what level of browse will occur in the post-management forest. There is no moose season and they have no natural predators in Massachusetts at this time.

Retention trees for wildlife will be selected based upon DCR guidelines which recommend that 1-3 live large diameter (>18") trees per acre and 4 live, 12"-18" diameter trees per acre that have the potential to serve as cavity trees, den trees and future snags be retained in harvesting operations leaving an average of approximately 5 live, future snag trees retained per acre. Additionally the Guidelines recommend retaining all dead snags and stubs in harvest areas as safe operating conditions will allow. Retention trees will be selected based on their ability to provide cavities for nesting and den sites, food sources for woodpeckers and dead trees for perch sites. Large beech trees will be left as a source of hard mast, black cherry trees as a source of soft mast and any large red oak (*Quercus rubra*) will also be left as a source of hard mast. These occur infrequently in the area and are usually encountered along stone walls as a remnant of the forests prior to clearing for agriculture.

It is expected that the harvest will create additional browse for wildlife as this area is predominately even-aged with most of the trees over 80 years old and a single-layered canopy.

This statement was provided by the Massachusetts Division of Fish and Wildlife (DFW) with regards to this proposal :The gradual, uneven-aged regeneration of these impacted stands through the series of partial harvests described below is unlikely to have any substantial impacts on wildlife in the short run. Wildlife species associated with mature forest habitat will likely continue to use these stands, and some will likely benefit from the food and cover resources provided in regenerating group cuts. As harvesting proceeds over time, the forest will include more young trees, but at the same time this forest will produce more mast (beechnuts, cherries, etc.) as crowns of released trees expand. And these stands will remain structurally diverse through retention of wildlife trees and woody debris. While the uneven-aged silviculture planned for these northern hardwood stands will not create extensive patches of young forest habitat that are preferred by declining shrubland and young forest birds, these stands will still provide vibrant and relatively consistent wildlife habitat over time.

Sale Layout and Harvesting Limitations:

Project Access: The proposed project area is adjacent to Route 8A in the town of Hawley. Hallockville and King's Corner Road are gravel roads located in and adjacent to the area as well and will provide vehicle access. These roads are not maintained for winter travel.

Landings: Five landing areas will be used to facilitate removal of wood products from the project area. These will be located along King's Corner Road. An existing wood-decked bridge will be reinforced to carry logging equipment and allow use of the parking lot at the junction of King's Corner and Route 8A. This bridge is currently being crossed by winter trail-grooming equipment and is in need of repair at this time. A forwarder may be used to pre-haul material on King' Corner Road due to current road conditions.

Skid Roads and Trails: Main skid roads will be constructed to access the forest. This will require use of the Massachusetts Forestry Best Management Practices (BMP) to build sustainable skid roads that will be stable and prevent erosion. All new skid roads will be located as far from vernal pools as possible but at least 50 ft away from vernal pools. These roads will be the foundation for an access network that will enable successful future harvests so it is important that they be protected from unauthorized use.

Wetlands and Stream Crossings: This current proposal has three stream crossings in the harvest area. These will utilize the Massachusetts BMPs and chapter 132 guidelines to prevent any damage to the wetland resource. Temporary skidder bridges will be utilized when needed. The truck roads will utilize several existing culverts and bridges along King Corner and Hallockville Road. Deficient culverts will be replaced as needed or removed. Vernal pools and wetlands that are further identified during project reconnaissance and preparation will be protected by utilizing appropriate buffers and filter strips.

Road and Trail Buffers: No harvesting will occur along town or public highways. As required by DCR guidelines officially designated hiking trails will receive a 50' buffer in which tree harvesting will be designed to promote diverse vegetation, pleasing aesthetics and where slash from harvesting is natural in appearance.

Equipment Limitations: There is no equipment restriction at this time based on preliminary field visits. Additional field visits and data collection will determine the equipment use for this project.

Exclusion Areas: Riparian zones along the streams will receive a minimum 50' filter strip in order to protect water quality. Areas containing ledge, large boulders and sustained steep slopes of 40% grade will be avoided.

Erosion and Sedimentation: The "Massachusetts Forestry Best Management Practices" and Chapter 132 Forest Cutting Practices Act will be used to stop the unwanted movement of soil. This will apply to all skid roads, trails and landings that will require stabilization in order to comply with state laws and guidelines and prevent erosion. Frozen or dry conditions will prevent any unnecessary damage and prevent erosion during active harvesting operations.

Site Restoration: Skid roads, trails and main landings will be graded, seeded with an appropriate stabilization and native seed mixture and covered with straw upon completion of harvesting operations. Water bars will be used on skid trails and constructed following the Massachusetts BMP manual and in compliance with Chapter 132.

In-kind Services: Principle services will do repair work to King's Corner Road. This will include spreading gravel, installing road drainage, repairing existing ruts, washouts and several steel gates. Herbicide treatment may also be required of undesirable beech that can easily overtake desirable sugar maple regeneration.

Proximity to Designated Forest Reserves: There is no forest reserve located on the Dubuque State Forest. The nearest reserve is the Mohawk Trail State Forest located approximately ¾ mile to the northwest.

Sensitive Public Issues: The use of in-kind services to repair roads in the state forest is expected to be supported on the local levels and should outweigh any unfavorable attitude towards the possible winter disruption of the snowmobile usage of King's Corner and Hallockville Road.

Invasive Species: No invasive species have been observed at this time. Additional field work will determine if any invasive species are present in this area.

Silviculture:

Primary and Secondary Goals: The primary goal will be to begin converting the even-aged stands to all-aged stands by treating 20% of the stand during the first entry. The objective will be to create openings in the stand in order to initiate regeneration and establish new age classes. The length of the cycle will be regulated by future field

visits in order to determine the status of desired regeneration. Main skid trails will be planned in advance in order to create a stable access network. The groups will be placed adjacent to, or within a short distance from these roads. Short term desired condition would be the establishment of desirable regeneration and create a network of skid roads and landings in order to facilitate future entry into the forest. The long term desired condition would be new age classes and a mosaic of age and species diversity within the management area.

Methods Used: Group selection will be the silvicultural method used in this project. This method uses the removal of groups of trees (up to 1/3 acre) in order to create small openings that are favorable to the growth and establishment of the northern hardwood species, hemlock and other associated hardwoods. Groups will be located near desirable seed trees or adjacent to established regeneration with the intent of increasing sunlight to the forest floor. In some cases beech may be present in sufficient numbers as to hinder the development of more desirable species such as sugar maple and yellow birch. This situation would require the use of herbicides and the use of mechanical treatment in order to lower the percentage of beech.

Short and Long Term Desired Conditions: The short term desired condition would be the establishment of regeneration in the newly created openings and the establishment of a stable network of skid roads and skid trails. Desired long term conditions would be the establishment of distinct, multiple age-classes within the management area with the intent of maintaining an all-aged forest. The reduction of the beech component would be another desired condition.

Future Silvicultural Treatments: Future silvicultural treatments will be a continuation of the small group openings based on a cutting cycle length as yet to be determined. Additional field work and the success of the regeneration will influence the re-entry into the area.

District Forester: *Richard Argen* Date: 9/3/13

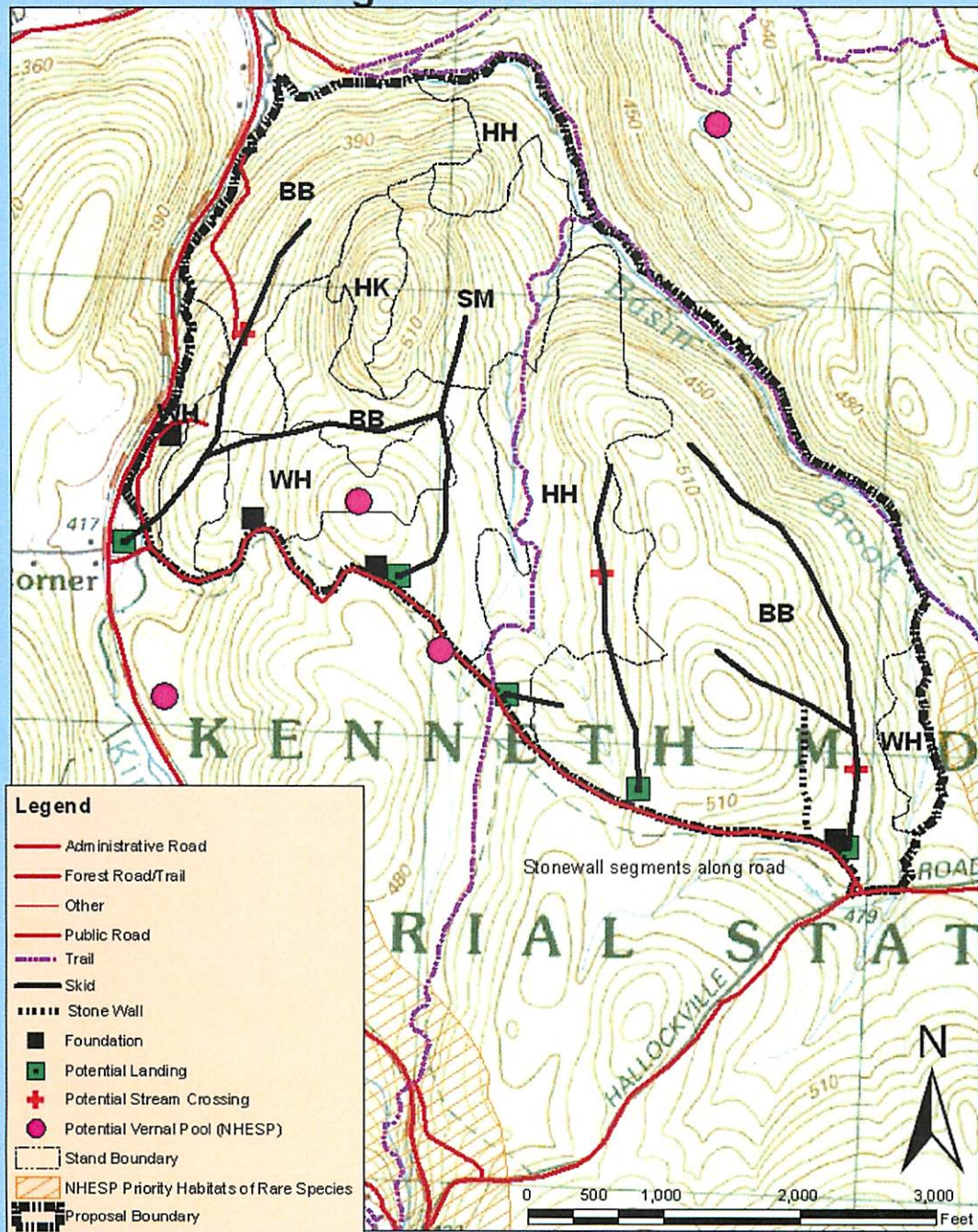
Field Operations Team Leader
Or Park Supervisor: *David Miller* Date: 9-3-2013

Regional Director: *Robert S. Molano* Date: 9-3-2013

Management Forestry
Program Supervisor: *John Hill* Date: 9/3/2013

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

Dubuque State Forest King's Corner Lot



Kings Corner Forest Mangement Proposal

Debuque State Forest - Locus Map

