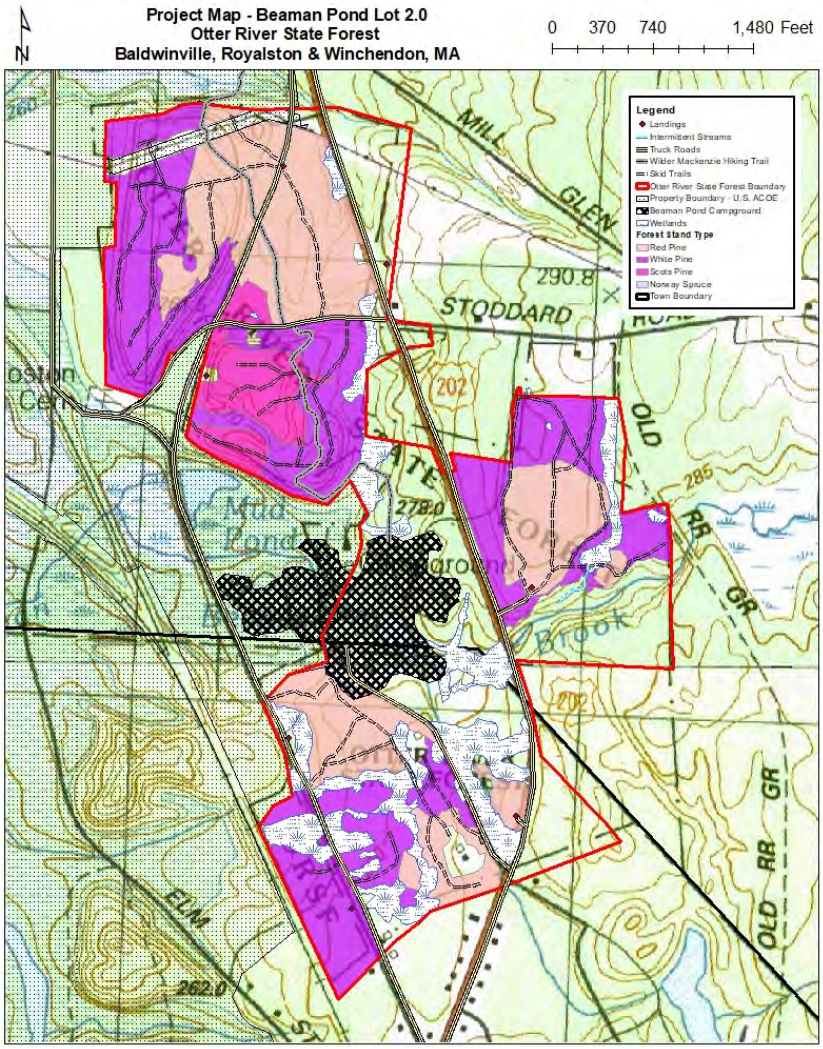
Otter River State Forest
Forest Management at Beaman Pond Lot

Site description

The Beaman Pond lot is a 290-acre isolated parcel of Otter River State Forest that is a designated Parkland. Management was conducted on 172 acres from 2017-2018. Additionally, 70 acres were re-treated from January-April 2022.

In the 1930's the Civilian Conservation Corps and foresters from the Massachusetts State Forest Commission planted thousands of trees at the Beaman Pond lot. As of 2016, approximately 255 acres of the 290 acre property contained plantations of red pine, white pine, Scots pine, and Norway spruce.



Why was forest management applied?

The project at this lot was proposed because:

1) The plantations were rapidly declining in health and vigor and offered little vegetative and structural diversity.
2) Public safety and assets were being jeopardized by the forest condition.

The health and vigor of these trees were declining steadily due to insect and fungus damage and competition induced mortality posing a risk to public safety. The primary goal of the applied forest

management was to remove the declining overstory trees to mitigate public safety concerns. As a result of the management, secondary benefits achieved include, increased vegetative diversity and structural complexity, increased resiliency to natural disturbance, and creation of young forest for wildlife benefits, among other ecosystem services.

The goals and objectives of the project were to:

1) Demonstrate thinning in an even aged plantation of red pine and Norway spruce to release advanced regeneration of native tree species present in portions of the forest which have undergone past forest management.

2) Demonstrate thinning to prepare an even aged plantation of white pine and Scots pine for the regeneration of a mixture of native tree species, including white pine and deciduous hardwoods.

3) Mitigate public safety risk by implementing silvicultural treatments that work to proactively harvest trees which are rapidly failing in condition.

4) Increase the vegetative diversity and structural complexity within the project area to include an assortment of native plant species including native shrubs and herbaceous plants.

5) Demonstrate harvesting techniques and best management practices that protect forest productivity, soil and water resources.

6) Educate the public on forest management practices by placing additional interpretive signage along the Wilder-Mackenzie interpretive hiking trail and in other locations as appropriate.

How was forest management applied?

Forest management was applied using two different silvicultural techniques across four forested plantations.

1) Red pine and Norway spruce plantations: Traditional multi-stage shelterwood – This even aged silvicultural system is designed to occur across multiple entries over several years with the intent of creating growing conditions favorable for the establishment of mid tolerant overstory species (such as white pine). This process was initiated in the early 1980's with the implementation of overstory thinnings across all stands which were intended to prepare the site for future entries by establishing a new cohort of naturally occurring overstory trees. More recent entries focused on the release of previously established advanced regeneration where it was present and to better establish conditions for regeneration where it was lacking.

2) White pine and Scots pine plantations: Group selection – This uneven aged silvicultural treatment was applied to an even aged forest in order to establish three or more age classes of trees through a series of entries over time. Variable sized openings up to one acre in size were implemented in order to regenerate a diverse amount of species. Similar treatments will be applied in the future in order to attain a multi-aged forest.