

FOCUS ON PINE GROVE PRESERVE



Falmouth's Pine Grove Preserve

Introduction

To address safety concerns and improve the health of Pine Grove Preserve, located off Route 88, the Town of Falmouth will implement a forestry management plan in 2022 that includes a substantial harvest of dead and dying pine trees on this property. This new series of articles will appear in installments in The Falmouth Focus digital newsletter in early 2022 and explore the history of the preserve, challenges presented by this property, the management plan developed to address these issues, and what work residents can expect to see in the coming months.

History of Pine Grove Preserve

In 1924, George Woodward gave what is now Pine Grove Preserve to the Town of Falmouth to be preserved forever as a park and forest. The preserve occupies what was once farmland. Like the majority of current forests in southern Maine, pine trees gradually took root in these open fields, growing into a new forest. Today, Pine Grove Preserve is a 27-acre, mature pine forest, managed by the Town of Falmouth's Open Space Division. The property features several connecting trails and three war memorials.

Over the last twenty-five years the decline in health of the pines in Pine Grove Preserve has become increasingly evident. The Patriots Day Storm on April 16, 2007 devastated large areas of pines in the preserve. Additional storms in 2013 and 2017 also felled many

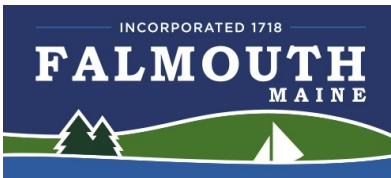
trees. In 2013, the Town contracted with a harvester to prune large pines within 20 feet of the formal trails. Since then, the preserve has been managed by removing downed trees and branches that are blocking trails and/or are immediate hazards. In 2020, Falmouth's Land

Management and Acquisitions Committee (LMAC) worked with staff to update the property management plan for Pine Grove Preserve. The committee and staff conducted a field day to work on the trails, including closing several unsanctioned trails. During this visit it was observed that the condition of the forest stand was deteriorating at an alarming rate. LMAC met with Falmouth's forester Paul Larrivee on site and contracted with Lucas Tree and a Maine Regional Forester for independent evaluations of the property. All three foresters drew similar conclusions. Safety concerns and the health of the preserve needed to be addressed.



Freshly Fallen Trees, March 2021

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Today's Challenge

"Over the last 100 years or so, the pine trees in Pine Grove, which are all about the same age, have been competing for the same sunlight," explains Town Forester Paul Larrivee in [a video presentation about the health of Pine Grove Preserve](#). "When you look up at the canopy there are no openings for sunlight to come in, which means the crowns of the trees cannot expand." Over time, the dominant trees survive, and the weaker trees die, eventually falling and becoming hazardous to the ground below, including the trails within the preserve. With the lack of sunlight reaching the forest floor, few young pines can grow. Only when old trees die and fall, leaving space for light to come in, can other trees take root. While some new young pines are growing in Pine Grove, most of the forest is regenerating with hard woods. If left alone, this forest will eventually no longer be a pine forest. Pine will be a component of the preserve, but it will be a mixed forest with maples, oaks, and birch.

In addition to competing for sunlight, the white pines are also subject to White Pine Needlecast disease, caused by

"As dominate trees flourish and weaker trees fall, safety to trail users becomes an issue."

fungi, further weakening the trees. Another concern in Pine Grove is the increased presence of invasive plants. Invasives stifle new growth trees. As the old pines fall, they open gaps in the canopy for sunlight, giving invasive species the opportunity to flourish. Glossy Buckthorn,

Japanese Honeysuckle, Japanese Barberry, and Winged Euonymus are the primary invasive plant species within Pine Grove Preserve and each are spread across the property. Japanese Knotweed is becoming more prevalent. It grows very quickly, forms dense thickets, and, once established, becomes difficult to remove.

The changes to Pine Grove, outlined above, are normal occurrences. Forests regenerate all the time. In a wilderness or remote setting this is rarely an issue. However, Pine Grove is a well-used preserve, located in a densely populated area of our community. On any given day, numerous residents can be found enjoying the many trails on this property. As dominate trees flourish and weaker trees fall, safety to trail users becomes an issue. As a result, a careful management plan is necessary to maintain safety and promote the health of the preserve.

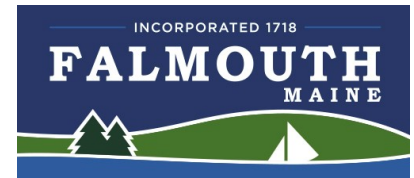


Small tree canopies are common in Pine Grove, an indication of weakened or stressed trees.



Falmouth Town Forester Paul Larrivee tours the preserve in a video on the health of the property. See link to video in additional resources below.

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Managing the Preserve

Over the winter and spring of 2021, several storms with winds in excess of 20 mph, resulted in multiple trees breaking off and falling in and over the trails further escalating safety concerns at Pine Grove Preserve. These downed trees require specialized tree removal due to the number of dead standing trees on the property that pose a substantial risk to workers. The trees standing above the pathways are also of great concern. “The surrounding trees above...that are dead but still standing next to the trail,” said Town Forester Paul Larrivee in a recent video presentation on the health of the preserve. “It’s only a matter of time before they come down.” Signage was placed at all entrance points of the preserve to warn visitors of the potential for fallen tree limbs. At meetings held in August and September 2021, the Falmouth Town Council heard [a presentation and reviewed accompanying documents, reports, and a video](#) on the current state of Pine Grove Preserve as well as recommended measures to address the challenges posed by this property.

Sound forest management mimics the natural successional phases and removes trees before they decline and become hazards. This is accomplished through the thinning process. The thinning process also allows residual trees to develop higher live crown ratios, which in turn creates larger, stronger root masses. Openings created during the thinning process allow for sunlight to reach the forest floor, which in turn establishes a new age class of trees in the stand. The recommended strategies for managing this preserve include:



Warning signs have been placed at all entrances of the preserve.

- **Address invasives immediately**
- **Remove large declining white pine** in small patches that mimic the natural disturbance regime. This will also serve to create new openings for the establishment of white pine seedlings. Healthy white pine trees with high live crown ratios should be maintained as a future seed source and biological legacy within the stand.
- **Remove red pine** in favor of the native hardwood regeneration that has established in the understory. The red pine is mostly dead or in decline and will continue to decline at an increasingly accelerated rate.
- **Maintain hardwood trees** throughout the forest. Removal should focus only on pine trees in decline.
- **Clean-up current blow down areas.** These fallen trees will need to be chipped when removed.
- **Utilize any live trees** removed to their highest and best use. Revenue generated from these trees will offset the cleanup in the blow down areas.



At its September 27 meeting, the Council approved an order to authorize staff to implement these forest management strategies for Pine Grove Preserve and approved a supplemental appropriation of \$50,000 for associated expenditures.

Timeline for Work

In late September 2021, Pine Grove Preserve was closed to the public for approximately one week for invasive species removal. Additional signage throughout the preserve, especially at entry points advises visitors of the dangers posed by dead and dying trees. In the spring, the property lines will be marked and the Town Forester will designate trees for removal. Chaplin Logging, Inc.

“The actual harvesting of trees is completely weather dependent.

The harvest will not begin until late spring or early summer.”

has been contracted for the removal work. The Town Forester is now working with staff to create a plan for a “landing” area. This area, probably to include the small parking area off Foreside Road, will be the staging area for the heavy equipment needed for this

project.

The actual harvesting of trees is completely weather dependent. The harvest will not begin until late spring or early summer. Dry conditions, with no snow cover, allow the contractors to get the site much cleaner when clearing the blowdown. Additionally, harvesting in spring or early summer will reveal the results of the invasives



The diminished size of the root ball of the tree leaning over a trail demonstrates its poor health and potential safety issues. The tree was removed in August 2021.

mitigation treatment. This will allow staff to identify additional areas of treatment, if needed, prior to the harvest. The harvest is expected to take approximately three weeks, again depending on weather.



The Town Forester points out signs of internal rot in a large white pine.

What Can the Public Expect?

This is a substantial project. Clearing dead and dying trees to create a safe environment for visitors to the preserve requires the removal of many of the white pines currently in the forest. The result may be shocking to some residents, especially as dead trees and invasives are also removed from the forest floor. This will significantly alter the look of Pine Grove Preserve in the short term. For the health of the forest, however, this type of harvest is necessary.

Heavy equipment is required for this project. The harvest requires a machine cutter, known as a feller buncher, to fell the trees. A skidder will pull the trees to the landing area. A slasher processes the trees by cutting off the tops and extracting pulp. All “products” of the harvested trees are separated and go to different destinations. Some will be chipped and left on site.

There will be more truck traffic on Route 88 during this process. Large trucks will remove products harvested from the forest. Residents need to be aware of trucks coming in and out of the preserve onto Route 88, which could slow traffic on occasion.



This dead tree near Foreside Road was removed in August 2021.

The preserve will be closed to visitors during the harvest. For the safety of everyone, all access points will be blocked, and, in some cases, fencing will be used to prevent entry. We strongly encourage residents to abide by the closure signs, in order to prevent serious injury during the harvest.

It could be noisy. The machinery, the increased truck traffic, and the chipper will create noise which could prove disturbing, especially to nearby residents. All work will take place during normal business hours.

The harvest will also allow for improvements to Pine Grove Preserve. The parking area off Route 88 will be improved and expanded. There is potential to create accessible trails and improve existing trails within the preserve. Byproducts of the harvest can also be used within the preserve including mulch and, possibly, logs for benches.

The Town’s Forest Management Plan for Pine Grove Preserve will improve this property for generations to come. While the harvest may appear extreme, it is necessary to address significant safety issues by removing the most dangerous hazards. In addition, it will improve the health of the forest, culling it of invasive plants and dead or dying trees to allow for new growth of both pines and hardwoods.

Additional Resources

Pine Grove Preserve <https://www.falmouthme.org/land-management-acquisitions-committee/pages/pine-grove-preserve>

Forestry Management Plan <https://play.champds.com/ATT/falmouthme/2021-08/ed6dda40b8aa4bf1f5cac445378ee8467e2efab5.pdf>

Town Forester Report <https://play.champds.com/ATT/falmouthme/2021-08/379f30403757aa6bb5197d6d220f79e1769c449d.pdf>

Town Council Update, August 23, 2021 <https://play.champds.com/ATT/falmouthme/2021-08/51ed311a5f6e0329b3d57cf3f5c8ec9d3fb69072.pdf>

Video Presentation <https://www.youtube.com/watch?v=yknDGrlArnk>