

New Jersey Fact Sheet: Forest Stand Improvement *Invasive and Exotic Plants in the Pinelands*

Introduction

The New Jersey Pinelands, located in the southern region of the state, is comprised of more than 1.1 million acres of pine/oak forest, Atlantic white-cedar swamp, pine plains, savannas, and streams. This unique mosaic of ecosystems provides valuable ecological and economic benefits and recreational opportunities, as well as crucial resources to rare and endangered plants and animals.

The natural habitats of the Pinelands are influenced by the region's sandy, nutrient-poor, and acidic soils, which provide unfavorable conditions for many plants and animals. Several species that do inhabit the Pinelands have adapted to these conditions, allowing them to grow and flourish where other species cannot. Unlike other regions of the state, the Pinelands has been largely unaffected by invasive, non-native plants due to its unique soil and hydrologic conditions. The limited development and regulatory practices of this region have also played a crucial role in preventing the widespread establishment of invasive plants, yet some species do present a threat. In addition, certain land use practices, as well as some forestry, landscaping, and agricultural practices, may decrease a habitat's resistance to invasive non-native plants.

The Threat of Invasive and Non-native Plants

Invasive plants pose a significant threat to natural ecosystems, second only to habitat destruction. When an exotic plant is introduced to a new habitat, it may have survival and growth strategies that allow it to out-compete native species, as well as few natural predators to keep its population in check. If conditions are right, an exotic plant can grow rapidly, displacing native vegetation and decreasing biodiversity. Invasive plants also cause significant damage to agricultural production, oftentimes out-competing crop plants. The Pinelands supports not only agricultural production and recreational opportunities, but also habitat for many rare and endangered plants and animals, so protecting this area from invasive plants is crucial.



This forest is being managed using Forest Stand Improvement techniques to enhance forest health while preventing the spread of invasive plants (Jean Lynch, NJA)

Management Options

Forest Stand Improvement (FSI) can be an excellent tool for managing land to enhance forest health in the Pinelands while decreasing the threat from non-native invasive plants during forestry operations. These techniques can also help manage an existing population of invasive non-native plants within a forest stand while promoting native biodiversity.

Preventing the Spread of Invasive Species During Forest Management

A landowner interested in FSI can also prevent the spread of invasive species while enhancing the health of a forest stand. Since many invasive plants take advantage of available resources after a site disturbance, it is crucial to take additional steps during operations to prevent establishment. A Forest Stewardship Plan that incorporates FSI techniques while following the guidelines of the *New Jersey Strategic Management Plan for Invasive Species* will present the best options. FSI techniques for improving the health of the forest may include selective cutting and felling, prescribed burns, herbicide application, and girdling. In addition to these techniques, supplemental precautions should be considered to prevent the spread of invasive and non-native plants:

- Determine if any invasive species are present on a site before performing any forestry activities
- When present, begin eradication efforts using mechanical or chemical methods before and during forestry work
- When planting, use only native species from a nursery that specializes in propagation from local plant populations
- Clean all forestry equipment and clothing before visiting other sites
- Minimize soil disturbance and re-vegetate with native species that can tolerate site conditions
- Restrict use of fertilizers and chemicals that change the soil pH and moisture
- Manage for a high diversity of native plants
- Revisit the site periodically over the next few years to monitor and control any new invasive species that are found

When operating in the Pinelands, certain restrictions may apply, including regulations on soil disturbance, clearing, and planting. These restrictions have been outlined in the New Jersey Pinelands Commission's Pinelands Comprehensive Management Plan, and it is important to consult an approved forester or natural resource professional for proper guidance.

Controlling Existing Populations of Invasive Species

In addition to the above precautions, addressing existing invasive plant populations in a forest stand is important for enhancing forest health. In the Pinelands, two species are considered widespread, including *Lespedeza cuneata* (Chinese bush clover) and *Phragmites australis* (Common reed grass). *Miscanthus sinensis* (Chinese silvergrass), *Phyllostachys aurea* (Golden bamboo), and *Eragrostis curvula* (weeping lovegrass) are also reported as emerging invasive species in the Pinelands, but all invasive plants are considered a threat to this ecosystem.



Weeping lovegrass (*Eragrostis curvula*) was introduced to the United States from East Africa and is considered an emerging invasive plant in the Pinelands (Mike Crewe, NJA)

Invasive species control typically involves mechanical removal, herbicide application, prescribed burns, native seed regeneration, and deer browse control, but an approved forester or natural resource professional can outline the best method in a Forest Stewardship Plan.

Financial and Technical Assistance

With an approved Forest Stewardship Plan that incorporates Forest Stand Improvement techniques, a landowner can improve the health of a forest stand while preventing the spread of invasive plants. A Forest Stewardship Plan should be drafted by an approved forester or natural resource professional and should follow the regulations outlined in the Pinelands Comprehensive Management Plan. The landowner is generally responsible for the cost of development and implementation of a Forest Stewardship Plan. However, qualifying landowners in New Jersey have several options for obtaining technical and financial assistance for forest management.

The Natural Resources Conservation Service (NRCS) offers technical and financial assistance to forest landowners through the Environmental Quality Incentives Program (EQIP). Eligible landowners with 10 acres or more of land may receive cost-share assistance for the development and implementation of a Forest Stewardship Plan. All management plans cost-shared through EQIP must be prepared by an NRCS approved Technical Service Provider (TSP). A list of TSPs can be found at a local NRCS service center or on the New Jersey NRCS website.

NRCS office locations and more detailed information about NRCS assistance and the EQIP program can be found at: www.nj.nrcs.usda.gov/

For More Information:

General Information on NRCS Forestry Programs

www.nj.nrcs.usda.gov/technical/forestry/index.html

Information on NRCS EQIP Program

www.nj.nrcs.usda.gov/programs/eqip/forestry.html

Locating an NRCS TSP

<http://techreg.usda.gov/CustLocateTSP.aspx>

NRCS Conservation Practice Standard-Forest Stand Improvement

<http://efotg.sc.egov.usda.gov/references/public/NJ/NJ666.pdf>

New Jersey Strategic Management Plan for Invasive Species

<http://www.njst.org/files/StrategicManagementPlan.pdf>

Pinelands Comprehensive Management Plan

<http://www.state.nj.us/pinelands/cmp/CMP.pdf>

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