MANAGING FORESTS IN THE FACE OF CHANGING THREATS

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ABOUT DCR SERVICE FORESTRY

- DCR, Service Forestry serves private, municipal, and land trust owners.

- Advice – including property visits
- Chapter 61/61A – Administration
- Forest Stewardship – Planning and Communication
- Chapter 132- Permitting
- Cost-Share Programs - planning and practices
- Outreach – Schools, communities, organizations
- Classic broad forestry training – DCR Forest Health Program has specific expertise
- Forest Stewardship Program | Mass.gov

Beech leaf disease (BLD)

-Beech leaf disease was first identified in Lake County, Ohio, in 2012

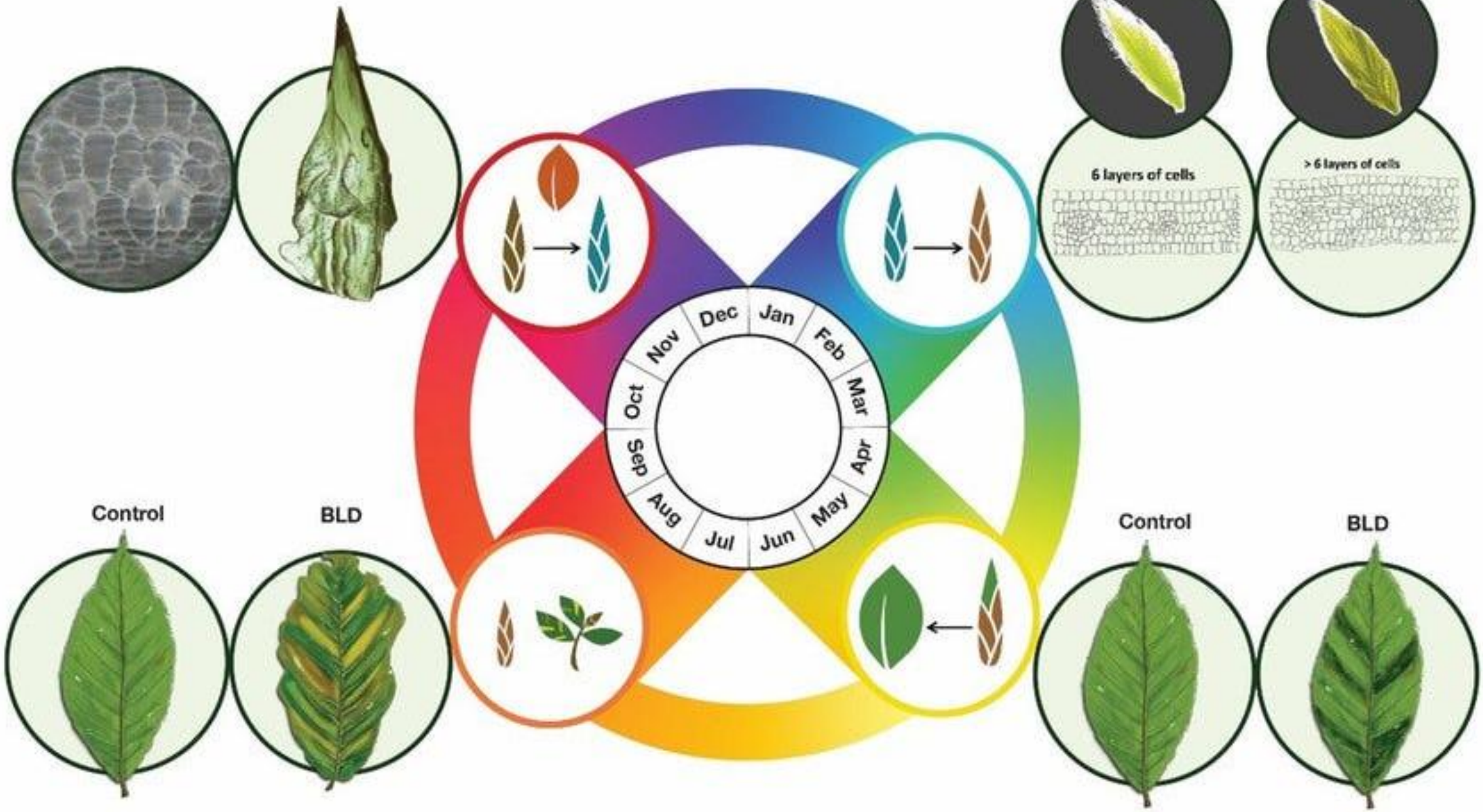
-BLD is easily to recognize by its distinctive dark green interveinal banding pattern on symptomatic leaves.

It is caused by *litylenchus crenatae* ssp. *Mccannii* (LCM), a nematode.

This damage is seen in most species of beech.

The number of nematodes increases over the summer (July-August) nematodes will migrate from the infected leaves into the newly forming buds.

Once nematodes reach the new bud, they will feed on the bud tissues. This damages the next generation of leaves and repeated damage will kill infected beech.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BLD TREATMENT

Yard/Street Trees

BLD can be treated in yard trees by injections of thiabendazole (like Arbotect 20-S).

Other products that show promising results against BLD are potassium phosphite, potassium polyphosphate, and other potassium fertilizers.

Management in Forests

Currently there is no feasible large-scale treatment for BLD in forests. Individual trees can be treated using the treatments for individual trees, but this can be expensive.

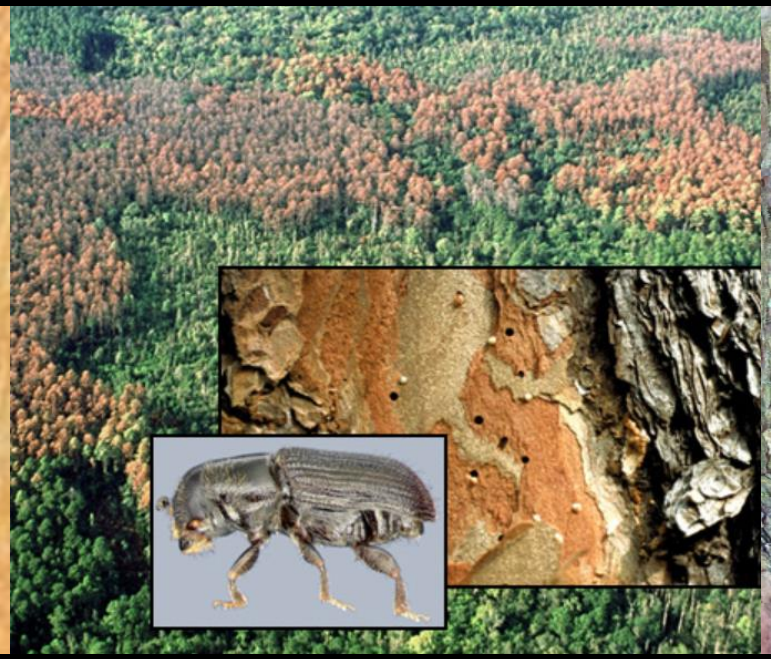
Conclusion

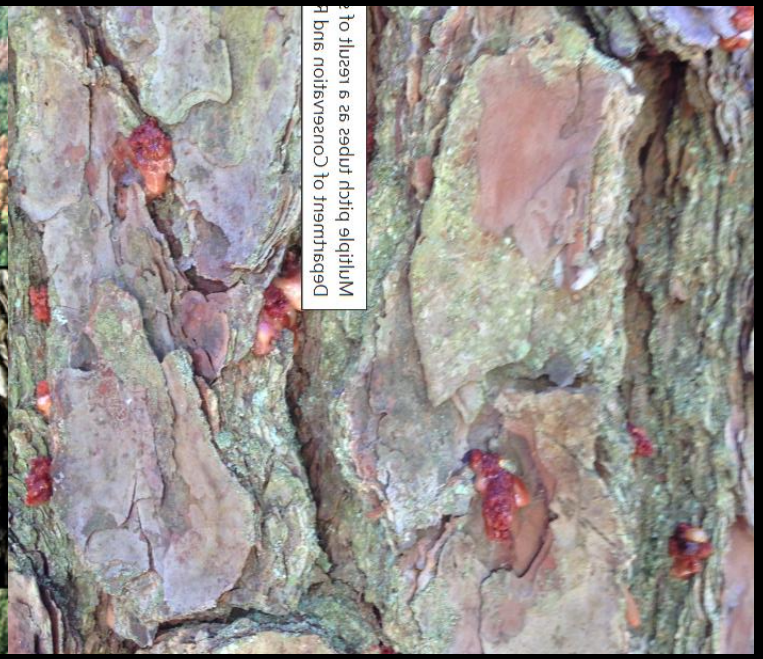
Beach leaf disease is a disease that impacts American beech and several other species of beech.

It is caused by a nematode, *Litylenchus crenatae* ssp. mccannii. It damages leaf buds which leads to leaf loss, canopy thinning, and aborted buds.

Beech leaf disease has killed a large number of beech in the eastern United States and is increasing in both the severity and spread.

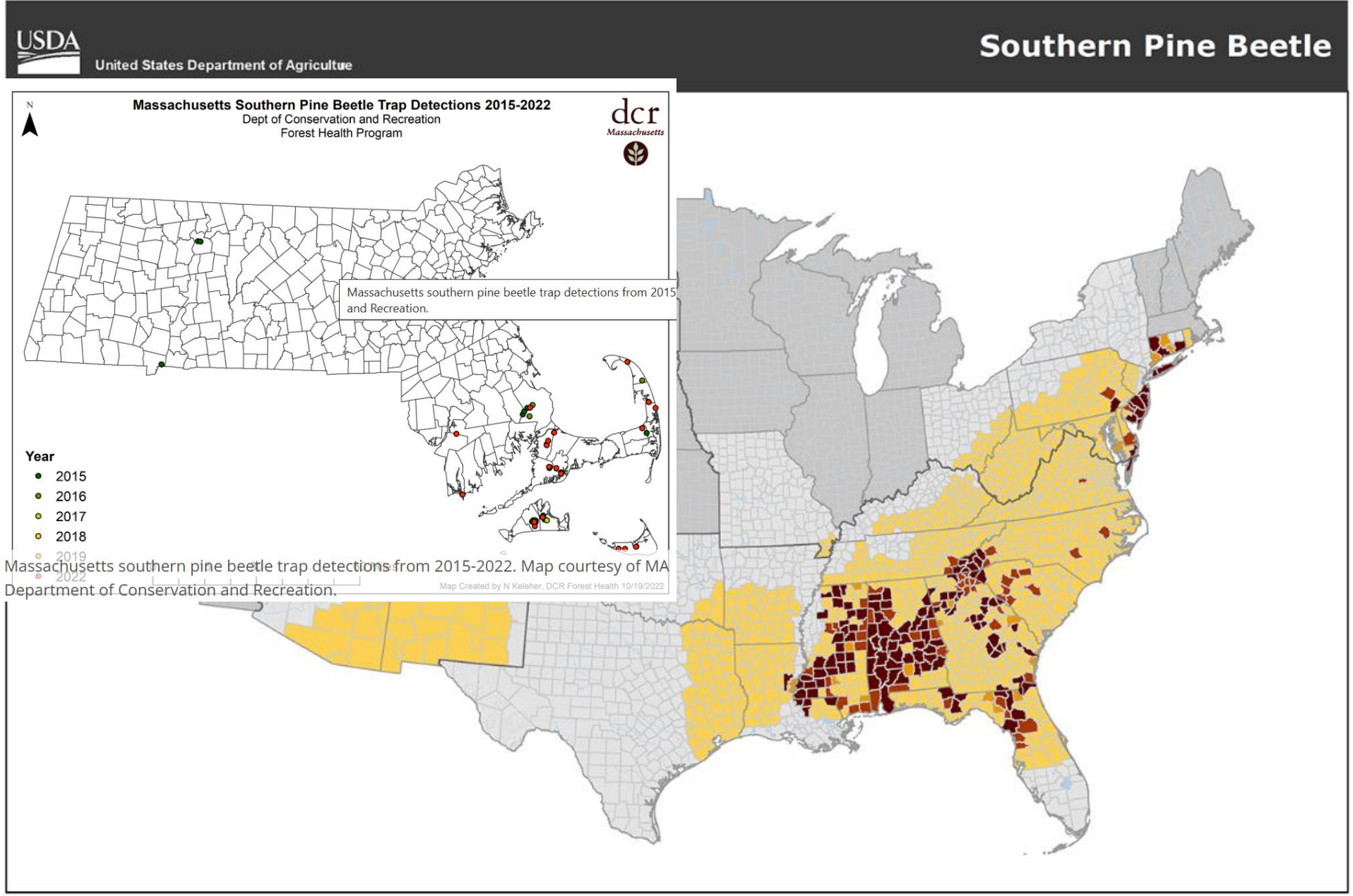
American beech is imperiled.





Southern Pine Beetle (SPB)

- Well-known in the southern US for centuries
- Warming winter temperatures have allowed the beetle's range to expand up the east coast
- In 2023, there were outbreaks on Martha’s Vineyard and Nantucket.
- Infested trees have been found in multiple locations on the cape and SE mass in 2024
- Southern pine beetle populations build up to create mass attack that can kill trees in large areas
- SPB is often mistaken for the black turpentine beetle
- Black turpentine beetles are much larger up to the size of a grain of rice
- Black turpentine beetle pitch tubes are larger and located in the lower 10 feet, SPB tend not to cause damage around the tree's base.



Massachusetts southern pine beetle trap detections from 2015-2022. Map courtesy of MA Department of Conservation and Recreation.

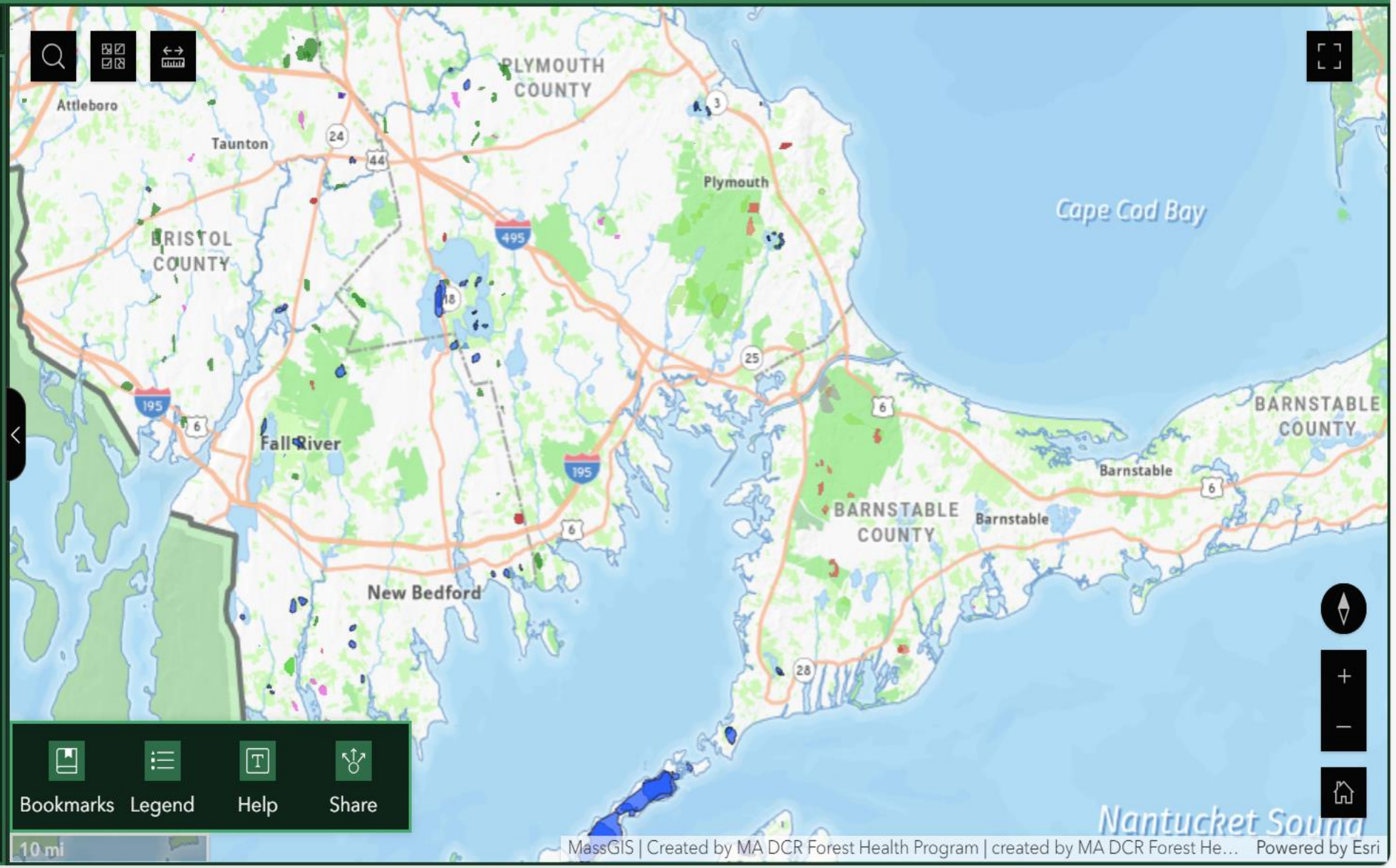
SPB TREATMENT

- Yes, southern pine beetle is coming (or already here) and it will kill many trees and change/impact forest structure in our region
- But no, it will not “destroy” our forests or kill all the pitch pines everywhere
- Stand structure, age, and species diversity will determine how SPB impacts on PP forests and individual trees
- There is no one response that is correct.
- Some may want to try containment, some increasing resilience through management, and some let SPB run its course with minimal response
- If you have the resources and community support, you might want to consider management techniques that increase species diversity and horizontal and vertical structure to increase forest resiliency in the face of SPB and other disturbances.
- It is perfectly appropriate to limit responses to reducing hazards especially where PP occurs in mixed stands
- There is always a slight increase in fire danger associated with dead trees, but this is usually short lived and highly dependent on the arrangement of the fuels
- If invasive species are present, you may want to avoid further disturbance of the forest and/or soils without first treating the invasives
- Pitch pine will continue to regenerate and be a component of our forests

MA DCR Forest Health Aerial Survey Results

2024 | 2023 | 2022

- Remove all 2024 Threats
- Beech Leaf Disease
- Elongate Hemlock Scale
- Emerald Ash Borer
- Fire
- Hemlock Looper
- Hemlock Woolly Adelgid
- Needlecast
- Red Pine Scale
- Southern Pine Beetle
- Spongy Moth
- Unknown
- White Pine Needle Disease



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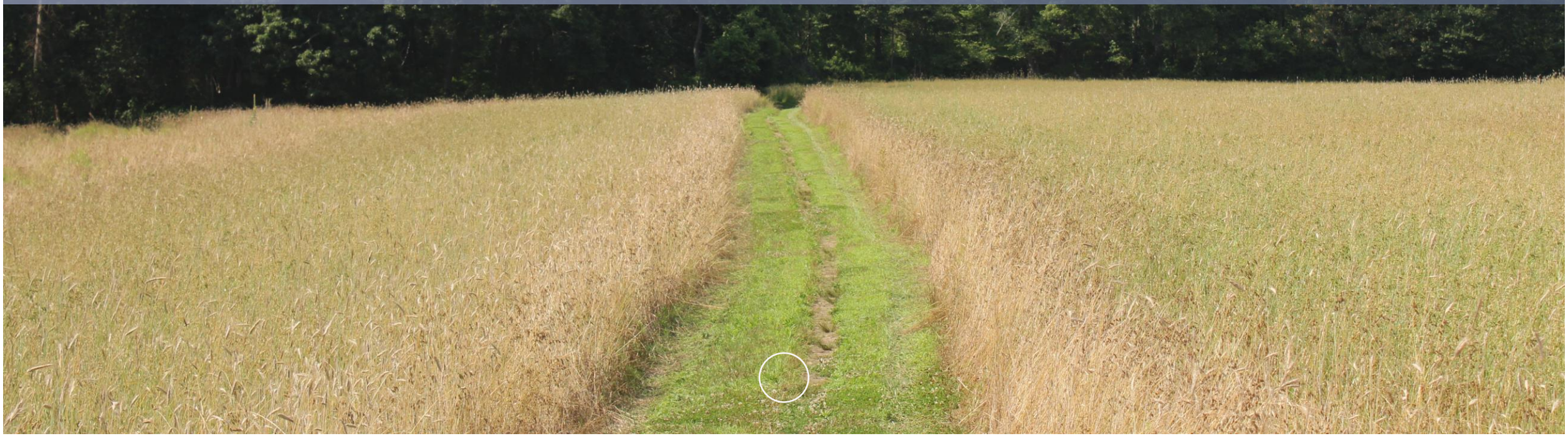
GENERAL THOUGHTS ON FOREST MANAGEMENT IN THE FACE OF CHANGING TREATS

- Be deliberate, not panicked
- Inverntory, Plan, and think long-term
- Diversity of Habitats
- Diversity of Species
- Diversity of Ages
- Expect more change
- Think about services not fixed conditions
- Be able to answer question from constituents

WLCT & FORESTRY

Collaborating with Foresters on planning, implementation, and evaluation



- WLCT HAS SUPPORTED THE PRESERVATION OF OVER 5,400 ACRES OF LAND IN WESTPORT, MA

  WLCT OWNS APPROXIMATELY 1,800 ACRES OF LAND OPEN TO THE PUBLIC AND MONITORS OVER 1,300 ACRES OF CRS IN WESTPORT

  STEWARDING A VARIETY OF RESOURCES AND ECOSYSTEMS, FORESTED LAND, WETLAND, WORKING AGRICULTURE, AND A PARK!

  5 STAFF MEMBERS WITH 1 FTE STEWARDSHIP STAFF MEMBER

WESTPORT: FARMS & ECOLOGY

Westport has a long heritage of farming

- This provides a unique Forest landscape in many locations outside of wetland
- Nearly all of our forested lands are considered successional & are densely stocked
- Primary forest composition is Oak & Holly, with forested wetland being dominated by Maples

FORESTRY EFFORTS

Many of WLCT's properties have Forest Management Plans and CR landowners do as well

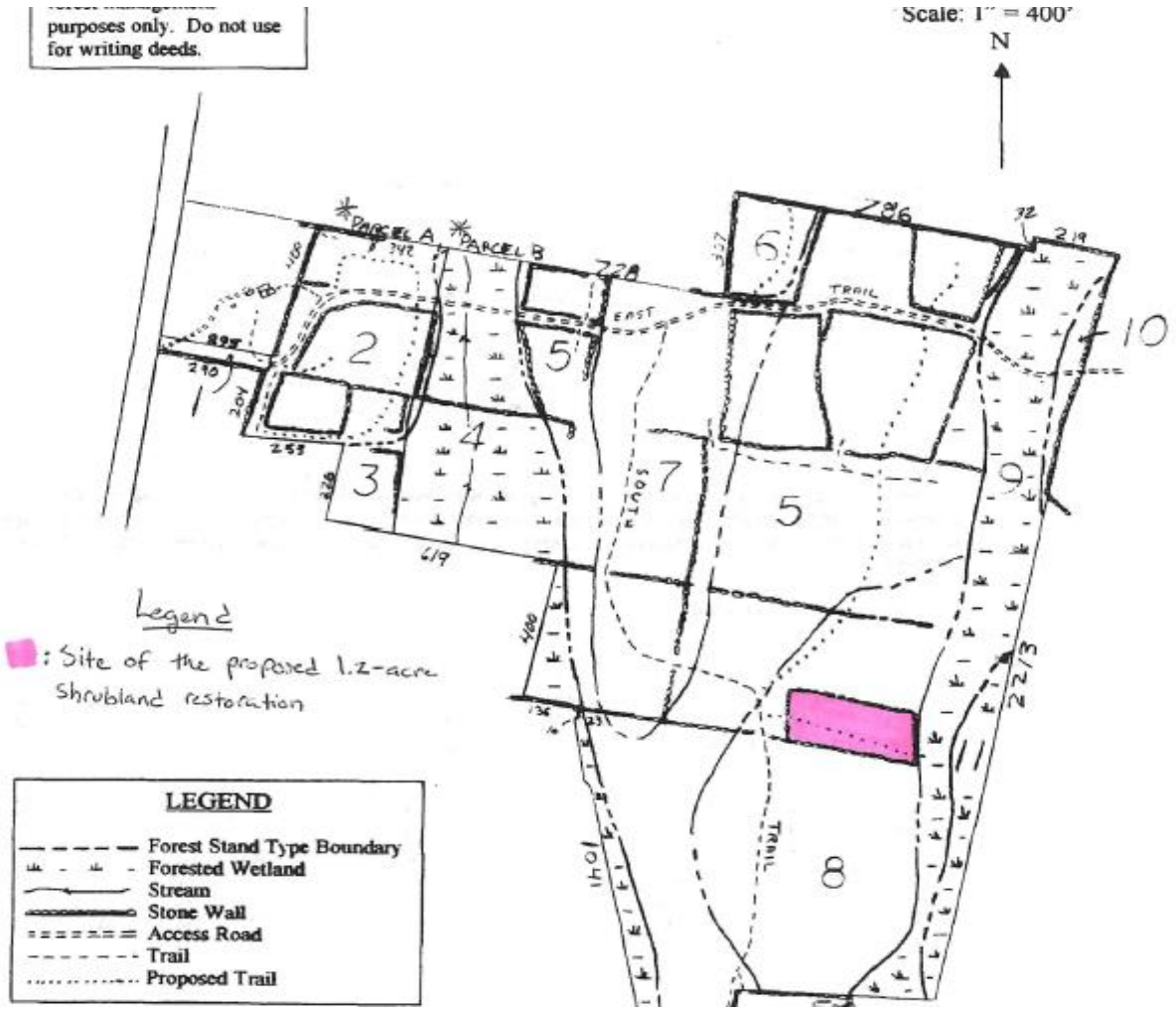
PESTS & DROUGHT!

Over the course of 2013-2016:

Proliferation of Moth & Drought decimate red oak population

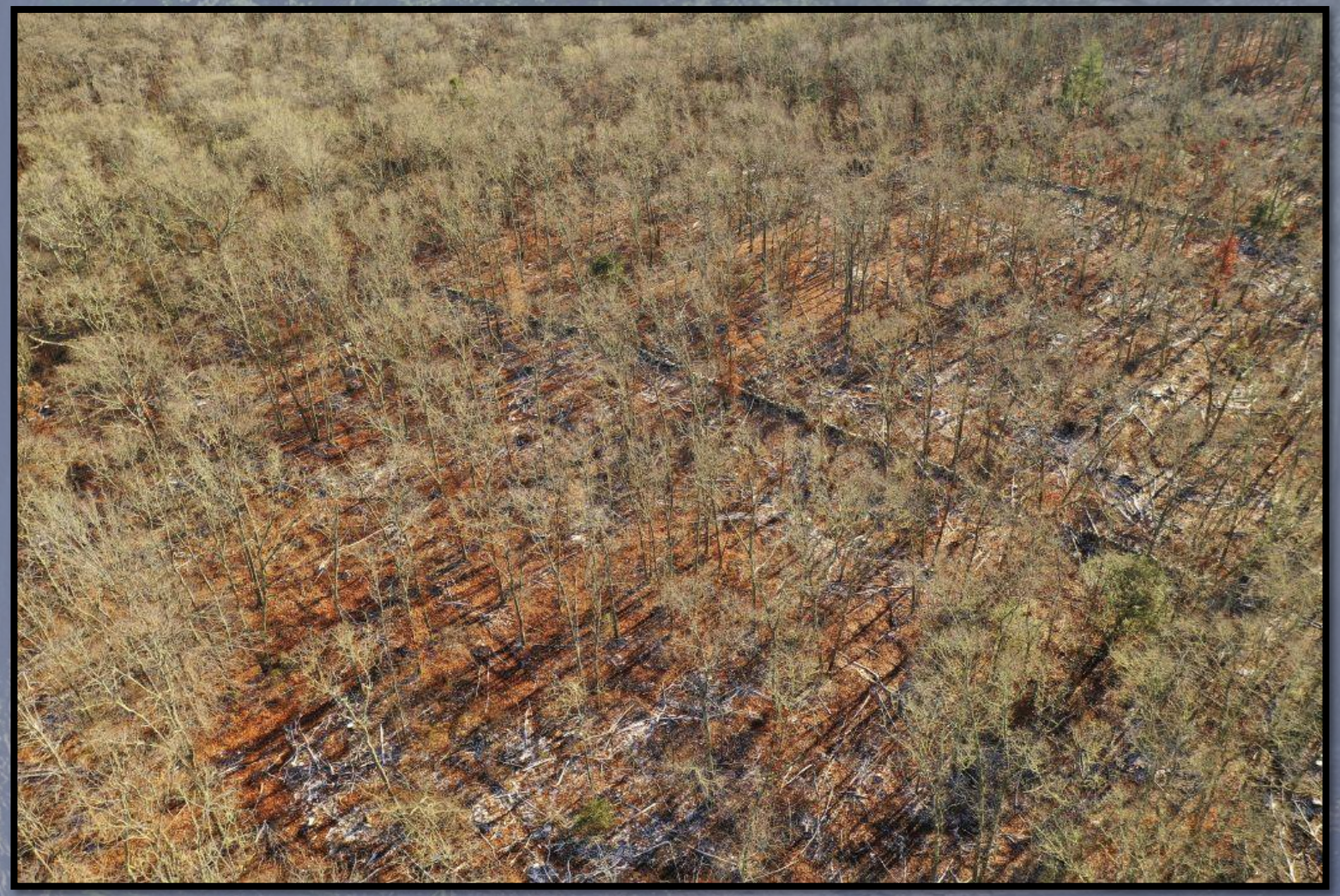
IMPLEMENTING A FORESTRY PLAN

- WLCT decided to work with a forester to improve 30+ acres with a harvest program
- Updated our forestry management plan, identified areas of greatest opportunity to improve the ecology to encourage plant diversity



IMPLEMENTING A FORESTRY PLAN

- Things to think about:
  - Experience of forester & harvesting contractor
  - Access to the property & current conditions
  - Goal of the long-term forest composition
  - Continuous communication & management of cut
  - Evaluate post-harvest!



FINDINGS & MOVING FORWARD

Lack of density has helped shrub and floor layers

Much greater plant diversity, encouraging expansion of wildlife

PRESERVATION IS CRITICAL, STEWARDSHIP IS SUSTAINING