

# FIRE MITIGATION & HABITAT RESTORATION PROJECT

BASS RIVER  
STATE FOREST

## ALLEN AND OSWEGO ROAD

### WHY HERE? WHY NOW?

Wildfires are often controlled along roads in the Pine Barrens because they give firefighters a safe place to work. On Allen and Oswego Roads, the trees grew very close together and were hanging over the road, creating dangerous conditions for fighting fire. When the tops of the trees touch, wildfires can spread across the road, making it harder to contain them.

Inside the forest, the crowded trees grow slowly because they compete for necessary resources like sunlight and water. Dense forests with crowded trees help wildfire spread quickly, making the fires more dangerous for nearby campgrounds, homes,

and places like the Atlantic White Cedar restoration projects. Widening these roads and cutting back the trees from the road helps to create “fire breaks”. These fire breaks reduce the chances of fire spreading across roads and help firefighters get to the fire more quickly.

A forest management method called “low thinning” removes smaller trees, or “ladder fuels”\* so the bigger ones can grow better, and lowers the risk of fire spreading from the ground to the tops of the trees.

† Pitch Pine Trees have special pinecones that need heat to release their seeds. The resin in the cones seals the seeds until fire melts it, causing the cones to open!

Illustrations by Alexandra Filippek



\*Ladder fuels are flammable materials found between the ground and treetops. They allow wildfires to climb from the ground to the canopy, making fires more dangerous and less predictable.

### Fire History

The New Jersey Pinelands need fire because it plays a key role in their growth† and in reducing fuel buildup. However, this type of forest is also one of the most dangerous for fire. Fires here can burn extremely hot, spread quickly, and send embers flying up to a mile away from the main part of the fire. Bass River State Forest has experienced many wildfires over the years, some of them deadly.

In 2023, a wildfire burned 5,734 acres in this area. Other significant wildfires occurred in 1936, 1977, and 1999. Tragically, the 1936 fire claimed the lives of five Civilian Conservation Corps firefighters, and in 1977 four Eagleswood Township volunteer firefighters died fighting fire along Allen Rd. With proper forest management, the risk of severe wildfires can be reduced, while also supporting the natural fire processes that are essential to the Pinelands ecosystem.



The truck of the four Eagleswood Township volunteer firefighters who lost their lives in the Bass River Fire of '77.

### WHAT ARE THE GOALS?

1

#### GOAL 1

to significantly reduce the risk of severe wildfires that threaten people, wildlife, and New Jersey’s climate change goals

2

#### GOAL 2

to create a healthier, more diverse forest that can better withstand future challenges.

By reducing plant material that acts as fuel for a wildfire, future fires will burn less intensely and be easier for firefighters to control. Removing some trees will give the remaining ones more space and resources to grow stronger. It will also improve habitats, supporting a wider variety of plants and animals. These goals will be achieved through careful planning and effective forest management.

### WHAT ARE THE ACTIONS TO ACHIEVE THOSE GOALS?



ROAD MAINTENANCE



FIRE BREAK

Allen Road and Oswego Road are in poor condition. To improve access into the forest, **13 miles** of roads will be repaired by grading them properly and adding gravel.

Fire breaks will be created along both sides of the **13 miles** of roadway. This involves trimming and removing trees to stop fires from spreading across roads, making them safe areas for New Jersey’s Forest Fire Service to control wildfires.



LOW THINNING

A method called “low thinning” will be used to remove smaller, less healthy trees. These cut trees will be left as “slash” on the forest floor to decompose and enrich the soil. Low thinning helps to slow wildfires from climbing into the treetops because smaller trees can act like ladders helping a fire climb up to the tops of the trees. Low thinning also gives the remaining trees more resources to grow and creates more habitats for plants and animals. This method will be used on **1,041 acres** of the forest.

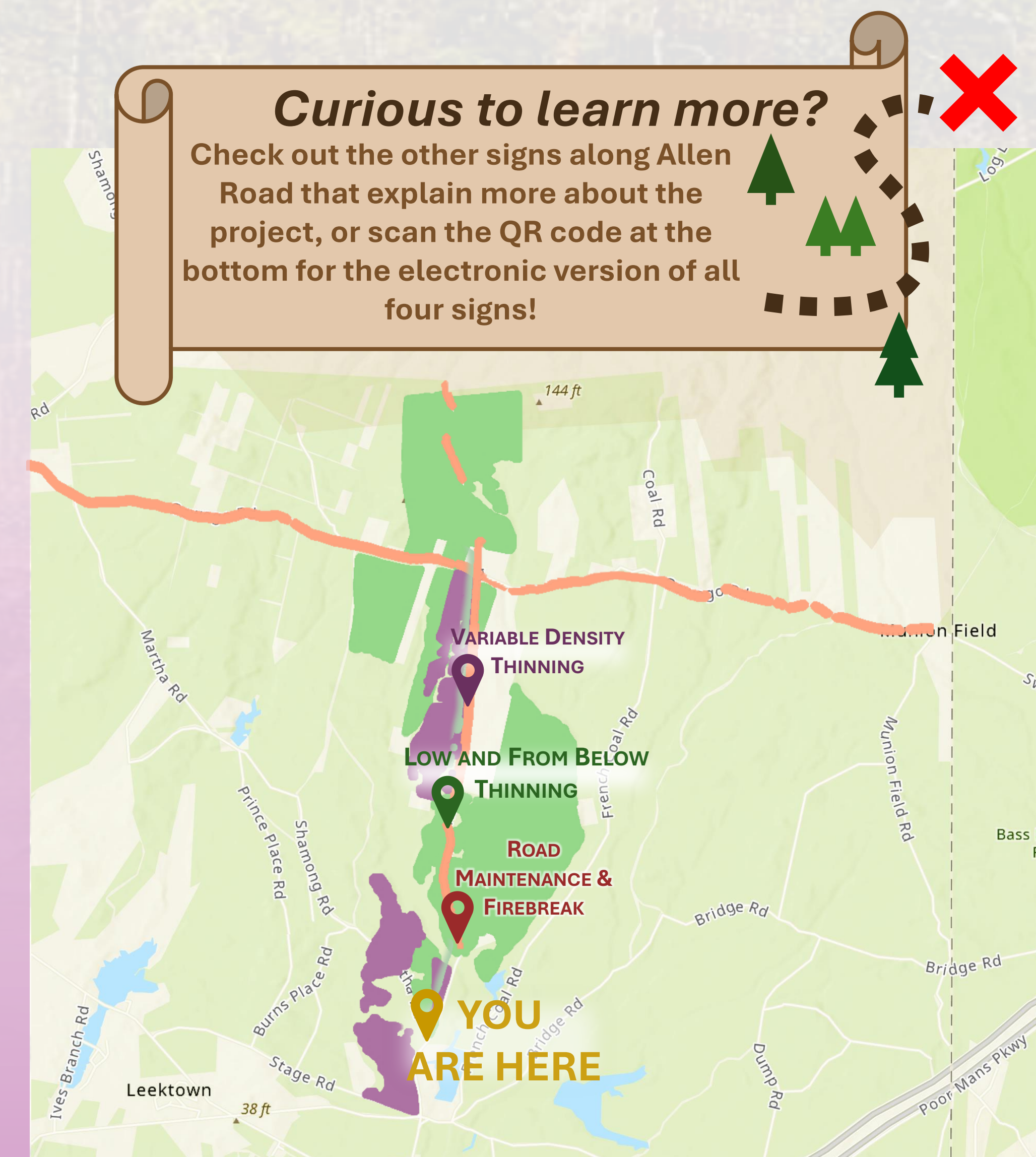


VARIABLE DENSITY THINNING

This method focuses on creating a mix of tree types and sizes to increase the forest’s structural diversity. It involves creating gaps of different sizes in the forest, while keeping some dead trees and large live trees. This method improves habitat for wildlife and plants. Variable density thinning will be done on **255 acres** of the project area.

#### Curious to learn more?

Check out the other signs along Allen Road that explain more about the project, or scan the QR code at the bottom for the electronic version of all four signs!



QUESTIONS?

PLEASE REACH OUT →



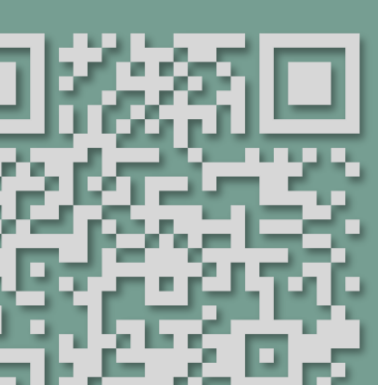
askforester@dep.nj.gov



+1(609) 292-2532



SCAN FOR MORE INFORMATION ON THIS IMPORTANT PROJECT!



# FIRE MITIGATION & HABITAT RESTORATION PROJECT

## ALLEN AND OSWEGO ROAD

BASS RIVER  
STATE FOREST



### ROAD MAINTENANCE & FIRE BREAK



#### WHY ROAD MAINTENANCE?

Well-maintained forest roads are important for keeping people and trees safe during wildfires. The New Jersey Forest Fire Service uses these roads as “containment lines” to help stop fires from spreading. But many roads in the Pine Barrens are in bad shape and can’t be used safely for this purpose.

To solve this problem, repairs are being made to key roads in wildfire-prone areas. One success story is the Washington Turnpike in Wharton State Forest. After being repaired with better grading and drainage, this road has helped stop several large wildfires since the project was finished in 2018.

Now, a similar project is being done on 13 miles of Allen and Oswego Roads, which have been in poor condition for years. By grading and adding gravel, these roads will improve access to future forest fires. If fires can be accessed sooner, they can be stopped faster, helping protect nearby communities, and reducing the risk of big wildfires that contribute to climate change.

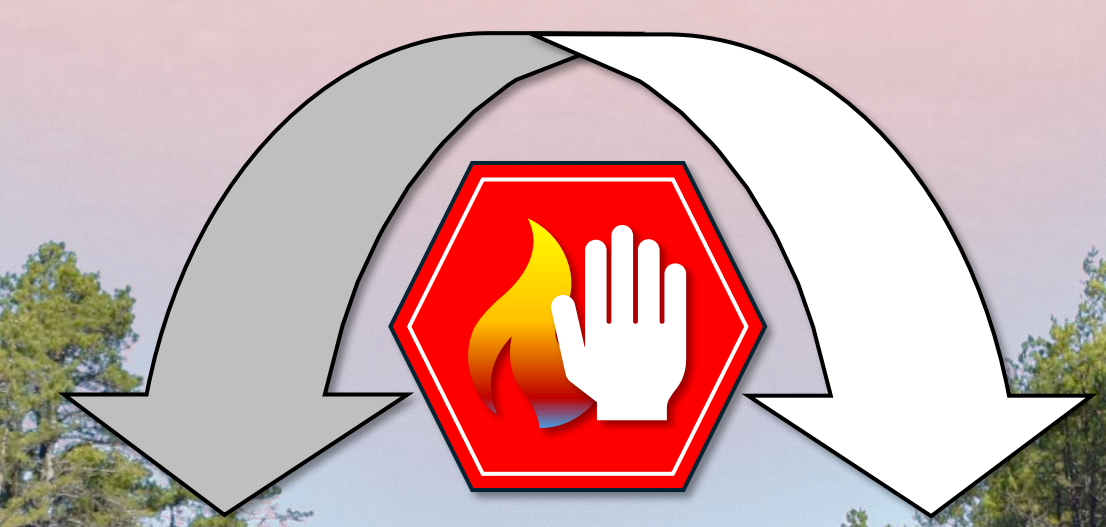
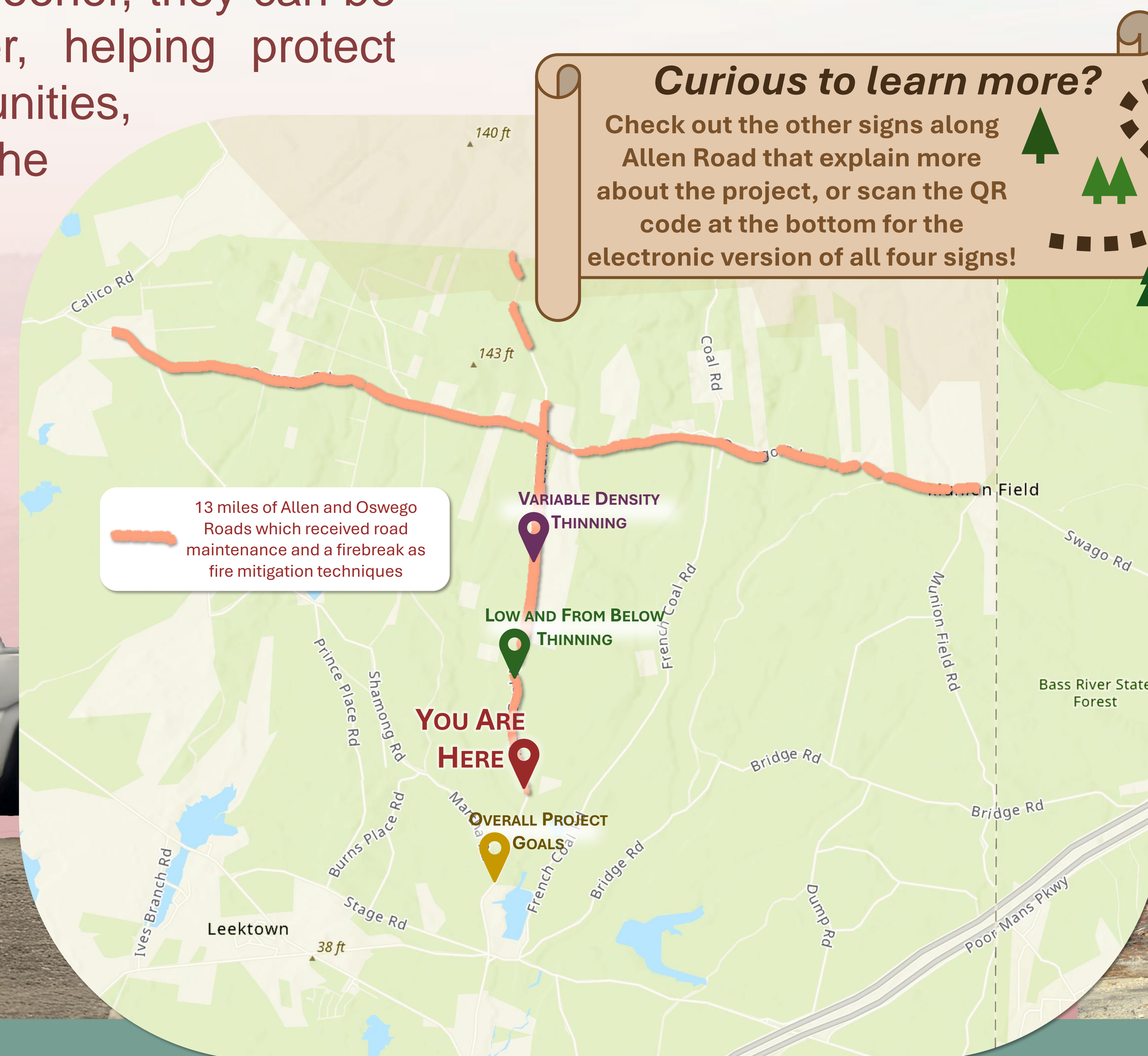


#### WHAT IS A FIREBREAK?

Controlling dangerous wildfires is the important job of the New Jersey Forest Fire Service. While wildfires are natural in the Pinelands and can benefit the environment, they also put people at risk. Firebreaks are a helpful way to protect both residents and forests from danger!

When trees on either side of a road grow close together and touch over the road, fire can easily spread across. Firebreaks prevent this by clearing away plants and dead wood from the ground along the road and trimming back trees. This creates safe “containment lines” that help stop fires from spreading.

Acting now makes nearby communities safer and helps reduce carbon loss caused by large wildfires. Although some trees are removed during this process, a well-executed firebreak has minimal environmental impact and offers significant safety benefits.



Fire Breaks prevent the spread of dangerous fires across strategic roadways

QUESTIONS?

PLEASE REACH OUT →



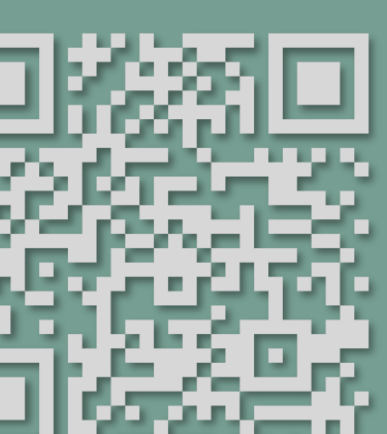
askforester@dep.nj.gov



+1(609) 292-2532



SCAN FOR MORE INFORMATION ON THIS IMPORTANT PROJECT!



# FIRE MITIGATION & HABITAT RESTORATION PROJECT

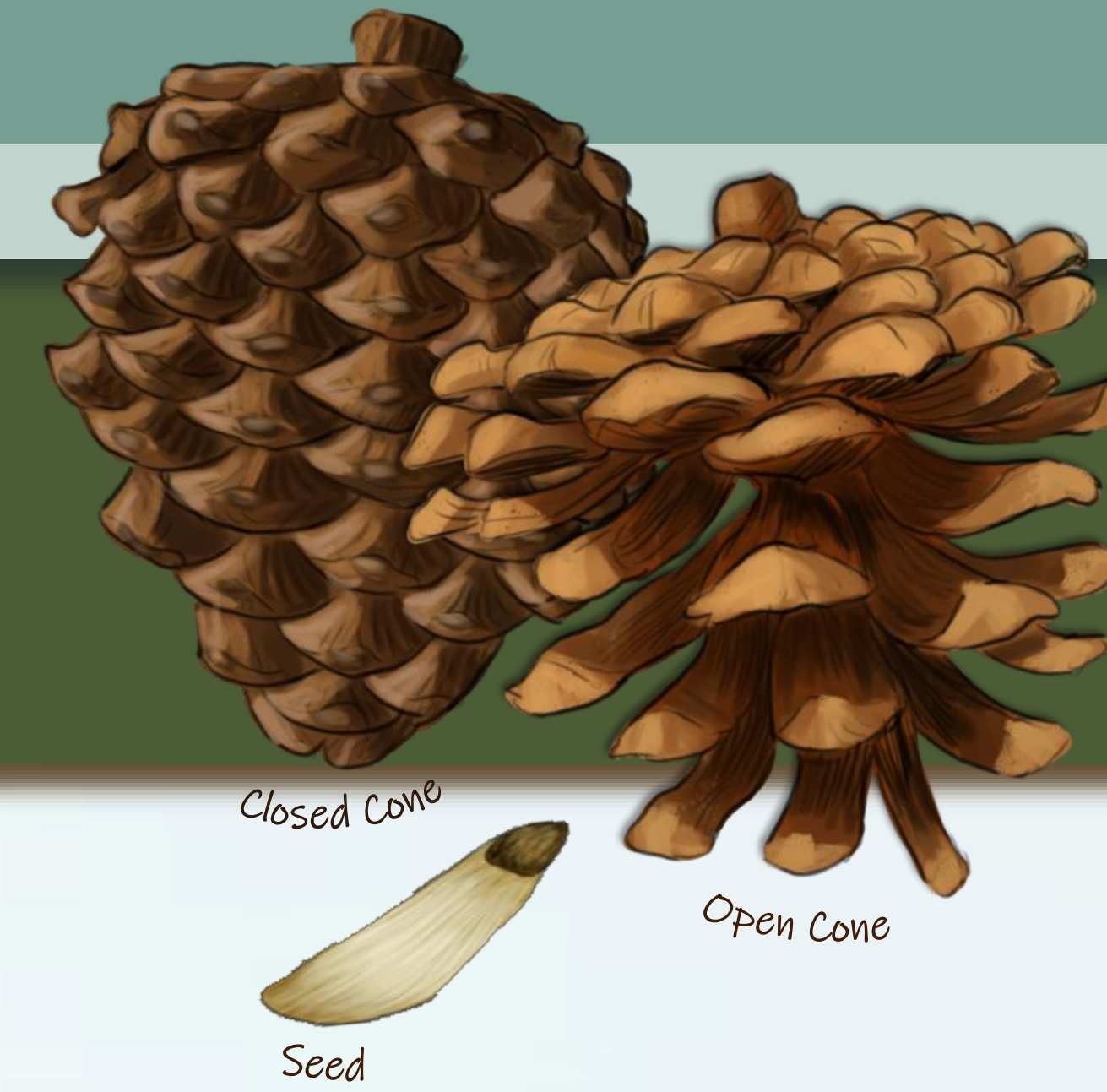
## ALLEN AND OSWEGO ROAD

BASS RIVER  
STATE FOREST

Illustrations by Alexandra Filipek



# LOW AND FROM BELOW THINNING

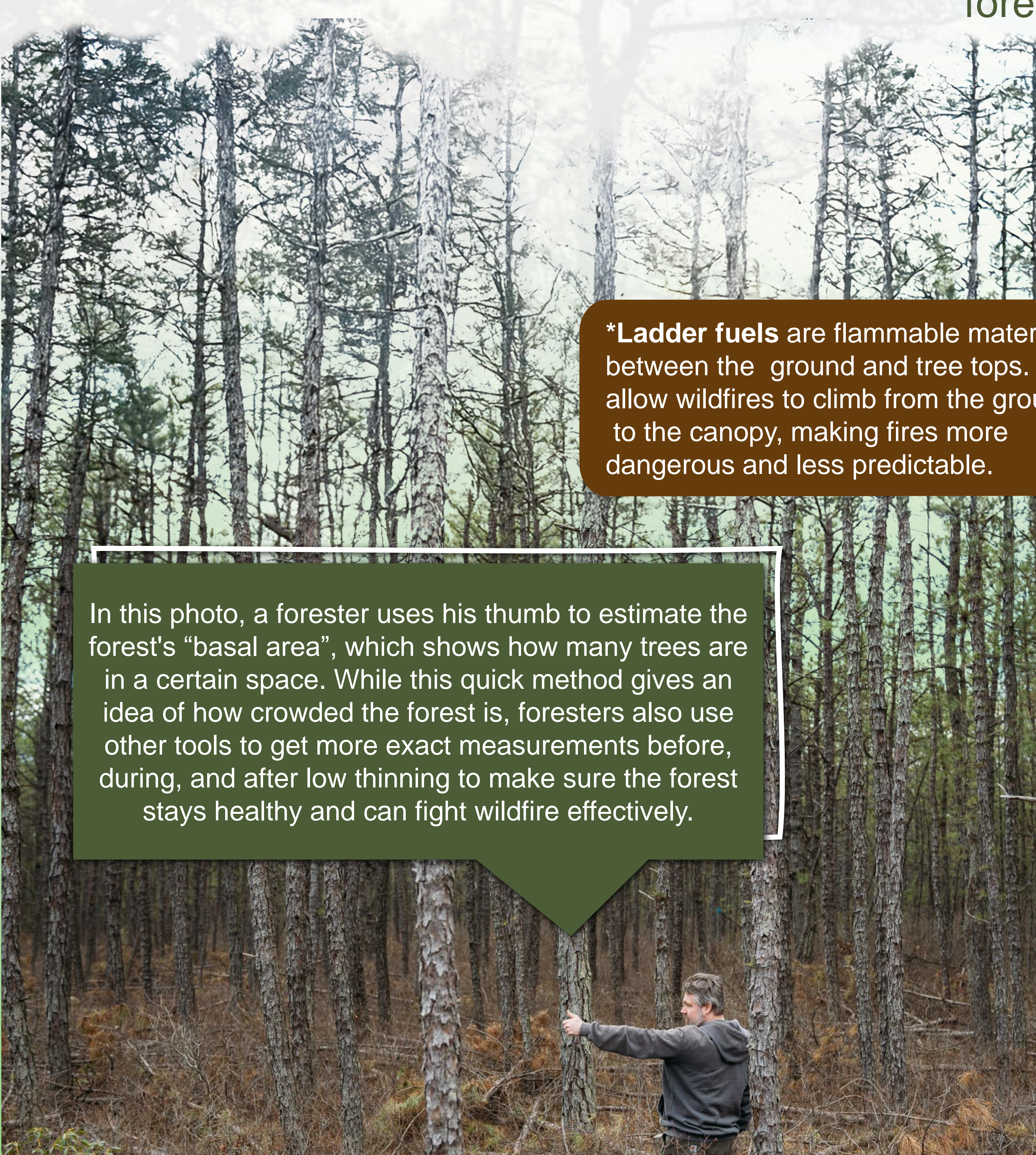


## WHAT IS LOW AND FROM BELOW THINNING?

A healthy forest is very important to the New Jersey Forest Service! A healthy forest can often be left to grow on its own. However, in unhealthy

forests, taking the right action can help them to grow stronger and reduce the risks of disease, pests, and wildfires. These actions are collectively called forest management.

One management method is forest thinning, which involves carefully removing some trees to help the others grow. “Low thinning” focuses on removing unhealthy or small trees and shrubs. These plants are referred to as ladder fuels because they allow “ground fires” on the forest floor to climb up to the tree canopy creating “crown fires”. Crown fires are harder to control and very destructive.



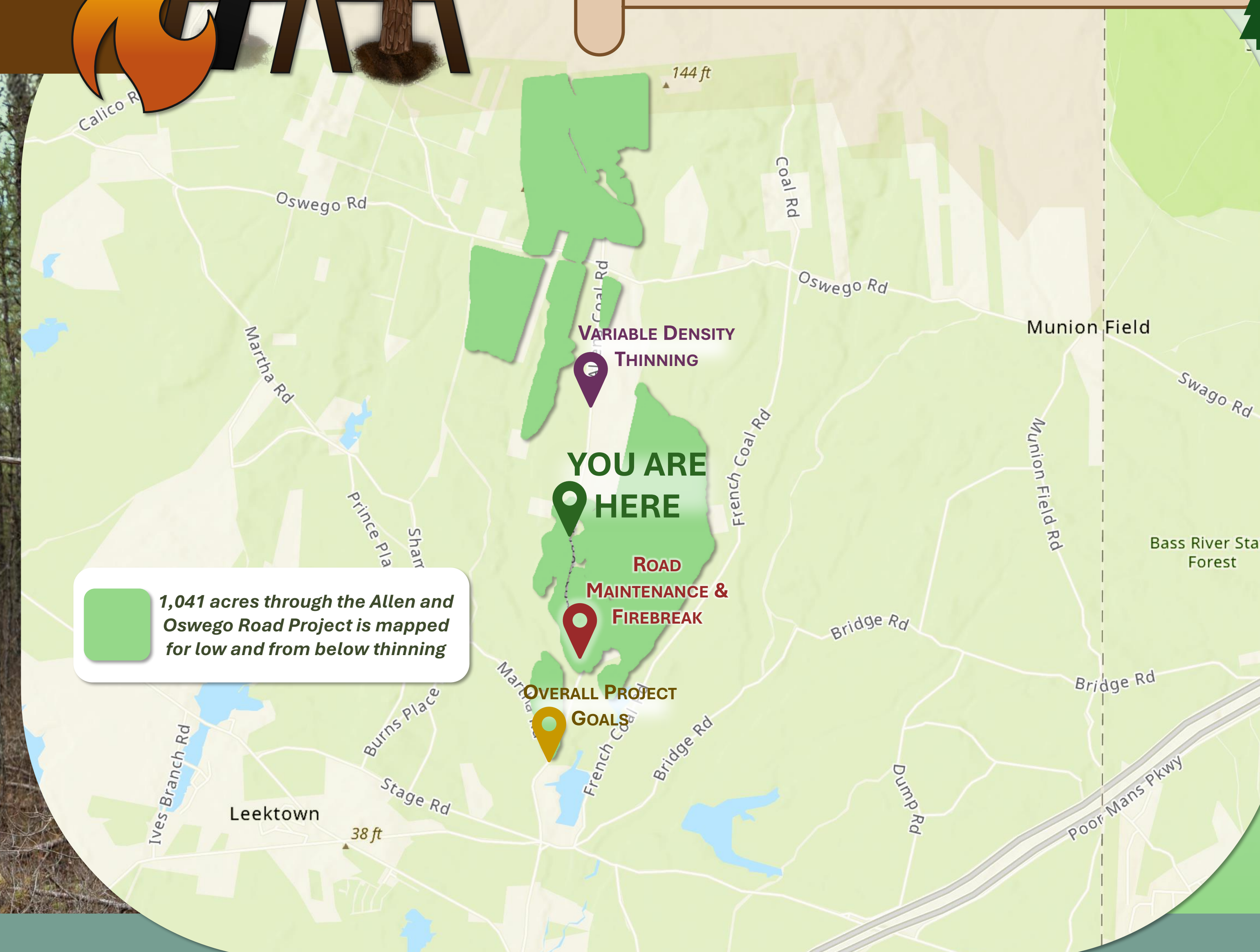
\*Ladder fuels are flammable materials found between the ground and tree tops. They allow wildfires to climb from the ground to the canopy, making fires more dangerous and less predictable.

In this photo, a forester uses his thumb to estimate the forest's “basal area”, which shows how many trees are in a certain space. While this quick method gives an idea of how crowded the forest is, foresters also use other tools to get more exact measurements before, during, and after low thinning to make sure the forest stays healthy and can fight wildfire effectively.



### Curious to learn more?

Check out the other signs along Allen Road that explain more about the project, or scan the QR code at the bottom for the electronic version of all four signs!



By cutting back ladder fuels with low thinning, the risk of major wildfires is reduced, and the forest becomes healthier and safer. Removing smaller or weaker trees gives the remaining healthy trees more space and resources to grow. Spacing trees farther apart helps them live longer, lowers the chances of disease, and reduces the spread of pests. This helps each tree reach its full potential!

The forest might look different after low thinning, but remember, this is just part of a process that will lead to new growth. Other low thinning projects in New Jersey show that this method helps reduce carbon loss and keeps the forest healthy for the future!

QUESTIONS?

PLEASE REACH OUT →



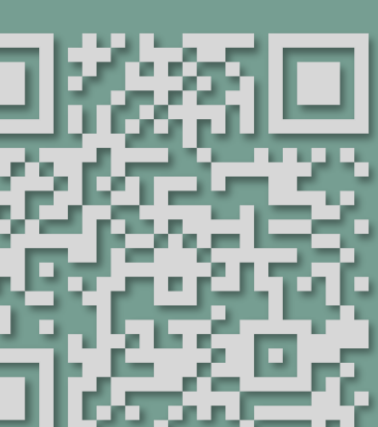
askforester@dep.nj.gov

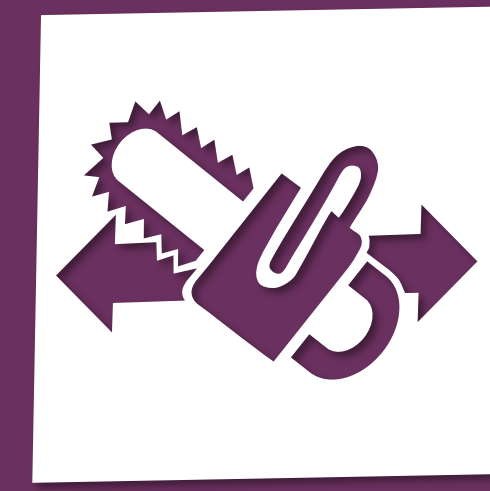


+1(609) 292-2532



SCAN FOR MORE  
INFORMATION ON THIS  
IMPORTANT PROJECT!





# VARIABLE DENSITY THINNING

## WHAT IS VARIABLE DENSITY THINNING AND WHY DO WE DO IT?

At the New Jersey Forest Service, keeping forests healthy is our top priority! A healthy forest has a mix of habitats to support different types of wildlife. We call this a “habitat mosaic.” Natural events like storms and wildfires can create these mosaics, but sometimes there’s either not enough change or too much, causing the forest to grow in a way that doesn’t meet the needs of wildlife.

When this happens, forest managers can take steps to help. One method is called variable density thinning. The goal of this method is to create a forest with a mix of tree types, sizes, and spacing. This includes creating gaps of different sizes in the forest while keeping some standing dead trees and larger living trees. These changes improve the forest’s structure and provide habitats for many types of wildlife and plants.

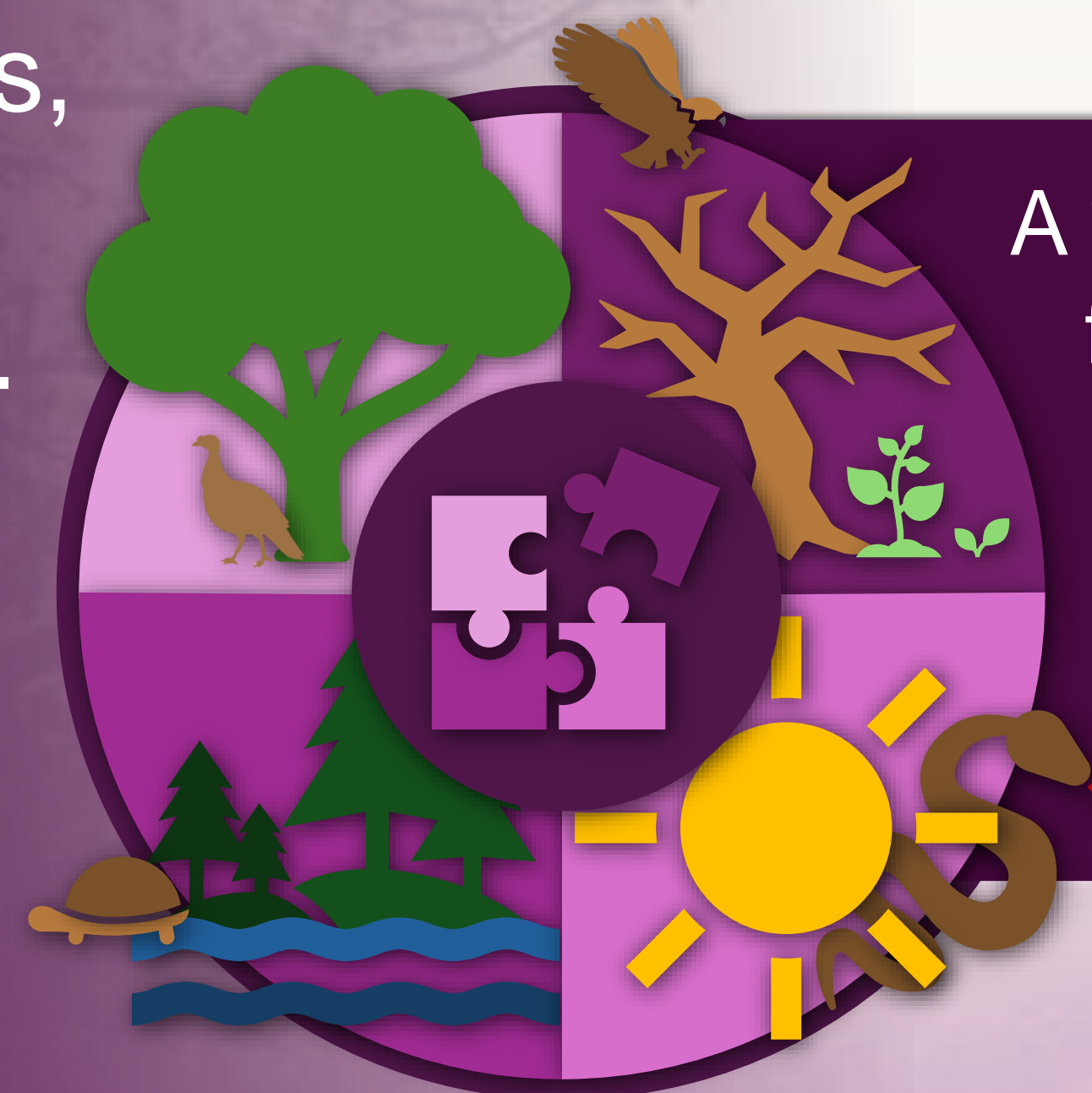
**Think of it like this:** animals, like people, need different places for different activities.

We sleep in bedrooms, shop for food at stores, and visit parks for fun.

Similarly, animals might need different habitats for shelter, food, or raising their young.

Variable density thinning helps create this variety of habitats, or habitat mosaic\*, that wildlife needs to survive.

This variety in the forest can also lower the risks of pests and diseases spreading.



A **habitat mosaic** is created when different tree types and densities form a variety of habitats that meet the needs of wildlife. This can include open spaces, widely spaced trees near wetlands, dense forest areas, and standing dead trees that make great nesting spots. This structural diversity not only creates better habitats but also helps reduce risks to the forest!

Open patches surrounded by dense trees are ideal spots for birds of prey to hunt or reptiles to bask. They also help sunlight to reach the forest floor and encourage new trees to grow. Some species are shade-intolerant which means they need full sunlight like these patches to grow and thrive.



### Curious to learn more?

Check out the other signs along Allen Road that explain more about the project, or scan the QR code at the bottom for the electronic version of all four signs!



255 acres through the Allen and Oswego Road Project is mapped for variable density thinning

YOU ARE HERE

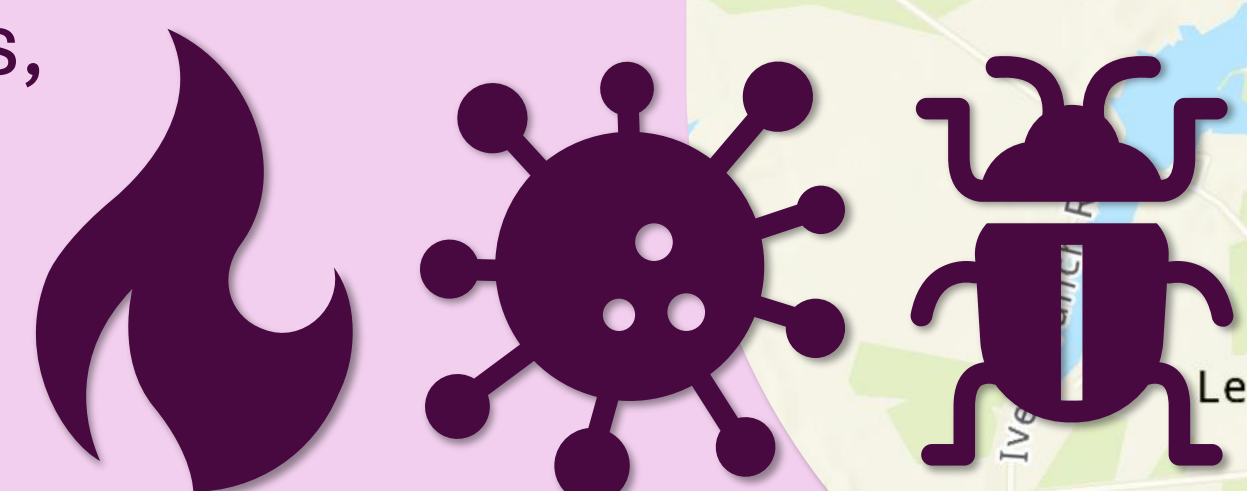
LOW AND FROM BELOW THINNING

ROAD MAINTENANCE & FIREBREAK

OVERALL PROJECT GOALS

**REMEMBER!** From the road, the variable density thinning may not be noticeable. A method called “feathered variable density thinning” is used, which creates a gradual transition from the road into the forest. This approach reduces the visual impact of the thinning while maintaining all its important benefits!

Thinning helps reduce the risks posed by fire, pathogens, and pests by diversifying both species and structure. By increasing diversity, even if some trees are impacted by the disturbance, it is less likely that the whole forest will be permanently affected.



QUESTIONS?

PLEASE REACH OUT →



askforester@dep.nj.gov



+1(609) 292-2532



SCAN FOR MORE INFORMATION ON THIS IMPORTANT PROJECT!

