

# TUMBLING LONGLEAF ECOSYSTEM



1. The block tower represents a longleaf pine ecosystem.



**GREEN** = Longleaf pine trees



**BLUE** = Wildlife



**YELLOW** = Understory plants



**RED** = Good FIRE

2. Take turns removing one block at a time.

Removing a block represents a loss from the tower due to:

- Natural processes  
succession, predator & prey relationships
- Natural disturbance  
storms, floods, drought, lightning strikes
- Human disturbance  
development, fire suppression, non-native species..

**Play Safe!**

Toppling of wooden blocks pose a falling risk, especially to children.

- Do NOT stack removed blocks on top of the tower
- Enter the play zone ONLY when it is your turn
- Wait for others to move before removing a block.

3. Place the removed block to the side.



**DO NOT** return the removed block to the top of the tower.

Why? Once a part of the forest is lost, it may not be immediately replaced.

4. Continue to remove blocks until the tower falls.



Who made the longleaf pine ecosystem fall?

Do not blame the last person to pull a block! Everyone who removed a block helped make the tower fall.



Could the removal of one color of block cause the tower to collapse?

Altering one ecosystem component could change the nature of the ecosystem or result in its total loss.

5. **RESTORE** the longleaf ecosystem tower.

**Restack the blocks to create a new forest by:**

- Planting longleaf trees and native grasses.
- Conducting a prescribed fire.
- Creating good habitat for wildlife.



This activity was developed by the North Carolina Forest Service to promote the Longleaf Pine Initiative. The North Carolina Forest Service is a division of the North Carolina Department of Agriculture and Consumer Services. Steve Troxler, Commissioner | [www.ncforestservice.gov](http://www.ncforestservice.gov)



# TUMBLING LONGLEAF ECOSYSTEM

The block tower represents a healthy longleaf pine ecosystem. Each block represents a component of the “tower” forest. Blocks are color coded & have symbols to represent “categories.”



## GREEN = Longleaf pine trees

Historically longleaf was the dominant forest type in the Southeastern US.

- Longleaf pines are native to nine states & once occurred on 90 million acres.
- Longleaf forests were reduced to 3 million acres by the late 20<sup>th</sup> century due to:
  - Conversion of longleaf pine forests to non-forest uses, such as agriculture or development).
  - Exclusion of frequent, low-intensity fires from the forest landscape.
  - Replacement of longleaf pine with other tree species, including other pine species in plantations.

In North Carolina, longleaf occurred on > 9 million acres in what is now 51 counties.

- Our state’s early economy is tied to longleaf as its wood products (tar, pitch, turpentine, timber) were very valuable, especially for its uses in naval stores. Today longleaf continues to provide quality timber and pine straw mulch.
- Our state tree is the pine (including longleaf).
- The term Tarheel is rooted in the tar kilns that burned longleaf “lighterwood.”

NORTH CAROLINA STATE TOAST:  
*Here’s to the land of the longleaf pine,  
The summer land where the sun doth shine,  
Where the weak grow strong  
and the strong grow great,  
Here’s to “Down Home”,  
the Old North State!*



## RED = Good FIRE

Longleaf pines are very tolerant to natural fire:

- Young longleaf seedlings stay in the “grass-stage” which protects the tree’s bud from fire, while the tree establishes strong roots.
- When ready, the young plants grow high very quickly to get above a fire’s typical flame lengths
- Thick, flaky bark protects mature trees from low intensity surface fires
- Longleaf pines shed their needles, making excellent fuel for future fires.
- Longleaf seeds need exposed soil for optimal germination and seedling survival, conditions readily created by fire.

Reasons to use prescribed fire for forest management:

- **Mimics naturally occurring fires.**
- **Fuel reduction:** low intensity prescribed fires reduce risk of catastrophic wildfires
- **Competition control:** remove competing weeds and non-target tree species for a more favorable environment for natural seeding (regeneration) or tree growth
- **Wildlife habitat:** fire maintains open conditions, good for grasses and native plants, providing excellent food and cover for animals like bobwhite quail
- **Control insects & disease:** In longleaf pine, brown-spot needle blight, is controlled with prescribed fire in young stands.



## YELLOW = Understory plants

Longleaf ecosystems are one of the most diverse systems in the world! Much of this diversity resides in plants on the forest floor.

- Many plant species are rare and/or found nowhere else (like the Venus Flytrap found only in NC & SC).
- Native grasses like wiregrass and little bluestem & flowering plants, especially “sunflowers” (the Composite family) and “peas/legumes” (the Fabaceae family), are common understory species.



## BLUE = Wildlife

Native understory cover, maintained by periodic fire, support diverse wildlife populations, including:

- game species (quail & turkey)
- non-game species (gopher frogs, fox squirrels)
- rare species (red cockaded woodpecker)
- native pollinators



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