

## Thundergust Lake Trail

Thundergust Lake is important habitat for many species found throughout Parvin State Park. Take a walk on this one-mile trail and stop at a few points of interest to learn more about life around the lake.

The numbered sections in this brochure correspond to numbered posts along this trail. **How do these species interact with one another? How might people affect the ecosystem? Explore and find out!**



### Post 1 Pine Trees Have Thick Skin!

At least 40 different tree species grow throughout Parvin State Park! Touch the pitch pine tree with a ① near it. Notice its thick “plated armor.” In fire-prone areas, thick bark protects a tree’s inner layer from pests, diseases and even forest fires. Bark also transfers nutrients throughout a tree. Pine trees thrive in the sandy, barren soil left after a fire burns the forest. As you walk along the lake, compare the bark of other trees to a pine tree. **What might happen to the other trees if there was a fire in this area?**

### Post 2 Follow the Yellow Blazed Trail

Look at the yellow rectangles above the ②. This is a trail blaze. You will see them along all the trails in Parvin State Park. They tell you what direction to travel on the trail. Stay on the trail to avoid damaging sensitive ecosystems! **What direction is indicated by the trail blaze on this tree?** Check out the guide below.

TRAIL BLAZE DIRECTIONS		
START OF TRAIL 	CONTINUE STRAIGHT 	RIGHT TURN 
LEFT TURN 	SPUR LEADING TO A DIFFERENT TRAIL 	END OF TRAIL 

### Post 3 Stressed Sassafras

Much like humans, when trees are under stress they are more likely to get sick. These sassafras trees have cankers caused by a nectria tree fungus. The fungus infects trees during times of stress, like extreme drought or at a damaged section of the bark. Well-established trees can often survive the infection. **Are the infected trees near one another? What might this tell you about how the disease spreads?**

### Post 4 Who’s Diving in Thundergust Lake?

Look out over the lake and see if you can spot who is diving in Thundergust Lake. From March to August, ospreys are commonly seen flying over the water looking for fish, their main food source. Once a fish is spotted, the osprey may hover in place before tucking in their wings and diving into the water feet first. They often go in completely over their heads. Sharp talons, spiny pads on their feet and opposable toes allow them to get a strong hold on slippery fish. Ospreys have mostly dark brown bodies, a white head with a dark brown cap, and a brown streak through their eye. Ospreys migrate to the Caribbean, South America, and Central America in the winter.



### Post 5 No More Room for Wildlife

Look at the plants growing out of the water in front of you. This is common reed, also known as phragmites. It is a non-native species that likely traveled to North America in the 1900s in the ballast water of a ship. It is possible that improperly cleaned boats brought pieces of the plant from another waterbody or they were windblown into this area. Native plants cannot survive among the dense roots of the phragmites. Mallard ducks and other waterfowl cannot make nests among the tall stalks.



### Post 6 From Native Berry to New Jersey’s Cash Crop

**Did you know that New Jersey was the first state to agriculturally harvest highbush blueberries?** If you turn around you will see huckleberries and blueberries. New Jersey’s outer coastal plain provides the perfect environment for these native species. The first European settlers here struggled to grow their crops in the acidic, sandy soils of this region which is why it became known as the Pine Barrens. However as you can see, this area is far from being barren as it is rich in native plants and wildlife! Today huckleberries and blueberries are a food source for many species, including white-tailed deer and eastern bluebirds.

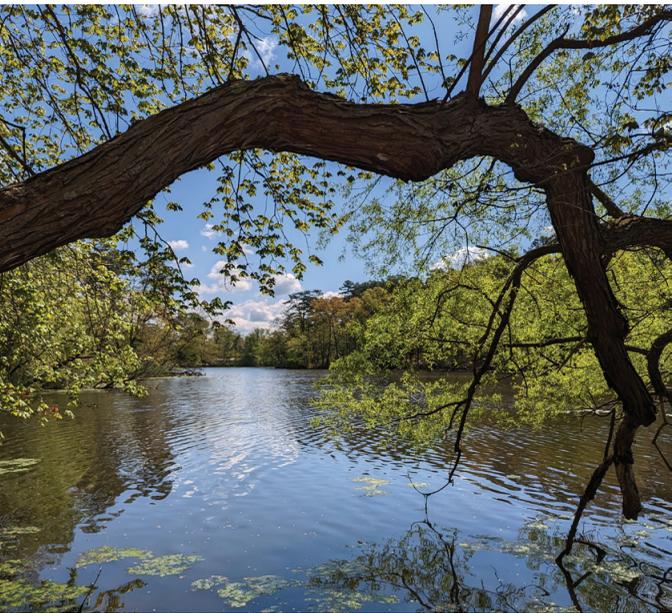
# THUNDERGUST LAKE TRAIL

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## Post 7 Living Life on the Edge

Take a moment to observe the trees growing near the water's edge. ***Are they growing straight and tall or do they have branches that curve towards the sky above the lake?*** Ecosystems along the edge where two different habitats meet experience edge effect. In this case, more sunlight and thus energy is available to the trees growing along the lake. This causes the trees to grow toward the lake whereas, in the middle of the forest, they might grow straighter.

Now think about the edge where a road and forest meet. ***How might trees grow differently there versus in the middle of the forest?***



## Post 8 "Thundergust Beach" Turned "Animal Retreat"

This area was once a swimming beach for the public. Now, in late spring to early summer, eastern painted and red-bellied turtles lay eggs in the soft ground. Turtles will travel up to a half mile from the water's edge to find a nesting location.

Eastern tailed-blue butterflies flock to the open shoreline in search of moist areas to extract nutrients, in a behavior called puddling. ***Can you think of other species that might use this beach area?***



Bald eagle (*Haliaeetus leucocephalus*)

## Post 9 Where Does the Water Go?

Flowing below you is Thundergust Brook, a freshwater stream that flows into Thundergust Lake. It is a part of the Cohansey-Maurice watershed in the lower Delaware Bay watershed. The bodies of water located in the Cohansey-Maurice watershed drain into the Delaware Bay. ***Why is it important to know where all the water in an area flows to?***

Most of the bald eagles in southern New Jersey live within 12 miles of the Delaware River and bay. ***How might the bald eagle population be affected if there was an oil spill in a waterway that flows into the Delaware River?***

## Post 10 The Nutrient Cycle of Life

Look at all the branches and trees that have fallen in this area. ***How do you feel when you see a fallen tree?*** Do not feel sad for the tree. It has a new role to play in the ecosystem. Peek under one of the small logs nearby to see some of the insects and animals that live in and eat the wood.



Eastern painted turtle (*Chrysemys picta picta*)

Post 10 continued...

In fact, as a tree decays, nutrients are released back into the habitat in a process known as nutrient cycling. All the carbon that the tree absorbed over its lifetime, through photosynthesis, is released back into the environment. Carbon is an important element in creating all living things on earth!



Green Frog (*Rana clamitans*)

Thank you for exploring the interpretive trail around Thundergust Lake here at Parvin State Park!

Follow Parvin's Facebook page to receive announcements on nature interpretive activities.

Please stay on the trail, take only pictures, be aware of changing trail conditions and report any trail issues to the park.

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