

1980

FARM TO FOREST

Self - Guiding Trail



PRINCE WILLIAM FOREST PARK

When Indians roamed these ridges and creeksides, the land was embraced by virgin forests. The woodland was the Indian's home, and the forest's destiny was his own. Participating in life and death in the forest, the Indian did not change or destroy his homeland. To do so would have changed or destroyed him.

With the advent of the white Europeans, a great change was made in the relationship of men to these forests. Clearing large areas for farmland, cutting down the giant trees for lumber and firewood, and hunting and trapping game for food, pelts, and sport, men launched into an era in which they altered the face of the new land forever. So great were the resources of the continent which stretched unknown and mysterious beyond the horizon, that 17th and 18th century Americans had no need for a concept of resource conservation.

Today, agriculturalists realize the importance of fertilizing fields, crop rotation, contour plowing, and other methods of protecting and preserving the soil. But farmers in earlier centuries knew only one method: to farm a field until nothing more would grow on it, and then to abandon it, and move to a new one farther west.

When the fields were abandoned, the natural forest was reborn, and that event marks the beginning of the story told by the Farms To Forest Nature Trail. The numbered signs on the trail point to illustrations for the corresponding paragraphs below.

1. HARVESTED LAND

Land use along this trail dates from the mid-1600's. Only the steepest slopes and the creek bottoms have not been cleared for fields or pasture. The scattered tree stumps indicate that the forest has filled the needs of many early settlers for fuel, farm buildings, railroad ties and fence posts. Several clearings near the trail are old house sites, and numerous old roads were used by lumberman and farmer alike.

2. DUMFRIES

Where this watershed empties into the Potomac River, just 8 miles away, lies the town of Dumfries. Built near a deep harbor, Dumfries once was the second largest sea port in the United States. Sailing ships carried local lumber, tobacco and cotton to Europe and throughout the world. This cleared farm land, unprotected from the rains, sent topsoil downstream during each storm, filling in the Dumfries harbor, and contributed to its decline.

3. FARMLAND

Old furrows cutting across the path here point to the history of this forest as an old field. Located in one of the earliest-settled regions of the New World, this area probably was first farmed for tobacco or cotton in the late 17th century.



Without modern fertilizing methods, even the most careful farmers could not prevent the drain on soil quality and mineral content resulting from one or two hundred years of use. This, in addition to loss from erosion, led to a diminishing productivity of the land.

4. AN IDEA

To determine if this exhausted land could once again become a productive natural community, Chopowamsic Demonstration Area was set aside here in 1933. Renamed Prince William Forest Park, and placed in the National Park System in 1944, the area has benefited from nearly forty years of protection, and the plants and animals have returned.

5. FOREST GROWTH

The first obstacles presented by the vacated clearings were poor soil and direct sunlight. Can you guess the pattern of forest growth from this spot?

6. VIRGINIA PINE

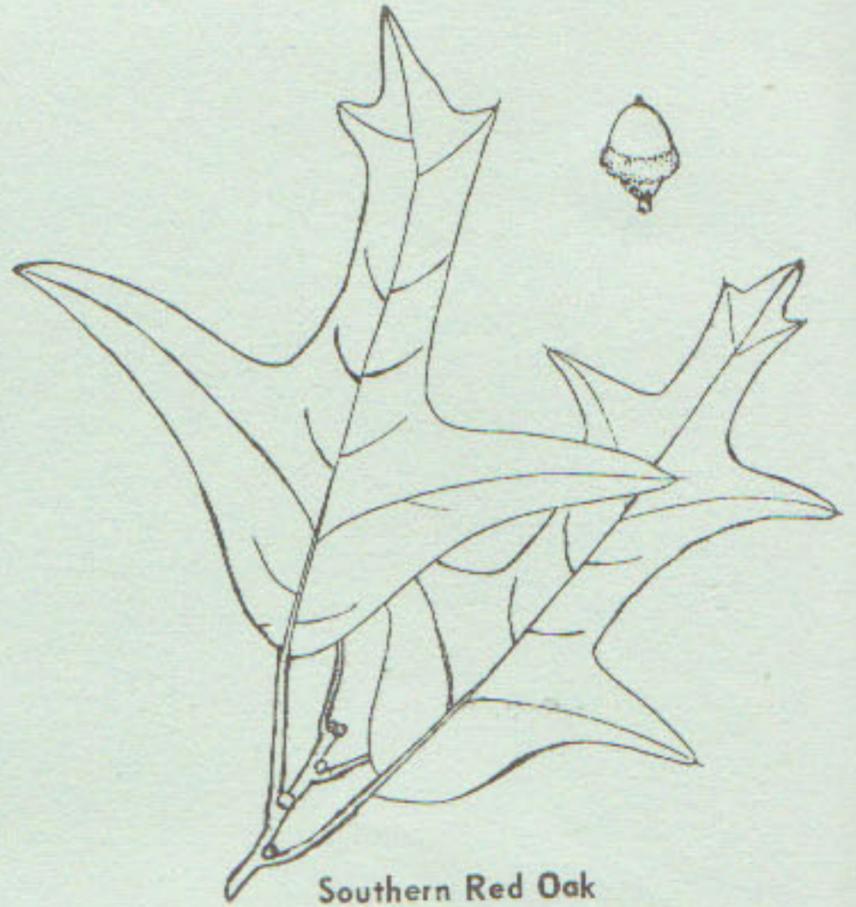
(*Pinus virginiana* Mill.)

By far the most common pine to be found in this area, Virginia Pine plays a dramatic role in transforming an old field or orchard into a forest. The seeds, winged and light-weight, are easily blown onto an old field from nearby cone-bearing trees. If the field is left undisturbed, the sun, dimmed only by the scant shade of herbaceous "weeds," provides the perfect place for germination of the pine seeds into young seedlings. After that, the field should be called a young pine stand.

7. SOUTHERN RED OAK

(*Quercus Falcata*)

Because acorns of this tree sprout only in full sunlight, its place in the succession of this forest is puzzling. On dry, sparsely-covered sites it can seed itself and remain. In moist areas that become densely wooded, it is replaced by other trees.



Southern Red Oak

8. BIGTOOTH ASPEN

(*Populus grandidentata* Michx.)

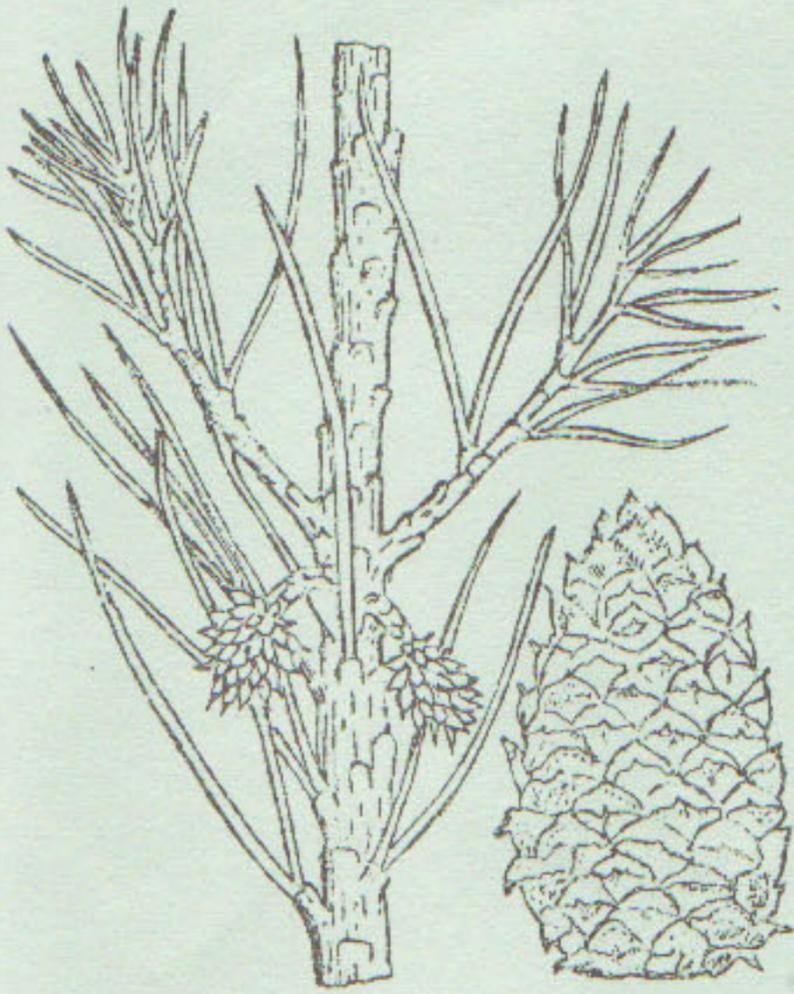
Like the pine and Red Oak, this tree too is a pioneer of cleared and open fields. Requiring full sunlight and bare soil for germination, the seedlings once started, grow very rapidly. Bigtooth Aspens remain alive only if they stand in full sunlight above the neighboring trees, and are, therefore, only temporary features of this forest.



Bigtooth Aspen

9. MATURE PINE STAND

This area of the forest has come a long way past the "young pine stand" stage mentioned earlier. How did it happen? First, the fast-growing pine seedlings became trees, 15 to 20 feet high. Frisky squirrels and chipmunks made it possible for hardwoods to grow under the pines by burying acorns and hickory nuts there. After many years, the pines reached their maximum size, and the slower growing hardwoods began to overtake them. From now on very few pine seeds will grow into seedlings in this part of the forest, since the shade is too dense.



10. WAGON ROAD

Old wagon roads, which lead nowhere today, wind through the forest. But decades ago they bordered fields, gave access to streams' fords, or connected farms and towns. Countless wagon wheels, grinding the dry earth or oozing through the mud, have given this old road its sunken appearance. Left behind are the remnants of an early automobile.

11. AGING OLD FARMLAND

As you walk the park trails, you will notice large square patches of Virginia Pine. Their age will tell you much about the history of the area. Each year the Virginia Pine grows a ring of branches. By counting the number of rings and the scars of broken-off branches, you can estimate when a farm was abandoned. This pine stand is about 40 years old.

12. FALLING PINES

Virginia Pine trees have shallow root systems and soft wood, making them very susceptible to uprooting and breaking by strong winds. The hole in the forest canopy left by a fallen pine is soon filled in a year or two by the branches and leaves of the nearby hardwoods, the shade preventing new pines from growing in the gap. Thus, the old pines slowly give way to an exclusively hardwood forest.

13. OPEN PINE STAND

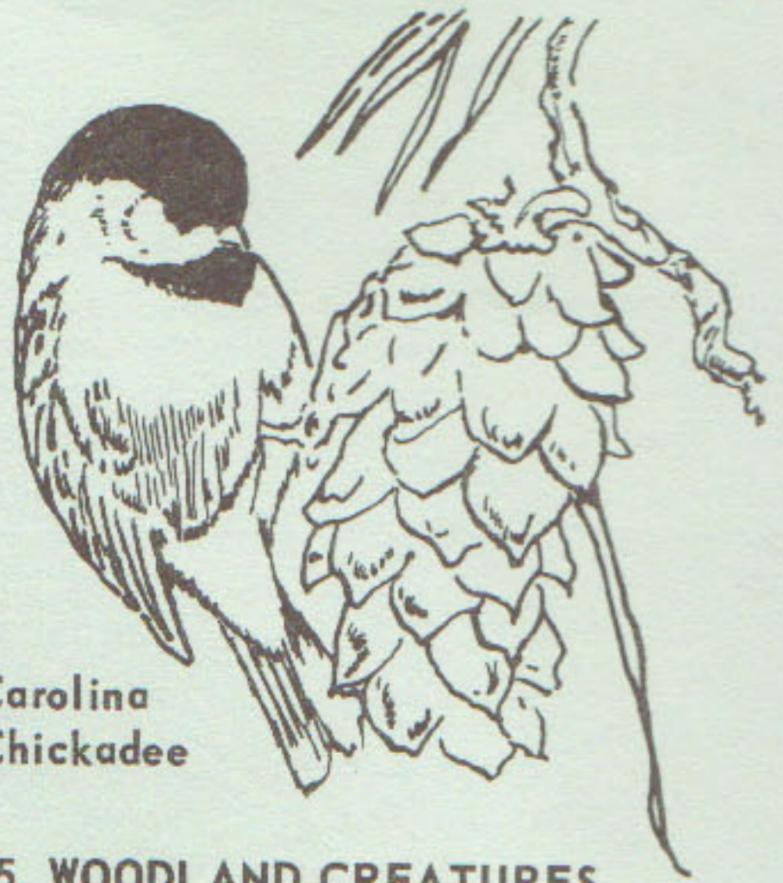
Virginia Pine grows well in poor soil, but most oaks and hickories do not. Thus, we have the probable explanation for the lack of hardwoods among these towering pines. Very slowly, over the past half-century, some minerals have been returned to the soil by rainwater, and a layer of organic soil has developed from fallen pine leaves. With these slight improvements, a few young hardwoods have appeared, but some time will pass before this ever becomes a hardwood forest.



14. THE FOREST OF THE FUTURE

Off the Nature Trail to the right are sections of forest upwards of 70 or 80 years old. Very few pines remain in such an area, and consequently, the shade is very uniform and dense. Although this is called a climax forest, its stability does not preclude change. But in spite of small continual changes, the Oak-Hickory forest will consist of the same kinds of plants and animals for many centuries to come. The forest will continue in its state of dynamic balance unless man or fire interfere.

MATURING FOREST



Carolina
Chickadee

15. WOODLAND CREATURES

As the forest changes the animals must change also. The Wood Thrush and the Carolina Chickadee have long ago replaced the birds of open fields here. Each animal is vitally concerned with the successional stages of the forest.



Wood Thrush

16. WHITE OAK (*Quercus alba* L.)

Easily recognized by its whitish bark, the white oak is perhaps the most common oak in the area. Broad oak leaves play an important role in the forest community, catching the sun's rays before they reach the forest floor. Plants which flourish under a white oak tree do not require full sunlight to survive.



White Oak

CONCLUSION

In the second half of the twentieth century, when the world is settled and few resources have escaped being tapped, Americans are beginning to realize the value of the continent they have wasted and misused. No longer can men mold the land or change the forests without first considering the long-range results of such actions. Men know today that neither waterways nor forests, nor even the vast oceans, can bear the burden of the tremendous pollution emptied into them by civilization. It is tragic that only recently have Americans come scientifically to the same conclusions reached by the Indians centuries ago: that man indeed is a part of his environment, and its destiny is his own.

17. THE BEAVER

Cut tree trunks remain at this old beaver dam site. Eliminated from the area by overtrapping, once again beavers build dams which provide haven for wood ducks, fish and other aquatic creatures along the tributaries of Quantico Creek. When a dam is deserted, the silt left behind provides rich topsoil for a lush growth of moisture-loving plants.



18. FAMILIAR SOUNDS

We call this Oak-Hickory forest a climax community, a group of plants and animals that can continue without change. Whatever its name, it is much the same as that deep woodland through which Tidewater Indians traveled long ago. A summer night can once again bring the sounds of beavers at work and the "who cooks for you" song of the Barred Owl. The setting testifies that what a man can, with an act, destroy - he may, with a will, restore.

