

## The Cedar Swamp



When the last glacier retreated, only a dry, shallow depression here in the barren debris marked where a block of ice once lay. There were no ponds, because glaciers still locked up much of the world's water – and the Ice Age sea stood 400 feet lower than today. But as the ocean rose, the fresh-water table of land was lifted. And so, at last, fresh water intersected this “kettle” about 7,000 years ago.

Plants of both land and water added their debris to the depression. Today, this layer of peat is 24 feet thick.

Northern plants were the first to appear after the glacier's retreat. But as the climate warmed repeatedly over the centuries, southern plants entered the landscape. Perhaps 5,000 years ago or so, Atlantic white cedar began to grow on Cape Cod wherever there was wet ground or a swamp.

Of course, the forested swamps were quickly cleared once European colonists arrived in this New World.

Settlers dreamed of such a wood. It was light, it resisted decay, and it was easy to shape. And so its products quickly found their way into every avenue of colonial life. The lumber was split into boards for houses and farm buildings. It was used for joists and frames, for doors and rafters and floors (because it scoured so white), and tanks to hold whale oil. Its posts fenced fields, its poles supported garden vegetables and flowers, and its slats became laths, boxes, and woodenware. Organ pipes and water pipes were Atlantic white cedar – and during the Revolution, even gunpowder was produced from its charcoal.

At first, white cedars three to four feet thick had been logged from swamps like this one. Later, the succeeding generations of smaller trees were cut. From the original forest, almost no trees survived.

It is the nature of the Atlantic white cedar to invade swamps. Fires, storms, or logging, may repeatedly level such a forest, but this tree will return again and again. Indeed, without catastrophies to repeat the process of invasion, red maple and tupelo will, in turn, become invaders. The red maple invasion has already begun, but it is a gradual thing. The seedlings of Atlantic white cedar, like pitch pine, will eventually fail to grow in the deep shade. Still, only if there are several centuries without disturbance (a rare thing in nature), will there be a complete change.

*Remain on designated trails to reduce exposure to disease-carrying insects, poison ivy, and other risks. Observe trail conditions while walking, and be aware of tree roots, stumps, and other naturally-occurring hazards.*



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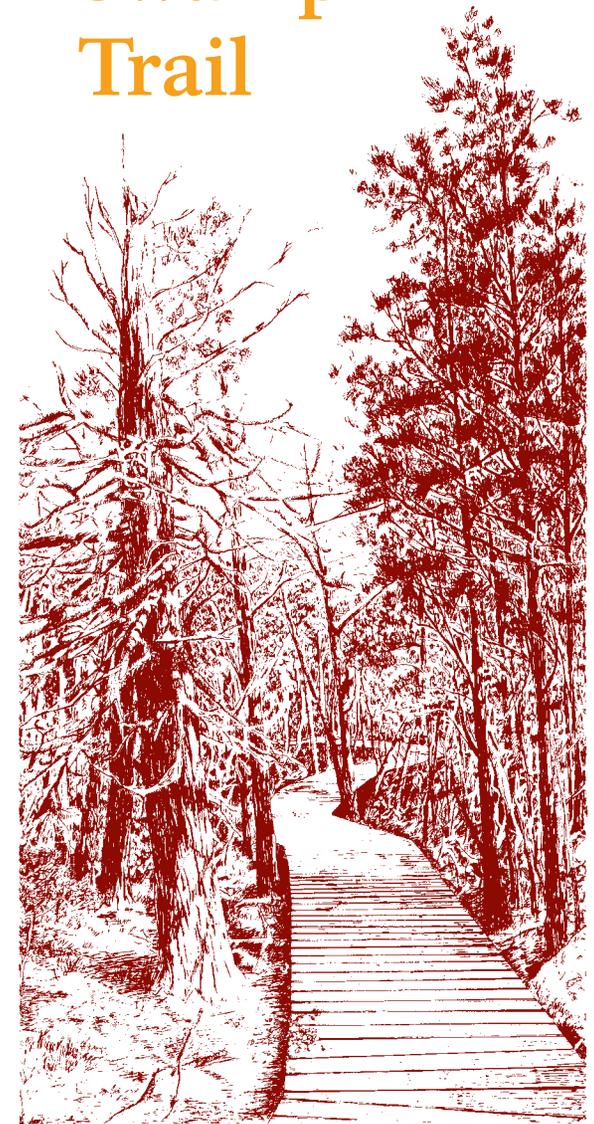


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## Atlantic White Cedar Swamp Trail



## Inland from the Sea

Life is harsh at the edge of the sea. The soil is nothing more than wind-blown sand, with little ability to hold water. There are few nutrients in the granitic soil. The winter gales prune any plant exposed more than others. Salt spray whipped out of the surf will inhibit or kill all but the most tolerant plants.

But further inland these conditions soften. The dehydrating effects of salt spray lessen; a down-wind slope provides shelter from the pruning effects of salt spray and wind; and toward the cedar swamp, there is a change to a richer soil, able to hold more water.

One condition grades into another. And likewise, there is a transition of plants best suited to the requirements of each place along the way.

A low-growing community of bear oak, golden beach heather, and broom crowberry survives behind the dunes. Stunted pitch pine grew here too, but they are progressively taller as the trail descends (both stunted and tall trees are about 75 years of age).

The pines are still taller where there is more moisture; and beneath them thrive young black

and white oak in place of bear oak. Larger, older oaks grow nearer the swamp, and below them there appears a new groundcover – of checker-berry, wild sarsaparilla, and mayflower, which grow in the acidic soil produced by decaying oak leaves. Red maples prosper in the wettest soil close to the swamp, accompanied by still another array of understory plants – sweet pepperbush, inkberry, and sheep laurel.

Changes are also a product of time, for nothing in nature is constant. All of this land was barren in the 1850s – a result of years of overuse. And it was only in the last century – as the land was abandoned – that it began to recover.

Pines tower above young oaks, and they grow among the larger oaks today, but their demise is certain. Pine seedlings cannot grow in the deep shade of summer, and so, as the older pines age and die, they will not be replaced by their own kind.

In the short run, an oak forest will emerge to cover more and more land. In the middle run a beech forest may appear. And in the long run, all of it will succumb to the advancing sea.

