Hop On the Clayplain Train!

Church Woods is a 37-acre clayplain forest growing on clay deposited in the Champlain Valley in a glacial lake 10,000 years ago. The woods contain a vast array of plant species, including white oak trees dating over 200 years, a rich geological history, and several rare animal species.

PHYSICAL FEATURES

The valley clayplain forest is a natural community named for the sediments that compose it. These clays are very fine-grained and mineral rich. They were deposited 10,000 years before present by ancient glacial lakes. Lake Vermont was formed when the glaciers receded from Vermont.

The glacier acted as a dam, blocking the lake from draining north. When the Saint Lawrence Seaway was clear of ice, the ocean rushed into the Champlain basin, creating the Champlain Sea. This deposited more rich sediments.

Over time, the Champlain basin rebounded as the ice retreated, expelling the seawater and creating the present day lake. These rich soils consist of very fine-grained particles which hamper deep root growth and are poorly drained. This mix of soil characteristics leads to many large tree tip-ups which can be seen in Church Woods. Additionally, the mineral rich soils support a large variety of plants and trees that are otherwise uncommon in Vermont.

BOTANY

The Clayplain forest is also called oak-hickory forest. Shagbark hickory and oak in a variety of species including white, bur, swamp white, and red, are abundant in the Clayplain forest. Sugar, red, and silver maple, and white, black and green ash are all found, as well as American elm, basswood, hemlock, and white pine. Clayplain forests are also home to a great diversity of shrubs and herbs, such as maidenhair fern, many of which are uncommon and some that occur in Vermont only in the Clayplain forest. The great diversity is due to high fertility, a moderate climate, and a patchy mosaic of wet depressions - small and large - scattered within the forest. In areas where clay is heavy and therefore water is held in the ground, there are fewer coniferous trees and many deciduous trees. The deciduous trees have difficulty penetrating deep into the ground and “tip ups,” due to windthrows are common.

This transect of the Church Woods microtopography demonstrates how soil and vegetation characteristics vary with elevation.

WILDLIFE

The combination hemlock, pine, and hardwood forest provides a vast array of habitats for a variety of birds, mammals, insects and amphibians. Visits under the dense needle and leaf canopy yield coyote tracks and jumping frogs.

The trees above fill the air with a medley of bird songs. Whitetail deer trails spread in a network, covering all areas of the forest.

Tip Up, Roots

Drier hemlock groves abutting wetlands allow for an amazing diversity of species.

An aerial view of Church Woods

Rich, mottled clay pH: 7.8.5

Heavy, mottled clay pH: 6.9-6.2

White F horizon pH: 4.2-5.5