



Notable Species

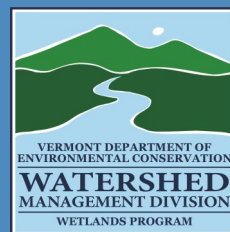
- ◆ Black Gum tree
- ◆ Virginia Chain-fern
- ◆ Massachusetts Fern
- ◆ Narrow Blue-eyed grass
- ◆ Smooth Holly
- ◆ Mountain Laurel
- ◆ Four-toed Salamander

Ownership/ Visit

Vernon Black Gum Swamp Complex is located within the J. Maynard Miller Municipal Forest (Vernon Town Forest) and within the adjacent Roaring Brook Wildlife Management Area (WMA) owned by the VT Fish and Wildlife Department. Vernon Town Forest is a unique forest that contains at least seven swamps supporting black gum trees (*Nyssa sylvatica*). The black gum tree is relatively common 400 miles to the south, but in Vermont it is rare, a remnant from the past when the climate was warmer, approximately 3,000-5,000 years ago. Some of the black gum trees are purported to be over 400 years old.

Vernon provides parking at the end of Basin Road and an easy 1.35 mile walking trail through the forest surrounding the black gum swamps. Roaring Brook is used primarily for hunting, hiking, and snowmobiling, but has little available access.

Want to get involved in helping to protect this wetland? Contact the Vermont Wetlands Program to learn how.



Class I
Wetlands
Candidate

Vernon Black Gum Swamps

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The Functions & Values of the Swamps

- ◆ Water Storage for Flood Water & Storm Runoff
- ◆ Surface & Ground Water Protection
- ◆ Wildlife Habitat
- ◆ Exemplary Wetland Natural Community
- ◆ Rare, Threatened, & Endangered Species Habitat
- ◆ Education and Research in Natural Science
- ◆ Recreational Value & Economic Benefits

Preserving wetland function for future generations.

The Vernon Black Gum Swamps are rare Red-Maple-Black Gum Swamp wetland natural communities in Vermont as described by Vermont Fish and Wildlife's Natural Heritage Inventory. The combined 28-acres of these seven basin wetlands are located within the Vernon Town Forest and the Roaring Book Wildlife Management Area. The State of Vermont ranks the significance of wetlands based on 10 functions and values they provide for the general public and the environment. According to these criteria, the Vernon Black Gum Swamps are highly significant.

The Vernon Black Gum Swamps are a rare natural community found at the edge of the normal range for this type of wetland and contains some very old trees; some black gum trees aged at over 400 years old. The swamps contain a thick layer of peat (partially decomposed plant material). The peat and living vegetation in the swamps provide long-term carbon storage, playing an important role in mitigating climate change. Unlike some natural communities that may regenerate relatively quickly after a major disturbance, the Vernon Black Gum Swamp complex formed over thousands of years. This wetland complex is unique and is irreplaceable.

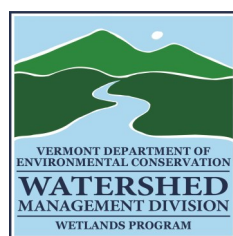
including suitable habitat for a high diversity of amphibians, three species of bat, a number of bird species, and mammals. The wetlands are home to at least five rare, threatened, and endangered and two uncommon plant species. The Black Gum complex has significant flood-water storage capacity, and its dense vegetation stabilizes the soil and slows and filters surface water, protecting areas downstream from pollution and sedimentation.

This wetland is significant because of its contribution to Vermont's natural heritage as a rare community that is accessible to the public. A visit to the Vernon Black Gum Swamp complex and surrounding forest offers a truly unique experience providing excellent opportunities for photography and aesthetic enjoyment.



Planning for the **FUTURE**

Vernon Black Gum Swamp, Vermont CLASS I WETLAND CANDIDATE



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802-490-6100 or ANR.WSMDWetlands@vermont.gov

What is a Class I Wetland?

These wetlands have a high rating in one or more of the listed 10 functions and values. They are healthy, in great condition, and intact. A Class I wetland is considered exceptional or irreplaceable, and deserves the highest level of protection under the Vermont Wetland rules. Criteria and sub-criteria have been developed to evaluate these special wetlands.

Criteria

- ◆ Representative Example of Wetland Type
- ◆ Rare Community Type
- ◆ Community Assemblage / Wetland Complex
- ◆ Landscape Association

Subcriteria

- ◆ Rare, Threatened, or Endangered Species present
- ◆ Undisturbed Condition
- ◆ Intact Landscape
- ◆ Research/ Education
- ◆ Connectivity



Vernon Black Gum swamp complex has been left alone for hundreds of years and supports one of the oldest forest communities in Vermont. The crowns of the old black gum trees and the fire scars along their trunks and seen in the peat layer are records of the weather events (wind, snow, ice and fire) that have shaped the swamps over time.

The swamps that make up the Vernon Black Gum Swamp complex vary in size from a tiny one-tenth acre to approximately 5 acres and are dynamic systems.

The individual swamps are amazing places where giant, rare, and ancient black gum trees tower above a vibrant multi-shaded green colored floor created by an incredible diversity of sphagnum mosses. The mosses grow upon a deep layer of peat that has been measured to ~11 feet deep in some places. The surface and near-surface waters within the swamps are highly acidic.

The sphagnum moss ground cover is interspersed by hummocks of ferns. Cinnamon and royal ferns dominate but the

state listed-threatened fern and rare Massachusetts fern are also associated with this community. The pronounced hummock-and-hollow topography, due to fern rootstocks and rotting logs creates a mosaic of water and light regimes, allowing a range of species to inhabit the swamp. Mountain laurel, a shrub which is uncommon throughout the rest of Vermont is abundant in some of



Photo credit: Rebecca Chalmers, VT DEC

these swamps. The very rare smooth holly, a shrub, and the rare narrow blue-eyed grass are also present in some of the black gum swamps.

Liz Thompson, author of *Wetland, Woodland, Wildland* (Vermont's guide to natural communities) cites Vernon Black Gum Swamp complex as *one of only a few* examples of a Red-Maple-Black Gum Swamp extremely rare natural community in the state.



Photo credit: Rebecca Chalmers, VT DEC

Vernon Black Gum Swamp

Ecology & Wildlife

Vernon Black Gum Swamps support a high diversity of amphibian species. The ten species observed within the Black Gum wetland areas are eastern newt, wood and green frogs, gray treefrog, spring peeper, American toad, redback, yellow-spotted, and dusky salamanders. These swamps are also considered suitable habitat for the uncommon blue-spotted salamander, although it has not yet been documented to occur.

Black gum swamps make excellent habitat for black bear and wood duck. Bumblebees were observed to nest in cavities of giant downed black gum logs. There are insects whose life histories are entirely dependent on black gum and these may inhabit the swamps.



Why It Matters

Vernon Black Gum Swamps is one of the best example of this rare natural community and an example of an old-growth forest in Vermont. With its accessible walking trail, the Vernon Town Forest provides a unique opportunity for the public to enjoy and learn about this rare and complex ecological system.

Old-growth forests and wetlands provide unique habitat on the landscape, and the Vernon Black Gum Swamp complex is both. The function and values it provides would be difficult, if not impossible, to restore due to the complexity it encompasses should impacts to it occur.

The Vernon Black Gun Swamp complex provides immense ecological value as habitat for wildlife and plants, including a number of rare, threatened and endangered species. The wetland complex also provides important watershed functions, including floodwater storage and surface and groundwater protection.

The Long Range Management Plan for the Roaring Brook WMA identified that black gum swamps are sensitive wetlands and of state-wide significance. Among other management activities laid out for the protection of sensitive wetlands was the need to maintain a well-shaded buffer zone greater

than what is currently protected under Class II wetland classification. Impacts by activities or a change in land use, such as timber harvesting, surrounding the swamps may cause irreversible impact to the Vernon Black Gum Swamps. A larger protected buffer would provide a filter for any nutrients and silt inputs from runoff and may provide protection from damaging storms/high winds.

Reclassifying the Vernon Black Gum Swamps as Class I, thus increasing the protected buffer around each of the black gum swamps, will protect this significant natural heritage resource and the functions and values the complex provides.

Vernon Black Gum Swamp Class I Candidate

- ◆ **Rare Communities** of Red Maple-Black Gum Swamp
- ◆ **Representative Example of Wetland Type** of Red Maple-Black Gum Swamp
- ◆ **Four (4) RTE Species** and Two (2) Uncommon Species
- ◆ Red-Maple-Black Gum Swamp is **Undisturbed**

Current Class I Wetland- Tinmouth Channel

The Tinmouth Channel Wetland is a 1,473 acre complex found within the Town of Tinmouth in Rutland County. The wetland is centered on the Tinmouth Stream that flows into the Clarendon River. It ranks high in 9 out of the 10 listed Functions and Values, including flood storage, water protection, fish and wildlife habitat, RTE species, and exemplary natural communities. It is considered a special type, being a headwater wetland and the largest example of an intermediate fen, with extremely high water quality. The wetland complex is considered exceptional and irreplaceable, and has been given the highest degree of protection.

