The Ponemah Bog Wildlife Sanctuary is owned and managed by New Hampshire Audubon (NHA) and is maintained in partnership with volunteers ("Friends" of Ponemah Bog). The Nashaway Chapter of NHA runs programs and field trips in the greater Nashua area, including to the Bog.

NH AUDUBON

New Hampshire Audubon is an independent statewide membership organization. It operates nature centers throughout the state that provide educational programs for children and adults. It also protects thousands of acres of wildlife habitat through its sanctuaries program and monitors many of the state's endangered species. For information about membership, programs, and more, contact:

New Hampshire Audubon
84 Silk Farm Road, Concord, NH 03301
PH (603) 224-9909, FAX (603) 226-0902

Email nha@nhaudubon.org

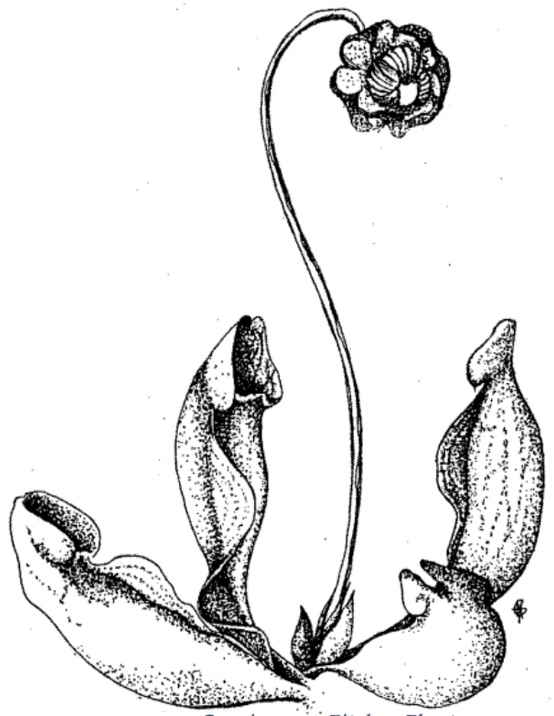
www.nhaudubon.org

If you do not want to keep this guide, please return it to the guide box at the trailhead.

Printed on recycled paper.

Trail Guide

Ponemah Bog
Wildlife Sanctuary
Amherst, New Hampshire



Carnivorous Pitcher Plant

New Hampshire
Audubon

About the Sanctuary

The name "Ponemah," derived from the Ojibwe language and used in Longfellow's "Song of Hiawatha", refers to the "land of the hereafter." The 75-acre Ponemah Bog Wildlife Sanctuary came under the protection of New Hampshire Audubon in 1979 through the generosity of Dr. and Mrs. Homer McMurray and local friends of the Sanctuary.

Ponemah Bog Wildlife Sanctuary features a three-acre pond surrounded by a floating sphagnum moss mat and encircled by upland oak-pine woods. This 'bog' (actually a poor fen) resulted from the last receding glacier, which left a kettle hole pond in the Souhegan River outwash plain. Bogs and poor fens are peatlands - saturated wetlands with layers of partially decomposed plant remains called peat. With no water inlet or outlet, these wetlands are dependent on precipitation for water. A poor fen receives somewhat more minerals from the surrounding landscape than a bog, but both ecosystems are nutrient-poor, oxygen-poor, highly acidic, and dominated by sphagnum mosses. Changes in vegetation over the last 12,000 years are recorded in the bog's layers of peat, which have preserved pollen blown in from the surrounding woods.

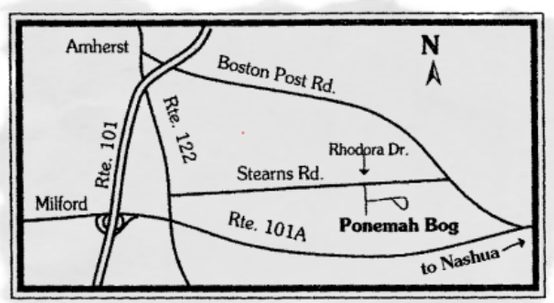
The food web is rather simple in bogs: the acid peat locks up most of the nutrients, offering little to support grazing animals and their predators.

The bog is home to both hardy northern plants such as black spruce and tamarack, and southern species such as pitcher plants and sundew. Today, Ponemah Bog is a living museum, a relict habitat for plants far from home, and an outdoor classroom for wetland botany and ecology.

Visitor information

Ponemah Bog is open throughout the year during daylight hours only.

- Only foot travel is permitted in the sanctuary.
- Please follow directional signs and walk only on the boardwalk in the bog. The mat is very fragile.
- Note that the boardwalk may be **slippery** due to rain, snow, or ice.
- **NO PETS** please, for their safety and that of the bog.
- Please keep to the marked trails and do not collect or in any way disturb any plants or animals in the sanctuary.
- NO smoking, alcohol or drugs on the property..
- No swimming, camping, fires, hunting or trapping.
- Carry in-Carry out. Please carry out all trash.
- Please respect private property.



How to get to Ponemah Bog

From the Everett Turnpike:
Take Nashua exit 7 or 8 and travel west on Route 101A for about 5 miles. Turn right onto Boston Post Road in Amherst. After traveling 2 miles, turn left onto Stearns Road. Drive about 0.3 miles until you see Rhodora Drive on the left. Turn left onto Rhodora Drive and drive straight ahead to park for the Sanctuary.

From the junction of Routes 101 and 101A in Amherst:
Drive east on Route 101A for about 0.5 mile, then turn left on Route 122. Take a quick right onto Stearns Road and drive 1.1 miles to Rhodora Drive on the right. Turn onto Rhodora Drive and drive straight ahead to park for the Sanctuary.

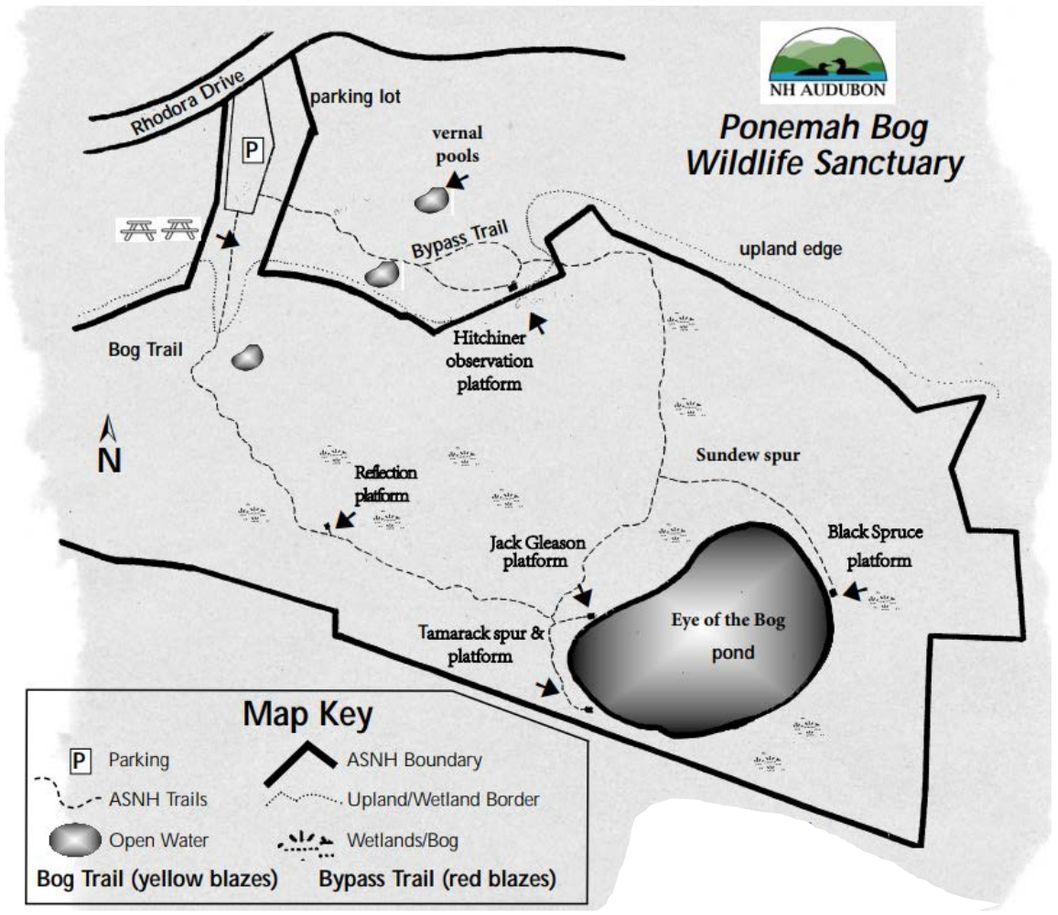
Trail Information

Walking Time: 3/4 mile, a 40-minute leisurely walk for most abilities.

The **Bog Trail** is mostly narrow bog bridges (boardwalk) with spur trails to **four viewing platforms**. Enter the trail to the left of the kiosk. The dry upland forest here is reminiscent of more southern forests of white pines, pitch pines and assorted oaks. These woods are home to the Whip-poor-will, Eastern Towhee, and White-breasted Nuthatch, among many other bird species. Notice the vernal pools on the left and right before the trail splits. These pools typically dry by the end of summer but, in spring, are important breeding sites for amphibians. Turn right at the fork to the **Hitchiner observation platform** for a vista of the entire bog. The **Eye of the Bog**, a three-acre pond, is all that remains of the ancient 100-acre lake left by the melting chunks of ice from the receding glaciers some 12,000 years ago. The bog mat has been filling in the pond with plant remains for at least 6000 years. Continue to the intersection with the **Bypass Trail**, turn right, and descend the slope to the boardwalk.

The boardwalk marks the shore of an ancient lake. Along the boardwalk is the various foliage of leatherleaf, highbush blueberry, rhodora, and their kin in the heath family. In May, brilliant magenta rhodora flowers are in bloom.

At the next intersection, turn left onto **Sundew Spur** and meet the builder of bogs: **sphagnum moss.** The bog is dominated by sphagnum moss and other specialized plants rooted directly in the moss. Bog water is normally acid (pH 4-4.5) in large part because sphagnum moss acidifies the water as it withdraws nutrients such as calcium and magnesium. Plants do not rapidly decay in the acidic, oxygen-poor water and great quantities of peat (dark brown, partially decayed sphagnum moss and other once-living materials) accumulate below the living moss as a result.



Sphagnum mosses can hold up to 20 times their own weight in water. Native American mothers used the moss to diaper their babies. Peat was commercially harvested here in the 1940s and burned as a heat source. The parallel scars of the harvesting trenches near this location are still visible in aerial images (satellite view). Now, soft tufts of cottongrass bob in the breeze in summer.

The bog has three carnivorous plant species. On approaching **Black spruce platform**, get down on hands and knees to search for the tiny sundews with sticky hairs on the leaf surface which trap insects. Look for pitcher plants which attract insects to their colorful lips where downward-pointing hairs inside the pitcher cause the insects to slip into the rainwater-filled trap below. Horned bladderwort is the third carnivorous plant and traps insects in the water. All three plants transform captured insects into a dose of nitrogen and other nutrients that are otherwise scarce due to the slow rate of decay in the bog's sphagnum moss mat.

At the platform, observe the black spruce trees which are distinguished by their short, dark needles. These, and other trees in the bog, are much older than they appear because growth in the saturated, nutrient-poor water is very slow.

Retrace your steps and continue to the **Gleason platform** for a close view of the **Eye of the Bog**. Ducks, geese, sandpipers and other bird species can be found near and on the open water. Lily pads (white blooms in summer) provide basking sites for painted turtles. The bog is home to many species of dragonflies and damselflies. Listen for bullfrogs. Water willow tips arching to the water provide new footholds for sphagnum moss at the pond margin. Think back over the path you've taken through the succession in plant communities - from upland oaks and pines, to tall heath shrubs and black spruces, to shorter shrubs such as leatherleaf and dwarfed black spruces, to the floating mat of reddish sphagnum moss and extremely dwarfed shrubs, to the open water.

Next, the **Tamarack platform** focuses on the feathery tamarack or 'larch.' Our only native deciduous conifer, it has golden needles in autumn and fresh green foliage in spring. Other common conifers at the bog include the soft 5-needled white pine, the bristly 3-needled pitch pine, and the short-needled black spruce.

Following the boardwalk out to the left (west), note the lichens - partnerships between fungi and photosynthetic microbes - adorning the bark and twigs of trees and shrubs. You may also notice mushrooms, many of which are in partnership with the birches and pines, helping them absorb nutrients from the nutrient-poor bog soil. Low-lying cranberry plants and a variety of shrubs including bog rosemary, pale and sheep laurel, winterberry, mountain holly, and blueberry occur along the boardwalk.

Ponemah Bog offers sanctuary to many things, including the human spirit. Stop at the **Reflection platform** for a moment of peace & tranquility and a moment to reflect on life.

★***Please see the poster in the center of the kiosk for more information on how this kettle hole bog developed over the ages***