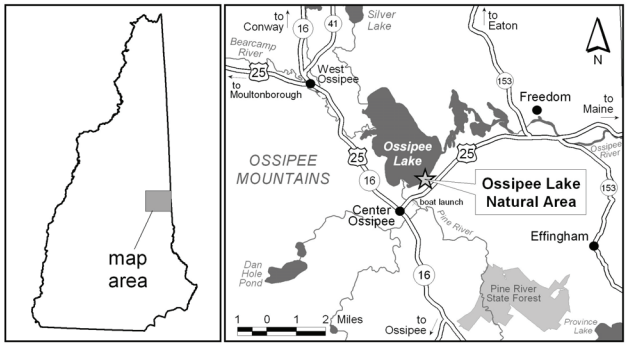
DIRECTIONS AND PUBLIC-USE GUIDELINES

The Ossipee Lake Natural Area can only be accessed by boat. A public boat launch on Rte. 25 in Ossipee allows access to the lake via the Pine River. Due to the extremely sensitive nature of the habitat at this site, public access is limited to a stretch of the sandy beach in the middle of the Natural Area. Public access is restricted on all other portions of the shoreline, and these closed areas can only be viewed from the water. Please see DRED's brochure highlighting the location of the public use area and the rules that apply to the Natural Area, available both on-site and at several local marinas.



NH DIVISION OF FORESTS & LANDS

The NH Division of Forests & Lands in the Department of Resources & Economic Development (DRED) protects and promotes the values provided by trees, forests, and related resources in the state of New Hampshire.

The **New Hampshire Natural Heritage Bureau** finds, tracks, and facilitates the protection of the state's natural heritage, including rare and endangered plants and animals, exemplary natural communities, and exemplary natural community systems.

SANDY POND SHORE SYSTEMS

Sandy pond shore systems occur as linear bands around the shallow margins of larger lakes with sandy bottoms and pronounced disturbance. Distribution of natural communities within these systems varies along the shore, reflecting complex gradients of water level, organic matter accumulation, and disturbance. Water levels fluctuate seasonally, resulting in marsh communities at the lowest elevations. Soil build-up is limited due to regular disturbance. Waves and ice erode organic matter from lower and more exposed sections of shore and concentrate it in coves or sections of shore protected from prevailing winds, on the upper portions of sandy berms, and in broad shallow areas. Low productivity and rapid decomposition also prevent organic matter accumulation. Peaty sand development occurs at only a few sites, including Ossipee Lake.

Communities often shift in a rapid vertical sequence between the upland and the lake, and they are often very narrow. Two of New Hampshire's sandy pond shore communities, ***hudsonia inland beach strand*** and ***twig-rush sandy turf pond shore***, are globally rare.

The stressful environmental conditions here favor annual plants and short, slow-growing perennials with low above-ground biomass. Water lobelia, for example, forms rosettes of short evergreen leaves and has specialized metabolic adaptations to contend with the low oxygen and nutrient conditions.

This brochure was created by the NH Natural Heritage Bureau as part of a series designed to educate the public about the state's special plants and natural communities. More site guides and profiles are available on the Visiting New Hampshire's Biodiversity program page at:

www.nhnaturalheritage/org.

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NH Natural Heritage Bureau

Visiting New Hampshire's Biodiversity

Ossipee Lake Natural Area

a property managed by

New Hampshire Department of Resources & Economic Development

Division of Forests & Lands

This brochure was paid for with funds from the NH Conservation License Plate
www.mooseplate.com

SITE DESCRIPTION:

The Ossipee Lake Natural Area encompasses a 400-acre landscape near the mouth of the Pine River on the south shore of Ossipee Lake. The site contains a variety of exemplary natural communities and natural community systems, and also supports several populations of state-rare plant species. The shoreline communities are particularly sensitive to trampling, and it is crucial that visitors respect all posted boundaries and practice low-impact recreation here.

The shoreline portion of the property is a **sandy pond shore system**, comprised of four rare and imperiled pond shore natural communities: ***water lobelia aquatic sandy pond shore***, ***bulblet umbrella-sedge open sandy pond shore***, ***twig-rush sandy turf pond shore***, and ***hudsonia inland beach strand***. The latter two, the twig-rush and hudsonia communities, are also globally rare, and Ossipee Lake is the only location in the state where the hudsonia community is found.

Water levels fluctuate widely here, creating a stressful environment for plants to grow in. Regular wave action and ice-scour add to the difficult conditions, but also help create the physical structure of the hudsonia community. The natural communities occur as narrow, linear bands parallel to the shoreline, each slightly higher in elevation above the lake.

This pond shore system formerly supported numerous rare plant populations, but currently only hairy hudsonia (*Hudsonia tomentosa*) and fine grass-leaved goldenrod (*Euthamia caroliniana*) are present (see photo on cover). Fine grass-leaved goldenrod persists throughout the natural area, and visitors may see a few stems of it in the public use area, but the low, mat-forming shrub hairy hudsonia remains only in several small (and shrinking) patches. Both of these state-endangered plants are extremely sensitive to trampling and parts of the natural area are closed to public use for protection and restoration of the plants and their habitat.

Behind the beach, approximately 80 percent of the property is occupied by an excellent example of a **poor/level fen bog system**. This natural community system contains several component natural communities including ***bog rosemary - sedge fen***, ***highbush blueberry - mountain holly wooded fen***, and ***herbaceous seepage marsh***, and covers much of the property between Rte. 25 and the pond shore system at the edge of the lake.

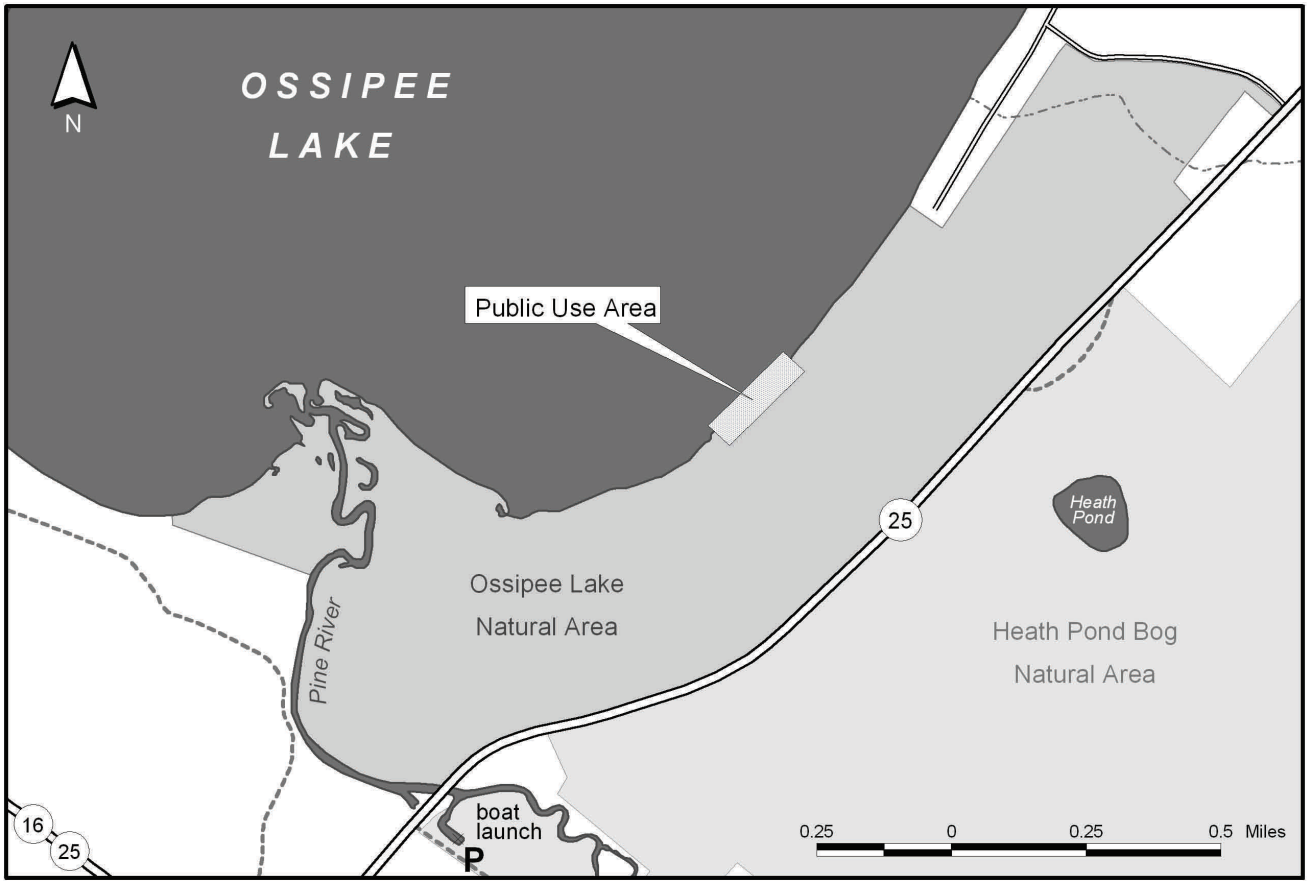
Sweet gale - alder shrub thicket is a narrow transitional community occurring between the **sandy pond shore system** and the **poor level fen/bog system**. Sweet gale, speckled alder, steeplebush, and witherod all grow here. Sometimes this dense shrub thicket community extends right to the edge of the water, essentially separating sandy strips of the pond shore system.

Behind sandy berms on either side of the mouth of the Pine River is an exemplary **medium level fen system**, dominated by a ***wire sedge - sweet gale fen*** peatland community. This fen is dominated by large, nearly monoculture stands of wire sedge (*Carex lasiocarpa*).

In several prominent locations, bottle-shaped sedge (*Carex utriculata*) dominates a small transition zone at the edge of the **sandy pond shore system**. These sites are influenced both by sandy deltaic deposits from the Pine River and the peatland conditions of the adjacent ***wire sedge - sweet gale fen*** community.

Between the boat launch at Rte. 25 and the lake, the Pine River is flanked by a relatively narrow **temperate minor river floodplain system**, composed primarily of ***red maple floodplain forest*** with a broken canopy of red maple, silver maple, gray birch, and black ash trees. ***Buttonbush shrublands*** occur in old river oxbows here.

With a variety of very rare natural communities and plants, the Ossipee Lake Natural Area represents one of New Hampshire's most important sites for biodiversity. It is also one of the most threatened. Most of the intact communities that once occurred here are now gone, and several rare plant species have been lost. What remains today is a relic of the formerly extensive and healthy sandy pond shore system. Visitation and recreation are welcome in the public use area, but please obey the posted signs for the closed portions and respect the fragility of the area's environment. With everyone's cooperation, the remaining rare plants and natural communities can be protected and at least partially restored.



Maps and photos by Ben Kimball, 2010.