

# LAKE CHAMPLAIN BASIN PROGRAM

Fact Sheet Series

Number 4



## WETLANDS IN THE LAKE CHAMPLAIN BASIN

**W**hat do all these terms have in common: bog, swamp, marsh, fen, and wet meadow? These are all common names for different types of wetlands. In the past, wetlands were often thought of as wastelands. More recently, attitudes towards wetlands have changed. People are now beginning to understand the importance of wetlands and the valuable functions they serve for people and the environment.

The Nature Conservancy



The Poultney River wetlands were protected as part of the Wetlands Acquisition Program.

**W**hat are Wetlands? Wetlands are just that — wetlands. The term wetland refers to transitional areas that lie between dry lands and water bodies. They can contain fresh or salt water. They may be temporary or permanent, static or flowing and they come in a variety of sizes, shapes and depths. Water is a necessary ingredient but does not have to be present at all times. Some are wet all year

long and some are wet for only a part of the year. They vary in size as much as a few hundred square feet to thousands of acres. All have unique soils and contain plants and animals which are tolerant of excessive changes in aquatic conditions. Many species, including the wood turtle, spotted salamander, moose, and bear are dependent on the wetlands and the drier uplands surrounding them.

## Wetlands In The Lake Champlain Basin

- More than 300,000 acres of wetlands are found in the Lake Champlain Basin. Based on National Wetland Inventory (NWI) maps for Vermont, over 128,000 acres of wetlands have been identified in the Vermont portion of the Basin. Wetland acreage estimated from New York inventory maps indicate more than 200,000 acres exist in the New York portion of the Basin.

- During the 1970's, the Lake Champlain Basin Study, conducted by the New England River Basins Commission, identified 42 major wetlands of at least 50 acres or larger along the shores of Lake Champlain.

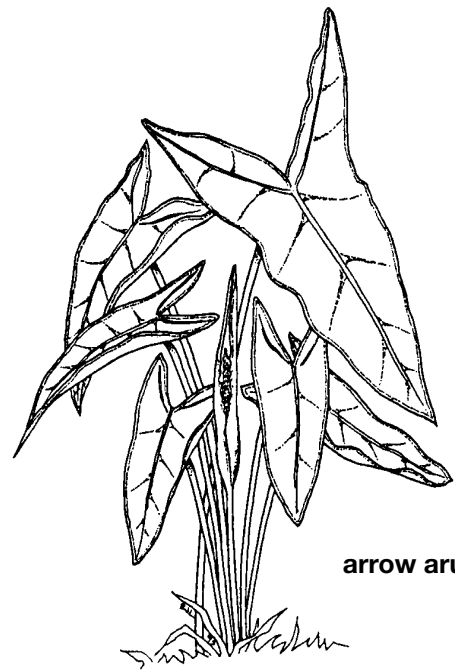
- Compared to other landscape types, wetlands have a high diversity of wildlife species including some of the regions threatened and endangered species. Songbirds, raptors, reptiles, amphibians, and aquatic mammals all live within wetland habitats. Other species, such as bear and moose, can also be found.

- In the Lake Champlain Basin a number of wetland types and plant communities are uncommon. Bogs, fens, alpine peatlands, cedar swamps, and black gum swamps are all examples of rare plant communities. Lake Champlain wetlands also attract rare and unique visitors, like the gyrfalcon. Due to the large number of plants and animals found in these areas, they contribute significantly to the biological diversity of the Basin.

- Lake Champlain Basin wetlands are located on the Atlantic flyway, a migratory corridor for waterfowl and other birds. They provide critical resting and feeding sites during fall and spring migration. Between 20,000 and 40,000 ducks and geese have been counted on flights during early October. Over 30 species of waterfowl nest and raise their young in the Lake Champlain Basin annually, including black ducks, wood ducks, mallards, common goldeneyes, hooded mergansers, and Canada geese.

- Certain Lake Champlain fish species, such as the northern pike, require wetlands as spawning grounds and as nursery areas for their young.

- Wetlands in the Basin maintain and improve water quality in Lake Champlain by removing nutrients, processing chemical and organic waste and trapping sediments carried by stormwater. This occurs because wetland vegetation acts like a sieve and catches much of the sediment being carried in the water.



arrow arum

## Common Wetland Types

**Bog:** a wetland that accumulates peat, receives water mostly by precipitation, and is dominated by plants such as sphagnum mosses, bog laurel, pitcher plants, blueberry, and cranberry.

**Wooded swamp/Bottomland forest:** a wetland with trees over 20 feet tall, including cedar, red maple, silver maple, and black ash.

**Shrub swamp:** a wetland with woody shrubs less than 20 feet tall, such as speckled alder and various species of willow and dogwoods.

**Marsh:** a frequently or continually flooded wetland found at the edges of water bodies. Marshes have mostly emergent plants (plants that stick up above the surface of the water), such as cattails and rushes.

**Wet Meadow:** a wetland dominated by sedges and grasses with water-logged soils near the surface but without standing water for most of the year.

# What is Being Done to Protect and Manage Wetlands?

## The State of New York

The State of New York has regulated wetlands under the Freshwater Wetlands Act since 1975. With the exception of the Adirondack Park, only wetlands larger than 12.4 acres, or certain wetlands of unusual local significance, are regulated. In the Adirondack Park, all wetlands larger than one acre, or wetlands of any size when adjacent to a water body are protected. Both the New York State Department of Environmental Conservation (NYSDEC) and the Adirondack Park Agency (APA) are responsible for protecting and managing wetlands in the Lake Champlain Basin.

## The State of Vermont

The Vermont Wetlands Act was enacted in 1986, establishing the statutory framework for identifying and protecting Vermont's wetlands. The Act authorized Vermont's Water Resources Panel to adopt rules which apply to those wetlands which are "so significant that they merit protection." Unlike New York's wetland law which is based on size, Vermont's law is based on the functions and values of wetlands. Wetlands also receive protection under Act 250, Vermont's development control law. The Vermont Agency of Natural Resources (VT ANR) is responsible for protecting and managing wetlands in Vermont.

## Federal Agencies

Several federal agencies are also involved in wetlands protection and management in the Lake Champlain Basin. The primary regulatory program is jointly administered by the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency (USEPA) under Section 404 of the Clean Water Act. The Section 404 program is administered in close coordination with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. The USFWS also maintains and enhances wetlands on lands in the National Wildlife Refuge system, acquires high priority wetlands and provides funding and technical assistance for restoring wetlands on private land. Two U.S. Department of Agriculture agencies, the Farm Services Agency and the Natural Resources Conservation Service are also responsible for wetland management on agricultural lands.

## Wetland Inventories

The NYSDEC, in cooperation with the USFWS's National Wetlands Inventory (NWI), undertook a project funded by the Lake Champlain Basin Program (LCBP) in 1994 to complete wetland inventory maps for the New York portion of the Lake Champlain Basin. Maps may be obtained from the NYSDEC or the NWI office of the USFWS. The new maps increase the wetlands database by including most wetlands under 12.4 acres and areas not in the Adirondack Park.

## Lake Champlain Wetlands Restoration Project

This pilot project to restore drained wetlands in the Basin began in 1993. The program is administered through the USFWS Partners for Wildlife Program in partnership with the NYSDEC, VT ANR, US EPA, and willing private landowners. The project provides funding and technical assistance to landowners for wetland restoration on their property. As of 2006, over 1,480 acres had been restored.

USFWS



Wetland Restoration, Senn property, Essex Junction, VT.

## Wetland Reserve Program

The Wetlands Reserve Program is a nationwide program to restore wetlands on agricultural lands administered by the USDA Natural Resource Conservation Service. As of 2006, this program had protected and/or restored 555 acres of wetlands and buffers in the Vermont portion of the Basin. In the New York portion of the Basin, 279 acres were restored between 1996 and 2006 and more projects are underway. To participate in this program, willing landowners are paid for a perpetual easement on agricultural properties and reimbursed for costs.

## Lake Champlain Wetlands Acquisition Strategy

The Wetlands Acquisition Strategy works with willing landowners to permanently protect important wetlands. The LCBP supported the initial study to prioritize wetlands for acquisition, completed by The Nature Conservancy (TNC) in 1994. This resulted in over \$1.4 million in awards under the federal North American Wetlands Conservation Act. So far, nearly 8,000 acres of wetlands and surrounding areas have been acquired for protection. The Vermont Chapter of the Nature Conservancy is coordinating the project. Partners include the Adirondack and Eastern New York Chapters of the Nature Conservancy, Vermont Fish and Wildlife Department, VTANR, the NYSDEC, and other organizations along with landowners.

### Lake Champlain Wetlands Contacts

VT DEC - Vermont Wetlands Office  
 (802) 241-3770  
[www.anr.state.vt.us/dec/waterq/wetlands.htm](http://www.anr.state.vt.us/dec/waterq/wetlands.htm)

New York State DEC  
 (518) 897-1291  
[www.dec.ny.gov/lands/4937.html](http://www.dec.ny.gov/lands/4937.html)

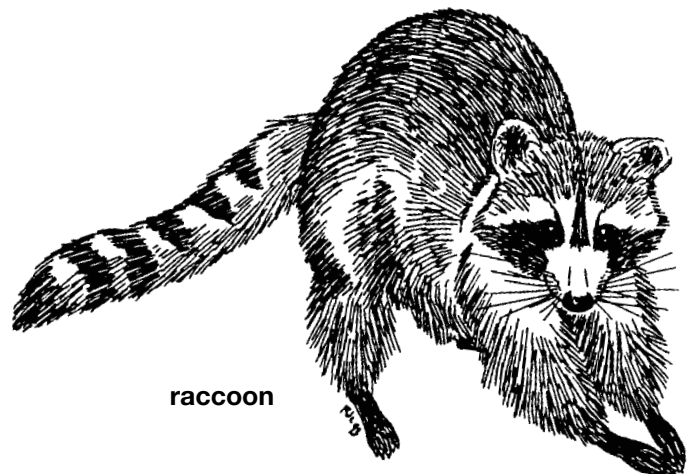
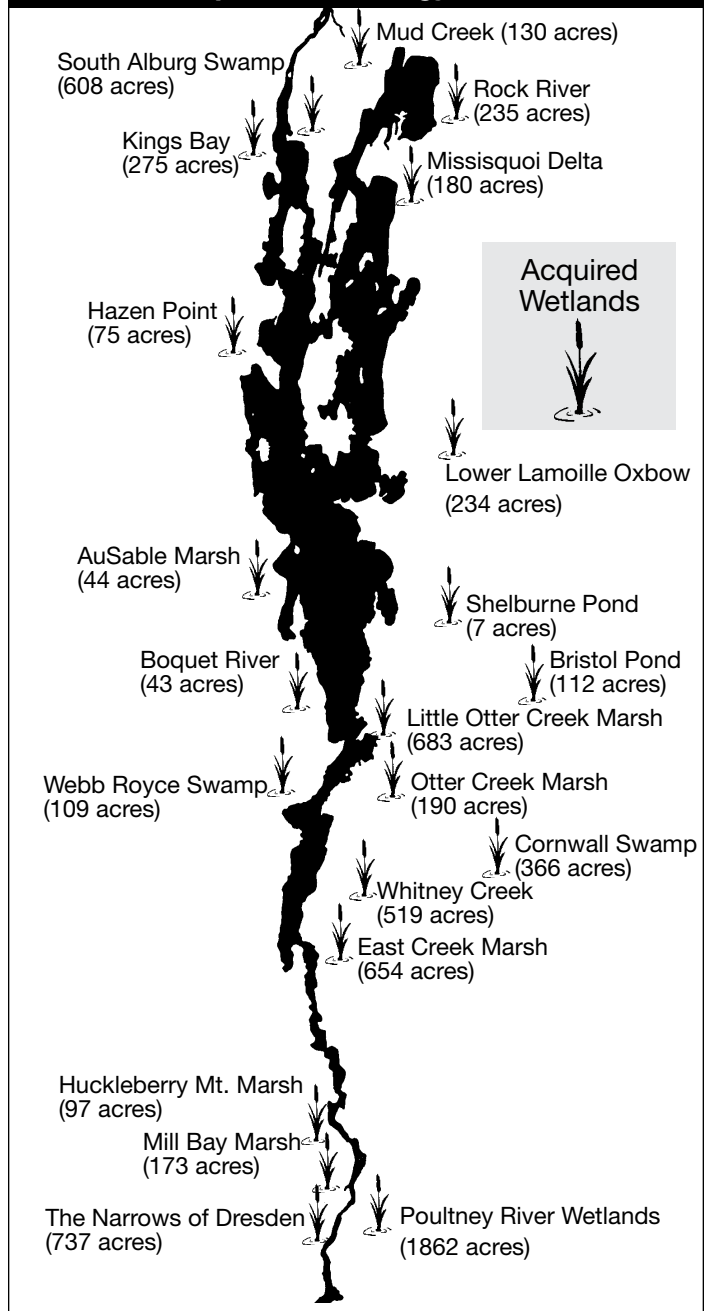
Adirondack Park Agency  
 (518) 891-4050  
[www.apa.state.ny.us](http://www.apa.state.ny.us)

USFWS: Lake Champlain Ecosystem Team  
 (802) 872-0629  
[www.fws.gov/r5lcfwro/complex.htm](http://www.fws.gov/r5lcfwro/complex.htm)

US Environmental Protection Agency  
 Boston: (617) 565-3420 NY: (212) 637-3000  
[www.epa.gov/owow/wetlands](http://www.epa.gov/owow/wetlands)

Army Corps of Engineers  
 VT: (802) 655-0334 NY: (917) 790-8007  
[www.usace.army.mil](http://www.usace.army.mil)

## Wetlands Acquisition Strategy – Phases I and II





## Why Are Wetlands Valuable?

### Fish and Wildlife

**W**etlands are some of the Earth's most productive ecosystems. More plants and animals are found per acre in a wetland than in any other type of environment. Many wildlife species depend on wetlands for all or a portion of their life cycle. Wetlands are crucial for waterfowl nesting, fish breeding and migratory bird resting stops. They also provide habitat for many diverse species including endangered species, such as the common tern and bald eagle.

### Floods and Erosion

**W**etlands soak up and store water during heavy rains and snow melts. Wetland vegetation prevents flooding by slowing down the flow of water, which allows the water to drain through the soil, replenishing the groundwater supply or slowly releasing it back into the system. Wetlands also protect against soil erosion from waves and currents by acting as shoreline buffers.

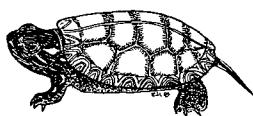
### Protecting Water Quality

**H**ealthy wetlands intercept many pollutants and prevent them from entering lakes, streams and rivers because they act as buffers between land and water bodies. By slowing down the flow of water, wetlands allow sediments to settle out and help break down toxic substances through biological processes. Wetland plants also absorb excess nutrients including phosphorus.

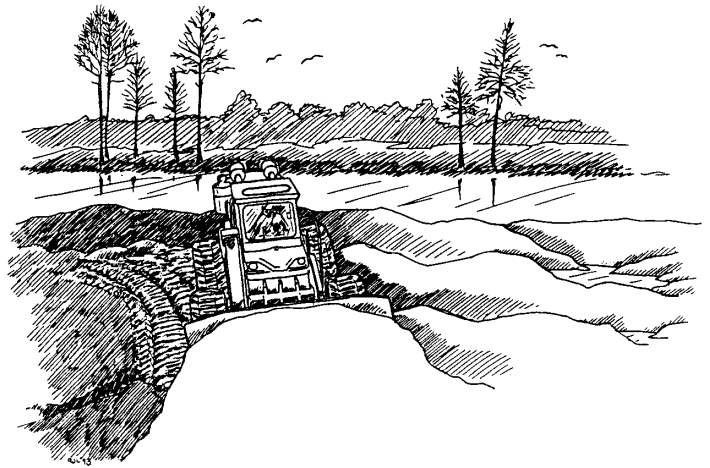
### Other Human Values

**M**any people value wetlands for recreation, aesthetic beauty, educational opportunities, and economic benefits. Popular activities include hiking, boating, hunting, fishing, photography, trapping, and bird watching. Wetlands provide consumer products, including wild rice, cranberries, fish, wildlife, and timber. By providing beautiful open spaces, wetlands also enhance the quality of life, the value of land, and tourism.

painter turtle



## Wetland Threats and Losses



**T**wenty years ago wetland loss was primarily due to agricultural and large-scale development projects. Today wetlands are incrementally destroyed by smaller, more numerous projects, many of which are less than one acre and scattered throughout the Lake Champlain Basin. Threats to wetlands include:

#### *Human Activities:*

- pollution (point and nonpoint source);
- urban and suburban development;
- agricultural activities;
- pond and lake construction;
- mining; and
- fragmentation of large wetland systems.

The Natural Resources Conservation Service (NRCS) estimates that as much as 50 percent of the annual wetland loss in Vermont may be associated with wetland conversion for agricultural activities. Population growth and associated urbanization also have a significant effect.

#### *Natural Threats:*

- erosion;
- droughts;
- overgrazing by wildlife; and
- the influx of nonnative nuisance species such as purple loosestrife, common reed (phragmites), water chestnut, and Eurasian watermilfoil. These new species displace native species, such as cattails and sedges, and degrade wildlife habitat and native plant communities in the wetlands.

## What Can You Do?

One of the most important things you can do to protect wetlands in the Lake Champlain Basin is to become more aware of their presence and educate yourself and others about wetlands and why they should be protected. One of the best ways to do this is to visit a local wetland.

### Wetlands You Can Visit

#### VERMONT

##### Black Creek and Maquam Creek Trail — Missisquoi National Wildlife Refuge

29 Tabor Rd  
Swanton, VT 05488  
Telephone: (802) 868-4781  
[www.fws.gov/northeast/missisquoi](http://www.fws.gov/northeast/missisquoi)

##### LaPlatte River Marsh Natural Area

A trail starting near the Shelburne Bay boat launch. Shelburne, VT  
Contact: Vermont Chapter, The Nature Conservancy  
Telephone: (802) 229-4425  
[www.nature.org/wherework/northamerica/states/vermont/preserves/art7282.html](http://www.nature.org/wherework/northamerica/states/vermont/preserves/art7282.html)

##### Dead Creek Waterfowl Management Area

Addison, Vermont  
[vt.audubon.org/IBADeadCreek.html](http://vt.audubon.org/IBADeadCreek.html)

##### Ethan Allen Homestead

Wetlands Walk North and Wetlands Walk South  
1 Ethan Allen Homestead, Suite 2  
Burlington, VT 05401  
Telephone: 802-865-4556  
[www.ethanallenhomestead.org](http://www.ethanallenhomestead.org)

#### NEW YORK

##### Kings Bay Wetlands Management Area

Champlain, NY  
Contact: New York State DEC Region 5  
Telephone: (518) 897-1291  
[www.dec.ny.gov/outdoor/24406.htm](http://www.dec.ny.gov/outdoor/24406.htm)

##### Lake Alice Wildlife Management Area

Chazy, NY  
Contact: New York State DEC Region 5  
Telephone: (518) 897-1291  
[www.dec.ny.gov/outdoor/24410.htm](http://www.dec.ny.gov/outdoor/24410.htm)

##### Ausable Marsh Wildlife Management Area

Peru, NY  
Contact: New York State DEC Region 5  
Telephone: (518) 897-1291  
[www.dec.ny.gov/outdoor/24400.htm](http://www.dec.ny.gov/outdoor/24400.htm)

##### Wickham Marsh Wildlife Management Area

Chesterfield, NY  
Contact: New York State DEC Region 5  
Telephone: (518) 897-1291  
[www.dec.ny.gov/outdoor/24423.htm](http://www.dec.ny.gov/outdoor/24423.htm)

##### Silver Lake Preserve

Southwest Clinton County, NY  
Contact: Adirondack Nature Conservancy  
Telephone: (518) 576-2082  
[www.nature.org/wherework/northamerica/states/newyork/preserves/art12372.html](http://www.nature.org/wherework/northamerica/states/newyork/preserves/art12372.html)



### GLOSSARY

**Biological diversity** - the variety of life and its processes.

**Habitat** - the arrangement of food, water, shelter and space suitable to plants and animals needs.

**Peat** - partially carbonized vegetable tissue formed by partial decomposition of various plants in water.

### LCBP Goals

The Lake Champlain Basin Program has developed a plan to insure that the Lake and its drainage basin will be restored, protected and maintained so that future generations will enjoy its full benefits. If you would like to learn more about the Program or get involved with associated projects, contact us at: 1-800-468-LCBP or go to [www.lcbp.org](http://www.lcbp.org).

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