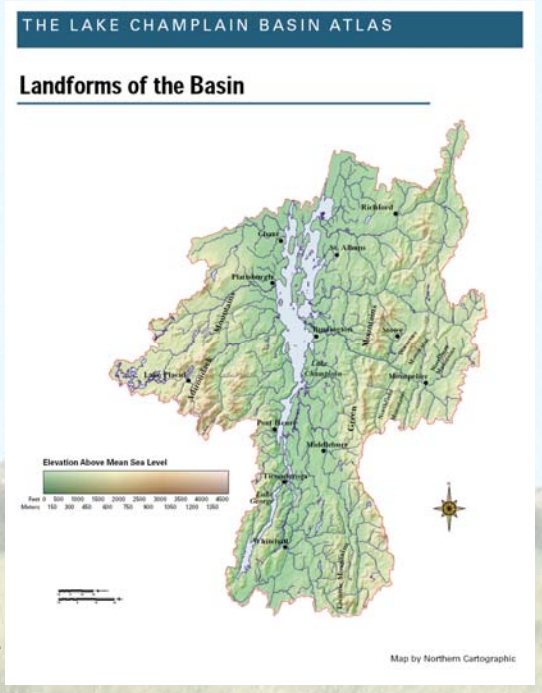
Lake Champlain Basin Program
Large Aquatic Ecosystem (LAE)

The **Lake Champlain Basin Program** (LCBP) works with government agencies from New York, Vermont, and Québec; private organizations; local communities; and individuals to coordinate and fund efforts which benefit Lake Champlain Basin water quality, fisheries, wetlands, wildlife, recreation, and cultural resources.

These efforts are guided by the "Opportunities for Action" management plan. The LCBP works with its program partners, advisory committees, and local communities to implement this plan through a variety of federal, state, and local funds. Core funding for the LCBP is through the US Environmental Protection Agency.

Lake Champlain has an extremely diverse sports fishery, with as wide an assortment of freshwater fish as any lake in the northern United States. The Lake Champlain Valley is part of the North Atlantic Flyway, a migratory bird corridor. Hunting and other types of recreation are a significant boon to the regional economy. In addition to its uses for sports fishing, hunting, and recreation, Lake Champlain is the major source of drinking water for nearly 200,000 people in over 20 towns and cities in Vermont, New York, and Québec.



Challenges

Although Lake Champlain is a vital lake with many assets, there are several serious environmental problems that demand action. Issues addressed in the management plan include:

- High phosphorus levels and algal blooms in parts of the lake.
- Toxic substances, such as PCBs and mercury, which have resulted in fish consumption advisories for some fish.
- Impacts to fish and wildlife from nuisance non-native aquatic species.
- Wetland loss, habitat fragmentation, and public access issues.
- Recreational-use conflicts.
- Loss of cultural and archeological resources.

Priorities

The highest priorities listed in the LCBP's "Opportunities for Action" management plan for the Lake Champlain Basin include:

- Reducing phosphorus inputs to decrease impact on people and aquatic animals.
- Toxic contamination to protect public health and ecosystems.
- Risks to humans from water-related health hazards, such as blue-green algae, pathogens, and mercury/PCBs in fish.
- Aquatic nuisance species to reduce their spread while preventing new introductions.

www.lcbp.org

Accomplishments

- Cyanobacteria monitoring and alert system in Lake Champlain is a model program regionally and nationally.
- Based on long-term data from 1990 to 2006, 12 of 17 Lake Champlain tributaries over that period show no significant trend in phosphorus, three show improvement, and two show deterioration.
- Dredging contaminated sediment in Cumberland Bay reduced PCB levels. Before dredging, 22 sites exceeded 50 parts/million of PCBs. After dredging, no sites reached that level, with only one site within 15-20 parts/million.
- Since 1992, 600 teachers have participated in the LCBP and established the Champlain Basin Education Initiative (CBEI). These educators' help students explore the watershed and participate in hands on community projects, thus creating a new generation of lake stewards.
- Burlington's Blanchard Beach, closed to swimming since 1992, reopened in 2007 after extensive restoration to a local brook greatly reduced bacteria and other pollutant loads to this area of Lake Champlain. Englesby Brook, an urbanized watershed draining about 600 acres of developed land in Burlington and South Burlington, has seen extensive remediation of stormwater and stream instability. The work includes structural BMPs to reduce bacteria, phosphorus, and sediment from stormwater, as well as outreach to reduce human abuse of the stream. Extensive partnerships between federal, state, local, university, business, and others were key to restoring this watershed and allowing Blanchard Beach to reopen.

Future Direction

Lake Champlain's management plan, "Opportunities for Action: An Evolving Plan for the Lake Champlain Basin" is a pollution prevention, control, and restoration plan. Upcoming priorities are:

- Working to identify critical source areas of phosphorus loads to the lake, and to reduce phosphorus inputs to Lake Champlain to promote a healthy and diverse ecosystem and provide for sustainable human use and enjoyment of the lake.
- Minimize the risks to humans from water-related health hazards in the Lake Champlain Basin.
- Control the introduction, spread, and impact of nonnative nuisance species in order to preserve the integrity of the lake ecosystem.

The LCBP will also continue its vital role coordinating the "Opportunities for Action" implementation. The LCBP will continue to work with Vermont and Québec on the accelerated phosphorus reduction timeframe. The LCBP will also work with its partners to identify and reduce toxins, communicate health risks to the public, and stop the spread of nuisance species through rapid responses to new infestations.

The Lake Champlain Basin Program Facts
Watershed Size: 8,234-square-mile drainage basin
Waterbody Size: 435 square miles
Population: basin population exceeds 600,000 people
EPA Regions: 1 and 2 (Québec, Canada)
EPA LAE Contact: Erik Beck

*The **Lake Champlain Basin Program** was designated a member of the US Environmental Protection Agency's Large Aquatic Ecosystem Council (LAE) in 2008. The Lake Champlain Basin Program joins nine other geographic-based efforts that focus on protecting and restoring the health of critical aquatic ecosystems. The LAE Council seeks to merge geographic-based efforts with national water programs to advance the health of the nation's large aquatic ecosystems and strengthen national water programs.*

LAE Program Web Sites

Chesapeake Bay Program
www.chesapeakebay.net

Columbia River Basin
www.epa.gov/region10/columbia

Great Lakes
www.epa.gov/glnpo

Gulf of Mexico Program
www.epa.gov/gmpo

Lake Champlain Basin Program
www.lcbp.org

Long Island Sound Study
www.longislandsoundstudy.net

Pacific Islands Office
www.epa.gov/region09/islands

Puget Sound - Georgia Basin
(Under Construction)

San Francisco Bay Delta Estuary
www.epa.gov/region9/water/watershed/sfbay-delta.html

South Florida Geographic Initiative
http://epa.gov/region4/water/southflorida/index.html

Office of Wetlands, Oceans, and Watersheds

www.epa.gov/owow/oceans/partnerships/large_aquatic.html

EPA 842F10003D
April 2010