

LAKE CHAMPLAIN BASIN PROGRAM

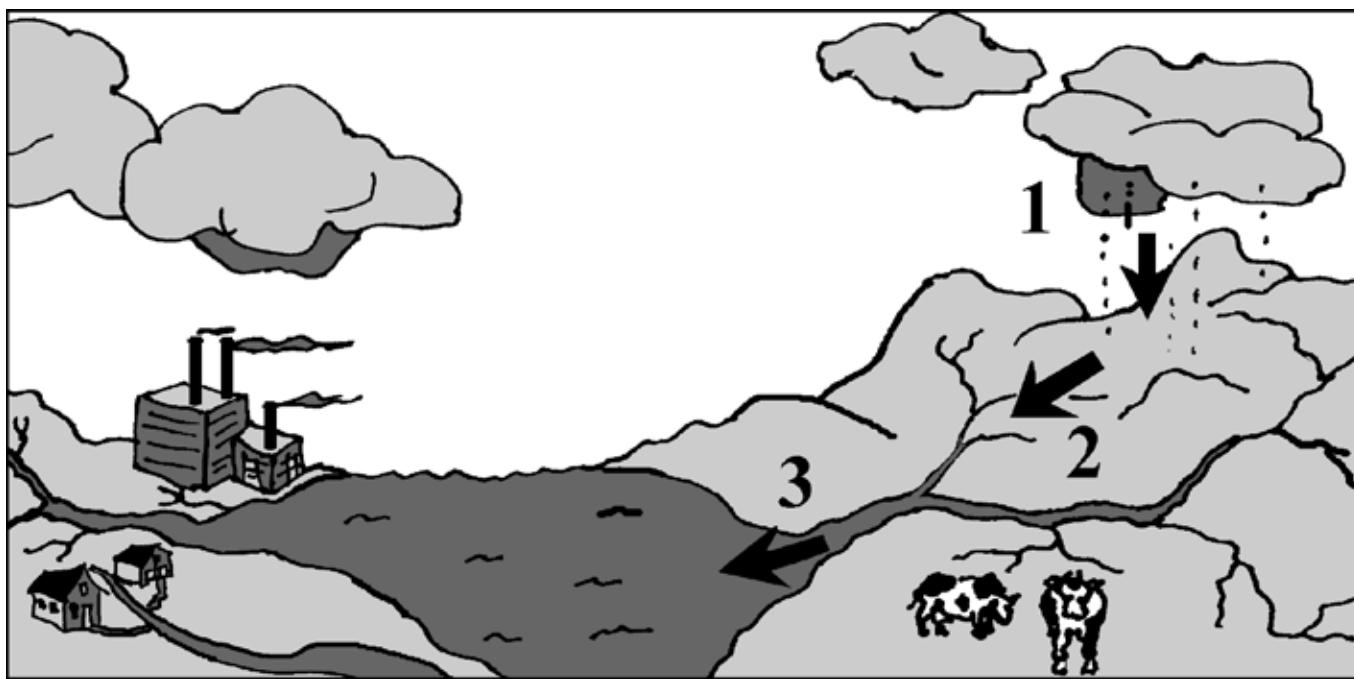
Fact Sheet Series

Number 3



T H E B A S I N

The Lake Champlain Basin is the entire watershed or drainage area for Lake Champlain. It spans the High Peaks of New York's Adirondack Mountains in the West, Vermont's Green Mountains in the East, and Quebec's St. Lawrence Valley in the North. Looking at the Lake from a watershed perspective is important since the water quality of the Lake is affected by land and water uses from the mountain tops to the Lake's shoreline.

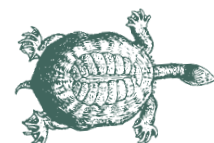


How Basins Work

Drainage basins or watersheds are like giant funnels. The land within Lake Champlain's basin collects precipitation in the form of rain, snow and sleet (1). This precipitation flows into wetlands, groundwater, tributaries, and streams (2), and eventually into the Lake (3). Unfortunately, this water also carries pollutants from the land. Some of the pollution sources include cities, farms, factories, houses, and roads. The Basin's boundary is determined by connecting the points of highest elevation around the Lake on a topographical map.

Formation of the Basin

The Green Mountains formed about 450 million years ago when the North American and European tectonic plates collided. As great blocks of land between the Green Mountains and the ancient Adirondack Mountains dropped down, the Champlain Valley was formed. Over time, the shape of this valley changed as glaciers plowed over the land, resulting in the U-shaped valley characteristic of New England.

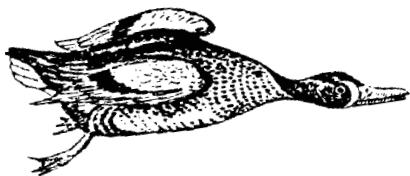


History and Development

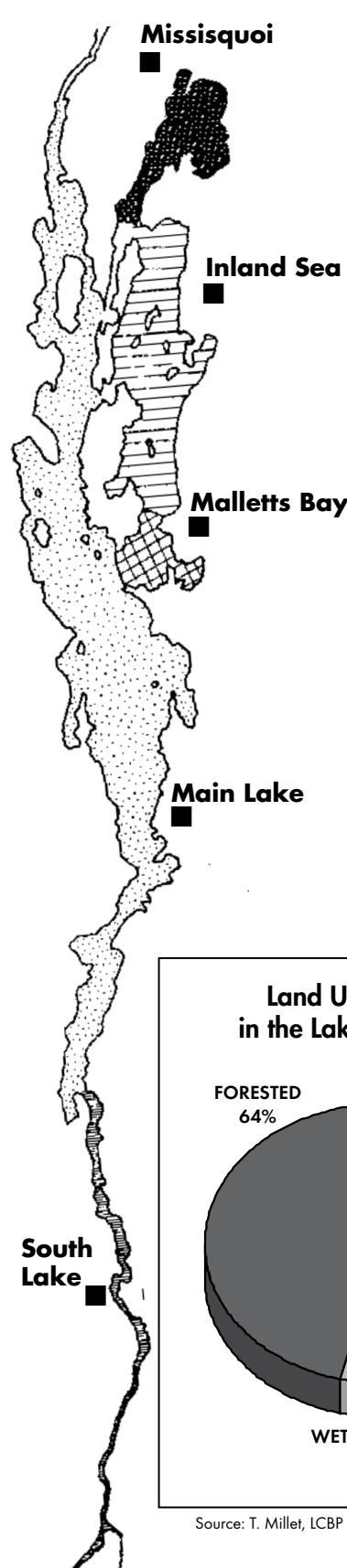
The first humans occupied the Lake Champlain Basin soon after the glaciers melted over 10,000 years ago. These early Native Americans hunted and fished and later became skilled at horticulture. They adapted to their environment without polluting, destroying, or depleting its natural resources. They left few traces behind making it difficult to precisely date their settlements.

Following Samuel de Champlain's exploration in 1609, which marked the beginning of European settlement in the Basin, the Lake became known as Lake Champlain. During this period, the Lake served as a boundary between the Abenakis along the Vermont shores and the Iroquois along the New York shoreline.

Following Champlain's arrival, a long history of military battles and power struggles began, including the French and Indian War, the American Revolution and the War of 1812. A rural economy, focusing largely on agriculture, was established in the Champlain Valley in the 1700s. The economy soon expanded to include natural resources such as timber, fish, ice, maple syrup, iron ore, and marble. Vacationing around Lake Champlain became very popular beginning soon after the Civil War. Throughout history, the demand for transportation over land, water, and ice increased, making the boat building industry and railroads very important to the Lake Champlain region during the 1800s and early 1900s.



The Water and The Land



Lake Champlain is made up of five distinct areas, each with different physical and chemical characteristics.

South Lake This segment is narrow and shallow, much like a river.

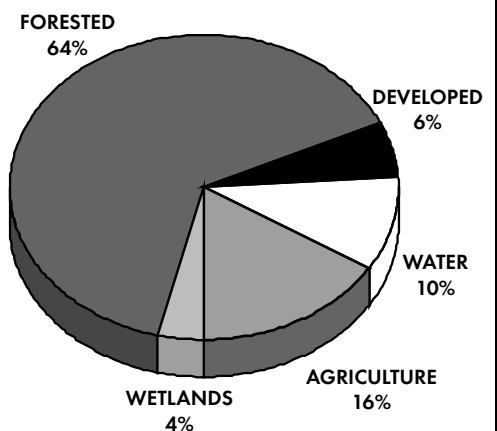
Main Lake This segment contains about 81% of the volume of the entire Lake, including the deepest, coldest water.

Malletts Bay This area lies between causeways built to the north and west. It has the most restricted circulation of any of the Lake's segments.

Inland Sea (Northeast Arm) The water here generally flows south from Missisquoi, north from Malletts Bay and passes through and around the Champlain Islands.

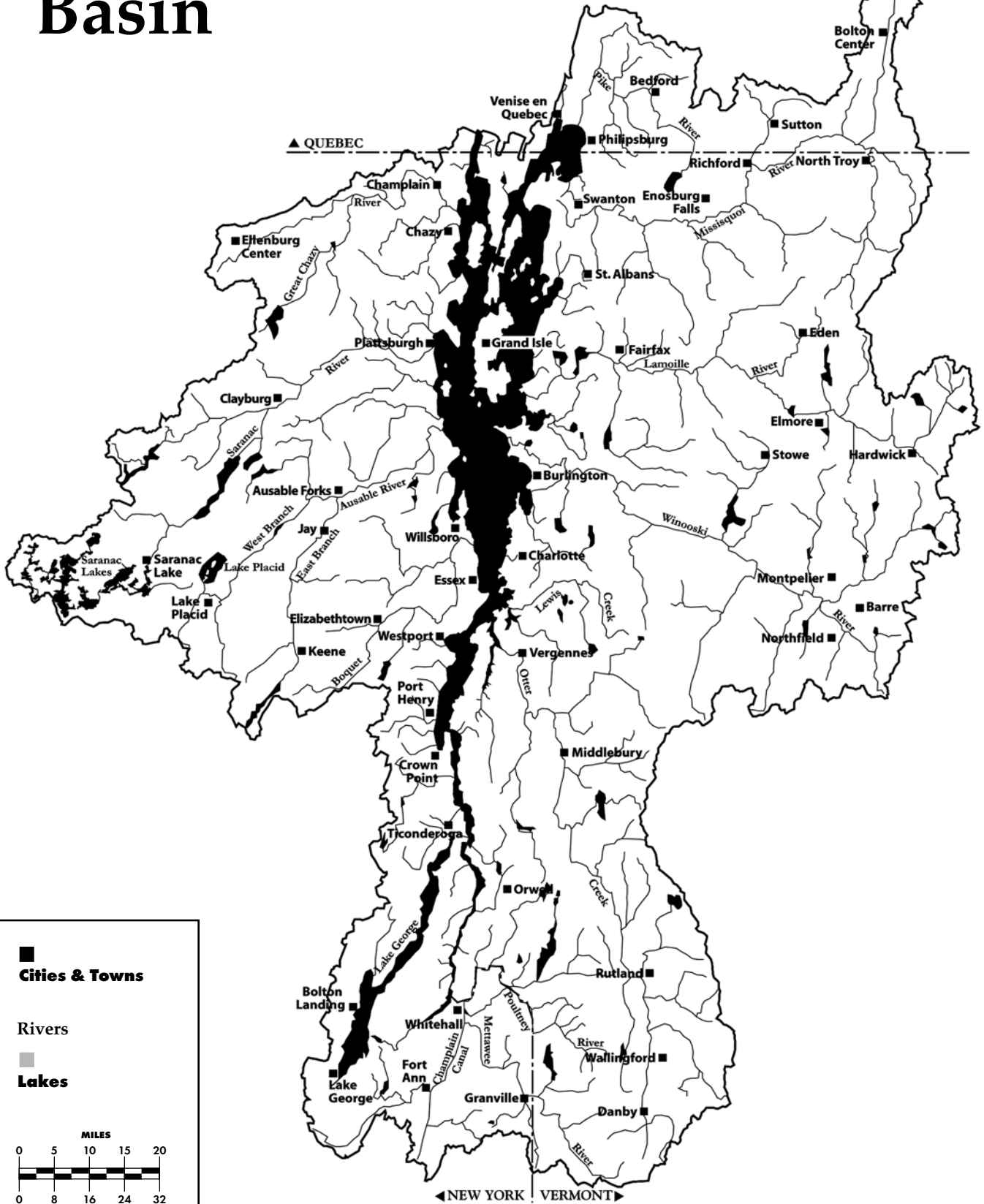
Missisquoi Bay Most of this segment lies within Canada. The Bay is very shallow and relatively warm. Water from the Bay flows into the Inland Sea.

Land Use & Vegetation in the Lake Champlain Basin



Source: T. Millet, LCBP Technical Report No. 24, October 1997

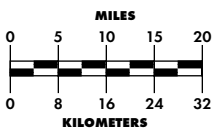
Lake Champlain Basin



■ Cities & Towns

Rivers

■ Lakes



Did You Know...

- The 2000 United States and Canadian census data recorded 571,000 people living in the Basin.
- The population of the Basin has been growing at an average of 1.2% per year of the last 40 years. The population density of the Basin is 73 people per square mile.
- Approximately one third of the Basin's residents use the Lake as a source of drinking water.
- Lake Champlain flows north to the St. Lawrence River, but during the Ice Age it flowed south, emptying into the Hudson River.
- In 1998-1999 tourist expenditures in the Basin totaled an estimated \$3.8 billion.
- In 2004 Vermont and New York enacted a reciprocal fishing program enabling over a million fishing license holders to fish the majority of Lake Champlain with only one license.
- Besides humans, the Lake's ecosystem includes about 91 species of fish, 312 species of birds, 56 species of mammals, 21 species of amphibians, and 20 of reptiles.
- 12 bird species are listed by New York, Vermont and/or the federal government as endangered or threatened.
- Lake Champlain has 45 marinas.
- Nonpoint sources are estimated to account for about 90% of the total phosphorus load to Lake Champlain, with point sources contributing the remaining 10%.
- On a typical summer day in 1992 over 7,500 motor boats, more than 3,000 sail boats, at least 15 commercial vessels, and thousands of swimmers, windsurfers, kayakers, canoers, scuba divers and other recreationists were enjoying Lake Champlain.

LCBP Goals

The Lake Champlain Basin Program is implementing a plan to insure that the Lake and its drainage basin will be restored, protected and maintained so that current and future generations will enjoy its full benefits. If you would like to learn more about the program or become involved with associated projects, call: 1-800-468-LCBP or visit our web site at www.lcbp.org

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Vital Statistics

TOTAL AREA OF BASIN: 8,234 square miles (21,325 km²), about the size of New Jersey; 56% of the Basin lies in Vermont, 37% in New York, and 7% in Canada.

LENGTH OF LAKE: 120 miles (193km) flowing North from Whitehall, NY to the Richelieu River in Quebec.

WIDTH OF LAKE: 12 miles (19km) at widest point

DEPTH OF LAKE: Average 64 ft with the deepest part being over 400ft (12m). Water levels fluctuate in response to precipitation, temperature, and runoff.

SURFACE WATER: 435 square miles (1,127 km²).

SHORELINE: 587 miles (945 km).

ISLANDS: Over 70 islands.

DRAINAGE: Tributaries that drain the basin contribute more than 90% of the water which enters Lake Champlain.

MAJOR TRIBUTARIES: In New York: the Great Chazy, Saranac, Ausable and Boquet Rivers; In Vermont: the Missisquoi, Lamoille, Winooski and LaPlatte Rivers, and Otter Creek.

AVERAGE AIR TEMPERATURE: 40 F/4 C

GROWING SEASON: averages from 150 days on the shoreline to 105 days in the high altitudes.

AVERAGE ANNUAL PRECIPITATION: 30"(76cm) in the valley, 50"(127cm) in the mountains.

MEAN ANNUAL WATER LEVEL: 95.5 feet above sea level.

GLOSSARY

ecosystem – a biological community together with the physical and chemical environment with which it interacts.

habitat – the specific area that provides the basic requirements of survival for a particular type of plant or animal.

nonpoint source pollution – diffuse sources of pollutants that cannot be attributed to a single discharge point.

point source pollution – discharges from specific identifiable sources.

wetland – the transitional area between land and water. Swamps, bogs and marshes are examples of wetlands.