Survey of the Nation's Lakes

Introduction

During the summer of 2007, the United States Environmental Protection Agency (EPA) implemented a survey of 909 randomly chosen lakes across the lower 48 states. The study gathered data to determine the ecological health and recreational value of the lakes in our nation. This is the first comprehensive national lakes survey in thirty years, since a study done by the EPA in 1972-76.

Groups in each state, comprised of both citizens and government workers, used consistent methods to gather data on the lakes in their region. This uniform methodology will allow comparisons to be made across the country and will provide a statistically-valid description of the condition of U.S. lakes. The results help determine the overall health of our nation's lakes, trends in lake health over the past three decades, and the effect of key stressors (such as nutrients and pathogens) on lake status. This was done by sampling selected key indicators, with results helping government agencies better manage lakes in the future. As part of the National survey, Vermont augmented the selection of lakes sampled within the State, to assemble a statistically-valid picture of the lakes in our State. In Vermont, this field work was carried out during 2007 *and* 2008.

Goals of the Project

- To assess the condition of U.S. lakes:
  - To determine what percentage of the lakes in our nation are in good, fair, and poor condition based on trophic, ecological, and recreational indicators
  - To determine the importance of key stressors such as nutrients and pathogens in determining the health and recreational value of the lake
- To establish a baseline for future monitoring of lakes
- To assess trends in lake status in the past three decades
- To help state and tribal organizations better monitor and assess their lakes and to encourage cooperation between jurisdictional boundaries.

What Data Were Gathered?

All of the field crews across the country used the same methods to make measurements of key indicators on each of the lakes. Data gathered by each field crew included the following:

- Water temperature, clarity, turbidity, color, dissolved oxygen, nutrients, chlorophyll, and metals
- Zooplankton and phytoplankton (microscopic plants and animals)
- Macroinvertebrates (such as insects and worms)
- Bacteria (an indicator of fecal contamination) and algal toxins (a by-product of heavy scums of cyanobacteria, or blue-green algae)
- Conditions of the physical habitat, both in the water and along the shoreline

The Survey in Vermont

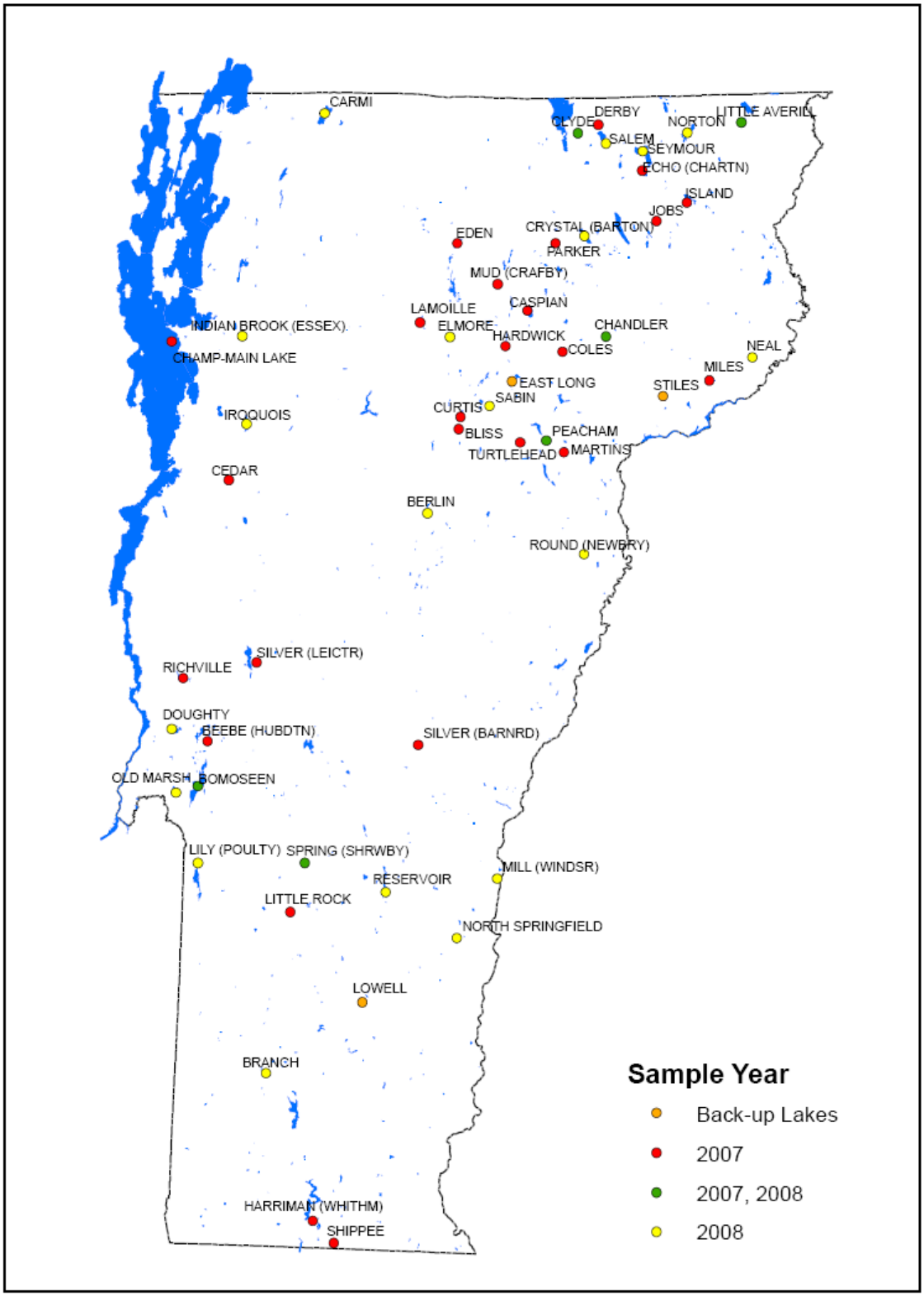
Fifty Vermont lakes were included in this nation-wide study. The lakes that were sampled for the National Lakes Survey are listed in Table 1 and are illustrated in Figure 1.

Table 1. Vermont Lakes included in the National Lakes Assessment

Sampling Year	Lake Name (click for more information)	Town	Area (hectares)
2007	Beebe Pond	Hubbardton	38.46
2007	Bliss Pond	Calais	12.09
2007	Lake Bomoseen	Castleton	943.83
2007	Caspian Lake	Greensboro	306.67
2007	Lake Champlain	Main lake off Burlington	66414.37
2007	Cedar Lake	Monkton	50.14
2007	Chandler Pond	Wheelock	23.81
2007	Clyde Pond	Derby	59.53
2007	Coles Pond	Walden	44.08
2007	Curtis Pond	Calais	35.06
2007	Lake Derby	Derby	76.20

2007	Echo Lake	Charleston	191.71
2007	Lake Eden	Eden	71.43
2007	Hardwick Lake	Hardwick	79.75
2007	Harriman Reservoir	Whitingham	812.42
2007	Island Pond	Brighton	220.65
2007	Jobs Pond	Westmore	12.55
2007	Little Averill Pond	Averill	177.56
2007	Little Rock Pond	Wallingford	5.47
2007	Lowell Lake	Londonderry	44.1
2007	Maidstone Lake	Maidstone	301.5
2007	Martins Pond	Peacham	31.88
2007	Miles Pond	Concord	82.16
2007	Mud Pond	Craftsbury	10.88
2007	Lake Parker	Glover	83.35
2007	Peacham Pond	Peacham	136.92
2007	Richville Pond	Shoreham	61.35
2007	Shippee Pond	Whitingham	10.90
2007	Silver Lake	Barnard	34.05
2007	Silver Lake	Leicester	41.13
2007	Turtlehead Pond	Marshfield	27.83
2008	Berlin Pond	Berlin	115.81
2008	Branch Pond	Sunderland	20.12
2008	Lake Carmi	Franklin	541.22
2008	Crystal Lake	Barton	274.4
2008	Doughty Pond	Orwell	301.5
2008	Lake Elmore	Elmore	79.19
2008	Indian Brook Reservoir	Essex	21.63
2008	Lake Iroquois	Hinesburg	96.52
2008	Lily Pond	Poultney	7.2
2008	Mill Pond	Windsor	32.37
2008	Neal Pond	Lunenburg	72.28
2008	North Springfield Reservoir	Springfield	53.37
2008	Norton Pond	Norton	216.56
2008	Old Marsh Pond	Fair Haven	50.64
2008	Reservoir Pond	Ludlow	13.87
2008	Round Pond	Newbury	11.05
2008	Sabin Pond	Calais	51.1
2008	Lake Salem	Derby	52.34
2008	Seymour Lake	Morgan	667.57
2008	Spring Lake	Shrewsbury	26.22

Figure 1. Map of Vermont Lakes included in the National Lakes Assessment



Detailed Results:

Results of the National Lakes Assessment can be found online at the USEPA's NLA website:
www.epa.gov/owow/lakessurvey

Detailed results from the Vermont Survey can be found in the project final report here.