Survey of the Nation's Lakes

Fact Sheet

Purpose

Report on the condition of the Nation's lakes, ponds, and reservoirs.

Help build state capacity for monitoring and assessment.

Promote collaboration across jurisdictional boundaries in the assessment of water quality.

What is the Survey of the Nation's Lakes?

The Survey of the Nation's Lakes is a statistical survey of the condition of our Nation's lakes, ponds, and reservoirs. The Lakes Survey is designed to:

- Determine regional and national ecological integrity, trophic status, and recreational value of lakes.
- Promote collaboration across jurisdictional boundaries.
- Build state and tribal capacity for monitoring and analyses.
- Achieve a robust, statistically-valid set of lake data for better management.
- Develop baseline information to evaluate progress.

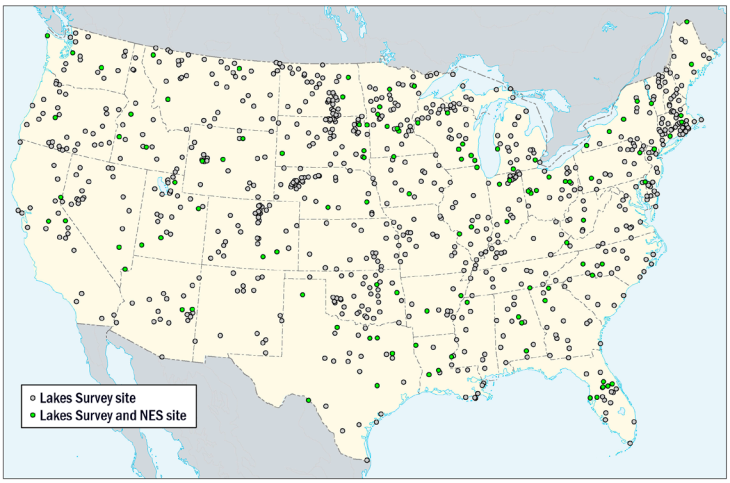
This is one of a series of water surveys being conducted by states, tribes, the U.S. Environmental Protection Agency, and other partners. In addition to lakes, partners will also study coastal waters, wadeable streams, rivers, and wetlands in a revolving sequence. The purpose of these surveys is to generate statistically-valid and environmentally relevant reports on the condition of the Nation's water resources.

What is the goal of the Lakes Survey?

The goal of the Lakes Survey is to address two key questions about the quality of the Nation's lakes, ponds, and reservoirs:

- What percent of the Nation's lakes are in good, fair, and poor condition for key indicators of trophic state, ecological health, and recreation?
- What is the relative importance of key stressors such as nutrients and pathogens?

The sampling design for this survey is a probability-based network which will provide statistically-valid estimates of the condition of all lakes with known confidence. It is designed using modern survey techniques. Sample sites are selected at random to represent the condition of all lakes across each region.



Distribution of lakes in the Lakes Survey

What lakes are included in the Lakes Survey?

A total of 909 lakes are included in the Lakes Survey. The sample set is comprised of natural and man-made freshwater lakes, ponds, and reservoirs greater than 10 acres and at least one meter in depth located in the conterminous United States. The survey does not include the Great Lakes, the Great Salt Lake, natural saline systems, or treatment and disposal ponds. In order to examine potential trends in water quality, a representative subset of lakes from EPA's 1972 National Eutrophication Survey (NES) is included.

Lakes were selected to represent five size class categories as well as to provide relatively even spatial distribution across the lower 48 states.

What parameters will be measured?

The parameters measured in the Lakes Survey will be used to evaluate the ecological condition, trophic state, and recreational potential of lakes. The sampling will occur using consistent procedures at all sites to ensure that the results can be compared across the country.

Key indicators to be measured include:

Trophic Indicators

- *In situ* temperature and dissolved oxygen profiles
- Water chemical quality and nutrient concentrations
- Chlorophyll *a*, Secchi disk depth, turbidity, and color

Ecological Integrity Indicators

- Sediment diatoms
- Phytoplankton
- Zooplankton
- Shoreline physical habitat conditions
- Macroinvertebrates

Recreational Indicators

- Pathogen indicator (enterococci)
- Algal toxin (microcystins)
- Sediment mercury

What is the schedule for the Lakes Survey?

The time line below lists the major phases of the Lakes Survey and the year they will be accomplished.

Activities

2006	2007	2008	2009	2010
Design	**Field**	**Lab/Data**	**Report**	**Research**
Target population	Training	Lab analysis	Data analysis	Scientific issues
Indicators	Site reconnaissance	Lab quality assurance	Presentations	Policy issues
Field/lab practices	Sample collection	Data entry	Peer review	Supplemental data analysis
Quality assurance plan	Field quality assurance	Data quality assurance	Final report	Methods refinement

For more information visit: *www.epa.gov/owow/lakes/lakessurvey/*
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