# SURVEY OF THE NATION'S LAKES: OVERVIEW AND PRELIMINARY RESULTS

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## ABSTRACT

The Survey of the Nation's Lakes is a partnership between the EPA, states, tribes and other federal agencies to assess the condition of the Nation's freshwater lakes and ponds using a statistically valid design. This Survey will be designed to help us to provide regional and national estimates of the condition of lakes. It will use a statistically-valid dataset that represents the condition of all lakes in similar regions sharing similar ecological characteristics. States and tribes used consistent sampling and analytical procedures to ensure that the results can be compared across the country. This Survey of the Nation's Lakes will also help build state and tribal capacity for monitoring and assessment and promote collaboration across jurisdictional boundaries in the assessment of water quality. 89 crews sampled 1179 lakes during the summer index period in 2007, using standardized methods. A thorough quality assurance/ quality control program was ingrained in all aspects of the survey implementation.

This presentation will present a brief background to the Lakes Survey, describing indicators, reference approach, survey design, and methodologies. Indicators sampled in this survey fall into three broad categories: ecological integrity indicators ( benthic macroinvertebrates, phytoplankton, zooplankton, and sediment diatoms, physical habitat); trophic status indicators( secchi depth, water chemistry, dissolved oxygen/pH/ temperature profiles); and recreational indicators ( enterococci, microcystins). Methods for the field and lab were generated from methods currently in use by states and water quality programs, and feedback from cooperators.

The majority of the presentation will focus on the results from the Lakes Survey. An overview of the water chemistry results, concentrations of Nitrogen and Phosphorus across the resource will be presented. Initial results from *in situ* profiles will be presented, as well as secchi depth readings across the population. An overview of physical habitat, enterococci, and presence of microcystin will also be discussed. Initial reports of identification from the remaining biological indicators will be presented.

## KEYWORDS

Lakes; Probabilistic Survey; Bioassessment