

Site Selection for the Survey of the Nation's Lakes Technical Fact Sheet

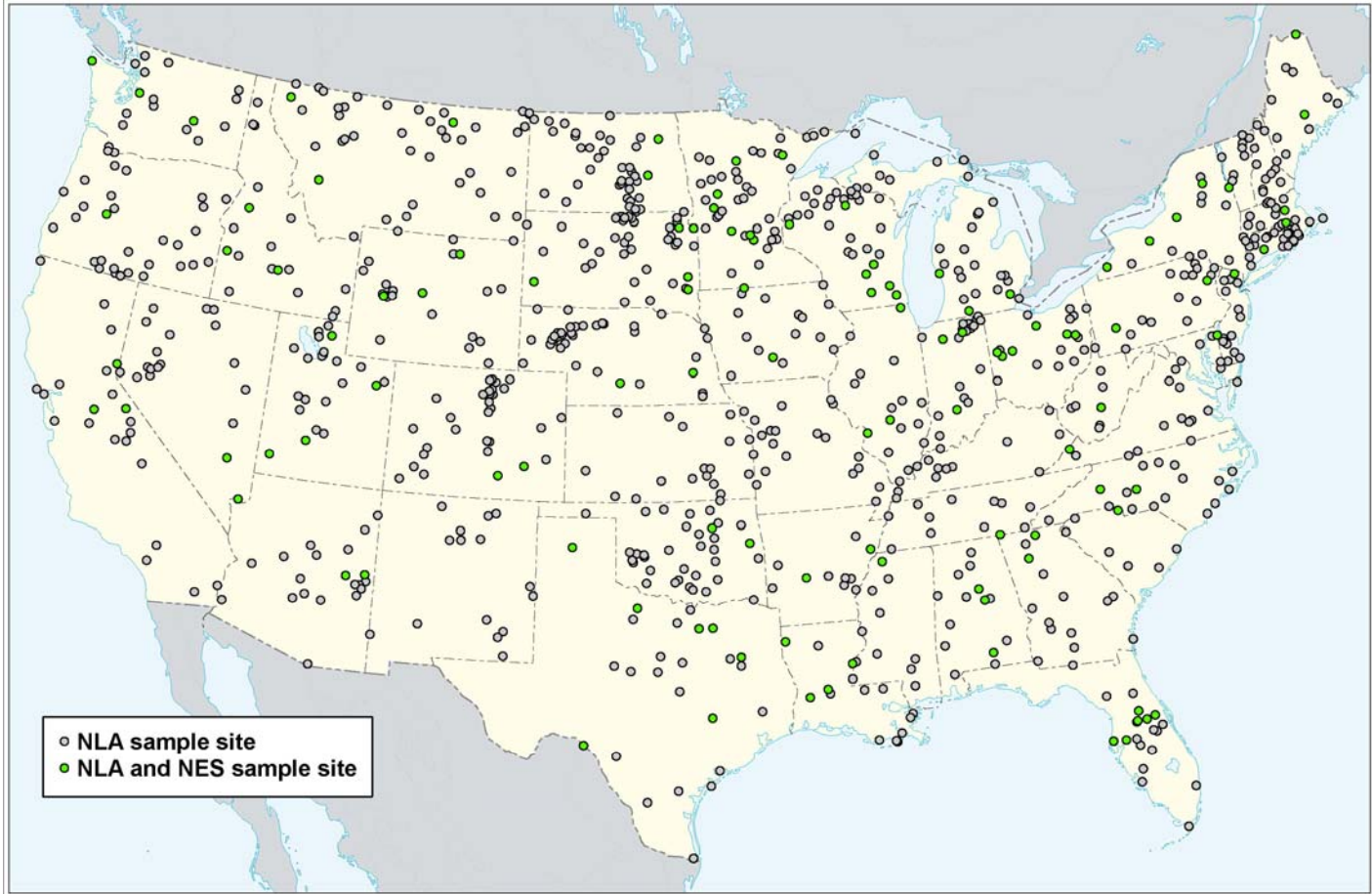


The selection of sampling locations for the Survey of the Nation's Lakes was completed using a probability based design. Rules for selection were developed to meet certain distribution criteria, while ensuring that the design yielded a set of lakes that would provide for statistically valid conclusions. With input from the states and other partners, EPA used the following framework to guide the site selection process:

Design Objectives - select lakes so that the study will:

- Determine the proportion of lakes (+/-5%) in the conterminous U.S. that exceed a threshold of concern using selected indicators with 95% confidence.
- Determine the proportion of lakes (+/-15%) in a specific eco-region grouping that exceed a threshold of concern using selected indicators with 95% confidence.
- The National Hydrography Dataset (NHD) was used to derive a list of lakes for potential inclusion in the survey.
- For purposes of this survey "lakes" refers to natural and man-made freshwater lakes, ponds, and reservoirs greater than 10 acres (4 hectares) in the conterminous U.S., excluding the Great Lakes.
- The sample size was set to include 1,000 lake sampling events. The result was the inclusion of 909 discrete lakes, with 91 of the lakes to be scheduled for revisits. An 'oversample' of additional lakes was also done so that any state wishing to conduct a state scale survey could be accommodated.
- The design was constructed to include a representative subset of the lakes that were included in the National Lake Eutrophication Study (NES), conducted by EPA in 1972. This will allow for an extrapolation of changes to the full set of NES lakes.
- Lake selection for the survey provided for 5 size class categories, as well as spatial distribution across the lower 48 states and 9 aggregated Omernik Level 3 ecoregions.
- 10 acres (4 hectares) was set as the minimum size for inclusion in the Lakes Survey. Lakes from 2.5-10 acres in size (1-4 hectares) were included in the selection process so that states may elect to include these smaller lakes in state scale efforts.





Distribution of Lakes in Survey

Lake Size Category	# of Lakes Selected	Total # of Lakes in the US
10-25 acres (4-10 hectares)	104	68,559
25-50 acres (10-20 hectares)	185	24,902
50-125 acres (20-50 hectares)	184	16,488
125-250 acres (50-100 hectares)	172	6,134
> 250 acres (>100 hectares)	264	7,356
Total	909	123,439

Total number of lake visits: 1,000
 909 unique lakes
 91 lakes for repeat sampling

Number of Lakes from 1972-76 National Lake Eutrophication Study (NES): 113

Number of Lakes per state:
 Range: 4-41
 Median: 18

Number of lakes per ecoregion:
 Range: 84-119
 Median: 101

For more information, visit:
<http://www.epa.gov/owow/lakes/lakessurvey/>

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