TITLE: Northeast Phosphorus Data

FEATURE: ne\_phos\_2 (polygon shapefile)

This shapefile is shown on the poster “Total Phosphorus

Regions for Lakes in the Northeastern United States”. The map

provides a synoptic illustration of regional patterns and histograms

on the poster show the variability of total phosphorus values within those

regions. Total phosphorus was selected as an indicator of lake trophic

condition because of its role in controlling the overall fertility of most lakes.

The approach used for delineating phosphorus regions is similar to that

used by Omernik et al. (1988) for the map of summer total phosphorus in

lakes in Minnesota, Wisconsin, and Michigan.

The lake phosphorus regions are based on phosphorus data from

2,893 lakes monitored throughout the region. Locations of study lakes are

displayed on an inset map. Many of the 61 delineated lake regions include

lakes with a wide range of phosphorus values. The apparent distinguishing

characteristic of each region, compared to adjacent regions, is in the

distribution of values, which is determined by, or associated with, that region's

landscape characteristics, including physiography, land cover/land use,

vegetation (both potential and existing), bedrock and surficial geology, and

soil types.

Each mapped region is coded with a four-digit number. The first

two digits refer to the specific ecoregion (see Omernik,1987) that all or most

of the lake phosphorus region occupies. Ecoregion #58 is the Northeastern

Highlands; #59 is the Northeastern Coastal Zone; #60 is the Northern

Appalachian Plateau; #61 is the Erie Drift Plain; and #62 is the North Central

Appalachians. The last two digits identify the phosphorus regions within

ecoregions. The shading on the map illustrates the estimated central tendency

of the regional range of phosphorus values.

The 2,893 lakes that yielded the data used to define phosphorus

regions represent about 13% of the approximately 22,000 lakes, ponds,

and reservoirs larger than 1 hectare found in the study area. These data

were acquired from a variety of sources, including federal and state

agencies, university researchers, and private corporations. Data were

screened to include only upper limnetic, mid-lake water samples collected

during the growing season, roughly mid-June to mid-September. Summer

values were used for all states except Pennsylvania, which reports

phosphorus as a yearly average, and Vermont, which collects spring total

phosphorus values. The Vermont spring values were qualitatively adjusted

for regionalization purposes, through a comparison of Vermont values with

patterns of summer values in similar regions, with similar landscape

associations, in adjacent states.

Lake phosphorus regions were delineated on 1:250,000-scale

maps. While spatial patterns of lake data are apparent at varying scales,

this map scale has proven to be effective for analyzing regional patterns,

particularly when interpreting associations with mapped information related

to landscape characteristics.

Omernik, J.M. 1987. Ecoregions of the conterminous United States.

Annals of the association of American Geographers. 77(1):118-125.

Map Scale 1:7,500,000.

Omernik, J.M., D.P. Larsen, C.M. Rohm, and S.E. Clarke. 1988.

Summer total phosphorus in lakes: A map of Minnesota, Wisconsin,

and Michigan. Envir. Management 12(6):815-825. Map Scale 1:2,500,000.

For information on the compilation and availability of the

phosphorus maps, contact:

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FIELDS:

CLASS phos\_ug\_l (µg/l = micrograms/liter)

1 < 5 (no polygons, only on poster histograms)

2 5-9

3 10-14

4 15-19

5 20-24

6 25-29

7 30-50

8 >50

9 water

Coordinate system description:

Projection ALBERS (GCS\_North\_American\_1983)

Units METERS Spheroid GRS\_1980

Datum D\_North\_American\_1983

Parameters:

1st standard parallel 29 30 0.000

2nd standard parallel 45 30 0.000

central meridian -96 00 0.000

latitude of projection's origin 23 00 0.000

false easting (meters) 0.00000

false northing (meters) 0.00000