CATALOG DOCUMENTATION
NATIONAL LAKE ASSESSMENT DATABASE
NORTHEAST REGION 2007
DESIGN INFORMATION

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1. DATASET IDENTIFICATION
1.1 Title of Catalog document
 National Lake Assessment (NLA) Database
 Northeast Region 2007
 Design Information

1.2 Author of the Catalog entry
 Melissa Hughes, Raytheon MOS

1.3 Catalog revision date
 September 2012

1.4 Dataset name
 Lake Identification Status

1.5 Task Group
 National Lake Assessment

1.6 Dataset identification code
 NA

1.7 Version
 NA

1.8 Request for Acknowledgment
 EPA requests that all individuals who download National Lake Assessment data
 acknowledge the source of these data in any reports, papers, or presentations.
 If you publish these data, please include a statement similar to: "Some or all
 of the data described in this article were produced by the U. S. Environmental
 Protection Agency through its National Lake Assessment (NLA) Program".

2. INVESTIGATOR INFORMATION
2.1 Principal Investigators
 Hal Walker, U.S. EPA NHEERL-AED
 Bryan Milstead, U.S. EPA NHEERL-AED
 John Kiddon, U.S. EPA NHEERL-AED
 Jeff Hollister, U.S. EPA NHEERL-AED

2.2 Sample Collection Investigators
 NA

2.3 Sample Processing Investigators
 NA

3. DATASET ABSTRACT
 3.1 Abstract of the Dataset
 The Design Information file reports point features for lakes, ponds, and
 reservoirs from the sampling frame for the EPA National Lake Assessment (NLA)
 project. Location information is presented as well as lake characteristics,
 such as depth, size, accessibility and ecoregions. Key features were
 evaluated to determine which lakes were sampled in the NLA. The site selection
 for the survey ensures that EPA can make unbiased estimates concerning the
 health of the target population of lakes with statistical confidence.

 3.2 Keywords for the Dataset
 point features, National Lakes Assessment, sampling frame, unbiased estimates,
 site selection, Lakes Ecosystem Services

4. OBJECTIVES AND INTRODUCTION
 4.1 Program Objective
 The U.S. Environmental Protection Agency (EPA), in partnership with state and
 tribal organizations, has designed the Survey of the Nation's Lakes to
 periodically assess the condition of the Nation's surface waters. The
 National Lake Assessment is a statistical assessment of the condition of
 our Nation's lakes, ponds, and reservoirs and is designed to: 1) Assess the
 condition of the Nation's Lakes; 2) Establish a baseline to compare future
 surveys for trends assessment and evaluate trends since the 1970's National
 Eutrophication Survey Study and 3) Help build State and Tribal capacity for
 monitoring and assessment and promote collaboration across jurisdictional
 boundaries. This survey will generate a statistically-valid report on the
 condition of our Nation's water resources and identify key stressors to this
 system. The goal of the Nation's Lakes project is to address two key questions
 about the quality of the Nation's lakes, ponds, and reservoirs: 1) What
 percent of the Nation's lakes are in good, fair, and poor condition for key
 indicators of trophic state, ecological health, and recreation? and 2) What is
 the relative importance of key stressors such as nutrients and pathogens?

 The Survey is designed to be completed during the summer growing season before
 lake turnover (June through September). Field crews will collect a variety of
 measurements and indicators from an "index site" located at the deepest point
 of the lake (≤50 meters, and near the center if sampling a reservoir), and
 document conditions of the littoral zone and shoreline from stations around
 the lake.

 EPA selected sampling locations using a probability based survey design.
 Sample Surveys have been used to determine the status of a population or
 resources of interest using a representative sample of a relatively few
 members or sites. Using this survey design allows data from the subset of
 sampled lakes to be applied to the larger target population and assessments
 with known confidence bounds to be made.

 4.2 Dataset Objective
 The objective of the Design Information file was to evaluate key lake features
 to determine which lakes were sampled in the NLA.

4.3 Dataset Background Discussion
 The Design Information file reports point features and lake characteristics
 for lakes, ponds, and reservoirs from the sampling frame for the EPA National
 Lake Assessment (NLA) project.

4.4 Summary of Dataset Parameters
 NA

5.   DATA ACQUISITION AND PROCESSING METHODS
 5.1 Data Acquisition
 NA

  5.1.1 Sampling Objective
  NA

  5.1.2 Sample Collection: Methods Summary
  NA

  5.1.3 Beginning Sampling Dates
  5/8/2007

  5.1.4 Ending Sampling Dates
  10/18/2007

  5.1.5 Sampling Platform
  NA

  5.1.6 Sampling Equipment
  NA

  5.1.7 Manufacturer of Sampling Equipment
  Not applicable

  5.1.8 Key Variables
  Not applicable

  5.1.9 Sample Collection: Calibration
  NA

  5.1.10 Sample Collection: Quality Control
  NA

  5.1.11 Sample Collection: References
  USEPA. 2007. Survey of the Nation's Lakes. Field Operations Manual.
  EPA 841-B-07-004. US Environmental Protection Agency, Washington, DC.
  (http://water.epa.gov/type/lakes/lakessurvey_index.cfm#CP_JUMP_474534)

  5.1.12 Sample Collection: Alternate Methods
  NA

 5.2 Data Preparation and Sample Processing
 Physical data did not require analytical processing.

  5.2.1 Sample Processing Objective
  NA

5.2.2 Sample Processing: Methods Summary
 NA

5.2.3 Sample Processing: Calibration
 NA

5.2.4 Sample Processing: Quality Control
 NA

5.2.5 Sample Processing: References
 NA

5.2.6 Sample Processing: Alternate Methods
 Not Applicable

6.   DATA ANALYSIS AND MANIPULATIONS
 6.1 Name of New or Modified Value
  NA

 6.2 Data Manipulation Description
  The National Lakes Assessment (NLA) is one component of the National Aquatic
  Resource Surveys. This program is the first-ever assessment of lakes across
  the continental United States using consistent protocols and a modern,
  scientifically defensible statistical survey approach. The Design Information
  file reports point features for lakes, ponds, and reservoirs from the sampling
  frame for the EPA National Lake Assessment (NLA) project. Key features were
  evaluated to determine which lakes were sampled in the NLA. To be included, a
  site had to be a natural or man-made freshwater lake, pond or reservoir,
  greater than 10 acres (4 hectares), at least 3.3 feet (1 meter) deep, and with
  a minimum of a quarter acre (0.1 hectare) open water. After applying the
  criteria, 68,223 waterbodies were considered lakes by the NLA definition and
  thus comprised the target population. Of these, 49,546 lakes could be accessed
  and a total of 1,028 lakes were sampled and represent the total lake
  population. For quality assurance purposes, 10% of the target lakes were
  randomly selected for a second sampling later in the summer. The greater the
  number of sites sampled, the more confidence in the results. The number of
  sites included in the survey allows EPA to determine the percentage of lakes
  nationwide and within predetermined ecoregions that exceed a threshold of
  concern with 95% confidence.

7. DATA DESCRIPTION
 7.1 Description of Parameters
 7.1.1 Components of the Dataset

Attribute	Format	Description
WB ID	NUMBER(10)	Unique Waterbody ID
NLA ID	VARCHAR2(60 BYTE)	National Lake Assessment study unique ID for each lake
LAKE NAME	VARCHAR2(125 BYTE)	National Lake Assessment lake name
VISIT NUMBER	NUMBER(3)	Sequential visit number within year
SAMPLED	VARCHAR2(20 BYTE)	Site sampled code
DATE COLLECTED	DATE	Date sample collected
REPEAT	VARCHAR2(20 BYTE)	Repeat visit lake (YES/blank)

SITE TYPE	VARCHAR2(50 BYTE)	PROB_Samp:Lake is from probability sample and can be used for population estimation. REF_Lake: Lake is not from probability sample and was selected as a candidate reference lake.
LAKE STATUS	VARCHAR2(50 BYTE)	Eval. status. _Denied (access denied). _Inaccess (physically inaccessible). _Other. _LT_4ha (< 4ha). _Shallow (< 1m deep). _Vegetated (< 1000 m2 open H2O). _Saline (tidal). Special_Purpose (aquacult., disposal, WWT, or evap.). Not_Lake (other)
TNT STATUS	VARCHAR2(50 BYTE)	Target:Non-target evaluation status derived from LAKE_SAMP
ALBERS X	NUMBER(15,6)	Polygon centroid x coordinates from ArcGIS geometry calculator (PCS: USA Contiguous Albers Equal Area Conic projection)
ALBERS Y	NUMBER(15,6)	Polygon centroid y coordinates from ArcGIS geometry calculator (PCS: USA Contiguous Albers Equal Area Conic projection)
FIELD LONGITUDE	NUMBER(12,6)	Longitude (decimal degrees) recorded from the field form (lake verification)
FIELD LATITUDE	NUMBER(12,6)	Latitude (decimal degrees) recorded from the field form (lake verification)
FIELD SOURCE	VARCHAR2(25 BYTE)	Field location source: Index_Site: location where index sample was taken. Launch_Site: point where boat was launched. Map_Loc: Location obtained from design file. Priority: lake index site; then launch site, then map location
STATE CODE	VARCHAR2(10 BYTE)	State assigned by US EPA-AED within which the greater percentage of lake area falls
COUNTY	VARCHAR2(50 BYTE)	County assigned by US EPA-AED within which the greater percentage of lake area falls
EPA REGION	VARCHAR2(50 BYTE)	EPA Region assigned by State
NHD NAME	VARCHAR2(50 BYTE)	Lake name (from NHD)
AREA CATEGORY	VARCHAR2(25 BYTE)	Lake area unequal probability category (7 categories)
NES LAKE	VARCHAR2(25 BYTE)	NESLake-Lake was included in 1970s National Eutrophication Survey
NES LAKE ID	VARCHAR2(25 BYTE)	NESLake-Lake was included in 1970s National Eutrophication Survey
STRATUM	VARCHAR2(50 BYTE)	Probability survey design stratum. NLALake is single stratum
PANEL	VARCHAR2(50 BYTE)	Panel_1-lake was included in base design. OverSamp-Lake was part of over sample of lakes used for replacing lakes in base design if they could not be sampled
DESIGN CATEGORY	VARCHAR2(50 BYTE)	Probability survey design categories used to assign unequal probability of selection
MD CATEGORY	NUMBER(16,13)	Unequal selection probability for lake
SITE WEIGHT	NUMBER(15,11)	Initial site weight based on base design. DO NOT USE for population estimation
ADJUSTED WEIGHT	NUMBER(15,11)	Adjusted site weight. Use for population estimation
URBAN	VARCHAR2(25 BYTE)	Urban lake? (Yes/No)

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WSA            VARCHAR2(25 BYTE)   Wadeable Stream Assessment three aggregrated
ECOREGION 3                        Omernik level 3 ecoregions
WSA            VARCHAR2(25 BYTE)   Wadeable Stream Assessment three aggregrated
ECOREGION 9                        Omernik level 9 ecoregions
ECOREGION      NUMBER(4)           Omernik level 3 ecoregion number
LEVEL 3
ECOREGION      VARCHAR2(250 BYTE)  Omernik level 3 ecoregion number name
LEVEL 3 NAME
NUTRIENT       VARCHAR2(15 BYTE)   Nutrient ecoregion, based on EPA nutrient
ECOREGION                          criteria documents for lakes & reservoirs)
NUTRIENT       VARCHAR2(250 BYTE)  Nutrient ecoregion name
REGION NAME
LAKE ORIGIN    VARCHAR2(25 BYTE)   Lake origin (MAN-MADE, NATURAL [which
                                   includes natural lakes augmented by dams])
MAXIMUM        NUMBER(6,1)         Maximum observed lake depth (m)
DEPTH
FIELD FLAG     VARCHAR2(50 BYTE)   Data qualifier flag for lake info data
LONGITUDE      NUMBER(14,9)        Longitude (decimal degrees) obtained from
                                   NHD (NAD83)
LATITUDE       NUMBER(13,9)        Latitude (decimal degrees) obtained from NHD
                                   (NAD83)
REF CLUSTER    VARCHAR2(500 BYTE)  NLA Reference Cluster Description
NAME
NUTRIENT       VARCHAR2(10 BYTE)   Least Disturbed Reference Site (Y/N)
REFERENCE SITE
SIZE CLASS     VARCHAR2(30 BYTE)   Lake area size class
LAKE DEPTH     NUMBER(6,1)         Lake Depth (m) at Index Site
ELEVATION      NUMBER(7,2)         Site elevation (meters) from the National
                                   Elevation Dataset
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7.1.2 Precision of Reported Values
 NA

7.1.3 Minimum Value in Dataset / 7.1.4 Maximum Value in Dataset

PARAMETER	MIN	MAX
MAXIMUM EPTH	0.5	97
LAKE DEPTH	0.5	97
ELEVATION	0	3403
VISIT NUMBER	0	1
ECOREGION LEVEL 3	28	84
MD CATEGORY	0	0.759758224
WEIGHT	0	1707.83285
ADJUSTED WEIGHT	0	810.6246019
LONGITUDE	-124.6325273	-67.2086
LATITUDE	25.032719	49.073664
ALBERS X	-2312098.727	2228193.166
ALBERS Y	-1282392.792	1532272.432

7.2 Data Record Example
 7.2.1 Column Names for Example Records
  NLA ID,VISIT NUMBER,SAMPLED,DATE COLLECTED,REPEAT,SITE TYPE,LAKE STATUS,
  TNT STATUS,ALBERS X,ALBERS Y,FIELD LONGITUDE,FIELD LATITUDE,FIELD SOURCE,
  STATE CODE,COUNTY,EPA REGION,NHD NAME,LAKE NAME,AREA CATEGORY,NES LAKE,
  NES LAKE ID,STRATUM,PANEL,DESIGN CATEGORY,MD CATGORY,WEIGHT,
  ADJUSTED WEIGHT,URBAN,WSA ECOREGION 3,WSA ECOREGION 9,ECOREGION LEVEL 3,

ECOREGION LEVEL 3 NAME,NUTRIENT ECOREGION,NUTRIENT ECOREGION NAME,
LAKE ORIGIN,MAXIMUM DEPTH,FIELD FLAG, LONGITUDE,LATITUDE,
REFERENCE CLUSTER,REF CLUSTER NAME,REFERENCE CLASS,
NUTRIENT REFERENCE SITE,SIZE CLASS,LAKE DEPTH,ELEVATION,WB ID

7.2.2 Example Data Records
NLA06608-0030,0,,,,PROB_Lake,Not_Needed,NotNeeded,603989.2301,
979198.9345,,,,MI,Michigan,Iron,Region_5,,,(1,4],,,NLALake,
Panel_1,(1,4],0.000579901,1707.832853,0,NO,PLNLOW,UMW,50,
Northern Lakes and Forests,VIII,Nutrient Poor Largely Glaciated Upper
Midwest and Northeast,,,,-88.2006702,46.03898158,,,,,01: <10 ha,,
NLA06608-0031,1,YES,6/13/2007,YES,PROB_Lake,Target_Sampled,
Target,1224615.667,348635.8438,-81.518455,39.776322,Index_site,OH,Ohio,
Noble,Region_5,Caldwell Lake,Caldwell Lake,(20,50],,,NLALake,Panel_1,
SAP_OH_(20,50],0.029431985,33.64956123,28.82219287,YES,EHIGH,SAP,70,
Western Allegheny Plateau,XI,The Central and Eastern Forested
Uplands,MAN-MADE,4.9,,-81.51745185,39.77645357,B,
E. Highlands: Cold northern lakes and reservoirs,SO-SO,N,02:>10-50 ha,
4.9,241.93,

8. GEOGRAPHIC AND SPATIAL INFORMATION
 8.1 Minimum Longitude (Westernmost)
  -80.208767 decimal degrees

 8.2 Maximum Longitude (Easternmost)
  -66.99852 decimal degrees

 8.3 Minimum Latitude (Southernmost)
  36.702015 decimal degrees

 8.4 Maximum Latitude (Northernmost)
  47.416054 decimal degrees

 8.5 Name of area or region
  The National Lake Assessment Northeast Region covers the northeastern US
  from Maine to West Virginia.

9. QUALITY CONTROL AND QUALITY ASSURANCE
 9.1 Measurement Quality Objectives
  NA

 9.2 Data Quality Assurance Procedures
  NA

 9.3 Actual Measurement Quality
  NA

10. DATA ACCESS
 10.1 Data Access Procedures
  Access data at: http://www.epa.gov/aed/lakesecoservices by clicking on the
  database link.

 10.2 Data Access Restrictions
  None

10.3 Data Access Contact Persons
 John Kiddon, U.S. EPA NHEERL-AED, Narragansett, RI
 401-782-3034, 401-782-3030 (FAX), kiddon.john@epa.gov

 Harry Buffum, Data Manager, Raytheon, Narragansett, RI
 401-782-3183, 401-782-3030 (FAX), buffum.harry@epa.gov

10.4 Dataset Format
 Comma-delimited ASCII files

10.5 Information Concerning Anonymous FTP
 Not available

10.6 Information Concerning WWW
 See Section 10.1 for WWW access

10.7 EMAP CD-ROM Containing the Dataset
 Data not available on CD-ROM

11. REFERENCES
 USEPA. 2007. Survey of the Nation's Lakes. Field Operations Manual.
 EPA 841-B-07-004. US Environmental Protection Agency, Washington, DC.
 (http://water.epa.gov/type/lakes/lakessurvey_index.cfm#CP_JUMP_474534)

 USEPA. 2009. Survey of the Nation's Lakes: Integrated Quality Assurance
 Project Plan. EPA/841-B-07-003. US Environmental Protection Agency,
 Washington, DC. (http://water.epa.gov/type/lakes/lakessurvey_index.cfm#CP_JUMP_474534)

 USEPA. 2006. Survey of the Nation's Lakes. Lake Evaluation Guidelines.
 EPA 841-B-06-003. US Environmental Protection Agency, Washington, DC.

12. TABLE OF ACRONYMS
 EPA   Environmental Protection Agency
 NLA   National Lakes Assessment
 QA/QC Quality Assurance/Quality Control
 WWW   World Wide Web

13. PERSONNEL INFORMATION
 John Kiddon, AED Oceanographer
 U.S. Environmental Protection Agency, NHEERL-AED
 27 Tarzwell Drive, Narragansett, RI 02882-1197
 401-782-3044, 401-782-3030 (FAX), kiddon.john@epa.gov

 Hal Walker, AED Analyst
 U.S. Environmental Protection Agency, NHEERL-AED
 27 Tarzwell Drive, Narragansett, RI 02882-1197
 401-782-3134, 401-782-3030 (FAX), walker.henry@epa.gov

 Bryan Milstead, AED Analyst
 U.S. Environmental Protection Agency, NHEERL-AED
 27 Tarzwell Drive, Narragansett, RI 02882-1197
 401-782-3050, 401-782-3030 (FAX), milstead.bryan@epa.gov

 Jeff Hollister, AED Analyst
 U.S. Environmental Protection Agency, NHEERL-AED
 27 Tarzwell Drive, Narragansett, RI 02882-1197
 401-782-9655, 401-782-3030 (FAX), Hollister.jeff@epa.gov

Harry Buffum, Database Manager, Raytheon
U.S. Environmental Protection Agency, NHEERL-AED
27 Tarzwell Drive, Narragansett, RI 02882-1197
401-782-3183, 401-782-3030 (FAX), buffum.harry@epa.gov

Melissa Hughes, Data Librarian, Raytheon
U.S. Environmental Protection Agency, NHEERL-AED
27 Tarzwell Drive, Narragansett, RI 02882-1197
401-782-3184, 401-782-3030 (FAX), hughes.melissa@epa.gov