CATALOG DOCUMENTATION
EMAP SURFACE WATERS PROGRAM LEVEL DATABASE
1991-1994 NORTHEAST LAKES DATA
LAKE ZOOPLANKTON METRIC DATA

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1. DATA SET IDENTIFICATION

1.1 Title of Catalog Document
EMAP Surface Waters Lake Database
1991-1994 Northeast Lakes
Lake Zooplankton Metric Data Summarized by Lake

1.2 Authors of the Catalog Entry
U.S. EPA NHEERL Western Ecology Division
Corvallis, OR

1.3 Catalog Revision Date
November 1996

1.4 Data Set Name
ZOOMET

1.5 Task Group
Surface Waters

1.6 Data Set Identification Code
0114

1.7 Version
001

1.8 Requested Acknowledgment
These data were produced as part of the U.S. EPA's Environmental Monitoring and Assessment Program (EMAP). If you publish these data or use them for analyses in publications, EPA requires a standard statement for work it has supported:

"Although the data described in this article have been funded wholly or in part by the U.S. Environmental Protection Agency through its EMAP Surface Waters Program, it has not been subjected to Agency review, and therefore does not necessarily reflect the views of the Agency and no official endorsement of the conclusions should be inferred."

2. INVESTIGATOR INFORMATION

2.1 Principal Investigator

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2.2 Investigation Participant - Sample Collection

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Harvard University
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Oregon State University
SUNY Syracuse College of Environmental Sciences and Forestry
Queens University
University of Maine
U.S. Fish and Wildlife Service
U.S. Environmental Protection Agency
Office of Research and Development
Regions 1 and 2

3. DATA SET ABSTRACT

3.1 Abstract of the Data Set

The primary function of the lake zooplankton data are to provide a snapshot of the Zooplankton assemblage present in the lake at the time of sampling. The Zooplankton community represents an integral component of lake biological integrity and represents a snapshot of a publicly visible reflection of lake quality.

3.2 Keywords for the Data Set

Zooplankton assemblage, Zooplankton community, Zooplankton species identification

4. OBJECTIVES AND INTRODUCTION

4.1 Program Objective

The Environmental Monitoring and Assessment Program (EMAP) was designed to periodically estimate the status and trends of the Nation's ecological resources on a regional basis. EMAP provides a strategy to identify and bound the extent, magnitude and location of environmental degradation and improvement on a regional scale based on a probability-based statistical survey design.

4.2 Data Set Objective

This data set is part of a demonstration project to evaluate approaches to monitoring lakes in EMAP. The data set contains the results of single mid-lake vertical tow of the zooplankton assemblage taken during mid-summer.

4.3 Data Set Background Discussion

The zooplankton community within a lake is an integral component of lake biological integrity. This data set contains a list of metrics based on the species and counts of numbers of individuals of each species collected at each lake sampled.

4.4 Summary of Data Set Parameters

Zooplankton metric parameters represent species richness for various taxonomic groups within zooplankton assemblages, such as small and large crustaceans, rotifers, herbivorous and omnivorous, cold tolerant species, and other species of particular interest.

5. DATA ACQUISITION AND PROCESSING METHODS

5.1 Data Acquisition

5.1.1 Sampling Objective

To obtain a sample of the zooplankton assemblage within a lake during a two month sampling window from July through mid-September.

5.1.2 Sample Collection Methods Summary

The assemblage was sampled using a bongo net with coarse (202 micron) and fine (48 micron) mesh nets towed vertically from near the bottom of the lake to the surface at the deepest point within the lake.

5.1.3 Sampling Start Date

July 1991

5.1.4 Sampling End Date

September 1994

5.1.5 Platform

Sampling was conducted from small boats.

5.1.6 Sampling Gear

Bongo net with coarse (202 micron) and fine (48 micron) mesh nets.

5.1.7 Manufacturer of Instruments

NA

5.1.8 Key Variables

NA

5.1.9 Sampling Method Calibration

NA

5.1.10 Sample Collection Quality Control

See Baker et al. (1997).

5.1.11 Sample Collection Method Reference

Baker, J.R., G.D. Merritt, and D.W. Sutton (eds.). 1997. Environmental Monitoring and Assessment Program - Surface Waters: Field Operations Manual for Lakes.

Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program - Surface Waters: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group.

5.1.12 Sample Collection Method Deviations
NA

5.2 Data Preparation and Sample Processing
5.2.1 Sample Processing Objective
See Baker et al. (1997) and Chaloud and Peck (1994).

5.2.2 Sample Processing Methods Summary
See Baker et al. (1997) and Chaloud and Peck (1994).

5.2.3 Sample Processing Method Calibration
See Baker et al. (1997) and Chaloud and Peck (1994).

5.2.4 Sample Processing Quality Control
See Baker et al. (1997) and Chaloud and Peck (1994).

5.2.5 Sample Processing Method Reference
See Baker et al. (1997) and Chaloud and Peck (1994).

6. DATA MANIPULATIONS

6.1 Name of New or Modified Values
None.

6.2 Data Manipulation Description
See Chaloud and Peck (1994).

7. DATA DESCRIPTION

7.1 Description of Parameters

Parameter Name	Data Type	Len	Format	Parameter Label
ACALH	Num	8		# Adult herbivorous calanoid individuals
ACARIOM	Num	8		# Acari individuals
ACLADOM	Num	8		# Adult omnivorous cladoceran individuals
ACYCOM	Num	8		# Adult omnivorous cyclopoid individuals
ADIAOM	Num	8		# Adult omnivorous diaptomid individuals
AEPIOM	Num	8		# Adult omnivorous Epischura individuals
CALCOPH	Num	8		# Herbivorous calanoid copepodite individuals
CAL_R	Num	8		# Calanoid species

7.1 Description of Parameters, continued

CHAOBOM	Num	8		# Chaoborid larvae individuals
CHAOB_R	Num	8		# Chaoborid larvae species
COLDTOLN	Num	8		# Cold tolerant individuals
COLDTOLR	Num	8		# Reported cold tolerant species
CRH	Num	8		# Herbivorous crustacean individuals
CRH_R	Num	8		# Herbivorous crustacean species
CROM	Num	8		# Omnivorous crustacean individuals
CROM_R	Num	8		# Omnivorous crustacean species
CR_R	Num	8		# Crustacean species
CYCCOPH	Num	8		# Herbivorous cyclopoid copepodite individuals
DATE_COL	Num	8	MMDDYY	Date Sample Collected
HARCOP_N	Num	8		# Harpacticoid copepod individuals
LAKENAME	Char	30		Lake Name
LAKE_ID	Char	6		Lake Identification Code
LAT_DD	Num	8		Lake Latitude (decimal degrees)
LCLADH	Num	8		# large herbivorous cladoceran individuals
LGCLAD_R	Num	8		# Large cladoceran species
LGCYC_R	Num	8		# Large cyclopoid species
LON_DD	Num	8		Lake Longitude (-decimal degrees)
MACRO_N	Num	8		# individuals collected with 202 m net
MACRO_R	Num	8		# species collected with 202 m net
MICRO_N	Num	8		# individuals collected with 48 m net
MICRO_R	Num	8		# species collected with 48 m net
NAUPLIH	Num	8		# Nauplii individuals (all herbivorous)
OSTRACH	Num	8		# Ostracod individuals (herbivorous)
OTHER_N	Num	8		# individuals in "other" category
OTHER_R	Num	8		# miscellaneous groups found in sample
ROTH	Num	8		# Herbivorous rotifer individuals
ROTH_R	Num	8		# Herbivorous rotifer species
ROTOM	Num	8		# Omnivorous rotifer individuals
ROTOM_R	Num	8		# Omnivorous rotifer species
ROT_R	Num	8		# Rotifer species
SAMPLED	Char	20		Site Sampling Status
SCLADH	Num	8		# Small herbivorous cladoceran individuals
SMCLAD_R	Num	8		# Small cladoceran species
SMCYC_R	Num	8		# Small cyclopoid species
TOTZOOP	Num	8		Total number of zooplankton individuals
TOTZOOPR	Num	8		Total richness
TYPE	Char	8		Study of lake (GRID, TIME, INDICATOR)
VISIT_NO	Num	8		Visit Number
YEAR	Num	8		Sample Year
ZEBVEL_N	Num	8		# Zebra mussel veliger lavae individuals

7.1.1 Precision to Which Values are Reported

7.1.2 Minimum Value in Data Set by Parameter

Name	Min
ACALH	0
ACARIOM	0
ACLADOM	0
ACYCOM	0
ADIAOM	0
AEPIOM	0
CALCOPH	0
CAL_R	0
CHAOBOM	0
CHAOB_R	0
COLDTOLN	0
COLDTOLR	0
CRH	0.123
CRH_R	0
CROM	0
CROM_R	0
CR_R	0
CYCCOPH	0
HARCOP_N	0
LAT_DD	39.2262
LCLADH	0
LGCLAD_R	0
LGCYC_R	0
LON_DD	-78.97917
MACRO_N	0
MACRO_R	0
MICRO_N	0.64
MICRO_R	2
NAUPLIH	0
OSTRACH	0
OTHER_N	0
OTHER_R	0
ROTH	0
ROTH_R	0
ROTOM	0
ROTOM_R	0
ROT_R	0
SCLADH	0
SMCLAD_R	0
SMCYC_R	0
TOTZOOP	0.95
TOTZOOPR	6
VISIT_NO	1
YEAR	1991
ZEBVEL_N	0

7.1.3 Maximum Value in Data Set by Parameter

Name	Min
ACALH	77.34
ACARIOM	2.67
ACLADOM	0.408
ACYCOM	154.2
ADIAOM	155.43
AEPIOM	48.29
CALCOPH	72.75
CAL_R	5
CHAOBOM	1.805
CHAOB_R	2
COLDTOLN	396.572
COLDTOLR	6
CRH	1798.88613
CRH_R	18
CROM	214.2825
CROM_R	10
CR_R	24
CYCCOPH	198.85
HARCOP_N	0.004
LAT_DD	47.2125
LCLADH	263.54
LGCLAD_R	10
LGCYC_R	6
LON_DD	-67.30111
MACRO_N	414.98
MACRO_R	20
MICRO_N	10016.51
MICRO_R	51
NAUPLIH	1573.16
OSTRACH	24.36
OTHER_N	178.15
OTHER_R	3
ROTH	9576.93
ROTH_R	42
ROTOM	445.16
ROTOM_R	7
ROT_R	39
SCLADH	899.35
SMCLAD_R	12
SMCYC_R	2
TOTZOOP	10039.75
TOTZOOPR	59
VISIT_NO	2.3
YEAR	1995
ZEBVEL_N	26.63

7.2 Data Record Example

7.2.1 Column Names for Example Records

ACALH,ACARIOM,ACLADOM,ACYCOM,ADIAOM,AEPIOM,CALCOPH,CAL_R,CHAOBOM,CHAOB_R,
COLDTOLN,COLDTOLR,CRH,CRH_R,CROM,CROM_R,CR_R,CYCCOPH,DATE_COL,HARCOP_N,
LAKENAME,LAKE_ID,LAT_DD,LCLADH,LGCLAD_R,LGCYC_R,LON_DD,MACRO_N,MACRO_R,MICRO_N,
MICRO_R,NAUPLIH,OSTRACH,OTHER_N,OTHER_R,ROTH,ROTH_R,ROTOM,ROTOM_R,ROT_R,
SAMPLED,SCLADH,SMCLAD_R,SMCYC_R,TOTZOOP,TOTZOOPR,TYPE,VISIT_NO,YEAR,ZEBVEL_N

7.2.2 Example Data Records

2.77,0,0,4.42,0,0,4.36,1,1,1,8.72,2,57.0609944,7,5.89462752,2,9,2.89,08/11/92,
0,"HUFF POND","VT252L",43.785,9.84,5,1,-73.18056,20.28,8,280.83,30,38.43,0,
0,0,237.91,26,0.94,3,28,"Yes",0.24,1,1,301.1,37," ",1,1992,0

3.02,0,0,2.26,0,0,2.88,1,1,1,7.17,3,37.8700872,8,3.86687565,2,9,3.11,08/23/92,
0,"HUFF POND","VT252L",43.785,5.38,4,2,-73.18056,13.82,8,149.97,31,24.9,0,0,0,
121.86,28,0,2,29,"Yes",0.19,1,1,163.79,38," ",2,1992,0

2.92,0,0,8.21,0,0,4.24,1,0,0,0,0,95.4498088,9,8.95983383,2,8,4.15,08/06/92,0,
"BURR POND","VT253L",43.76528,3.21,2,1,-73.18389,11.41,4,268.8,24,69.04,0,0,
0,175.8,19,2.26,2,19,"Yes",12.64,4,1,280.21,27," ",1,1992,0

8. GEOGRAPHIC AND SPATIAL INFORMATION

8.1 Minimum Longitude
-78 Degrees 58 Minutes 45.01 Seconds West (-78.97917 Decimal Degrees)

8.2 Maximum Longitude
-67 Degrees 18 Minutes 4.00 Seconds West (-67.30111 Decimal Degrees)

8.3 Minimum Latitude
39 Degrees 13 Minutes 34.32 Seconds North (39.2262 Decimal Degrees)

8.4 Maximum Latitude
47 Degrees 12 Minutes 45.00 Seconds North (47.2125 Decimal Degrees)

8.5 Name of Area or Region
Northeast: EPA Regions I and II which includes Connecticut, Massachusetts, Maine, New Hampshire, New Jersey, New York, Vermont, Rhode Island

9. QUALITY CONTROL / QUALITY ASSURANCE

9.1 Data Quality Objectives
See Chaloud and Peck (1994)

9.2 Quality Assurance Procedures
See Chaloud and Peck (1994)

9.3 Unassessed Errors
NA

10. DATA ACCESS

10.1 Data Access Procedures

10.2 Data Access Restrictions

10.3 Data Access Contact Persons

10.4 Data Set Format

10.5 Information Concerning Anonymous FTP

10.6 Information Concerning Gopher and WWW

10.7 EMAP CD-ROM Containing the Data

11. REFERENCES

Baker, J.R., G.D. Merritt, and D.W. Sutton (eds.). 1997. Environmental Monitoring and Assessment Program - Surface Waters: Field Operations Manual for Lakes. EPA/620/R-97/001. U.S. Environmental Protection Agency. Office of Research and Development. Washington, D.C.

Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program - Surface Waters: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group. U.S. Environmental Protection Agency. Office of Research and Development.

12. TABLE OF ACRONYMS

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