CATALOG DOCUMENTATION
EMAP SURFACE WATERS PROGRAM LEVEL DATABASE
1993-1996 MID-ATLANTIC STREAMS DATA
Periphyton Count Data

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1. DATA SET IDENTIFICATION

1.1 Title of Catalog Document
EMAP Surface Waters Stream Database
1993-1996 Mid-Atlantic Streams
Periphyton Counts Data

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

1.3 Catalog Revision Date
July 2002

1.4 Data Set Name
PERICNT

1.5 Task Group
Surface Waters

1.6 Data Set Identification Code
117

1.7 Version
002

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 publication, 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 view of the Agency and no official endorsement of the conclusions should be inferred."

2.0 INVESTIGATOR INFORMATION

2.1 Principal Investigator

Dr. John Stoddard
U.S. Environmental Protection Agency
NHEERL Western Ecology Division
200 S.W. 35th Street
Corvallis, OR 97333

2.2 Investigation Participant- Sample Collection

Oregon State University
State of Virginia
State of West Virginia
State of Maryland
State of Pennsylvania
University of Maine
U.S. Fish and Wildlife Service
U.S. Environmental Protection Agency
Office of Research and Development
Region III

3.0 DATA SET ABSTRACT

3.1 Abstract of the Data Set

The data set contains the results of periphyton counts from samples collected from erosional and depositional habitats located at each of nine interior cross-section transects. Counts for each diatom species and soft algae genera are represented as raw laboratory counts, counts per area sampled, and relative abundances.

3.2 Keywords for the Data Set

algae, bacteria, count, organic matter, periphyton, protozoa

4.0 OBJECTIVES AND INTRODUCTION

4.1 Program Objectives

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 streams in EMAP. The data set contains the results of multi-habitat sample of the periphyton taken during spring low-flow.

4.3 Data Set Background Discussion
The primary function of the pericnt data set is to provide a count of the periphyton species present in the stream at the time of sampling. Periphyton represents an integral component of stream biological integrity. Periphyton are algae, fungi, bacteria, protozoa, and associated organic matter associated with channel substrates. Periphyton are useful indicators of environmental conditions because they respond rapidly and are sensitive to a number of anthropogenic disturbances, including habitat destruction, contamination by nutrients, metals, herbicides, hydrocarbons, and acidification.

4.4 Summary of Data Set Parameters
Raw counts, counts per area sampled, and relative abundances for each diatom species and soft algae genera. Flow type at sample point is also indicated.

5. DATA ACQUISITION AND PROCESSING METHODS

5.1 Data Acquisition

5.1.1 Sampling Objective
To obtain counts of diatom species and soft algae genera at the sample site during a two month sampling window from April through mid-June.

5.1.2 Sample Collection Methods Summary
Periphyton samples were collected from erosional and depositional habitats located at each of nine interior cross-section transects (transects "B" through "J") established within the sampling reach, according to the protocols outlined in Lazorchak et. al (1998).

5.1.3 Sampling Start Date
April 1993

5.1.4 Sampling End Date
July 1996

5.1.5 Platform
NA

5.1.6 Sampling Gear
Plastic funnel, 500ml plastic bottles, stiff-bristled toothbrush, 60-ml syringe, and a wash bottle.

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 Lazorchak, et al. 1998.

5.1.11 Sample Collection Method Reference
Lazorchak, J.M., Klemm, D.J., and Peck D.V. (editors). 1998. Environmental Monitoring and Assessment Program- Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F.

U.S. Environmental Protection Agency, Washington, D.C. Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group, 1994 Activities. EPA 600/X-91/080, Rev. 2.00. U.S. Environmental Protection Agency, Las Vegas, Nevada.

5.1.12 Sample Collection Method Deviations
NA

5.2 Data Preparation and Sample Processing

5.2.1 Sample Processing Objective
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.2 Sample Processing Methods Summary
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.3 Sample Processing Method Calibration
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.4 Sample Processing Quality Control
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.5 Sample Processing Method Reference
See Lazorchak, et al. (1998) 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 SAS Name	Data Type	Len	Format	Parameter Label
12	ABUND	Num	8		Taxon Population Per cm^2 Sampled
14	ALL_RELABUND	Num	8		Proportion of total population that is this taxon
15	COMMENT	Char	200		Sample comment
3	DATE_COL	Num	8	MMDDYY	Date of Site Visit

7.1 Description of Parameters (con't)

10	DIATOM_RAW	Num	8	Unadjusted (Raw) Diatom Counts
13	DIATOM_RELABUND	Num	8	Proportion of diatom population that is this taxon
16	LAT_DD	Num	8	X-Site Latitude (decimal degrees)
17	LON_DD	Num	8	X-Site Longitude (decimal degrees)
11	PALMER_RAW	Num	8	Unadjusted (Raw) Palmer Counts
6	SAMPLED	Char	30	Site Sampled Code
7	SAMPTYPE	Char	20	Sample Method
5	SAMP_ID	Num	8	Sample Tracking Number (Barcode)
1	SITE_ID	Char	15	Site Identification Code
8	TAXACODE	Char	9	Unique genera or species code
9	TAXON	Char	100	Latin Designation
2	VISIT_NO	Num	8	Within Year Site Visit Number
4	YEAR	Num	8	Year of Site Visit

7.1.6 Precision to which values are reported

7.1.7 Minimum Value in Data Set

Name	Min
ABUND	0
ALL_RELABUND	0.00001
DATE_COL	04/26/1993
DIATOM_RAW	1
DIATOM_RELABUND	0.00089
LAT_DD	36.5535
LON_DD	-83.24443889
PALMER_RAW	1
SAMP_ID	200501
VISIT_NO	0
YEAR	1993

7.1.7 Maximum Value in Data Set

Name	Max
ABUND	16668478.8
ALL_RELABUND	0.9875
DATE_COL	09/15/1996
DIATOM_RAW	651
DIATOM_RELABUND	0.98239
LAT_DD	42.327388889
LON_DD	-74.35110833
PALMER_RAW	6134
SAMP_ID	230627
VISIT_NO	2
YEAR	1996

7.2 Data Record Example

7.2.1 Column Names for Example Records

"ABUND","ALL_RELABUND","COMMENT","DATE_COL","DIATOM_RAW","DIATOM_RELABUND",
"LAT_DD","LON_DD","PALMER_RAW","SAMPLED","SAMPTYPE","SAMP_ID","SITE_ID",
"TAXACODE","TAXON","VISIT_NO","YEAR"

7.2.2 Example Data Records

11436,0.00168," ",05/17/1994,7,0.01261,38.525300,-75.631100,.,"Yes","POOL",
210600,"DE750S","BAACBIO","Bacillariophyta Achnanthes bioreti Germain",1,1994
8168.4,0.0012," ",05/17/1994,5,0.00901,38.525300,-75.631100,.,"Yes","POOL",
210600,"DE750S","BAACDEAL",
"Bacillariophyta Achnanthes deflexa v alpestris Lowe & Kociolek",1,1994
11436,0.00168," ",05/17/1994,7,0.01261,38.525300,-75.631100,.,"Yes","POOL",
210600,"DE750S","BAACLAN",
"Bacillariophyta Achnanthes lanceolata (Br1bisson) Grunow",1,1994
212372.4,0.03129," ",05/17/1994,130,0.23423,38.525300,-75.631100,.,"Yes",
"POOL",210600,"DE750S","BAACMNU",
"Bacillariophyta Achnanthes minutissima K6tzing",1,1994
3267.6,0.00048," ",05/17/1994,2,0.0036,38.525300,-75.631100,.,"Yes","POOL",
210600,"DE750S","BAANVIT","Bacillariophyta Anomoeneis vitrea (Grunow) Ross",
1,1994

8. GEOGRAPHIC AND SPATIAL INFORMATION

8.1 Minimum Longitude

-83 Degrees 14 Minutes 39 Seconds West (-83.244439 Decimal Degrees)

8.2 Maximum Longitude

-74 Degrees 21 Minutes 3 Seconds West (-74.351108 Decimal Degrees)

8.3 Minimum Latitude

36 Degrees 33 Minutes 12 Seconds North (36.553500 Decimal Degrees)

8.4 Maximum Latitude

42 Degrees 19 Minutes 38 Seconds North (42.327389 Decimal Degrees)

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 WWW

10.7 EMAP CD-ROM Containing the Data

11. REFERENCES

Lazorchak, J.M., Klemm, D.J., and Peck D.V. (editors). 1998. Environmental Monitoring and Assessment Program- Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.

Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group, 1994 Activities. EPA 600/X-91/080, Rev. 2.00. U.S. Environmental Protection Agency, Las Vegas, Nevada.

12. TABLE OF ACRONYMS

13. PERSONNEL INFORMATION

Project Manager
Dr. John Stoddard
U.S. Environmental Protection Agency
NHEERL Western Ecology Division
200 S.W. 35th Street
Corvallis, OR 97333
541-754-4441
541-754-4716(FAX)
stoddard@mail.cor.epa.gov

Quality Assurance Officer
Dave Peck
U.S. Environmental Protection Agency
NHEERL Western Ecology Division
200 S.W. 35th Street
Corvallis, OR 97333
541-754-4426
541-754-4716(FAX)
davep@mail.cor.epa.gov

Information Management, EMAP-Surface Waters
Marlys Cappaert
CSC c/o U.S. Environmental Protection Agency
NHEERL Western Ecology Division
200 S.W. 35th Street
Corvallis, OR 97333
541-754-4467
541-754-4338(FAX)
cappaert@mail.cor.epa.gov