CATALOG DOCUMENTATION
NATIONAL COASTAL ASSESSMENT DATABASE
NORTHEAST REGION 2000-2002
TISSUE CHEMISTRY CONCENTRATION DATA

TABLE OF CONTENTS

1. DATASET IDENTIFICATION

1.1 Title of Catalog document

National Coastal Assessment Database
Northeast Region 2000-2002
Tissue Chemistry Data

1.2 Authors of the Catalog entry

John Kiddon, U.S. EPA NHEERL-AED
Harry Buffum, Raytheon

1.3 Catalog revision date

April 2008

1.4 Dataset name

Tissue Chemistry Concentration Data

1.5 Task Group

National Coastal Assessment-Northeast

1.6 Dataset identification code

006

1.7 Version

001

1.8 Requested Acknowledgment

EMAP requests that all individuals who download EMAP 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 Environmental Monitoring and Assessment Program (EMAP)".

2. INVESTIGATOR INFORMATION

2.1 Principal Investigators

Donald Cobb, U.S. EPA NHEERL-AED
Walter Galloway, U.S. EPA NHEERL-AED
Stephen Hale, U.S. EPA NHEERL-AED
John Kiddon, U.S. EPA NHEERL-AED
Norman Rubinstein, U.S. EPA NHEERL-AED

Charles Strobel, U.S. EPA NHEERL-AED
Henry Walker, U.S. EPA NHEERL-AED

2.2 Sample Collection Investigators
Donald Cobb, U.S. EPA NHEERL-AED

2.3 Sample Processing Investigators
John Kiddon, U.S. EPA NHEERL-AED

3. DATASET ABSTRACT

3.1 Abstract of the Dataset

The Tissue Chemistry data set contains the results of chemical analyses performed on fish and crustacean composite samples collected during the 2000-02 NCA Northeast field season. Analyses were performed on whole-body composite samples prepared from 2 to 10 crustaceans or fish collected at a station. Tissue samples were analyzed for approximately 75 chemical constituents, including metals, polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and pesticides. For concentration values smaller than the method detection limit (MDL; non-detects), results are reported as zero, the MDL is listed, and the record is flagged (thereby giving the data user options for alternative treatment of non-detects). Each record also lists the station identifier; the organism's common name; the number, mean weight, and size of individuals contributing to the composite samples; and the percentage of lipids in the tissue. Concentrations are reported on a wet-weight basis. One record is presented per analyte per tissue type at a station. A list of the analyte codes and their full chemical names is available under View Analyte Information.

3.2 Keywords for the Dataset

Tissue chemical contaminants, method detection limit, MDL, inorganic and organic analytes, polynuclear aromatic hydrocarbons, PAH, polychlorinated biphenyls, PCB, organochlorine pesticides, DDT.

4. OBJECTIVES AND INTRODUCTION

4.1 Program Objective

The National Coastal Assessment (NCA) is a national monitoring and assessment program with the primary goal of providing a consistent evaluation of the estuarine condition in U.S. estuaries. It is an initiative of the Environmental Monitoring and Assessment Program (EMAP), and is a partnership of several federal and state environmental agencies, including: EPA's Regions, Office of Research and Development, and Office of Water; state environmental protection agencies in the 24 marine coastal states and Puerto Rico; and the United States Geological Survey (USGS) and the National Oceanic and Atmospheric Agency (NOAA). The five-year NCA program was initiated in 2000.

Stations were randomly selected using EMAP's probabilistic sampling framework and were sampled once during a summer index period (June to October). A consistent suite of indicators was used to measure conditions in the water, sediment, and in benthic and fish communities. The measured data may be used by the states to meet their reporting requirements under the Clean Water Act, Section 305(b). The data will also be used to generate a series of national reports characterizing the condition of the Nation's estuaries.

4.2 Dataset Objective

The objective of the tissue chemistry data file is to report the concentrations of chemical contaminants in tissue samples from organisms collected in the northeast NCA program in 2000-02.

4.3 Dataset Background Discussion

A two-year sampling design was employed for 2000-2001 NCA program in the Northeast. Analysts may therefore wish to consider the two years of data together.

The following Table indicates the number of fish trawls conducted in 2000 and 2001 by the state cooperatives in the northeastern states. Note that not all cooperatives conducted fish surveys in both seasons. The Maine cooperative did not conduct trawls in either year; rather, they purchased lobster caught in designated estuaries in 2000.

	Count of Stations		
	Years		
Cooperative	2000	2001	Grand Total
ME	35*		
NH	23	23	46
MA-FSH	28		28
RI	2		2
RI-FSH	10		10
CT	9		9
CT-FSH	19	12	31
NY	12	29	41
NJ-C	30	38	68
NJ-DB	35	35	70
DE	14	13	27
Total	182	150	332

* Lobster collected only

A subset of fish, crabs, or lobster were randomly chosen for chemical analysis. These test organisms were tagged and frozen individually, then combined into groups of 2-10 organisms of same species for later processing as composite samples. Each group was assigned a composite ID and sent to the analytical lab for chemical analysis. This datafile reports four characteristics regarding the composite sample: the number of organisms in the homogenate, the mean weight of the organisms included, and the percent lipid and wet weight of the sample. Chemical analyses were performed on whole organisms, but fillet and offal components were also analyzed at some New York and Connecticut stations from 2000 to 2002.

The suite of analytes measured are very similar to the contaminants measured by EPA's Environmental Monitoring and Assessment Program (EMAP) and NOAA's National Status and Trends program. Four classes of analytes are measured: polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), organo-chlorine pesticides, and metals. Twenty-two PAHs are measured, consisting of the 16 priority pollutants defined by the Superfund program and several alkylated derivatives that prove to be useful in identifying sources of these compounds. The concentrations of 20 PCBs and 20 pesticides, all Superfund priority pollutants, are also measured.

Concentration values smaller than the method detection limit (MDL; 'non-detects') are reported as zero in this file and the QA Code is set to "CH-BB" to indicate the assignment. While the concentration of the analyte is clearly small, it is not strictly zero. The MDL is therefore listed as a guideline to users who wish to substitute values other than zero, e.g., by setting the non-detect value to the MDL value, half the MDL value, etc. Results of organic analytes may routinely show non-zero values that are less than the MDL. This apparent inconsistency is possible because, by convention, the MDLs for organic analyses are calculated to indicate the threshold of reliable measurements, rather than the stricter limit of instrumental detection. In these cases, the best estimate of the concentration is reported (i.e., the value reported by the analytical

laboratory), the QA Code is set to "CH-EE", and the MDL is listed. The user can be confident that the analyte is present, but there is a high degree of uncertainty in the reported concentration. Note that the value of the MDL depends on the dilution history of the sample; therefore, its magnitude can differ widely among samples. Most results in this file are larger than the MDL and are reported directly without MDL values or QA Codes. To summarize:

QA Code	Interpretation	Conc. reported	MDL reported
<none>	result is detectable and > MDL	as measured	<none>
CH-EE	result is </= MDL and undetectable	zero	MDL is listed
CH-BB	result is </= MDL but detectable	best estimate	MDL is listed
CH-CC	result may be affected by interference	best estimate	<none>

A suffix indicates whether the station location was the original site, first alternate, or second alternate by -A, -B, or -C, respectively. The user may wish to adjust the magnitude of the weighting factor (station areas) based on this value, for example, by multiplying the weighting factor by 0.5 or 0.33 if sampling crews had to sample at the first or second alternate location, respectively. Such an adjustment reflects the fact that the station did not represent the entire area originally assigned to the station.

Massachusetts did not participate in the NCA program in 2002. Rhode Island conducted fish trawls only in 2002, and collected physical water parameters in conjunction with the trawls. Connecticut collected all parameters, but at an abbreviated group of in-shore stations (stations in the Long Island Sound intended for sampling in 2002 were sampled in 2003).

4.4 Summary of Dataset Parameters

The Tissue Chemistry Data report concentrations of 75 analytes measured in fish and invertebrate tissue samples collected in 2000-02 from northeastern U.S.

5. DATA ACQUISITION AND PROCESSING METHODS

5.1.1 Sampling Objective

To collect a representative sample of fish at a station using a standard trawl. Additional nonstandard trawls were conducted when necessary to collect enough fish for chemical analyses.

5.1.2 Sample Collection and Ship-Board Processing: Methods Summary

The EPA standard fish trawl was conducted using a funnel-shaped net that filters fish from the near bottom waters. Fish were herded into the net by ground wire and an overhanging panel. Standard trawls were 10 ± 2 minutes in duration with a towing speed of 2-3 knots through the water against the prevailing current (1-3 knots relative to the bottom). An auxiliary, nonstandard trawl was performed to collect fish for tissue chemistry samples if an insufficient quantity were obtained in the standard trawl. Fish from the auxiliary trawls were used for chemical analyses only, and were not included in the standardized survey counts used to characterize the fish community structure.

All fish caught in a standard trawl were counted on board ship and immediately identified using standard scientific and common names. Fork lengths (carapace widths for crabs and lobster) in mm were measured on approximately the first 30 individuals of each species found at a station. A subset of fish, crabs, or lobster were randomly chosen for chemical analysis. These test organisms were tagged and frozen individually, then combined into groups of 2-10 organisms of same species for later processing as composite samples. Each group was assigned a composite ID and sent to the analytical lab for chemical analysis.

5.1.3 Beginning Sampling Date
7 July 2000
25 June 2001
25 June 2002

5.1.4 Ending Sampling Date
20 October 2000
29 October 2001
31 October 2002

5.1.5 Sampling Platform
All program partners collected samples from various gasoline or diesel powered boats, 25 to 27 feet in length.

5.1.6 Sampling Equipment
The trawl net consisted of a funnel-shaped high-rise sampling trawl. The net includes a 16 meter tow line, a chain sweep, 5 cm mesh wings, and a 2.5 cm cod end.

5.1.7 Manufacturer of Sampling Equipment
Not applicable

5.1.8 Key Variables
Not applicable

5.1.9 Sample Collection: Calibration
The sampling gear does not require calibration.

5.1.10 Sample Collection: Quality Control
A trawl was considered void if one or more of the following conditions occurred:
1. Trawl could not be completed because of boat malfunction, vessel traffic, or major disruption of gear
2. Boat speed exceeded the prescribed range
3. The cod-end became untied
4. The net was filled with mud or debris
5. A portion of the catch was lost prior to processing
6. The tow lines became separated
7. The net was torn in a way that significantly altered net efficiency

If a successful trawl could not be performed within 1½ hours, the site was considered unsampleable. Quality assurance audits were performed to verify the identification and measurement techniques of the field crew.

5.1.11 Sample Collection: References
Strobel, C.J. 2000. Coastal 2000-Northeast Component: Field Operations Manual U. S. Environmental Protection Agency, National Health and Environmental Effects Research Laboratory, Atlantic Ecology Division, Narragansett, RI. EPA/620/R-00/002.

5.1.12 Sample Collection: Alternate Methods
Trawl records with the following Trawl Codes did not follow NCA standards.

TRLTYPE	Name	Description
CT	Connecticut Fish Survey Trawl	20 minutes standard
RI	Rhode Island Fish Survey Trawl	20 minutes standard
MA	Massachusetts Fish Survey Trawl	20 minutes standard
NH	New Hampshire modified Standard	4 minutes standard

5.2 Data Preparation and Sample Processing

5.2.1 Sample Processing Objective

Tissue samples were analyzed for total metals, PAHs, PCBs and pesticides.

5.2.2 Sample Processing: Methods Summary

All analyses were performed on samples that were stored frozen. Tissue analyzed for total metals were dried and completely digested in nitric/ hydrofluoric acids (acid persulfate for mercury). The analytical methods used to measure analyte concentrations were: cold vapor atomic analysis (AA) for mercury; graphite furnace AA for silver, arsenic, cadmium, lead, antimony, tin and thallium; hydride generation atomic fluorescence for selenium; and optical-emission ionically coupled plasma (ICP) for the remaining metals. For the organic analyses, tissues were extracted using the procedures of NOAA National Status and Trends Program (Lauenstein et al., 1993). The PAHs were analyzed by gas-chromatography/ mass-spectrometry (GC/MS); pesticides and PCBs were analyzed by GC/ECD (electron capture detector).

5.2.3 Sample Processing: Calibration

The analytical instruments were calibrated by standard laboratory procedures including: constructing calibration curves, running blank and spiked quality control samples, and analyzing standard reference materials.

5.2.4 Sample Processing: Quality Control

Each batch of samples was accompanied by QC analyses consisting of method blanks, matrix spikes, matrix spike duplicates, and standard reference materials (SRMs). In total, approximately 5% of all analyses were QC analyses. Processing quality was considered acceptable if the following criteria were met: blanks were less than three times the minimum detection limit; accuracy, as determined by analysis of certified reference materials, was within 30% for organic analytes and within 15% for inorganic analytes; and precision, as determined by replicate analyses, was within 30% for organic analytes and within 15% for inorganic analytes. Additional specifications and guidelines are presented in Valente and Strobel (1993).

5.2.5 Sample Processing: References

Lauenstein, G. G. and A. Y. Cantillo (eds.). 1993. Sampling and analytical methods of the National Status and Trends Program National Benthic Surveillance and Mussel Watch Projects 1984-1992: Comprehensive descriptions of trace organic analytical methods, Volume IV NOAA Technical Memorandum NOS ORCA 71, Silver Spring, MD. 182 pp.

Texas A & M University, Geochemical and Environmental Research Group. 1990. NOAA Status and Trends, Mussel Watch Program, Analytical Methods. Submitted to NOAA. Rockville (MD): U.S. Dept. of Commerce, National Oceanic & Atmospheric Administration, Ocean Assessment Division.

U.S. EPA. 1995. Environmental Monitoring and Assessment Program (EMAP): Laboratory Methods Manual-Estuaries, Volume 1: Biological and Physical Analyses. Narragansett (RI): U.S. Environmental Protection Agency, Office of Research and Development, EPA/620/R-95/008.

U.S. EPA. 2001. Environmental Monitoring and Assessment Program (EMAP): National Coastal Assessment Quality Assurance Project Plan 2001-2004. U.S. Environmental Protection Agency, Office of Research and Development, National Health and Environmental Effects Research Laboratory, Gulf Ecology Division, Gulf Breeze, FL. EPA/620/R-01/002. 189 p

5.2.6 Sample Processing: Alternate Methods

Not applicable

6. DATA ANALYSIS AND MANIPULATIONS

6.1 Name of New or Modified Values

Not applicable

6.2 Data Manipulation Description

Concentrations of metallic analytes smaller than the method detection limit were reported as zero.

7. DATA DESCRIPTION

7.1 Description of Parameters

7.1.1 Components of the Dataset

Attribute Name	Format	Description
Data Group	VARCHAR2(4)	Data group conducting sampling
Sampling Year	NUMBER(4.0)	Year when data were collected
Station Name	VARCHAR2(20)	The station identifier
Sampling Collection Date	DATE	Date of sample collection
Latitude Decimal Degrees	NUMBER(9.3)	Station-decimal degrees of latitude
Longitude Decimal Degrees	NUMBER(9.3)	Station-decimal degrees of longitude
Sample Number	NUMBER(3.0)	Identifier for sample
Composite Code	VARCHAR2(1)	Is this a Composite Sample? (Y/N)
Composite Organism Count	NUMBER(3.0)	Count (#) of Organisms in Composite
Tissue Type	VARCHAR2(10)	Sample origin (Fish, shrimp, etc.)
Latin Name	VARCHAR2(78)	Latin name of the Taxon
Analyte Code	VARCHAR2(8)	Analyte Code
Tissue Concentration	NUMBER(13.6)	Concentration of analyte (wet wt.)
Unit Code	VARCHAR2(15)	Units of measure
Detection Limit Conc	NUMBER(13.6)	Method Detection Limit for Analyte
Analyte Count in Totals	NUMBER(4.0)	Analytes (#) Included in Summed Conc.
Organism Mean Length (mm)	NUMBER(6.1)	Mean length (mm) of sample organisms
Length (SD)	NUMBER(6.1)	SD of mean length of sample organisms

7.1.2 Precision of Reported Values

All values have been rounded to three significant digits. To accommodate the wide range of values, all concentration values have been formatted to the thousandth unit (0.001). The actual precision is as listed above.

7.1.3 Minimum and Maximum Value in Dataset

Metals	ANALYTE NAME	Min	Max
AG	Silver	0.01	3.47
AL	Aluminum	2.78	569
AS	Arsenic	0.18	15.3
CD	Cadmium	0.01	1.55
CR	Chromium	0.06	40.8
CU	Copper	0.38	325
FE	Iron	6.00	620
HG	Mercury	0.01	1.7
NI	Nickel	0.06	25.5
PB	Lead	0.01	8.86
SE	Selenium	0.25	2.3
SN	Tin	0.02	255
ZN	Zinc	8.41	138

PAHs	ANALYTE NAME	Min	Max
ACENTHE	Acenaphthene	0.03	82.0
ACENTHY	Acenaphthlylene	0.02	15.82
ANTHRA	Anthracene	0.02	22.0
BENANTH	Benz(a)anthracene	0.01	224.18
BENAPY	Benz(a)pyrene	0.01	152.97
BENZOBFL	Benzo(b)fluoranthene	0.02	200.45
BENZOKFL	Benzo(k)fluoranthene	0.01	129.24

BENZOP	Benzo(g,h,i)perylene	0.04	132.82
BIPHENYL	Biphenyl	0.05	19.0
CHRYSENE	Chrysene	0.01	131.87
DIBENTP	Dibenzothiophene	0.02	7.7
DIBENZ	Dibenz(a,h)anthracene	0.02	29.01
DIMETH	2,6-dimethylnaphthalene	0.04	14.6
FLUORANT	Fluoranthene	0.01	226.82
FLUORENE	Fluorene	0.05	40.0
INDENO	Indeno(1,2,3-c,d)pyrene	0.03	102.86
MENAP1	1-methylnaphthalene	0.10	30.0
MENAP2	2-methylnaphthalene	0.18	60.0
MEPHEN1	1-methylphenanthrene	0.02	190
NAPH	Naphthalene	0.02	100
PYRENE	Pyrene	0.01	960
TRIMETH	2,3,5-trimethylnaphthalene	0.02	11.0

PCBs	ANALYTE NAME	Min	Max
PCB101	2,2',4,5,5'-pentachlorobiphenyl	0.07	350
PCB105	2,3,3',4,4'-pentachlorobiphenyl	0.09	59.0
PCB110	2,3,3',4',6-pentachlorobiphenyl	2.00	120
PCB118	2,3',4,4',5-pentachlorobiphenyl	0.57	360
PCB126	3,3',4,4',5-pentachlorobiphenyl	0.03	72
PCB128	2,2',3,3',4,4'-hexachlorobiphenyl	0.12	310
PCB138	2,2',3,4,4',5'-hexachlorobiphenyl	0.63	230
PCB153	2,2',4,4',5,5'-hexachlorobiphenyl	1.20	280
PCB170	2,2',3,3',4,4',5-heptachlorobiphenyl	0.08	83
PCB18	2,2',5-trichlorobiphenyl	0.02	110
PCB180	2,2',3,4,4',5,5'-heptachlorobiphenyl	0.24	220
PCB187	2,2',3,4',5,5',6-heptachlorobiphenyl	0.01	130
PCB195	2,2',3,3',4,4',5,6-octachlorobiphenyl	0.01	17.0
PCB206	2,2',3,3',4,4',5,5',6-nonachlorobiphenyl	0.03	72.0
PCB209	decachlorobiphenyl	0.03	50.0
PCB28	2,4,4'-trichlorobiphenyl	0.08	110.00
PCB44	2,2',3,5'-tetrachlorobiphenyl	0.02	180.00
PCB52	2,2',5,5'-tetrachlorobiphenyl	0.04	75.0
PCB66	2,3',4,4'-tetrachlorobiphenyl	0.14	89.0
PCB77	3,3',4,4'-tetrachlorobiphenyl	0.10	3.2
PCB77_CO	PCB77 co-elluted with PCB110	0.22	25
PCB8	2,4'-dichlorobiphenyl	0.02	77

Pesticides	ANALYTE NAME	Min	Max
ALDRIN	Aldrin	0.02	1.1
CISCHL	alpha-Chlordane	0.06	180.0
DIELDRIN	Dieldrin	0.07	68.0
ENDOSUI	Endosulfan I	0.06	21.2
ENDOSUII	Endosulfan II	0.04	47.0
ENDOSULF	Endosulfan Sulfate	0.01	21.0
ENDRIN	Endrin	0.01	240
HEPTACHL	Heptachlor	0.02	2.0
HEPTAEPO	Heptachlor epoxide	0.01	9.5
HEXACHL	Hexachlorobenzene	0.03	13.0
LINDANE	Lindane (gamma-BHC)	0.01	6.9
MIREX	Mirex	0.01	4.8
OPDDD	2,4'-DDD	0.02	89.6
OPDDE	2,4'-DDE	0.23	96.0
OPDDT	2,4'-DDT	0.03	15.0
PPDDD	4,4'-DDD	0.06	230
PPDDE	4,4'-DDE	0.63	680
PPDDT	4,4'-DDT	0.01	230
TNONCHL	trans-Nonachlor	0.14	170.0
TOXAPHEN	Toxaphene	ND	ND

ND indicates that all values were non-detects (below method detection limit)

7.1.4 Maximum Value in Dataset
See Section 7.1.3

7.2 Data Record Example
7.2.1 Column Names for Example Records
Data Group,Sampling Year,Station Name,Sampling Collection Date,
Latitude Decimal Degrees,Longitude Decimal Degrees,Sample Number,
Composite Code,Composite Organism Count,Sample Type,Tissue Type,
Latin Name,Analyte Code,Analyte Name,Tissue Concentration,Unit Code,
Detection Limit Conc,Organism Mean Length (mm),Length (SD),
Wet Wt Conversion Factor,Mean Weight (g),Lipid (%),Moisture (%),QA Code

7.2.2 Example Data Records
National Coastal Assessment-Northeast/Connecticut,2001,CT01-0012-A,
27-SEP-2001,41.325,-71.97,1,N,,Fish,Filet,Stenotomus chrysops,ABHC,
alpha-Hexachlorocyclohexane,0.0,ng/g,2.505828,,,,,,CH-EE
National Coastal Assessment-Northeast/Connecticut,2001,CT01-0012-A,
27-SEP-2001,41.325,-71.97,1,N,Fish,Filet,Stenotomus chrysops,ACENTHE,
Acenaphthene,0.0,ug/g,0.050117,,,,,,CH-EE
National Coastal Assessment-Northeast/New Jersey/Delaware Bay,2000,
DE00-0037-A,28-SEP-2000,39.225,-75.401,1,Y,6,Crab,Whole,Callinectes sapidus,
TNONCHL,trans-Nonachlor,0.28,ng/g,0.032,137.3,,,,.98,,
National Coastal Assessment-Northeast/New Jersey/Delaware Bay,2000,
DE00-0037-A,28-SEP-2000,39.225,-75.401,1,Y,6,Crab,Whole,Callinectes sapidus,
TOXAPHEN,Toxaphene,0.0,ng/g,2.6,137.3,,,,.98,CH-EE,

8. GEOGRAPHIC AND SPATIAL INFORMATION
8.1 Minimum Longitude (Westernmost)
-75.7737 decimal degrees

8.2 Maximum Longitude (Easternmost)
-66.98 decimal degrees

8.3 Minimum Latitude (Southernmost)
38.4521 decimal degrees

8.4 Maximum Latitude (Northernmost)
44.9456 decimal degrees

8.5 Name of area or region
The NCA Northeast Region- includes all contiguous estuaries on the East coast from the Canadian border to the south shore of Delaware Bay.

9. QUALITY CONTROL AND QUALITY ASSURANCE
9.1 Measurement Quality Objectives
Measurement Quality Objectives (MQOs) are defined in the Environmental Monitoring and Assessment Program (EMAP): National Coastal Assessment Quality Assurance Project Plan 2001-2004.

9.2 Data Quality Assurance Procedures
Quality Control Goals are defined in the Environmental Monitoring and Assessment Program (EMAP): National Coastal Assessment Quality Assurance Project Plan 2001-2004. This plan required each laboratory to analyze the following quality control(QC) samples along with every batch or "set" of samples: laboratory reagent blank, calibration check standards, matrix spike/matrix spike duplicate, and Laboratory Control Material (LCM). Results for these QC samples must fall within certain pre-established

control limits for the analysis of a batch of samples to be considered acceptable. See Appendix A for QC Goals for analysis of chemical contaminants in fish tissue.

9.3 Actual Measurement Quality

10. DATA ACCESS

10.1 Data Access Procedures

Data can be downloaded from the web at: http://www.epa.gov/emap/nca/html/data/

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

Tab-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

Lauenstein, G. G. and A. Y. Cantillo (eds.). 1993. Sampling and analytical methods of the National Status and Trends Program National Benthic Surveillance and Mussel Watch Projects 1984-1992: Comprehensive descriptions of trace organic analytical methods, Volume IV NOAA Technical Memorandum NOS ORCA 71, Silver Spring, MD. 182 pp.

Strobel, C.J. 2000. Environmental Monitoring and Assessment Program: Coastal 2000 - Northeast component: field operations manual. Narragansett (RI): U.S. Environmental Protection Agency, National Health and Environmental Effects Research Laboratory, Atlantic Ecology Division. Report nr EPA/620/R-00/002. 68 p.

Texas A & M University, Geochemical and Environmental Research Group. 1990. NOAA Status and Trends, Mussel Watch Program, Analytical Methods. Submitted to NOAA. Rockville (MD): U.S. Dept. of Commerce, National Oceanic & Atmospheric Administration, Ocean Assessment Division.

U.S. EPA. 1995. Environmental Monitoring and Assessment Program (EMAP): Manual-Estuaries, Volume 1: Biological and Physical Analyses. Narragansett, RI: U.S. Environmental Protection Agency, Office of Research and Development, EPA

U.S. EPA. 2001. Environmental Monitoring and Assessment Program (EMAP): National Coastal Assessment Quality Assurance Project Plan 2001-2004. U.S. Environmental Protection Agency, Office of Research and Development, National Health and Environmental Effects Research Laboratory, Gulf Ecology Division, Gulf Breeze, FL. EPA/620/R-01/002. 189 p

12. TABLE OF ACRONYMS

AED	Atlantic Ecology Division
EMAP	Environmental Monitoring and Assessment Program
EPA	Environmental Protection Agency
MDL	Method Detection Limit
NCA	National Coastal Assessment
ng/g	Nano gram per gram
NHEERL	National Health and Environmental Effects Research Laboratory
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyls
ppb	parts per billion
ppm	parts per million
QA/QC	Quality Assurance/Quality Control
SRM	Standard Reference Material
TOC	Total Organic Carbon
ug/g	Micro gram per gram
WWW	World Wide Web

13. PERSONNEL INFORMATION

Sandra Benyi, Research Biologist
U.S. Environmental Protection Agency, NHEERL-AED
27 Tarzwell Drive, Narragansett, RI 02882-1197
401-782-3041, 401-782-3030 (FAX), benyi.sandra@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

Don Cobb, Chemist
U.S. Environmental Protection Agency, NHEERL-AED
27 Tarzwell Drive, Narragansett, RI 02882-1197
401-782-9616, 401-782-3030 (FAX), cobb.donald@epa.gov

Walter Galloway, NCA Project Officer
U.S. Environmental Protection Agency, NHEERL-AED
27 Tarzwell Drive, Narragansett, RI 02882-1197
401-782-3096, 401-782-3030 (FAX), galloway.walt@epa.gov

Steve Hale, EMAP Information Manager
U.S. Environmental Protection Agency, NHEERL-AED
27 Tarzwell Drive, Narragansett, RI 02882-1197
401-782-3048, 401-782-3030 (FAX), hale.stephen@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

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

Joe LiVolsi, AED QA Officer
U.S. Environmental Protection Agency, NHEERL-AED
27 Tarzwell Drive, Narragansett, RI 02882-1197
401-782-3163, 401-782-3030 (FAX), livolsi.joseph@epa.gov

Norman Rubinstein, NCA Project Officer
U.S. Environmental Protection Agency, NHEERL-AED
27 Tarzwell Drive, Narragansett, RI 02882-1197
401-782-3007, 401-782-3030 (FAX), pesch.gerald@epa.gov

Charlie Strobel, AED Analyst
U.S. Environmental Protection Agency, NHEERL-AED
27 Tarzwell Drive, Narragansett, RI 02882-1197
401-782-3180, 401-782-3030 (FAX), strobel.charles@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