CATALOG DOCUMENTATION
NATIONAL COASTAL ASSESSMENT- NORTHEAST DATABASE
YEARS 2000-2006
TISSUE CHEMISTRY DATA: "TISSCHEM"

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1. DATASET IDENTIFICATION

1.1 Title of Catalog document
National Coastal Assessment-Northeast Region Database
Years 2000-2006
TISSUE CHEMISTRY DATA

1.2 Authors of the Catalog entry
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1.3 Catalog revision date
November 2009

1.4 Dataset name
TISSCHEM

1.5 Task Group
National Coastal Assessment-Northeast

1.6 Dataset identification code
013

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 (for full addresses see Section 13)

2.1 Principal Investigators (NCA Northeast Region)

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3. DATASET ABSTRACT

3.1 Abstract of the Dataset

The TISSCHEM data set contains the results of chemical analyses performed on fish and crustacean composite samples collected in Northeast estuaries sampled during the summer of 2000-2006. 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 MDL (non-detects), results are reported as zero, the method detection limit (MDL) is listed, and the record is flagged (thereby giving the data user options for alternative treatment of non-detects, see Section 4.3). 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 percentages of moisture and 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 in the ANALYTES Table.

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 NCA program was initiated in 2000 and completed in 2006.

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 were also used to generate a series of national reports characterizing the condition of the Nation's estuaries http://www.epa.gov/nccr/.

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 2000-2006.

4.3 Dataset Background Discussion

Parameters contained in TISSCHEM data file are listed in Section 4.4. This section provides background information on several of these parameters. The information here pertains to data collected in 2000-2006 in northeastern coastal region, Maine through Virginia.

Not all state cooperatives conducted fish surveys in all years. For example, the Maine cooperative did not conduct trawls in any year; rather, they purchased lobster caught in designated estuaries. Massachusetts did not participate in 2003. Rhode Island conducted fish trawls only in 2003, 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 2003 were sampled in 2003).

The information collected in the fish surveys are reported in five data files. FTRAWL presents information regarding fish trawls and abundance of unique species per standard trawl. FISH_CNT contains the number of fish per species per standard trawl. FISH_LEN specifies fork length of individual fish and the frequency and location of pathologies observed in a ship-board inspection. CRAB_LOB presents size data for crustaceans caught in standard trawls. TISSCHEM reports the concentrations of about 75 chemical analytes measured in composites samples of fish, lobsters or crabs collected at a station. The lookup table FISH_TAX lists the common and scientific names of all fish identified in standard trawls.

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 (NUM_MOM), the mean size of the organisms included (MN_SIZE), and the percent lipid (PCTLIPD) and wet weight (WERWGHT)of the sample. Chemical analyses were performed on whole organisms. The ST_COOP = CT_FSH instead analyzed fillet and offal components at some NY and CT stations in 2003, as is indicated by the parameter TISS_TYPE).

The NCA suite of analytes measured are the same 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. The twenty-two measured PAHs compounds include the 16 priority pollutants defined by the Superfund program and several alkylated derivatives which are useful in identifying sources of these compounds. The concentrations of 20 PCBs and 20 pesticides, all Superfund priority pollutants, are also measured.

The analytes in this file are identified with an abbreviated code name (listed in Section 7.1.3). Full chemical names are listed in the ANALYTES data table.

The Tables below indicate the number of records reporting analyte results by ST_COOP and Year, and can be used to identify systematic absences of data collection by coops. The coops ME-LOB, MA-FSH, RI-FSH, and CT-FSH identify sites where trawling operations were conducted. Some absent blocks reflect coop name changes in 2005/6; essentially ST_COOP NJ-C = NJ and NJ-DB = DB in the Table below. See the metadata file for STATIONS for discussion of the ST_COOP parameter. Only 2005/06 data for MD and VA are contained in this database; contact John Macauley (Section 13) for information regarding earlier data for these states.

Count of Metal records by ST_COOP and Year

Count of Metals	Year							
ST_COOP	2000	2001	2002	2003	2004	2005	2006	Grand Total
ME	78					182	247	507
ME-LOB			377	117	156			650
NH	169	96	117	143	260	78	65	928
MA-FSH	533							533
RI	39		208			26		273
RI-FSH	169			207	260	221	156	1013
CT	182					39	13	234
CT-FSH	260		1157		52	156	104	1729
NY	110	396	616	297	385	363		2167
NJ-C	247	260	156	117	260			1040
NJ							26	26
NJ-DB	337	390	299	247	442			1715
DB						104	39	143
DE	39	26						65
MD						195	221	416
VA						325	312	637
Grand Total	2163	1168	2930	1128	1815	1689	1183	12076

Count of PAH records by ST_COOP and Year

Count of PAHs	Year							
ST_COOP	2000	2001	2002	2003	2004	2005	2006	Grand Total
ME	132					308	418	858
ME-LOB			638	198	264			1100
NH	330	176	198	242	440	132	110	1628
MA-FSH	858							858

RI	22		352			44		418
RI-FSH	286			352	440	374	264	1716
CT	308	176				88	22	594
CT-FSH	506	550	1936		88	264	176	3520
NY		792	1232	594	792	704		4114
NJ-C	396	440	264	198	440			1738
NJ							44	44
NJ-DB	572	660	506	418	748			2904
DB						176	66	242
DE	66	44						110
MD						330	374	704
VA						550	528	1078
Grand Total	3476	2838	5126	2002	3212	2970	2002	21626

Count of PCB records by ST_COOP and Year

Count of PCBs	Year							
ST_COOP	2000	2001	2002	2003	2004	2005	2006	Grand Total
ME	120					294	399	813
ME-LOB			609	188	252			1049
NH	300	160	183	226	400	126	105	1500
MA-FSH	780							780
RI	20		336			42		398
RI-FSH	260			336	400	357	252	1605
CT	280	160				84	21	545
CT-FSH	440	500	1780		84	252	168	3224
NY	210	756	1120	540	756	714		4096
NJ-C	360	400	252	189	400			1601
NJ							42	42
NJ-DB	520	600	470	389	680			2659
DB						168	63	231
DE	60	40						100
MD						315	357	672
VA						525	504	1029
Grand Total	3350	2616	4750	1868	2972	2877	1911	20344

Count of Pesticide records by ST_COOP and Year

Count of Pesticides	Year							
ST_COOP	2000	2001	2002	2003	2004	2005	2006	Grand Total
ME	120					280	380	780
ME-LOB			580	180	240			1000
NH	300	160	168	220	400	120	100	1468
MA-FSH	780							780
RI	20		320			40		380
RI-FSH	260			300	400	340	240	1540
CT	266	152				79	20	517
CT-FSH	418	475	1602		80	240	160	2975
NY	180	684	1064	513	684	646		3771

NJ-C	360	400	240	180	400			1580
NJ							40	40
NJ-DB	520	600	434	380	680			2614
DB						160	60	220
DE	60	40						100
MD						300	340	640
VA						500	480	980
Grand Total	3284	2511	4408	1773	2884	2705	1820	19385

Concentration values smaller than the method detection limit ('non-detects') are reported as zero in this file and the QACODE is set to "CHM-A" to indicate the assignment. While the concentration of the analyte is clearly small, it is not strictly zero. The method detection limit (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 QACODE is set to "CHM-B", 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 QACODEs. Finally, records flagged with "CHM-C" indicate that the concentration value is uncertain because an interference was noted in the blank analysis performed with the sample; caution is advised in interpreting these results. To summarize:

QACODE	INTERPRETATION	CONC reported	MDL reported
<none>	result is detectable and > MDL	as measured	<none>
CHM-A	result is £ MDL and undetectable	zero	MDL is listed
CHM-B	result is £ MDL but detectable	best estimate	MDL is listed
CHM-C	result may be affected by interference	best estimate	<none>

Samples collected in 2000-2006 were analyzed by a variety of state and national-contract analytical labs, identified by the parameter LABCODE. The Table below lists the number of metal records analyzed by the indicated labs by ST_COOP and year (laboratory participation was identical for PAHs, PCBs, and pesticides). While some indications of minor systematic laboratory biases may be evident for some analytes and labs, the biases were not considered great enough to exclude the results from the database. The parameter LABCODE can be used to more carefully examine the results for laboratory bias. Addresses of the participating labs follow the Table.

Count of sediment metal records by ST_COOP, LABCODE, and Year:

# Metal records		Year						
ST_COOP	LABCODE	2000	2001	2002	2003	2004	2005	2006
ME	NAT_ADL	516	920					
	NAT_ERI			418				
	NAT_GPL				580	580	440	60
	NAT_CRG							400
NH	NAT_ADL	664	720					
	NAT_ERI			114				
	NAT_GPL			280	460	320	320	180
	NAT_CRG							260
MA	NAT_ADL	720	840					
	NAT_GPL				340	420	460	
	NAT_CRG							460
RI	NAT_ADL	678	700					
	NAT_GPL				320	360	500	180
	NAT_CRG							320
CT	CT (ERI)	513	684	247				
	NAT_GPL				200	340	120	
	NY				19	19	38	
	NAT_CRG							640
NY	NY	522	527	836	437	418	456	
NJ-C	NAT_ADL	520	800					
	NAT_ERI			152				
	NAT_GPL			440	440	720		
NJ	NAT_GPL						320	200
	NAT_CRG							720
NJ-DB	NAT_ADL	560	600					
	NAT_ERI			418				
	NAT_GPL			280	580	680		
DB	NAT_GPL						400	
	NAT_CRG							560
DE	NAT_ADL	340	420					
	NAT_GPL			400	380	400		
DI	NAT_GPL						500	480
MD	NAT_GPL						440	
	NAT_CRG							500
VA	NAT_GPL						1000	100
	NAT_CRG							880

Addresses of analysis laboratories participating in Northeast NCA program:

LABCODE = NAT_ERI: Environmental Research Institute, University of Connecticut, Storrs, CT 06269-5210.

LABCODE = NAT_GPL: GPL Laboratories, 7210A Corporate Court, Frederick, MD 21703

LABCODE =NY: (NY analyses only) New York Dept of Health Services, Wadsworth Center, Empire State Plaza, Albany, NY 12201

LABCODE = CT(ERI): (Connecticut analyses only) Environmental Research Institute, University of Connecticut, Storrs, CT 06269-5210.

LABCODE = NAT_ADL: Arthur D Little, 125 High St, Boston, MA 02210

LABCODE = NAT_CRG: CRG Marine Laboratories, Inc., 2020 Del Amo Blvd, Suite 200, Torrance, CA 90503

NCA planners provide two alternate locations for a station location in the event that the original location cannot be sampled. The parameter STA_ALT indicates whether the station location was the original site, first alternate, or second alternate—STA_ALT = "A", "B", or "C", respectively. Also refer to discussion in the STATIONS metadata file regarding use of this parameter during analysis of the data.

4.4 Summary of Dataset Parameters

* denotes parameters that should be used as key fields when merging data files

*STATION	Station name
*STAT_ALT	Alternate site code (A, B, C)
*EVNTDATE	Event date
*FCOMNAME	Fish taxa common name
*TISS_TYPE	Type of tissue analyzed
MN_SIZE	Mean Size of animals in homogenate
NUM_HOM	Number of animals in homogenate
PCTLIPID	Percent lipid content
WETWGHT	Sample wet weight
*ANALYTE	Name of analyte measured (see Section 7.1.3.)
CONC	Concentration of analyte. Results fall into one of three categories: 1) the analyte concentration was large and reliably reported; 2) the analyte was below the method detection level, but the best estimate of the concentration is reported; 3) the analyte was not detected and is reported as zero. See Section 4.3 for further discussion.
CHMUNITS	Concentration units used to report results, reported as the mass of analyte per mass of tissue: Metals ug/g PAHs, PCBs, Pesticides ng/g
MDL	Method Detection Limit; reported only when measured concentration is < MDL
QACODE	QA/QC codes: <blank> CONC > MDL; concentration value is reliable

	CHM-A	CONC is undetectable; value set to zero (user may wish to substitute another value)
	CHM-B	CONC ≤ MDL, but is detectable; best estimate is reported
	CHM-C	failed QA criteria: an interference was noted in the blank analysis performed with the sample; caution is advised in interpreting the result
LABCODE	Code identifying laboratory responsible for performing chemical analyses	
	CT(ERI)	State laboratory for CT samples only
	NY	State laboratory for NY samples only
	NAT_ERI	National contract lab (ERI)
	NAT_GPL	National contract lab (GPL)
	NAT_ADL	National contract lab (ADL)
	NAT_CRG	National contract lab (CRG)
ANALTYPE	Code identifying type of analysis	
	PEST	Pesticides
	PAHs	Polynuclear aromatic hydrocarbons
	PCBs	Polychlorinated biphenyls
	METALS	Metals

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 the scientific and common names listed in the FTAXON file. 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 visual inspection for obvious signs of pathology was conducted on all fish measured for length. Subsets 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 (SAMPLEID) and sent to the analytical lab for chemical analysis.

5.1.3 Beginning Sampling Dates
2 August 2000

5.1.4 Ending Sampling Dates
24 November 2006

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 conducted trawls for durations other than the standard 10 minutes:

FTRLTYPE	Name	Trawl Duration
NH	New Hampshire Fish Survey	4 min
MA	Massachusetts Fish Survey	20 min
RI	Rhode Island Fish Survey	20 min

CT	Connecticut Fish Survey	30 min
DE/DI	Delaware Fish Survey	5 min
VA	Virginia Fish Survey	5 min

5.2 Data Preparation and Sample Processing

The processing methods used by USEPA contracts will be described here (LABCODE = NAT). Any significant variations by other NCA partners are noted in Section 5.2.6.

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, analytes were extracted from tissue 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 (see Section 4.3 for details).

7. DATA DESCRIPTION

7.1 Description of Parameters

7.1.1 Components of the Dataset

NAME	TYPE	LENGTH	LABEL
station	2	9	Station Identifier
stat_alt	2	1	Station Location (A,B or C)
evntdate	1	8	Date of Sampling Event
fcomname	2	30	Fish Taxa Common Name
tisstype	2	20	Tissue Type
mn_size	1	8	Average Size of Animals in Homogenate
num_hom	1	8	Number of Individuals in Homogenate
analyte	2	8	Analyte Code
conc	1	8	Concentration of Analyte in Sample
chmunits	2	10	Unit of Measure
qacode	2	10	QA Code
mdl	1	8	Detection Limit
labcode	2	7	Analytical Lab Code
analtype	2	10	Analysis Method Code

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 (non-zero data)

ID	NAME	min	max
METALS			
AG	Silver	0.002	8.891
AL	Aluminum	1	569
AS	Arsenic	0.01	15.3
CD	Cadmium	0.001	1.55
CR	Chromium	0.009	40.8
CU	Copper	0.153	325
FE	Iron	1	620
HG	Mercury	0.002	1.7
NI	Nickel	0.002	25.5
PB	Lead	0.001	8.86
SE	Selenium	0.066	2.3
SN	Tin	0.001	259
ZN	Zinc	2.5	138
PAHs			
ACENTHE	Acenaphthene	0.034	140
ACENTHY	Acenaphthylene	0.01	21.9
ANTHRA	Anthracene	0.01	80
BENANTH	Benz(a)anthracene	0.01	254.3609651
BENAPY	Benz(a)pyrene	0.041	243.0838779
BENZOBFL	Benzo(b)fluoranthene	0.03	314.5054297
BENZOKFL	Benzo(k)fluoranthene	0.02	235.5658199
BENZOP	Benzo(g,h,i)perylene	0.04	132.8190261
BIPHENYL	Biphenyl	0.048	19
CHRYSENE	Chrysene	0.02	256.8669844
DIBENTP	Dibenzothiophene	0.028	7.7
DIBENZ	Dibenz(a,h)anthracene	0.022	29.01196997
DIMETH	2,6-dimethylnaphthalene	0.037	94
FLUORANT	Fluoranthene	0.05	342.0716427
FLUORENE	Fluorene	0.02	130
INDENO	Indeno (1,2,3-c,d) pyrene	0.026	141.5900939
MENAP1	1-methylnaphthalene	0.03	73
MENAP2	2-methylnaphthalene	0.1	92
MEPHEN1	1-methylphenanthrene	0.024	190
NAPH	Naphthalene	0.02	150.1
PYRENE	Pyrene	0.02	960
TRIMETH	2,3,5-trimethylnaphthalene	0.019	14.9
PCBs			
PCB101	2,2',4,5,5'-pentachlorobiphenyl	0.069	380
PCB105	2,3,3',4,4'-pentachlorobiphenyl	0.094	92

PCB110	2,3,3',4',6-pentachlorobiphenyl	0.2	150
PCB118	2,3',4,4',5-pentachlorobiphenyl	0.2	360
PCB126	3,3',4,4',5-pentachlorobiphenyl	0.026	72
PCB128	2,2',3,3',4,4'-hexachlorobiphenyl	0.12	310
PCB138	2,2',3,4,4',5'-hexachlorobiphenyl	0.1	270
PCB153	2,2',4,4',5,5'-hexachlorobiphenyl	0.2	450
PCB170	2,2',3,3',4,4',5-heptachlorobiphenyl	0.082	150
PCB18	2,2',5-trichlorobiphenyl	0.016	140
PCB180	2,2',3,4,4',5,5'-heptachlorobiphenyl	0.2	250
PCB187	2,2',3,4',5,5',6-heptachlorobiphenyl	0.1	160
PCB195	2,2',3,3',4,4',5,6-octachlorobiphenyl	0.008	20
PCB206	2,2',3,3',4,4',5,5',6-nonachlorobiphenyl	0.031	72
PCB209	2,2'3,3',4,4',5,5',6,6'-decachlorobiphenyl	0.03	50
PCB28	2,4,4'-trichlorobiphenyl	0.081	180
PCB44	2,2',3,5'-tetrachlorobiphenyl	0.017	180
PCB52	2,2',5,5'-tetrachlorobiphenyl	0.038	180
PCB66	2,3',4,4'-tetrachlorobiphenyl	0.14	260
PCB77	3,3',4,4'-tetrachlorobiphenyl	0.2	130
PCB77_CO	PCB77/PCB110 coeluted	0.099	20
PCB8	2,4'-dichlorobiphenyl	0.018	77
PEST			
ALDRIN	Aldrin	0.015	1.9
CISCHL	Alpha-Chlordane	0.06	180
DIELDRIN	Dieldrin	0.071	83
ENDOSUI	Endosulfan I	0.055	119.5
ENDOSUII	Endosulfan II	0.036	67.5
ENDOSULF	Endosulfan Sulfate	0.014	21
ENDRIN	Endrin	0.01	240
HEPTACHL	Heptachlor	0.018	4.2
HEPTAEPO	Heptachlor epoxide	0.011	89
HEXACHL	Hexachlorobenzene	0.029	13
LINDANE	Lindane (gamma-BHC)	0.014	48.9
MIREX	Mirex	0.014	5.3
OPDDD	2,4'-DDD	0.021	89.6
OPDDE	2,4'-DDE	0.1	96
OPDDT	2,4'-DDT	0.03	21.7
PPDDD	4,4'-DDD	0.058	230
PPDDE	4,4'-DDE	0.2	680
PPDDT	4,4'-DDT	0.014	230
TNONCHL	Trans-Nonachlor	0.14	170
TOXAPHEN	Toxaphene		

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

7.2.2 Example Data Records

station	stat_alt	evntdate	fcomname	tisstype	mn_size	num_hom
DE03-0048	A	8/6/2003	WHITE PERCH	Carcass	146	5
DE03-0048	A	8/6/2003	WHITE PERCH	Carcass	146	5
DE03-0048	A	8/6/2003	WHITE PERCH	Carcass	146	5

analyte	conc	chmunits	qacode	mdl	labcode	analtype
ABHC	0	ng/wet g	CHM-A	1	NAT_CRG	PEST
ACENTHE	0	ng/wet g	CHM-A	1	NAT_CRG	PAHs
ACENTHY	0	ng/wet g	CHM-A	1	NAT_CRG	PAHs

8. GEOGRAPHIC AND SPATIAL INFORMATION

8.1 Minimum Longitude (Westernmost)
-77.304 decimal degrees

8.2 Maximum Longitude (Easternmost)
-66.946 decimal degrees

8.3 Minimum Latitude (Southernmost)
36.564 decimal degrees

8.4 Maximum Latitude (Northernmost)
45.1848 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 (see Section A7, Table A7-1).

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 sediments and fish tissue.

9.3 Actual Measurement Quality

10. DATA ACCESS

10.1 Data Access Procedures

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

10.2 Data Access Restrictions

None

10.3 Data Access Contact Persons

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10.4 Dataset Format

ASCII (CSV) and SAS Export files

10.5 Information Concerning Anonymous FTP

Not available

10.6 Information Concerning WWW

No gopher access, see Section 10.1 for WWW access

10.7 EMAP CD-ROM Containing the Dataset

Data not available on CD-ROM

11. REFERENCES

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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.

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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

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