CATALOG DOCUMENTATION
NATIONAL COASTAL ASSESSMENT- NORTHEAST DATABASE
YEARS 2000-2006
FISH COUNTS DATA; "FISH_LEN"

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1. DATASET IDENTIFICATION

1.1 Title of Catalog document
National Coastal Assessment-Northeast Region Database
Years 2000-2006
Fish Length and Pathology data

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

1.4 Dataset name
FISH_LEN

1.5 Task Group
National Coastal Assessment-Northeast

1.6 Data Set Identification Code
011

1.7 Version
001

1.8 Request for 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)

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2.3 Sample Processing Investigators

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3. DATASET ABSTRACT

3.1 Abstract of the Dataset

The FISH_LEN data file contains the following information for each taxa of fish caught in a standard trawl at a station: the station identifier, trawl date, common name and size class of the fish taxa caught, the fork length of the fish, and the frequency and location of pathologies. Data are reported for the first approximately 30 fish per taxon caught. Scientific (Latin) names for the fish taxa can be found in the FISH_TAX table. One record is presented per taxon at a station.

3.2 Keywords for the Data Set

fish length, pathology

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 Data Set Objective

The objective of the FISH_LEN file is to report the fork length and incidence of pathologies in no more than the first 30 fish per taxon collected in standard and nonstandard trawls.

4.3 Background Discussion

Refer to Section 4.4 for a list of dataset parameters.

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 abundance and 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.

Because of the large number of records, the FISH_LEN file is divided into FSHLEN_NORTH (stations in RI and north) and FSHLEN_SOUTH (stations in CT and south). These separate files can be imported in Excel 2003 files without loss of data.

The Table below indicates the number of records reporting fish lengths by ST_COOP and Year, and can be used to identify systematic absences of data collection by coops. The coops 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, NJ-DB = DB, and DE = DI 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.

Number of fish length records by ST_COOP and Year:

Count of Records	YEAR							
ST_COOP	2000	2001	2002	2003	2004	2005	2006	Grand Total
NH	290	47	157	308	340	142	114	1398
MA-FSH	32463							32463
RI	29		603	86		7		725
RI-FSH	899			1096	1231	1170	968	5364
CT	219			25	105	27		376
CT-FSH	5837	4005	9275	4016	2898	176	676	26883
NY	63	491	2950	807	1378	1069	984	7742
NJ-C	1390	1059	531	382	705			4067
NJ							151	151
NJ-DB	2571	1932	1979	815	1765			9062
DB						374	273	647
DE	273	232	511	266	584			1866
DI						728	372	1100
MD						782		782
VA						1569	1244	2813

Grand Total	44034	7766	16006	7801	9006	6044	4782	95439

Generally, a maximum of 30 individuals of a species were reserved for length measurement and inspection for disease. If a large number of fish are caught in a trawl, some crews created additional groups of that species for measurement and identified the extra group by the parameter F_CASS. The additional groups could be distinguished by size or age, e.g., F_CLASS = LARGE or SMALL, or F_CLASS = JUVENILE or YOUNG YEAR. There are no firm definitions for the class distinctions. FSEQNUM is a sequence number identifying individuals of a species at a station.

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 Data Set Parameters

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

*STATION	Station identifier
*STAT_ALT	Station location (A, B, or C)
*EVNTDATE	Date of sampling event
*FTRAWLID	Fish Trawl Identifier
*FCOMNAME	Fish taxa common name
F_CLASS	Optional group designation
FSEQNUM	Fish sequence number
FLENGTH	Length (mm)
COMP_ID	Fish chemistry composite identifier
LUMPS	Fish pathology: lumps
LUMP_LOC	Location of lumps
GROWTHS	Fish pathology: growths
GRWTHLOC	Location of growths
ULCERS	Fish pathology: ulcers
ULCERLOC	Location of ulcers
FINROT	Fish pathology: fin erosion
FROT_LOC	Location of fin erosion
GILL_ER	Fish pathology: gill erosion
GE_LOC	Location of gill erosion
GILL_DC	Fish pathology: gill discoloration
GD_LOC	Location of gill discoloration

5. DATA ACQUISITION AND PROCESSING METHODS

5.1 Data Acquisition / Field Sampling

The sample collection methods used by USEPA trained field crews will be described here. NCA Standard trawls are identified by TRWLTYPE=NCA. Any significant variations by other NCA partners are noted in Section 5.1.12.

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 Date

2 August 2000

5.1.4 Ending Sampling Date

26 September 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

All parameters reported in this file were measured aboard ship immediately following the trawl (see Section 5.1).

5.2.1 Sample Processing Objective

Not applicable

5.2.2 Sample Processing: Methods Summary

Not applicable

5.2.3 Sample Processing: Calibration

Not applicable

5.2.4 Sample Processing: Quality Control

Not applicable

5.2.5 Sample Processing: References

Not applicable

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

Not applicable

7. DATA DESCRIPTION

7.1 Description of Parameters

7.1.1 Components of the Data Set

NAME	TYPE	LENGTH	LABEL
STATION	Char	9	Station Identifier
STAT_ALT	Char	1	Station Location (A,B or C)
EVNTDATE	Num	8	Date of Sampling Event
FTRAWLID	Char	15	Trawl Identifier
FCOMNAME	Char	30	Fish Taxa Common Name
F_CLASS	Char	12	Size Classification
FSEQNUM	Num	4	Fish Sequence Number
FLENGTH	Num	4	Fish Length (cm)
COMP_ID	Char	20	Fish Composite ID
LUMPS	Char	1	Fish Pathology: Lumps
LUMP_LOC	Char	20	Locations of Lumps
GROWTHS	Char	1	Fish Pathology: Growths
GRWTHLOC	Char	20	Locations of Growths
ULCERS	Char	1	Fish Pathology: Ulcers
ULCERLOC	Char	20	Locations of Ulcers
FINROT	Char	1	Fish Pathology: Fin Erosion
FROT_LOC	Char	20	Locations of Fin Erosion
GILL_ER	Char	1	Fish Pathology: Gill Erosion
GE_LOC	Char	20	Locations of Gill Erosion
GILL_DC	Char	1	Fish Pathology: Gill Discoloration
GD_LOC	Char	1	Locations of Gill Discoloration

7.1.2 Precision of Reported Values

As displayed in Section 7.1.3 and 7.1.4.

7.1.3 Minimum Value in Data set

NAME	MIN
evntdate	8/2/2000
fseqnum	1
flength	0

7.1.4 Maximum Value in Data set

NAME	MAX
evntdate	9/26/2006
fseqnum	215
flength	2031

7.2 Data Record Example

station	stat_alt	evntdate	ftrawlid	fcomname	f_class	fseqnum	flength
CT03-0241	A	9/22/2003		BLUEFISH		1	495
CT03-0241	A	9/22/2003		BLUEFISH		2	495
CT03-0241	A	9/22/2003		BLUEFISH		3	205

comp_id	lumps	lump_loc	growths	grwthloc	ulcers	ulcerloc	finrot

frot_loc	gill_er	ge_loc	gill_dc	gd_loc

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 National Coastal Assessment Northeast Region covers the northeastern US coastline from Maine to Delaware

9. QUALITY CONTROL AND QUALITY ASSURANCE

9.1 Measurement Quality Objectives

9.2 Data Quality Assurance Procedures
Inspection of the sampling gear for tears or improper assemblage is done at the beginning of every trawl event.

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

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. EPA/620/R-00/002. 68 p.

U.S. EPA. 2001. National Coastal Assessment: Field Operations Manual. 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-01/003. 72 p.

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
DE	Delaware
CT	Connecticut
EMAP	Environmental Monitoring and Assessment Program
EPA	Environmental Protection Agency
MA	Massachusetts
ME	Maine
mm	Millimeters
NCA	National Coastal Assessment
NH	New Hampshire
NHEERL	National Health and Environmental Effects Research Laboratory
NJ	New Jersey
NY	New York
NYC	New York City

PA	Pennsylvania
QA/QC	Quality Assurance/Quality Control
RI	Rhode Island
UNH	University of New Hampshire
WWW	World Wide Web

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