1. DATA SET IDENTIFICATION

1.1 Title of Catalog document
   National Coastal Assessment
   2003 New York/New Jersey Harbor System
   Benthic Taxon Abundance Data by Replicate

1.2 Author of the Catalog entry
   Melissa Hughes, Raytheon

1.3 Catalog revision date
   June 19, 2012

1.4 Data set name
   Benthic Taxon Abundance Data by Replicate

1.5 Task Group
   Regional Environmental Monitoring and Assessment Program

1.6 Data set identification code
   NA

1.7 Version
   NA

1.8 Requested Acknowledgment
   If you plan to publish these data in any way, 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-Estuaries Program, it has not been subjected to Agency review, and therefore does not necessarily reflect the views of the Agency and no official endorsement should be inferred."
2. INVESTIGATOR INFORMATION
2.1 Principal Investigator
Ms. Darvene A. Adams
U.S. Environmental Protection Agency - Region II

2.2. Investigation Participant
Ms. Sandi Robinson
U.S. Environmental Protection Agency - ORD/NHEERL/AED

3. DATA SET ABSTRACT
3.1 Abstract of the Data Set
The Benthic Taxon Abundance by Replicate data set records a count of organisms by taxon identified in each acceptable grab collected at a station. Each taxon is identified by latin name. Information on sieve size is also recorded.

3.2 Keywords for the Data Set
benthic species, benthic species abundance, species composition, taxon abundance, benthic taxon abundance

4. OBJECTIVES AND INTRODUCTION
4.1 Program Objective
The project was designed to support resource management decisions related to pollution control and remediation throughout the New York/New Jersey (NY/NJ) Harbor and to assist the New York-New Jersey Harbor Estuary Program (HEP) in developing a contaminant monitoring strategy to be included in the Comprehensive Conservation and Management Plan (CCMP) for the NY/NJ Harbor system.

4.2 Data Set Objective
To provide an overview of the abundance of benthic organisms in the NY/NJ harbor region based on random sampling.

4.3 Data Set Background Discussion
The New York/New Jersey Harbor System has been susceptible to toxic contamination due to surrounding land uses. Harbor sediments are contaminant reservoirs which can function as a secondary source of these land use contaminants. Contaminated sediments pose a substantial threat to Harbor resources and are a management challenge. Adverse changes in the biota of the system have been documented with increasing frequency, and many of these changes have been linked to toxic contamination.

4.4 Summary of Data Set Parameters
The Benthic Abundance data set values were based on the results of identifying the infauna in the replicate samples.

5. DATA ACQUISITION AND PROCESSING METHODS
5.1 Data Acquisition
5.1.1 Sampling Objective
Collect sediment grab samples suitable for the identification of benthic organisms.

5.1.2 Sample Collection Methods Summary
The grab sampler was lowered through the water column; the grab penetrated the sediment by gravity releasing a trigger allowing the
jaws to close. When the grab was pulled from the sediment using
the winch, the jaws closed, ncapsulating the sediment sample.

Three macroinvertebrate grabs per sampling station were collected
using the 0.04-m² Young-modified van Veen grab. Benthic grabs were
alternated with sediment chemistry/toxicity grabs. Benthic samples
were gently washed through a 0.5 mm mesh sieve. The material was
preserved in a 10% buffered formaldehyde-rose bengal solution.

5.1.3 Sampling Start Date
July 1, 2003

5.1.4 Sampling End Date
September 25, 2003

5.1.5 Platform
Sampling was conducted from the U.S.EPA research vessel, the R/V CLEAN
WATERS.

5.1.6 Sampling Gear
A 0.04-m² or 0.1-m², stainless steel, Young-modified Van Veen Grab
sampler was used to collect sediment grabs. This grab sampled an area
of 440 cm² and a maximum depth of penetration in the sediment of 10 cm.

5.1.7 Manufacturer of Sampling Equipment
Young's Welding, Sandwich, MA

5.1.8 Key Variables
No data were recorded at the time of sample collection.

5.1.9 Collection Method Calibration
The sampling gear did not require any calibration. It required
inspection for deformities incurred due to mishandling or impact on
rocky substrates.

5.1.10 Sample Collection Quality Control
A successful grab had relatively level, intact sediment over the entire
area of the grab and a sediment depth at the center of at least 5
centimeters. Unacceptable grabs included those with grossly slumped
surfaces and those completely filled to the top, where the sediment was
in direct contact with the hinged top.

The van Veen Grab was rinsed with ambient seawater between
grabs at a station to remove remaining organisms. It was thoroughly
cleaned with detergent and water between stations.

5.1.11 Sample Collection Method Reference
Monitoring and Assessment Program - Near Coastal Component: 1993
Virginian Province Field Operations and Safety Manual. U.S.
EPA NHEERL-AED. Narragansett, RI.

5.2 Data Preparation and Sample Processing
5.2.1 Sample Processing Objective
Process benthic sediment samples to accurately identify and enumerate
benthic infauna.
5.2.2 Sample Processing Methods Summary
Three replicate grabs for benthic macroinvertebrate community structure were obtained at each station. Invertebrates from two of these were sorted and identified; the third replicate was archived. The macrobenthos were identified to the lowest practical taxonomic category.

5.2.3 Sample Processing Method Calibration
NA

5.2.4 Sample Processing Quality Control
Rare or previously undocumented specimens from the Harbor were put aside in a reference collection.

5.2.5 Sample Processing Method Reference

5.2.6 Sample Processing Method Deviations
NA

6. DATA MANIPULATIONS
NA

6.1 Name of new or modified values
NA

6.2 Data Manipulation Description
NA

6.3 Data Manipulation Examples
NA

7. DATA DESCRIPTION
7.1 Description of Parameters
7.1.1 Benthic Abundance Data by Station/Taxon

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATA GROUP</td>
<td>Group conducting sampling</td>
</tr>
<tr>
<td>SAMPLING YEAR</td>
<td>Year of sampling</td>
</tr>
<tr>
<td>STATION</td>
<td>Station identifier</td>
</tr>
<tr>
<td>SAMPLING DATE</td>
<td>Sample collection date</td>
</tr>
<tr>
<td>LATITUDE</td>
<td>Latitude (decimal degrees)</td>
</tr>
<tr>
<td>LONGITUDE</td>
<td>Longitude (decimal degrees)</td>
</tr>
<tr>
<td>REPLICATE #</td>
<td>Number of replicate</td>
</tr>
<tr>
<td>LATIN NAME</td>
<td>Latin name</td>
</tr>
<tr>
<td>ABUNDANCE</td>
<td>Count of organisms in replicate</td>
</tr>
<tr>
<td>SIEVE</td>
<td>Sieve size (mm)</td>
</tr>
</tbody>
</table>

7.1.6 Precision to which values are reported
The abundance is reported to the whole number.

7.1.7 Minimum value in data set
Replicate number  1
Replicate abundance  1
7.1.8 Maximum value in Data Set
Replicate number 2
Replicate abundance 14612

7.2 Data Record Example
7.2.1 Column Names for Example Records
Data Group, Sampling Year, Station, Sampling Date, Latitude, Longitude,
Replicate #, Latin Name, Abundance, Sieve

7.2.2 Example Data Records
R-EMAP Region 2, 2003, JB301, 7/31/2003, 40.629, -73.759, 1,
Ampelisca abdita, 1, 0.05
R-EMAP Region 2, 2003, JB301, 7/31/2003, 40.629, -73.759, 1,
Crepidula fornicata, 2, 0.05
R-EMAP Region 2, 2003, JB301, 7/31/2003, 40.629, -73.759, 1,
Microphthalmus hartmanae, 2, 0.05

8. GEOGRAPHIC AND SPATIAL INFORMATION
8.1 Minimum Longitude
-74 Degrees 17.4 Minutes 48.00 Decimal Seconds

8.2 Maximum Longitude
-73 Degrees 45 Minutes 0.54 Decimal Seconds

8.3 Minimum Latitude
40 Degrees 25.2 Minutes 36.00 Decimal Seconds

8.4 Maximum Latitude
40 Degrees 51.6 Minutes 42.00 Decimal Seconds

8.5 Name of area or region
New York/New Jersey Harbor System:
Four sub-basins were sampled in the New York/New Jersey Harbor,
including: Upper Harbor, Newark Bay, Lower Harbor (includes Raritan and
Sandy Hook Bays) and Jamaica Bay. For purposes of this study, the
region includes the lower portions of the Hudson, Passaic, Harlem,
Hackensack and Raritan Rivers, upstream to a near-bottom salinity of
15 ppt, the East River to Long Island Sound and Lower Harbor to the
Atlantic Ocean.

9. QUALITY CONTROL AND QUALITY ASSURANCE
9.1 Data Quality Objectives
Quality assurance goals were developed and followed for each sample
type.

9.2 Quality Assurance/Quality Control Procedures
Ten percent of all samples were reprocessed and subjected to a second
QA evaluation. Taxonomic identifications were verified using reference
organisms obtained from EMAP’s reference collection.

9.3 Quality Assessment Results
These in-house QC measures met the requirements established
in the QA Plan.

9.4 Unassessed Errors
NA
10. DATA ACCESS

10.1 Data Access Procedures
Data can be downloaded from the WWW server.

10.2 Data Access Restrictions
Data can only be accessed from the WWW server.

10.3 Data Access Contact Persons
Ms. Darvene A. Adams
U.S. EPA Region II

10.4 Data Set Format
Tab-delimited

10.5 Information Concerning Anonymous FTP
Data cannot be accessed via ftp.

10.6 Information Concerning WWW
Data can be downloaded from the WWW servers.

10.7 EMAP CD-ROM Containing the Data Set
Data are not available on CD-ROM

11. REFERENCES


12. TABLE OF ACRONYMS

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