

Please provide the following information, and submit to the NOAA DM Plan Repository.

### Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

## 1. General Description of Data to be Managed

### 1.1. Name of the Data, data collection Project, or data-producing Program:

National Status and Trends: Bioeffects Program - Massachusetts Bay Summary Database

### 1.2. Summary description of the data:

This study was based on the sediment quality triad (SQT) approach. The purpose was to define the extent and magnitude of contamination and biological effects associated with contaminants in the Massachusetts/Cape Cod Bays, Stellwagen Bank, and Boston Harbor. A stratified probabilistic sampling design was utilized to characterize the systems in terms of chemical contamination and benthic infaunal community structure. In addition, samples were taken in the vicinity of the new Boston sewage outfall in Massachusetts Bay and in Boston Harbor where the sewage outfall used to discharge. Toxicity bioassays were not done. A secondary objective was to coordinate with the NOAA NMFS to collect sediment and fish tissue samples at previously sampled Benthic Surveillance Program sites. This file contains sediment and water data measured in all areas sampled in 2004.

### 1.3. Is this a one-time data collection, or an ongoing series of measurements?

One-time data collection

### 1.4. Actual or planned temporal coverage of the data:

2004

### 1.5. Actual or planned geographic coverage of the data:

W: -71.0005, E: -70.0936, N: 42.5401, S: 41.7699

### 1.6. Type(s) of data:

*(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)*

### 1.7. Data collection method(s):

*(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)*

**1.8. If data are from a NOAA Observing System of Record, indicate name of system:****1.8.1. If data are from another observing system, please specify:****2. Point of Contact for this Data Management Plan (author or maintainer)****2.1. Name:**

NCCOS Scientific Data Coordinator

**2.2. Title:**

Metadata Contact

**2.3. Affiliation or facility:****2.4. E-mail address:**

NCCOS.data@noaa.gov

**2.5. Phone number:****3. Responsible Party for Data Management**

*Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.*

**3.1. Name:**

NCCOS Scientific Data Coordinator

**3.2. Title:**

Data Steward

**4. Resources**

*Programs must identify resources within their own budget for managing the data they produce.*

**4.1. Have resources for management of these data been identified?****4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):****5. Data Lineage and Quality**

*NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.*

**5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible**

*(describe or provide URL of description):*

## Process Steps:

- 2004-01-01 00:00:00 - DATA ACQUISITION/FIELD SAMPLING Sediment sampling procedures are available for download (<http://ccma.nos.noaa.gov/about/coast/nsandt/>) DATA PREPARATION AND SAMPLING PROCESSING Fields are arranged as follows: Sample Type; Container; Field Holding; Lab Storage; Max Holding

SEDIMENT Organic contaminants; I-Chem glass jars; Wet ice (4C); Freezer (-20C); 1 year Inorganic contaminants; I-Chem glass jars; Wet ice (4C); Freezer (-20C); 1 year Total organic Carbon; I-Chem glass jars; Wet ice (4C); Freezer (-20C); 1 year Grain size; Whirl paks; Wet ice (4C); Refrigerated (4C); 1 year BENTHOS Taxonomy; Plastic jars; 10% buffered formalin; Transfer to 70% ethanol; Indefinitely

- Chemicals with similar structural properties were summed and reported as "Totals" in addition to their individual measured concentrations. The components of these totals are as follows: Total DDT = sum of concentrations of ortho and para forms of parent and metabolites 2,4'DDE; 4,4'DDE; 2,4'DDD; 4,4'DDD; 2,4'DDT and 4,4'DDT. Total Chlordane = sum of concentrations of four compounds alpha-chlordane, trans-nonachlor, heptachlor, heptachlorepoxyde. Total Chlorinated benzenes = 1,2,4,5-Tetrachlorobenzene, 1,2,3,4-Tetrachlorobenzene, Pentachlorobenzene, Hexachlorobenzene and Pentachloroanisole Total Dieldrin = sum of concentrations of two compounds aldrin and dieldrin. Total cyclodines = sum of Heptachlor, Heptachlor Epoxyde, Oxychlordane, Alpha Chlordane, Gamma Chlordane, Cis-Nonachlor, Trans-Nonachlor, Aldrin, Dieldrin, Endrin, Endosulfan II Total HCH = Alpha HCH, Beta HCH, Gamma HCH, Delta HCH Total Butyl tin = sum of concentrations of parent compound and metabolites monobutyltin, dibutyltin, tributyltin, tetrabutyltin [concentrations are in terms of tin]. Total PCB = the sum of the concentrations of eighteen congeners: PCB8, PCB18, PCB28, PCB44, PCB52, PCB66, PCB101, PCB105, PCB118, PCB128, PCB138, PCB153, PCB170, PCB180, PCB187, PCB195, PCB206, and PCB209. High Molecular Weight PAHs = Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-c,d)pyrene, Dibenzo(a,h)anthracene, Benzo(g,h,i)perylene High Molecular Weight Substituted PAHs = C1-Fluoranthenes/Pyrenes, C1-Chrysenes, C2-Chrysenes, C3-Chrysenes, C4-Chrysenes Low MW PAHs = Naphthalene, Biphenyl Acenaphthylene, Acenaphthene, Fluorene, Anthracene, Phenanthrene, Dibenzothiophene Low Molecular Weight Substituted PAHs = C1-Naphthalenes, C2-Naphthalenes, C3-Naphthalenes, C4-Naphthalenes, C1-Fluorenes, C2-Fluorenes, C3-Fluorenes, C1-Phenanthrenes/Anthracenes, C2-Phenanthrenes/Anthracenes, C3-Phenanthrenes/Anthracenes, C4-Phenanthrenes/Anthracenes, C1-Dibenzothiophenes, C2-Dibenzothiophenes, C3-Dibenzothiophenes

Several numerical indices were chosen for analysis and interpretation of the macroinfaunal data. Infaunal abundance is reported as the total number of individuals per station and the total number of individuals per square meter (= density). Taxa richness is reported as the number of taxa represented in a given site location. Taxa diversity, which is often related to the ecological stability and environmental "quality" of the benthos, was estimated by the Shannon-Weiner Index (Shannon and Weaver, 1949). In order to quantify and compare the

equitability in the fauna to the taxa diversity for a given area, Pielou's Evenness Index  $J'$  (Pielou, 1966) was calculated as  $J' = H'/\ln S$ , where  $\ln S = H'$  max, or the maximum possible diversity, when all taxa are represented by the same number of individuals; thus,  $J' = H' / H' \text{ max}$ .

- Project Related References: Pielou, E.C. 1966. The Measurement of Diversity in Different Types of Biological Collections. *J. Theoretical Biology* 13:131-144. Shannon, L.C. and W. Weaver. 1949. The Mathematical Theory of Communication. Univ. of Illinois Press, Urbana, Ill. 117 p.

**5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:**

**5.2. Quality control procedures employed (describe or provide URL of description):**

## 6. Data Documentation

*The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.*

**6.1. Does metadata comply with EDMC Data Documentation directive?**

No

**6.1.1. If metadata are non-existent or non-compliant, please explain:**

Missing/invalid information:

- 1.6. Type(s) of data
- 1.7. Data collection method(s)
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.2. Name of organization of facility providing data access
- 7.2.1. If data hosting service is needed, please indicate
- 7.3. Data access methods or services offered
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

**6.2. Name of organization or facility providing metadata hosting:**

NMFS Office of Science and Technology

**6.2.1. If service is needed for metadata hosting, please indicate:****6.3. URL of metadata folder or data catalog, if known:**

<https://www.fisheries.noaa.gov/inport/item/38772>

**6.4. Process for producing and maintaining metadata**

*(describe or provide URL of description):*

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: [https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC\\_PD-Data\\_Documentation\\_v1.pdf](https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf)

**7. Data Access**

*NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.*

**7.1. Do these data comply with the Data Access directive?**

**7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?**

**7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:**

**7.2. Name of organization of facility providing data access:**

**7.2.1. If data hosting service is needed, please indicate:**

**7.2.2. URL of data access service, if known:**

<https://products.coastalscience.noaa.gov/collections/ltmonitoring/nsandt/default.aspx>  
<https://products.coastalscience.noaa.gov/collections/ltmonitoring/nsandt/default.aspx>

**7.3. Data access methods or services offered:****7.4. Approximate delay between data collection and dissemination:**

**7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:**

## **8. Data Preservation and Protection**

*The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.*

### **8.1. Actual or planned long-term data archive location:**

*(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)*

#### **8.1.1. If World Data Center or Other, specify:**

#### **8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:**

### **8.2. Data storage facility prior to being sent to an archive facility (if any):**

National Centers for Coastal Ocean Science - Silver Spring, MD

### **8.3. Approximate delay between data collection and submission to an archive facility:**

### **8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?**

*Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection*

## **9. Additional Line Office or Staff Office Questions**

*Line and Staff Offices may extend this template by inserting additional questions in this section.*