**Coastal 2000
Northeast Component**

Information Management Plan

DRAFT
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CONTENTS

1. Introduction

Information management for the Coastal 2000 project will occur on three distinct levels: national, regional, and state. At the national level, a central database will contain summarized data from all regions of the coastal United States.   The National Coastal Database will contain only well documented data that has passed strict QA review, and will made available to a wide audience. At the next level down, regional information management centers will maintain detailed databases to be used for regional assessments, containing data from several states. At the state level, even more detailed data may be stored. Each state participating in the Coastal 2000 effort will use their own information management systems to store data collected at Coastal 2000 sampling sites. The states will provide core indicator data required by Coastal 2000 to the regional information centers, where it will be merged with data from other states in the region. The regional data centers will provide merged data from several states to the national data center.

 This document describes information management procedures for the Northeast Information Management Center (NEIMC) of Coastal 2000- one of the four regional IM centers for the project for the year 2000.

First, the planned flow of data from the state level to the regional level is described. Options for state level information management are discussed.   Recommended field datasheets and a computerized data entry system, which will be provided to all participating states by the NEIMC, are described.   Procedures for tracking samples shipped to analytical laboratories are described. Procedures be used by analytic laboratories to submit data to the NEIMC are also described.

Next, the Northeast Region SAS Database is described in detail. This description defines all the core parameters that are required from the nine participating states.

Finally, specific data transfer and formatting procedures are suggested for the state agencies and analytic laboratories submitting data to the regional database.

The purpose of this document is to present data formatting and transfer protocols that will allow a great deal of data collected by many different participants to be loaded into a uniform database in a timely manner. These protocols were first developed for the Mid-Atlantic Integrated Assessment (MAIA) Estuaries project, and proved to be effective in managing data from diverse sources. The Coastal 2000 project recognizes that individual states may have other protocols in place for managing data. This is acceptable, providing that the state makes a detailed proposal on how their data will be submitted to the NEIMC, and get prior approval from their cooperative agreement's project officer.

2. Data Flow in the Coastal 2000 Northeast Region

The NEIMC will store data collected by nine states in one central database. Data supplied by states to the NEIMC will be stored in two ways. The core indicator data required by the Coastal 2000, will be loaded into a database made up of SAS datasets. The purpose SAS database is to store all required Coastal 2000 field and lab data in a consistent format, and is designed to facilitate regional assessments. Additional non-core data collected by different states will be stored as individual ASCII text files, with accompanying documentation files.

The SAS database design is described in detail in Section 3 of this document. Individual states are expected to format core indicator data in accordance with this design before submitting them to the NEIMC. Specific guidelines for formatting data to be loaded into the SAS database, as well as other non-core data files, are discussed in the Section 4.

The SAS database design allows certain data collected by states above and beyond the Coastal 2000 core requirements to be stored in the same database. These data include extra water chemistry analytes such as particulate nutrients, and additional sediment contaminant data. The design of the database allows these data to be stored in the same database as the core indicator data if analyte codes and adequate documentation are provided by the states that collected them.

Additional data that will not fit in the SAS database design will be collected by many states. One example is bacteria counts, routinely collected by some states. These data are not part of the Coastal 2000 sampling plan, but are of interest to regional assessment groups. They will be stored at the NEIMC in ASCII text data files in formats submitted by the states. These data must contain valid Coastal 2000 Station Identifiers, and must be accompanied by detailed documentation. All data files should be reviewed by state QA personnel and deemed error free before being submitted to the NEIMC.

Data provided by the states will consist of measurements taken in the field during sampling (field data), and the results of laboratory analyses of field samples (lab data). Field data include locational information, date and time of sampling, and *in situ* measurements of water temperature, salinity, and dissolved oxygen level. Lab data include results of several analytic procedures measures such as of chemical analysis, toxicity testing, and benthic community measures. Lab data may also include QA information from lab replicate samples, blanks and standard reference materials.

All states will provide field data. Some states will provide lab data. However, most samples collected by for Coastal 2000 will by analyzed by national contract labs. The lab data generated under the national contracts will be sent directly from those labs to the NEIMC, so the states will not be responsible for formatting these data. Only states that chose to have

samples analyzed in their own labs will need to format lab data for the NEIMC.

2.1   Field Data

The NEIMC can provide states with datasheets that capture the all data required by the Coastal 2000 project (see Appendix C). These data sheets also capture information useful to project managers, such as the names of crew members, ans some additional data useful for QA purposes. The datasheets are designed to accommodate bar-coded sample id. labels, as an alternative to hand-written sample id's. The use of bar-coded sample id. labels has been found to greatly reduce transcription errors.

The states are not required to use these datasheets. If state monitoring programs use other means for recording field data, those systems may be used. Some states may wish to use some of the datasheets provided by the NEIMC, but record other information (such fish survey data) on their own datasheets. Only the station setup sheet is needed for all sampling events by all states. The Coastal 2000 Quality Assurance Project Plan (Heitmuller, 2000) calls for all field data to be recorded on some form of hard-copy data sheet. The NEIMC should be provided with copies of all completed data sheets.

The NEIMC can also provide states with a computerized data entry program to enter data from the standard datasheets into an electronic files. This system is designed for Windows 95 (or higher) operating systems, and requires the proprietary software product FormFlow Filler. The states are not required to use this system, but they are expected to supply the NEIMC with electronic data files containing all relevant field data in a consistent format.

If the states chose to use the data sheets and computer system supplied by the NEIMC, they only need to supply the NEIMC with copies of the completed datasheets and the output database from the computer system, which consists of three Dbase files and their indexes. The NEIMC staff will process the Dbase data files and add the data to the regional database, and will also assist states in adding these data to their own information systems. The advantage of this option for states is simplicity- they need only enter data in an easy to use interface, and mail a diskette to the NEIMC. The advantage of this approach for the NEIMC is in its accuracy and reliability.   The field computer system has already been used by EPA field crews for three years of MAIA field sampling with successful results.

States may chose to use their own data management systems for recording and entering field data. It is the state's responsibility to format their data into files that can be added to the regional database. In these cases, the format of the electronic data files supplied to the NEIMC should match the SAS tables described in Section 3.2 as closely as possible. In addition, a list of all samples shipped to national contract laboratories must be supplied to the NEIMC. Data

files should be in ASCII format and be accompanied by detailed documentation. Specific guidelines for formatting ASCII data files are provided in Section 4.

An important aspect of field data management is sample tracking. Many physical samples will be collected in the field and shipped to analytic laboratories. Samples must be clearly labeled with identifiers that laboratories will use when reporting results data. These sample identifiers must be recorded in the field. The use of bar coded sample labels is highly recommended by the NEIMC. These labels can be scanned into the computer system with a bar code wand, which greatly reduces the chance of data entry errors.

The sample identifier consists of a two letter state code, a four digit station number, and a three to four letter code that identifies the sample type. It is very important that the correct sample identifiers are used on samples. These identifiers will be used to associate laboratory results with sampling events.

Field crews should record all samples on a shipment tracking datasheet as they are packed for shipping to laboratories. These data must be forwarded to the NEIMC for all samples shipped to national contract labs.

2.2   Laboratory Data

Most samples collected in the field for Coastal 2000 will be analyzed at national contract laboratories selected by EPA. Results of these analyses will be sent directly to the NEIMC in a predefined format.   These formats are described in detail in the Lab Formatting and Transfer Guidance Document (Buffum, 2000). It will be the NEIMC's responsibility to process these raw data, check them for errors, and add them to the database. The states will have access to the data as soon as they are in the database.

States may chose to have some samples analyzed by their own laboratories.   In these cases, state IM personnel will be responsible for formatting the data before sending it to the NEIMC. This formatting includes matching the lab results with the correct sampling station and sampling date, and in some cases with the replicate sample number. For example, the may be three sets of nutrients samples collected at three different water depths at each station. The results of the analyses of these samples must be tied to the correct water layer. Accurate sample tracking is crucial to accomplishing this.

The lab results sent to the NEIMC should be formatted in a manner consistent with the SAS database design, and must be clearly documented. State IM personnel should check the data for errors, and verify that lab QA procedures were followed. Data files must be in ASCII format and be accompanied by detailed documentation. Specific guidelines for formatting ASCII data

files are provided in Section 4..

2.3   Metadata

An important part of any scientific database is the metadata, i.e. information about the data.
Metadata files for the Coastal 2000 data will written in the format required by MAP (Frighten
and Steel. 1995).   Each SAS data table in the central database will have an accompanying
metadata file. These metadata files will be compiled by the NEIMC, using information
supplied by the states. The information needed for the metadata files include detailed
descriptions of sampling methods, sampling gear, laboratory methods and QA protocols used to
produce the data.   The states will be provided short forms to fill out for the data they contribute
(see Appendix B).   These forms capture the required metadata text for all the core indicators.

The states will be required to supply full metadata text for any data file contributed to the
NEIMC is not consistent with the format of the SAS database. The metadata should be aimed at
a wide audience of users who may not be familiar with the data, and should provide all
information needed to analyze the data meaningfully.

3. The Coastal 2000 Northeast Regional SAS Database design

The SAS database consists of twelve primary data tables, one table containing QA information, and three code tables. These data will be stored initially as SAS datasets, and will be made available to end-users as comma separated value (CSV) ASCII files from a web page. Each data table will have an accompanying metadata file which will provide detailed descriptions of all data elements. The metadata files will provide information on sampling methods, laboratory methods, and QA protocols, and references to other related documents.

3.1 Overview of the SAS Database

The thirteen data tables that make up the database are:

Table Name	Description
STATIONS	Sampling Station Location Data
EVENTS	Station Visit Data
WATRPROF	Water Column Profile Data-Physical Measurements
FTRAWL	Fish Trawl Data
FISHSPEC	Fish Count by Species per Trawl
FISHPATH	Fish Length and Pathology Data
NUTRNTS	Water Quality-Nutrients Data
SEDGRAIN	Sediment Grain Size Data
TOXICITY	Sediment Toxicity and Microtox Test Data
SEDCHEM	Sediment Chemistry Data
CHEM_QA	Chemistry QA Sample Data
BEN_ABUN	Benthic Abundance Data
TISSCHEM	Tissue Chemistry

Three additional lookup tables provide information on coded variables:

BEN_TAXA	Benthic Taxonomy Table
ANALYTES	Chemical Analyte Code Table
FTAXON	Fish Species Names

The following section provides detailed descriptions of the individual data tables.

STATIONS - Sampling Station Location Data

This Stations data table will contain one record for each planned sampling station in the

Northeast Region. This data table will be maintained at the NEIMC and will define planned latitudes and longitudes of sites. States will be provided with these data for stations in their waters, and should not update them. The exact sampling location recorded at each visit to a station is recorded in the EVENTS data table, which may differ slightly from the planned locations.   The data table contains the following elements:

Variable Name	Variable Label
STATION	Coastal 2000 Station Name
STAT_ALT	Station Alternate Site Code (A,B, or C)
STATE	State station is located in
STA_TYPE	Station Type
ESTUARY	Estuary Name
STA_LAT	Latitude (decimal degrees)
STA_LNG	Longitude (decimal degrees)
ST_COOP	State Cooperative Agreement Station sampled under
LOCAL_ID	Alternate Station Identifier used by State

The data table will provide three possible sampling locations for each station, identified by the STAT_ALT code. All sampling will occur at only one of these locations- alternatives are provided in case the primary proves to be unsafe or impossible to sample.

3.2   Field Data Tables:

These data tables contain data collected in the field by sampling crews.

EVENTS - Station Visit Data

This data table will contain one record for each sampling visit to a station. If there are multiple visits to a station, each visit must have a unique record in this data tables. The two variables STATION and EVNTDATE make up the unique identifier for visits. The STAT_ALT indicates which alternate site was used for the sampling. EVENT_ID is an extra event identifier which may be used by states in their own databases. It is included here only for documentation purposes. The actual latitudes and longitudes (recorded upon arrival on station) may differ slightly from the planned latitude and longitude included in the STATIONS data table.

Variable Name	Variable Label
STATION	Coastal 2000 Station Name
EVNTDATE	Date of Sampling Event
STAT_ALT	Station Alternate Site Code (A,B or C)
EVENT_ID	Partner's Event Identifier

CREW_ID	Sampling Crew Identifier
EVNT_LAT	Latitude (decimal degrees)
EVNT_LNG	Longitude (decimal degrees)
DEPTH	Water Depth (meters)
SECCHI_D	Secchi Depth (meters)
SAV	Submerged Aquatic Vegetation Present at site (Y/N)
TRASH	Trash Present at site (Y/N)
MACROALG	Macro Algae present at site (Y/N)

WATRPROF - Water Profile Data-Physical Measurements

This data table contains measurements of temperature, salinity, dissolved oxygen, pH and light transmittance, at different depths, measured in the field during sampling. There may be several records for each event, containing measurements taken at different depths.

Variable Name	Variable Label
STATION	Coastal 2000 Station Name
EVNTDATE	Date of Sampling Event
W_DEPTH	Water Depth of measurements
TEMP	Temperature (Deg C)
SAL	Salinity (ppt)
OXY	Diss Oxygen (mg/l)
PH	pH (pH units)
PAR_SRF	PAR at Surface (mE/m2/s)
PAR_DPTH	PAR at Depth (mE/m2/s)

FTRAWL - Standard Trawl Data

This data table contains one record for each standard or non-standard fish trawl. By EMAP conventions, a standard trawl is defined as approximately 10 minutes in duration at 1 to 3 knots. The results of standard trawls are used for measures of fish community structure. Only one standard trawl is performed per station visit, but additional, non-standard trawls may be performed to catch fish for chemical samples and pathology exams. For Coastal 2000, some states may use entirely different trawling methods. The variable FTRAWLID is and identifier used to distinguish between different trawls at the same station. Trawling methods must be described in metadata. The variable GEARCODE is used to identify trawling gear unique to a state.

The data table contains the following elements:

Variable Name	Variable Label
STATION	Station Identifier
EVNTDATE	Date of Sampling Event
FTRAWLID	Trawl Identifier
TRLTYPE	Standard or Non Standard Fish Trawl? (S/N)
BEG_LAT	Trawl Beginning Latitude (decimal degrees)
BEG_LNG	Trawl Beginning Longitude (decimal degrees)
END_LAT	Trawl End Latitude (decimal degrees)
END_LNG	Trawl End Longitude (decimal degrees
FTRL_DUR	Duration of Fish Trawl (minutes:seconds)
FTRL_SPD	Average Speed over Bottom (knots)
FSPECCNT	Number of Unique Species in Trawl
FISHCNT	Number of Individual Fish in Trawl
GEARCODE	Gear Code

FISHSPEC - Fish Counts by Species per Trawl

This data table contains one record for each species of fish caught in a standard trawl, and provides a count of individual fish, and their mean length. The data table contains the following elements:

Variable Name	Variable Label
STATION	Coastal 2000 Station Name
EVNTDATE	Date of Sampling Event
FTRAWLID	Trawl Identifier
FSCINAME	Fish Species-Scientific Name
TAX_CNT	Number of Fish of this species

FISHPATH - Fish Length and Pathology Data

This data table contains one record for each fish caught and measured. By EMAP conventions, the first 30 individual fish of each species caught in each standard trawl are always measured and examined for gross pathologies. Certain fish caught in non-standard trawls are also measured, if they are included in chemistry samples. Fish from non-standard trawls arere saved for specific analytical purposes and not for the purpose of comparing fish community structures.

The FISHPATH data table contains the following elements:

Variable Name	Variable Label
STATION	Station Identifier
EVNTDATE	Date of Sampling Event
FTRAWLID	Trawl Identifier
FSCINAME	Fish Species-Scientific Name
FSEQNUM	Fish Sequence Number
F_LENGTH	Fish Length (mm)
LUMPS	Fish Pathology: Lumps (Y/N)
LUMPLOC	Locations of Lumps
GROWTHS	Fish Pathology: Growths (Y/N)
GRTHLOC	Locations of Growths
ULCERS	Fish Pathology: Ulcers (Y/N)
ULC_LOC	Locations of Ulcers
FINROT	Fish Pathology: Fin Erosion (Y/N)
FROTLOC	Locations of Finrot
GILL_ERO	Fish Pathology: Gill Erosion (Y/N)
GERO_LOC	Gill Erosion Location
GILL_DC	Fish Pathology: Gill Discoloration (Y/N)
GDC_LOC	Gill Discoloration Location

3.3   Lab Data Tables

The following data tables will contain the results of analyses performed in laboratories of
samples collected in the field. Lab results are generally reported by sample id. numbers. It is
the responsibility of IM personnel to link the sample id's to the correct station, event date,
depth, and replicate number wherever necessary.

NUTRNTS - Water Quality-Nutrients Data

 This data table contains water quality measurements derived from laboratory analyses of
surface, bottom, and mid-water samples collected in the field.   There may be multiple records
per sampling event for stations, depending on the number of samples collected.

Variable Name	Variable Label
STATION	Station Identifier
EVNTDATE	Date of sampling event
LAYER	Water Layer (SRF, BOT, MID)
REP_NUM	Replicate Number (>1 indicates replicate sample)
ANALTYE	Code to identify analyte measured

CONC	Concentration of analyte
UNIT	Unit of Measure
MDL	Method Detection Limit
QACODE	QA Qualifier
LABCODE	Laboratory Identification Code

The following analyte codes are used to define the measurements in this data table.

ANALYTE	Description	Core Indicator
SI	Dissolved Silica	Y
NH4	Dissolved Ammonia	Y
NO23	Dissolved Nitrite and Nitrate	Y
NO2	Dissolved Nitrite	Y
PO4F	Dissolved Orthophosphate	Y
TSS	Total Suspended Solids	Y
CHLA	Chlorophyll a	Y
PON	Particulate Organic Nitrogen	N
TDN	Total Dissolved Nitrogen	N
TDP	Total Dissolved Phosphorous	N
PHAE	Phaeophytin	N
PHOSP	Total Particulate Phosphorous	N
POC	Particulate Organic Carbon	N

More analyte codes may be added to this list if the need arises. Analytes must be clearly described in metadata text.

SEDGRAIN - Sediment Grain Size Data

This data table contains grain size data from the composite samples collected for sediment chemistry analysis. There is one record per event, for events where sediment samples were collected.

Variable Name	Variable Label
STATION	Coastal 2000 Station Name
EVNTDATE	Date of Sampling Event
REP_NUM	Replicate Number (>1 indicates replicate sample)
SAND	Sand Content (%)
SILTCLAY	Silt/Clay Content (%)
MOISTURE	Moisture Content (%)

TOC	Total Organic Carbon (%)
QACODE	QA Qualifier
LABCODE	Laboratory Identification Code

TOXICITY - Sediment Toxicity and Microtox Test Data

This data table contains summary results from two sediment toxicity tests: an Ampelisca survival test and a Microtox test. Tests are performed on extracts from one composite sediment sample

Variable Name	Variable Label
STATION	Coastal 2000 Station Name
EVNTDATE	Date of Sampling Event
REP_NUM	Replicate Number (>1 indicates replicate sample)
SRVPCCON	Ampelisca Survival as % of Control
SRVPC_SG	Ampelisca Survival- Stat. Significance
ATOX_SIG	Ampelisca Survival- Significance
EC50_MC	Microtox Moisture Corrected Mean EC50 (%)
MTOX_SIG	Microtox Test Significance
QACODE	QA Qualifier
LABCODE	Laboratory Identification Code

SEDCHEM - Sediment Chemistry Data

This data table contains sediment chemistry measures. There are multiple records for each event- one record for each concentration measured. Three variables make up the unique identifier for records in this data table: STATION, EVNTDATE, and ANALYTE. The BATCH_ID variable identifies the "batch" of samples that were analyzed in the laboratory together. This identifier is used to link sample data to QA data associated with the batch, that is found in the CHEM_QA table.

Variable Name	Variable Label
STATION	Coastal 2000 Station Name
EVNTDATE	Date of Sampling Event
BATCH_ID	Laboratory Batch Name
ANALYTE	Code for Analyte Measured
CONC	Concentration of Analyte in Sample
CHMUNITS	Concentration Units of Measure
MDL	Method Detection Limit

QACODE   QA Qualifier
LABCODE   Laboratory Identification Code

CHEM_QA - Chemistry QA Data

This data table contains QA sample data from chemistry analysis sets. These data are not associated with a specific station or event. Instead, they relate to batches of chemistry samples analyzed together in a laboratory. The batch is identified by the variable BATCH_ID. These data can be joined to the data in the SEDCHEM on the BATCH_ID, and are used to assess and document the accuracy of those data.

Variable Name	Variable Label
BATCH_ID	Laboratory Batch Name
SAMPTYPE	QA Sample Type
ANALYTE	Code for Analyte Measured
CONC	Concentration of Analyte in Sample
CHMUNITS	Concentration Units of Measure
MDL	Method Detection Limit
QACODE	QA Qualifier
LCMNAME	Lab Control Material Name
LABCODE	Laboratory Identification Code

The following SAMPTYPE codes will be used to define QA samples.

SAMPTYPE	Description	Unit of Measure
LRB	Lab Reagent Blank	varies
LCM	Lab Control Material	ug/g or ng/g Dry W't
LCMPR	Lab Control Material % Rec.	Percent Recovery
LF1	Lab Spiked Sample- 1st Member	ug/g or ng/g Dry W't
LF1PR	Lab Spiked Sample- 1st Mem. % Rec.	Percent Recovery
LF2	Lab Spiked Sample- 2nd Member	ug/g or ng/g Dry W't
LF2PR	Lab Spiked Sample- 2nd Mem. % Rec.	Percent Recovery
MSDRPD	Rel % Difference: LF1 to LF2	Percent
LFB	Lab Fortified Blank	Percent Recovery
LSFPR	Lab Spiked Sample % Rec.	Percent Recovery
LDRPD	Lab Duplicate Relative % Diff.	Percent

More codes may be added as the need arises.

BEN_ABUN - Benthic Abundance Data

This data table contains benthic abundance measurements from up to three grab samples per event.. Like the Sediment Chemistry data table, it is in a vertical format. It contains one record for each taxa found per grab. Four fields are needed to uniquely identify a record: STATION, EVNTDATE, BENGRAB, and TAXNAME.

The TAXNAME identifies the benthic taxa- this name can be used to look up taxonomic information for each taxa in the BEN_TAXA table. States are required to supply full Scientific names to identify benthic taxa. ABUNDANC is expressed as number of organisms per square meter of sampled area. Note that different states may use different size grab samplers and may have to extrapolate to estimate this number.

The variable ID_LEVEL describes the level at which the organism was identified (SPECIES, GENUS, FAMILY, etc.)

Variable Name	Variable Label
STATION	Coastal 2000 Station Name
EVNTDATE	Date of sampling event
BENGRAB	Grab Associate with Infauna Sample (# per sq. meter)
TAXNAME	Taxa Name
ABUNDANC	Species Abundance in Sample (#)
ID_LEVEL	Level of Taxonomic ID
QACODE	QA Qualifier
LABCODE	Laboratory Identification Code

TISSCHEM - Fish and crustacean tissue chemistry data.

The data table contains one record for each chemical measured in each tissue sample analyzed. Composite samples are made up of approximately five fish or crustaceans of the same species, caught at the same station.

TAXNAME identifies the species of the fish or crustacean analyzed. Tissue type codes identify the type of tissue analyzed. Possible codes are: FW (fish whole body) FE (edible fish fillet). More codes may be added if different tissue types are analyzed.

The TISSCHEM data table contains the following elements:

Variable Name	Variable Label
STATION	Coastal 2000 Station Name
EVNTDATE	Date of Sampling Event

SAMPTYPE	Sample Type (Identifies QA Samples)
BATCH_ID	Laboratory Batch Name
TAXNAME	Scientific name of organisms analyzed
TISUTYPE	Tissue Type Code
NUM_HOM	Number of Individuals in Homogenate
MN_WGHT	Mean Weight of Individuals in Homogenate
MN_SIZE	Mean length (fish) or width (Crabs) in Homogenate (mm)
WETWGHT	Wet Weight of Sample Analyzed (g)
PCTMOIST	Percent Moisture of sample Analyzed (%)
PCTLIPID	Percent Lipid Content of Tissue Examined
ANALYTE	Code for Analyte Measured
CONC	Concentration of Analyte in Sample
CHMUNITS	Concentration Units of Measure
MDL	Method Detection Limit
QACODE	QA Code
LABCODE	Laboratory Identification Code

3.4   Lookup Tables

These tables contain information for coded variables used in the data tables. The code lists developed for the MAIA project will be used as a basis for the Coastal 2000 tables. These tables are listed in Appedix A. New codes can be added to the tables as needed.

ANALYTES - Chemical Analyte Code Table

This look-up table provides chemical names and CAS numbers (where available) for chemicals identified in the TISSCHEM file by ANALYTE. It contains the following elements:

Variable Name	Variable Label
ANALYTE	Chemical Analyte Code
CHEMNAME	Full Chemical Name
CASNUM	CAS Number

FTAXON- Fish Taxon Code Table

This look-up table provides the common name and scientific name of fish species identified in the fish community datasets.   It contains the following elements:

| Variable Name | Variable Label |
| FSCINAME | Fish Species-Scientific Name |

FCOMNAME	Fish Species-Common Name
TSN	ITIS Taxonomic Serial Number

BEN_TAXA- Benthic Taxonomy Code Table
This look-up table provides taxonomic information for benthic taxa identified in the
BEN_ABUN dataset. It contains the following elements:

Variable Name	Variable Label
TAXNAME	Taxa Name
TSN	ITIS Taxonomic Serial Number
PHYLUM	Phylum Name
CLASS	Class Name
ORDER	Order Name
FAMILY	Family Name
GENUS	Genus Name
SPECIES	Species Name

3.5   Notes on the database design

These data tables can be merged on key fields. All except the QA ane Code tables contain the
field STATION, a station identifier which can be linked to the STATIONS table to find
descriptive and locational data for the sampling station. All tables containing measurement data
also contain the field EVNTDATE, which identifies the date the samples were collected. The
two fields STATION and EVNTDATE should be used to merge tables.

Records in the SEDCHEM data table may be joined to the ANALYTES table on the field
ANALYTE to get a descriptive name and the CAS number for analytes measured.

Records in BEN_ABUN can be joined to the BEN_TAXA table on the field TAXNAME to get
taxonomic information on benthic organisms.

All tables with measurement data contain the field QACODE. This field is blank if there are no
quality assurance issues associated with the data. The field may contain one or more codes to
document QA issues. Data with significant QA problems will be excluded from this database.
All data will be reviewed and deemed acceptable for Coastal 2000 analyses.   QA qualifier
codes are described in detail in the metadata files.

4. Formatting and Transfer of ASCII data files

States will supply several types of data to the NEIMC in ASCII data files. If the states do not choose to use the regional field computer system, they can supply field data in ASCII format. If they do not use the national contract laboratories to analyze samples, they will supply lab data in ASCII format. All data other than the core indicators that will be stored at the NEIMC should also be supplied in ASCII data files.

Field and Lab data that make up core indicators should be formatted to match the structure of the SAS data tables which they will be read into as closely as possible. Any additions to the predefined table structure should be discussed with NEIMC personnel prior to data submission.

 The guiding principals of formatting ASCII data for submission to the NEIMC are:

1) data should be in fixed format or comma delimited ASCII files
1) data files should be rectangular in structure, ie. a simple structure of rows and columns.
3) data files should be checked for accuracy and completeness before sending to the NEIMC.
4) data will be accompanied by comprehensive documentation.
5) data files should have a header section before the data records begin that describes the file and all data elements.

An example of an ASCII data file is presented below.   The first 18 lines make up a header that describe the data. The header records are followed by ASCII data in comma separated value format. These data can easily be read into SAS or Excel.

```
Dataset:         Sediment Characteristics Data
File Name:       sedgrain.dat
Date Created:    02/11/00
# Variables:     8
# Header Records:  18
# Data Records:   387
Delimiter:           ,
Missing Value Symbol: .

Variables: STATION      Station Name
           EVNTDATE   Event Date
           SAND         Sand Content (%)
           SILTCLAY    Silt/Clay Content (%)
           MOISTURE    Moisture Content (%)
           TOC          Total Organic Carbon (%)
           LABCODE     Contract/Lab Identifier

STATION ,EVNTDATE,SAND   ,SILTCLAY,MOISTURE,TOC    ,LABCODE
MA97-0001,08/25/97,83.55,16.45,33.4,0.69,GRN-1,
MA97-0003,08/26/97,96.76,3.24,25.2,0.13,GRN-1,
```

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Appendix A: Northeast Coastal 2000 Code lists.

Chemical Analyte Codes- this list provides chemical names and in most cases CAS numbers for chemical analyte codes. Not all of these analytes are required by Coastal 2000 program. More codes will be added to the list if more analytes are measured by different states.

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ANALYTE    Chemical Name                          CAS Number

ABHC       alpha-Hexachlorohexane                 319846
ACENTHE    Acenaphthene                           83329
ACENTHY    Acenaphthlylene                        208968
AG         Silver                                 7440224
AL         Aluminum                               7429905
ALDRIN     Aldrin                                 309002
ANTHRA     Anthracene                             120127
AS         Arsenic                                7440382
AVS        Acid volatile sulfide                  18496258
BBHC       beta-Hexachlorohexane                  319857
BENANTH    Benz(a)anthracene                      56553
BENAPY     Benz(a)pyrene                          50328
BENEPY     Benz(e)pyrene                          192972
BENZOBFL   Benzo(b)fluoranthene                   205992
BENZOFL    Benzo(b+k)fluoranthene                 56832736
BENZOKFL   Benzo(k)fluoranthene                   207089
BENZOP     Benzo(g,h,i)perylene                   191242
BIPHENYL   Biphenyl                               92524
CD         Cadmium                                7440439
CHRYSENE   Chrysene                               218019
CISCHL     Alpha-Chlordane                        5103719
CR         Chromium                               7440473
CU         Copper                                 7440508
DBHC       delta-Hexachlorohexane                 319868
DBT        Dibutyltin                             683181
DIBENZ     Dibenz(a,h)anthracene                  53703
DIELDRIN   Dieldrin                               60571
DIMETH     2,6-dimethylnaphthalene                581420
ENDOSUI    Endosulfan I                           959988
ENDOSUII   Endosulfan II                          33213659
ENDOSULF   Endosulfan Sulfate                     1031078
ENDRIN     Endrin                                 72208
ENDRINA    Endrin Aldehyde                        7421934
ENDRINK    Endrin Ketone                          53494705
FE         Iron                                   7439896
FLUORANT   Fluoranthene                           206440
FLUORENE   Fluorene                               86737
HEPTACHL   Heptachlor                             76448
HEPTAEPO   Heptachlor epoxide                     1024573
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HEXACHL    Hexachlorobenzene                                    118741
HG         Mercury                                              7439976
INDENO     Indeno(1,2,3-c,d)pyrene                              193395
LINDANE    Lindane (gamma-BHC)                                  58899
MBT        Monobutyltin                                         1118463
MENAP1     1-methylnaphthalene                                  90120
MENAP2     2-methylnaphthalene                                  91576
MEPHEN1    1-methylphenanthrene                                 832699
MIREX      Mirex                                                2385855
MN         Manganese                                            7439965
NAPH       Naphthalene                                          91203
NI         Nickel                                               7440020
OPDDD      2,4'-DDD                                             53190
OPDDE      2,4'-DDE                                             3424826
OPDDT      2,4'-DDT                                             789026
OXYCHL     Oxychlordane                                         26880488
PB         Lead                                                 7439921
PCB101     2,2',4,5,5'-pentachlorobiphenyl                      37680732
PCB105     2,3,3',4,4'-pentachlorobiphenyl                      32598144
PCB118     2,3',4,4',5-pentachlorobiphenyl                      31508006
PCB128     2,2',3,3',4,4'-hexachlorobiphenyl                    38380073
PCB138     2,2',3,4,4',5-hexachlorobiphenyl                     35065282
PCB153     2,2',4,4',5,5'-hexachlorobiphenyl                    35065271
PCB170     2,2',3,3',4,4',5-heptachlorobiphenyl                 35065306
PCB18      2,2',5-trichlorobiphenyl                             37680652
PCB180     2,2',3,4,4',5,5'-heptachlorobiphenyl                 35065293
PCB187     2,2',3,4,5,5',6-heptachlorobiphenyl                  52663680
PCB195     2,2',3,3',4,4',5,6-octachlorobiphenyl                52663782
PCB206     2,2',3,3',4,4',5,5',6-nonachlorobiphenyl             40186729
PCB209     decachlorobiphenyl                                   2051243
PCB28      2,4,4'-trichlorobiphenyl                             7012375
PCB44      2,2',3,5'-tetrachlorobiphenyl                        41464395
PCB52      2,2',5,5'-tetrachlorobiphenyl                        35693993
PCB66      2,3',4,4'-tetrachlorobiphenyl                        32598100
PCB8       2,4'-dichlorobiphenyl                                34883437
PERYLENE   Perylene                                             198550
PHENANTH   Phenanthrene                                         85018
PPDDD      4,4'-DDD                                             72548
PPDDE      4,4'-DDE                                             72559
PPDDT      4,4'-DDT                                             50293
PYRENE     Pyrene                                               129000
SB         Antimony                                             7440360
SE         Selenium                                             7782492
SEM_CD     SEM- Cadmium
SEM_CU     SEM- Copper
SEM_NI     SEM- Nickel
SEM_PB     SEM- Lead
SEM_ZN     SEM- Zinc
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SI          Silicon                                     7440213
SN          Tin                                         7440315
TBT         Tributyltin                                 1461229
TETBT       Tetrabuyltin                                1461252
TL          Thallium                                    7440280
TNONCHL     Trans-Nonachlor                             39765805
TOC         Total organic carbon                        14762744
TRIMETH     2,3,5-trimethylnaphthalene                  2245387
ZN          Zinc                                        7440666
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Fish Taxonomy Code List- this list provides Scientific Names and Common Names and ITIS Taxonomic Serial Numbers for fish species from the Mid-Atlantic region. Records for more species will be added as fish catches for the Coastal 2000 project are reported. States reporting fish species not on this list should provide these data.

```
Scientific Name                  Common Name          TSN

ALOSA PSEUDOHARENGUS             ALEWIFE              161706
ANCHOA HEPSETUS                  STRIPED ANCHOVY      161838
ANCHOA MITCHILLI                 BAY ANCHOVY          161839
BAIRDIELLA CHRYSOURA             SILVER PERCH         169259
BREVOORTIA TYRANNUS              ATLANTIC MENHADEN    161732
CENTROPRISTIS STRIATA            BLACK SEA BASS       167687
CHAETODIPTERUS FABER             ATLANTIC SPADEFISH   169539
CHILOMYCTERUS SCHOEPFI           STRIPED BURRFISH     173384
CHLOROSCOMBRUS CHRYSURUS         ATLANTIC BUMPER      168670
CYNOSCION REGALIS                WEAKFISH             169241
CYPRINUS                         CARP                 163344
CYPRINUS CARPIO                  COMMON CARP          163343
DASYATIS AMERICANA               SOUTHERN STINGRAY    160951
DASYATIS SAY                     BLUNTNOSE STINGRAY   160954
DOROSOMA CEPEDIANUM              GIZZARD SHAD         161737
ETROPUS MICROSTOMUS              SMALLMOUTH FLOUNDER  172730
EUCINOSTOMUS ARGENTEUS           SPOTFIN MOJARRA      169015
GYMNURA ALTAVELA                 SPINY BUTTERFLY RAY  160961
GYMNURA MICRURA                  SMOOTH BUTTERFLY RAY 160962
ICTALURUS CATUS                  WHITE CATFISH        164037
ICTALURUS FURCATUS               BLUE CATFISH         163997
ICTALURUS NEBULOSUS              BROWN BULLHEAD       164043
ICTALURUS PUNCTATUS              CHANNEL CATFISH      163998
LEIOSTOMUS XANTHURUS             SPOT                 169267
LEPOMIS GIBBOSUS                 PUMPKINSEED          168144
MENTICIRRHUS AMERICANUS          SOUTHERN KINGFISH    169274
MENTICIRRHUS SAXATILIS           NORTHERN KINGFISH    169276
MICROPOGONIAS UNDULATUS          ATLANTIC CROAKER     169283
MORONE AMERICANA                 WHITE PERCH          167678
MORONE SAXATILIS                 STRIPED BASS         167680
OPSANUS TAU                      OYSTER TOADFISH      164423
ORTHOPRISTIS CHRYSOPTERA         PIGFISH              169077
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PARALICHTHYS DENTATUS          SUMMER FLOUNDER          172735
PEPRILUS ALEPIDOTUS            HARVESTFISH              172570
PEPRILUS TRIACANTHUS           BUTTERFISH               172567
PERCA FLAVESCENS               YELLOW PERCH             168469
POGONIAS CROMIS                BLACK DRUM               169288
PRIONOTUS CAROLINUS            NORTHERN SEAROBIN        166974
PRIONOTUS EVOLANS              STRIPED SEAROBIN         166975
RAJA EGLANTERIA                CLEARNOSE SKATE          160855
SERIOLA FASCIATA               LESSER AMBERJACK         168690
SPHOEROIDES MACULATUS          NORTHERN PUFFER          173290
STENOTOMUS CHRYSOPS            SCUP                     169182
SYMPHURUS PLAGIUSA             BLACKCHEEK TONGUEFISH    173062
SYNGNATHUS FUSCUS              NORTHERN PIPEFISH        166451
SYNODUS FOETENS                INSHORE LIZARDFISH       162376
TAUTOGA ONITIS                 TAUTOG                   170479
TRINECTES MACULATUS            HOGCHOKER                172982
```

Benthic Taxonomic Code List- this list provides Scientific Names and ITIS Taxonomic Serial Numbers (TSN) for benthic organisms from the Mid-Atlantic region. The database table contains additional taxonomic information (Phylum, Class, Order, Family, Genus, Species). Name More records will be added to this table as Coastal 2000 benthic abundance data are reported.   States reporting benthic taxa not on this list should provide these data.

```
TAXNAME                                  TSN

Ablabesmyia                              128079
Ablabesmyia annulata                     128081
Ablabesmyia peleensis                    128113
Ablabesmyia rhamphe                      128121
Acanthohaustorius intermedius            93981
Acanthohaustorius millsi                 93982
Acanthohaustorius similis                93985
Acteocina canaliculata                   76117
Acteon punctostriatus                    76083
Actiniaria                               52485
Aeginellidae                             95474
Aglaophamus verrilli                     66052
Aligena elevata                          80685
Almyracuma proximoculi                   90979
Alpheus heterochaelis                    96602
Alpheus normanni                         96606
Amakusanthura magnifica                  542886
Amnicola                                 70747
Ampelisca                                93321
Ampelisca abdita                         93329
Ampelisca vadorum                        93330
Ampelisca verrilli                       93331
Ampharetidae                             67718
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Amphiodia atra                         157649
Amphipoda                              93294
Amphiporus bioculatus                  57533
Amphitrite ornata                      67902
Ampithoe                               93409
Amygdalum papyrium                     79529
Anachis                                73616
Anachis obesa                          73622
Anadara transversa                     79340
Ancinus depressus                      92334
Ancistrosyllis                         65541
Ancistrosyllis hartmanae               65543
Ancistrosyllis jonesi                  65544
Ancylidae                              76568
Anguinella palmata                     155542
Anomia simplex                         79798
Anoplodactylus petiolatus              83646
Anthozoa                               51938
Anthuridae                             92144
Aoridae                                93440
Apoprionospio pygmaea                  66846
Arabella iricolor                      66441
Arabellidae                            555681
Araneae                                82732
Arcidae                                79326
Arcteonais lomondi                     68976
Aricidea                               66666
Aricidea catherinae                    66764
Aricidea cerrutii                      204494
Aricidea fragilis                      66678
Aricidea suecica                       66667
Aricidea taylori                       66684
Aricidea wassi                         66673
Asabellides oculata                    67786
Ascidiacea                             158854
Astarte castanea                       80801
Astyris lunata                         73542
Aulodrilus limnobius                   68682
Aulodrilus pigueti                     68680
Aulodrilus pluriseta                   68684
Autolytus                              65588
Balanus                                89600
Balanus improvisus                     89622
Barnea truncata                        81798
Batea catharinensis                    93528
Bathyporeia                            93990
Bathyporeia parkeri                    193514
Bathyporeia quoddyensis                93991
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Bezzia                              127778
Bhawania heteroseta                 65159
Bittium alternatum                  71989
Bivalvia                            79118
Boccardiella hamata                 67011
Boccardiella ligerica               67012
Bodotriidae                         91027
Boonea impressa                     75989
Boonea seminuda                     75991
Bowmaniella                         90259
Bowmaniella floridana               90262
Brachyura                           98276
Branchiostoma                       159681
Branchiostoma caribaeum             159682
Branchiostoma virginiae             206924
Branchiura sowerbyi                 68621
Brania                              65759
Brania clavata                      65761
Brania swedmarki                    193502
Brania wellfleetensis               65762
Bratislavia unidentata              69023
Busycon canaliculatum               74096
Cabira incerta                      65565
Caecum regulare                     71380
Callianassidae                      97732
Callinectes sapidus                 98696
Callipallene brevirostris           83670
Capitella capitata                  67415
Capitellidae                        67413
Caprella penantis                   95419
Caprellidae                         95375
Carazziella hobsonae                67003
Cardiidae                           80865
Carinoma tremaphoros                57429
Cassidinidea lunifrons              92347
Cassidinidea ovalis                 92348
Caulleriella                        67126
Caulleriella killariensis           67131
Cerapus                             93585
Cerapus tubularis                   93587
Ceratonereis irritabilis            65874
Ceratopogonidae                     127076
Cerebratulus lacteus                57455
Chaetopteridae                      67095
Chaetopterus variopedatus           67097
Chaoborus                           125904
Chaoborus albatus                   125905
Chaoborus punctipennis              125923
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Chiridotea                              92637
Chiridotea almyra                       92638
Chiridotea arenicola                    92639
Chiridotea coeca                        92640
Chiridotea nigrescens                   92642
Chiridotea tuftsi                       92643
Chironomidae                            127917
Chironomus                              129254
Chironomus stigmaterus                  129322
Cirratulidae                            67116
Cirrophorus                             66708
Cladopelma                              129350
Cladotanytarsus                         129873
Cladotanytarsus mancus                  129881
Climacia                                115086
Clinotanypus                            127996
Clinotanypus pinguis                    127998
Clymenella torquata                     67528
Coelotanypus                            128010
Coenagrionidae                          102077
Columbellidae                           73532
Corbicula fluminea                      81386
Corbicula manilensis                    81386
Corduliidae                             102020
Corophium                               93589
Corophium acherusicum                   93590
Corophium lacustre                      93594
Corophium simile                        93595
Corophium tuberculatum                  93596
Cossura longocirrata                    67207
Crangon septemspinosa                   97110
Crassispira ostrearum                   74901
Crassostrea virginica                   79872
Cratena pilata                          78713
Crepidula                               72619
Crepidula convexa                       72624
Crepidula fornicata                     72623
Crepidula maculosa                      72632
Crepidula plana                         72627
Cricotopus bicinctus                    128583
Cryptochironomus                        129368
Cryptochironomus fulvus                 129376
Cryptotendipes                          129394
Culicoides                              127340
Curculionidae                           114666
Cyathura                                92148
Cyathura burbancki                      92150
Cyathura polita                         92149
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Cyclaspis varians                              91033
Cylichnella bidentata                          76140
Cymadusa compta                                93430
Cyrnellus fraternus                            117092
Decapoda                                       95599
Demicryptochironomus                           129421
Demonax microphthalmus                         68222
Dero                                           68898
Dero obtusa                                    68907
Diadumene leucolena                            52749
Dicrotendipes                                  129428
Dicrotendipes modestus                         129448
Dicrotendipes nervosus                         129452
Dicrotendipes simpsoni                         193743
Diopatra cuprea                                66180
Diptera                                        118831
Dispio uncinata                                66941
Donax fossor                                   81248
Donax variabilis                               81248
Doridella obscura                              78439
Dorvillea rudolphi                             66523
Dorvilleidae                                   66478
Drilonereis longa                              66426
Dubiraphia                                     114126
Dyspanopeus sayi                               98901
Echinarachnius parma                           158016
Echinoidea                                     157821
Edotea montosa                                 92624
Edotia triloba                                 544186
Edwardsia elegans                              52489
Elasmopus laevis                               93761
Elmidae                                        114093
Enchytraeidae                                  68510
Endochironomus                                 129470
Enoplobranchus sanguineus                      68018
Ensis directus                                 81022
Eobrolgus spinosus                             94755
Epitonium                                      72233
Epitonium greenlandicum                        72237
Epitonium rupicola                             72249
Epoicocladius                                  128682
Erichsonella                                   92617
Erichsonella attenuata                         92618
Erichsonella filiformis                        92619
Ericthonius brasiliensis                       93613
Eteone foliosa                                 65270
Euceramus praelongus                           98081
Eunicidae                                      66260
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Eupleura caudata                        73300
Eurypanopeus depressus                  98759
Eurythoe                                65195
Eusarsiella                             84300
Eusarsiella zostericola                 205822
Exogone dispar                          65722
Fargoa bushiana                         75997
Ferrissia                               76569
Gammarus                                93773
Gammarus daiberi                        93779
Gammarus fasciatus                      93780
Gammarus palustris                      93782
Gammarus tigrinus                       93781
Gastropoda                              69459
Gemma gemma                             81511
Geukensia demissa                       79555
Gillia altilis                          70665
Gitanopsis                              93397
Glycera                                 66102
Glycera americana                       66106
Glycera dibranchiata                    66107
Glyceridae                              66101
Glycinde solitaria                      66132
Glyptotendipes                          129483
Gobiidae                                171746
Gomphidae                               101664
Goniadidae                              66126
Gyptis brevipalpa                       65532
Haber speciosus                         68746
Haminoea solitaria                      76258
Hargeria rapax                          92067
Harmothoe extenuata                     64509
Harmothoe imbricata                     64513
Harnischia                              129516
Harpacticoida                           86110
Haustoriidae                            93959
Havelockia scabra                       158181
Hemichordata                            158616
Heptageniidae                           100504
Heteromastus filiformis                 67420
Hexagenia                               101537
Hexagenia bilineata                     101538
Hexagenia limbata                       101552
Hippolyte pleuracantha                  96750
Hirudinea                               69290
Hobsonia florida                        97314
Holothuroidea                           158140
Hutchinsoniella macracantha            83682
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Hydrobia                          70494
Hydrobia truncata                 70495
Hydrobiidae                       70493
Hydroides                         68281
Hydroides dianthus                68282
Hydroides protulicola             68283
Hypereteone heteropoda            65266
Ilyanassa obsoleta                74169
Ilyanassa trivittata              74170
Ilyodrilus templetoni             68662
Ischadium recurvum                79561
Ischyroceridae                    94143
Isochaetides freyi                68810
Jassa falcata                     94171
Jassa marmorata                   94172
Kiefferulus                       129522
Kurtziella cerina                 74806
Kurtziella limonitella            74807
Laeonereis culveri                65965
Laevapex fuscus                   76577
Leitoscoloplos                    66653
Leitoscoloplos fragilis           66656
Leitoscoloplos robustus           66600
Lembos smithi                     93458
Lepidactylus dytiscus             93998
Lepidametria commensalis          64702
Lepidonotus sublevis              64610
Leptocheirus                      93485
Leptocheirus plumulosus           93486
Leptosynapta tenuis               158432
Leucon americanus                 90790
Libinia dubia                     98454
Limnodrilus                       68638
Limnodrilus cervix                68652
Limnodrilus hoffmeisteri          68639
Limnodrilus udekemianus           68644
Limulus polyphemus                82703
Lineidae                          57443
Lipinella                         129531
Listriella                        94212
Listriella barnardi               94213
Listriella clymenellae            94214
Littoridinops tenuipes            70528
Loimia medusa                     68015
Luconacia incerta                 95440
Lumbrineridae                     66335
Lumbrineris tenuis                66351
Lyonsia hyalina                   81926
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Lysianopsis alba                       94466
Macoma                                 81033
Macoma baltica                         81052
Macoma mitchelli                       81054
Macoma tenta                           81055
Macroclymene zonalis                   67632
Mactridae                              80942
Magelona                               67043
Majidae                                98417
Maldanidae                             67515
Malmgrenia lunulata                    64518
Manayunkia aestuarina                  68171
Mancocuma stellifera                   91030
Marginella apicina                     74399
Marphysa sanguinea                     66301
Mediomastus                            67438
Mediomastus ambiseta                   67439
Mediomastus californiensis             67440
Melanella                              72440
Melinna                                67762
Melinna maculata                       67766
Melita                                 93806
Melita nitida                          93812
Mercenaria mercenaria                  81496
Microdeutopus gryllotalpa              93477
Microphiopholis atra                   -1063
Microphthalmus                         65476
Microphthalmus sczelkowii              65477
Microprotopus raneyi                   94122
Microtendipes pedellus                 129541
Micrura leidyi                         57477
Mitrella lunata                        73552
Molanna                                116474
Molgula arenata                        159576
Molgula manhattensis                   159557
Monoculodes                            94519
Monoculodes edwardsi                   94539
Monopylephorus                         68722
Monopylephorus rubroniveus             68728
Montacutidae                           80650
Monticellina dorsobranchialis          67152
Mucrogammarus mucronatus               -1069
Mulinia lateralis                      80959
Musculium                              81427
Musculium transversum                  81428
Mya arenaria                           81692
Mysella planulata                      80661
Mysidacea                              89807
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Mysidae                          89856
Mysidopsis                       90138
Mysidopsis almyra                90141
Mysidopsis bigelowi              90139
Mysidopsis furca                 90143
Mytilopsis leucophaeata          81335
Nais simplex                     68957
Nais variabilis                  68959
Nanocladius                      128844
Nanocladius balticus             128866
Nanocladius crassicornus         128852
Nassarius trivittatus            74109
Nassarius vibex                  74107
Naticidae                        72878
Neanthes arenaceodentata         65895
Neanthes succinea                65918
Nematoda                         563956
Nemertea                         57411
Neomysis americana               90062
Neopanope sayi                   98775
Nephtyidae                       66010
Nephtys                          66011
Nephtys bucera                   66027
Nephtys incisa                   66028
Nephtys picta                    66030
Nereididae                       65870
Nereiphylla fragilis             65336
Nereis                           65902
Nereis acuminata                 65926
Nereis riisei                    65927
Nereis succinea                  65918
Neumania                         83103
Neverita duplicata               72961
Nilothauma                       129548
No organisms present             -100
Notocirrus spiniferus            66450
Notomastus                       67423
Nucula proxima                   79132
Nudibranchia                     78156
Odonata                          101593
Odostomia                        75447
Odostomia engonia                75504
Oecetis                          116607
Oecetis inconspicua              116613
Oedicerotidae                    94489
Ogyrides alphaerostris           96737
Oligochaeta                      68422
Onuphidae                        66157
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Ophiuroidea                          157325
Orbiniidae                           66570
Ostracoda                            84195
Ovalipes                             98710
Ovalipes ocellatus                   98714
Owenia fusiformis                    67647
Oxyurostylis smithi                  90923
Pagastiella                          129561
Paguridae                            97774
Pagurus                              97775
Pagurus longicarpus                  97807
Pagurus pollicaris                   97809
Paleanotus heteroseta                65152
Panopeus herbstii                    98778
Paracaprella pusilla                 95435
Paracaprella tenuis                  95434
Paracereis caudata                   92290
Parachironomus                       129564
Parachironomus directus              129573
Paracladopelma                       129597
Parahaustorius                       94003
Parahaustorius attenuatus            94004
Parahaustorius longimerus            94006
Parahesione luteola                  65493
Paralauterborniella                  129616
Parametopella cypris                 94927
Paranais                             68862
Paranais litoralis                   68863
Paraonidae                           66659
Paraonis fulgens                     66697
Parapionosyllis longicirrata         65824
Paraprionospio pinnata               66937
Parasterope pollex                   84233
Parougia caeca                       66553
Parvilucina multilineata             80388
Pectinaria gouldi                    67709
Pentamera pulcherrima                158230
Periploma fragile                    81943
Perophora viridis                    159138
Petricola pholadiformis              81627
Phascolion strombi                   154734
Pherusa affinis                      67247
Phoronis                             155462
Phoronis architecta                  155466
Phoronis psammophila                 155467
Photis                               94061
Photis pugnator                      94077
Photis reinhardi                     94063
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Phoxocephalidae                          94633
Phyllodoce                               65359
Phyllodoce arenae                        65366
Phyllodocidae                            65228
Phylocentropus                           115361
Piguetiella michiganensis                68994
Pilargidae                               65540
Pinnixa                                  98993
Pinnixa chaetopterana                    98998
Piromis roberti                          67272
Pisidium                                 81400
Pisidium compressum                      81406
Pista                                    67940
Pista palmata                            67947
Pista quadrilobata                       67951
Placobdella papillifera                  69364
Pleustidae                               94768
Pleusymtes glaber                        94797
Podarke obscura                          65517
Podarkeopsis levifuscina                 555698
Polinices duplicatus                     72918
Polycirrus                               67959
Polycirrus eximius                       67963
Polydora                                 66789
Polydora colonia                         66808
Polydora commensalis                     66800
Polydora cornuta                         204501
Polydora ligni                           66801
Polydora socialis                        66791
Polydora websteri                        66802
Polygordius                              68419
Polynoidae                               64397
Polypedilum                              129657
Polypedilum convictum                    129671
Polypedilum halterale                    129684
Polypedilum illinoense                   129686
Polypedilum scalaenum                    129708
Polypedilum tritum                       129719
Potamilla reniformis                     68136
Prionospio                               66838
Prionospio heterobranchia                66843
Prionospio perkinsi                      66854
Pristinella jenkinae                     69030
Pristinella osborni                      69026
Probezzia                                127729
Proceraea cornuta                        65590
Procladius                               128277
Procladius bellus                        128285
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Procladius sublettei                        128316
Protohaustorius deichmannae                 94009
Protohaustorius wigleyi                     94010
Pseudeurythoe ambigua                       65177
Pseudeurythoe paucibranchiata               65175
Pseudochironomus                            129851
Pseudohaustorius                            94013
Pseudohaustorius caroliniensis              94015
Pseudunciola obliquua                       93640
Ptilanthura tenuis                          92155
Ptilanthura tricarina                       92156
Pyramidella                                 75947
Pyramidella candida                         75948
Pyramidella crenulata                       75950
Pyramidellidae                              75446
Quistradrilus multisetosus                  68794
Rangia cuneata                              80962
Rheotanytarsus                              129952
Rhepoxynius                                 94727
Rhepoxynius epistomus                       94728
Rhepoxynius hudsoni                         94730
Rhithropanopeus harrisii                    98790
Rhynchocoela                                57411
Rictaxis punctostriatus                     76083
Sabellaria vulgaris                         67671
Sabellidae                                  68076
Saccoglossus kowalevskii                    158626
Sayella chesapeakea                         70946
Scolecolepides viridis                      66861
Scolelepis                                  66942
Scolelepis bousfieldi                       66944
Scolelepis texana                           66949
Scoletoma tenuis                            66351
Scoloplos rubra                             66603
Serpulidae                                  68232
Sialis                                      115002
Sialis mohri                                115010
Sigalion arenicola                          65094
Sigambra bassi                              65554
Sigambra tentaculata                        65552
Sipuncula                                   154520
Solemya velum                               79316
Sphaeriidae                                 112737
Sphaerium                                   81391
Sphaerosyllis taylori                       65747
Spio pettiboneae                            66870
Spiochaetopterus costarum                   67107
Spiochaetopterus costarum oculatus          67108
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Spiochaetopterus oculatus                  67110
Spionidae                                  66781
Spiophanes bombyx                          66897
Spirorbis                                  68248
Spisula solidissima                        80944
Squilla empusa                             99143
Stenelmis                                  114095
Stenothoe georgiana                        94937
Stenothoe minuta                           94936
Sthenelais                                 65082
Sthenelais boa                             65084
Stictochironomus                           129785
Stictochironomus devinctus                 129790
Streblospio benedicti                      66939
Streptosyllis arenae                       65818
Streptosyllis pettiboneae                  65822
Stylochus ellipticus                       54089
Syllidae                                   65587
Syllides verrilli                          65812
Synaptidae                                 158425
Synchelidium americanum                    94567
Tagelus                                    81271
Tagelus divisus                            81274
Tagelus plebeius                           81272
Tanaidacea                                 91061
Tanaissus psammophilus                     91573
Tanypus                                    128324
Tanypus neopunctipennis                    128329
Tanystylum orbiculare                      83618
Tanytarsini                                129872
Tanytarsus                                 129978
Tellina                                    81074
Tellina agilis                             81088
Tellinidae                                 81032
Terebellidae                               67899
Thalassinidea                              96105
Tharyx acutus                              67147
Tharyx annulosus                           67148
Travisia parva                             67372
Tribelos jucundus                          129827
Trichoptera                                115095
Tubificidae                                68585
Tubificoides                               68687
Tubificoides heterochaetus                 68594
Tubificoides wasselli                      68692
Tubulanus                                  57416
Turbellaria                                53964
Turbonilla                                 75676
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Turbonilla interrupta              75687
Unciola                            93629
Unciola serrata                    93633
Unionicola                         83073
Unionidae                          79913
Upogebia affinis                   98209
Urosalpinx cinerea                 73264
Valvata                            70346
Valvata tricarinata                70354
Xanthidae                          98748
Xenanthura brevitelson             92162
Yoldia limatula                    79273
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Appendix B: Metadata Questionnaires

Coastal 2000 Northeast Region Metadata Questionnaire.

States supplying data to Coastal 2000 are requested to supply the following information
pertaining to data collected for the program

1   Field Sampling Methods.

V: Personnel Information. Names of captains, field coordinators

1.2   Platform and gear used. Describe the following

    1.2.1   Boat (type and length)

    1.2.2   Navigational Instruments (make, models, calibration technique)

    1.2.3   Water Monitoring instruments (make, models, calibration techniques)

        Describe deployment methods and QA protocols.

    1.2.4   Nutrients Sample Processing- describe filtration and sample handling.

    1.2.5   Sediment "Grab" Sampler (make, model, area sampled)

        Describe deployment methods and QA protocols.

    1.2.6   Fishing Gear. Describe trawling methods and QA protocols.

1.3   References. Provide references to relevant field methods manuals.

2   **Laboratory Methods.** For lab results data, the following information is requested. If
           national Coastal 2000 contract lab was used to analyze samples, no information is
           needed from the state.

2.1   Nutrients Analysis

    2.1.1   Personnel Information. Names chief lab technicians responsible for samples

    2.1.2   Instruments used. List all analytes measured, with a brief description of the
          instrument and lab procedures used.

    2.1.3   Detection Limits. Provide for all analytes.

    2.1.3   References. Provide references to lab methods manuals or SOP's.

2.2   Sediment Grain Size

    2.1.1   Personnel Information. Names chief lab technicians responsible for samples

    2.2.2   Instruments used.

    2.2.3   References. Provide references to lab methods manuals or SOP's.

2.3   Sediment Toxicity.

    2.3.1   Personnel Information. Names chief lab technicians responsible for samples

    2.3.2   Ampellisca test. Describe test protocol briefly

    2.3.3   Microtox Test. Describe test protocol briefly

2.3.4   References. Provide references to lab methods manuals or SOP's.

2.4   Sediment Chemistry

    2.4.1   Personnel Information. Names chief lab technicians responsible for samples

    2.4.2   Instruments used. List all analytes measured, with a brief descripion of the instrument and lab procedures used.

    2.4.3   Detection Limits. Provide for all analytes.

    2.4.4   References. Provide references to lab methods manuals or SOP's.

2.5   Tissue Chemistry

    2.5.1   Personnel Information. Names chief lab technicians responsible for samples

    2.5.2   Composite preparation. Describe how tissue composite samples were created.

    2.5.3   Lab Instruments. List all analytes measured, with a brief descripion of the instrument and lab procedures used.

    2.5.4   Detection Limits. Provide for all analytes.

    2.5.3   References. Provide references to lab methods manuals or SOP's.

Appendix C: Field Data Sheets

Final copies of datasheets will be attached.