UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
MID-ATLANTIC INTEGRATED ASSESSMENT
-SPECIAL CHESAPEAKE BAY DATA SUBSET
DATA DICTIONARY

USEPA- Mid-Atlantic Integrated Assessment -Special Chesapeake Bay Data Subset
- Taxonomic Data Dictionary
- Biomass Data Dictionary
- Sediment Data Dictionary
- Water Quality Data Dictionary
- Event and Biota Event Data Dictionary

NOTE THIS DICTIONARY WAS REVISED ON 7/30/2012 AND SUPERSEDES ALL OTHER CBP DICTIONARIES FOR USEPA-MID-ATLANTIC INTEGRATED ASSESSMENT -SPECIAL CHESAPEAKE BAY DATA SUBSET

#PURPOSE
The main objectives of the MAIA-Estuaries program are: (1) to evaluate the ecological condition of the Mid-Atlantic estuaries by measuring key properties of the water, sediment, and the community of organisms; (2) to focus attention on small estuaries in order to develop better monitoring approaches for these critical systems; and (3) to develop partnerships among federal and state environmental organizations.

The Environmental Monitoring and Assessment Program (EMAP) is an EPA research and monitoring program designed to provide unbiased assessments of the condition of selected resources over a wide region. A key feature of the program is a probabilistic sampling strategy that randomly selects sampling sites and assigns weighting factors based on area to all measured results. EMAP's strategy was adopted by the Mid-Atlantic Integrated Assessment (MAIA) program, which was designed to assess the conditions of the estuaries, forests, streams and lakes, and agricultural lands in the eight-state Mid-Atlantic region. This file contains data measured in MAIA estuaries during the Summers of 1997 and 1998. Samples were collected for water and sediment analyses primarily in 1997, with a few additional sites sampled in 1998. Fish samples were collected only in 1998. Several estuaries were designated as intensive sites and were sampled in greater detail.

NAMES AND DESCRIPTIONS OF ASSOCIATED DATA DICTIONARY FILE
2012 User's Guide to Chesapeake Bay Program Biological Data

#PROJECT TITLE:
USEPA- Mid-Atlantic Integrated Assessment -Special Chesapeake Bay Data Subset

CURRENT PRINCIPAL INVESTIGATORS:

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#PROJECT FUNDING AGENCIES:
U.S. Environmental Protection Agency

#PROJECT COST
Not Available

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#LOCATION OF STUDY
Chesapeake Bay and its Tidal Tributaries

#DATE INTERVALS
07/26/1997 to 08/29/1998
#ABSTRACT

The Environmental Monitoring and Assessment Program (EMAP) is an EPA research and monitoring program designed to provide unbiased assessments of the condition of selected resources over a wide region. A key feature of the program is a probabilistic sampling strategy that randomly selects sampling sites and assigns weighting factors based on area to all measured results. EMAP's strategy was adopted by the Mid-Atlantic Integrated Assessment (MAIA) program, which was designed to assess the conditions of the estuaries, forests, streams and lakes, and agricultural lands in the eight-state Mid-Atlantic region. This file contains data measured in MAIA estuaries during the Summers of 1997 and 1998. Samples were collected for water and sediment analyses primarily in 1997, with a few additional sites sampled in 1998. Fish samples were collected only in 1998. Several estuaries were designated as intensive sites and were sampled in greater detail.

The partners in MAIA-Estuaries program are: (1) The U.S. Environmental Protection Agency (USEPA), including both the Atlantic Ecology Division (AED) and the Gulf Ecology Division (GED); (2) National Park

Service (NPS) under their project “Maryland Coastal Bays Monitoring”; (3) National Oceanographic and Atmospheric Administration (NOAA) which conducted sampling both in the Delaware Bay (DB) under their “National Status and Trends Program” and in the Carolinian Province (CP); and (4) The Chesapeeake Bay Program (CBP), which is a consortium of federal, state, and local governments and nongovernmental organizations. Each partner was responsible for collecting, processing, and reviewing data. The USEPA Atlantic Ecology Division was responsible for final assembly and review of all data.

In 2002 Chesapeake Bay Program’s Living Resources data manger obtained selected MAIA data for the Chesapeake Bay estuary for inclusion to the programs tidal bentic databse used for going programmatic data analysis. This was data collected by the MAIA program in addition to the ongoing CBPO funded sampling efforts.

Data subsetted out of the MAIA data set included: Benthic species composition and biomass, Dissolved oxygen concentration, Salinity, Temperature, Depth, Dissolved Oxygen,sediment grain size and pH. Other MAIA collected parameter for the Chesapeake Bay region can be obtained at http://www.epa.gov/emap/maia/html/data/estuary/9798/index.html

STATION NAMES AND DESCRIPTIONS

Two basic sample site selection designs were implemented for the sampling in 1997-98 for MAIA Estuaries: for estuarine waters treated as a continuous resource, sampling stations were selected randomly within hexagons of a randomly overlaid grid; and for estuaries treated as discrete resources; a random selection from a list frame of individual estuarine systems was employed. The approach for continuous resource is the randomized-tessellation stratified (RTS) design.

Design Specifics for MAIA Intensively-Sampled Small Estuarine Systems (Sampling Strata- ISSE).

design	randomized tessellation stratified (RTS) design uniform hexagonal grid overlain on each system one random site selected within each grid
inclusion probabilities	equal within each system, but different values for each system
estimation procedure	continuous resource equations with uniform inclusion probabilities for each system
information needs	area for each system hex grid overlay specifics for each system
Systems sampled	Cherrystone Inlet Mobjack Bay Pamunkey River Pocomoke River Severn River South River St. Jerome Creek

Design Specifics for MAIA Randomly-Selected Small Estuarine Systems (Sampling Strata- RSSE).

design	from list frame, random selection of systems to sample one random site within each system
inclusion probabilities	equal to area of each small estuarine system
estimation procedure	discrete resource equations
information needs	list of all small estuarine systems area of each small estuarine system total area of all small estuarine systems
Systems sampled	Beckwith Creek Cherrystone Inlet Chesapeake Bay Mainstem Chickahominy River Cox Creek Eastern Bay Elk River Guilford Creek Lynnhaven Bay Manokin River Milford Haven Old Road Bay Patapsco River Piankatank River Tar Bay Warwick River Wye East River

STATION NAMES AND POSITIONS

>Final Site Positions. Sampling station list for EPA conducted survey done during 1997 and 1998. The were all randomly selected sites. Site selection type (STRATUM) esturine system (ESTUARY), Longitude, (decimal degrees), Latitude (decimal degrees) in data sets are provided below. All station positions have been converted to NAD84 Coordinates.

STATION	STRATUM	ESTUARY	STA_LAT	STA_LNG
MA97-0061	ISSE	Mobjack Bay	37.294	-76.365
MA97-0062	ISSE	Mobjack Bay	37.303	-76.33
MA97-0063	ISSE	Mobjack Bay	37.331	-76.317
MA97-0064	ISSE	Mobjack Bay	37.321	-76.369
MA97-0065	ISSE	Mobjack Bay	37.333	-76.358
MA97-0066	ISSE	Mobjack Bay	37.341	-76.33

STATION	STRATUM	ESTUARY	STA_LAT	STA_LNG
MA97-0067	ISSE	Mobjack Bay	37.336	-76.4
MA97-0068	ISSE	Mobjack Bay	37.349	-76.376
MA97-0069	ISSE	Mobjack Bay	37.368	-76.345
MA97-0070	ISSE	Mobjack Bay	37.365	-76.399
MA97-0073	RSSE	Beckwith Creek	38.568	-76.207
MA97-0076	RSSE	Cherrystone Inlet	37.305	-76.016

STATION	STRATUM	ESTUARY	STA_LAT	STA_LNG
MA97-0077	RSSE	Chickahominy River	37.301	-76.875
MA97-0078	RSSE	Cox Creek	38.929	-76.315
MA97-0079	RSSE	Elk River	39.507	-75.916
MA97-0080	RSSE	Milford Haven	37.483	-76.275
MA97-0081	RSSE	Guilford Creek	37.848	-75.686
MA97-0084	RSSE	Chesapeake Bay Mainstem	37.644	-76.31
MA97-0085	RSSE	Lynnhaven Bay	36.887	-76.075
MA97-0086	RSSE	Manokin River	38.115	-75.888
MA97-0089	RSSE	Old Road Bay	39.214	-76.452
MA97-0090	RSSE	Patapsco River	39.248	-76.553
MA97-0091	RSSE	Piankatank River	37.522	-76.412
MA97-0094	RSSE	Tar Bay	38.343	-76.258
MA97-0096	RSSE	Warwick River	37.083	-76.543
MA97-0097	RSSE	Wye East River	38.877	-76.126
MA97-0110	ISSE	Severn River	39.08	-76.602
MA97-0111	ISSE	Severn River	39.074	-76.592
MA97-0112	ISSE	Severn River	39.063	-76.561
MA97-0113	ISSE	Severn River	39.059	-76.559
MA97-0114	ISSE	Severn River	39.059	-76.569
MA97-0115	ISSE	Severn River	39.057	-76.548
MA97-0116	ISSE	Severn River	39.052	-76.543
MA97-0117	ISSE	Severn River	39.048	-76.565
MA97-0118	ISSE	Severn River	39.047	-76.555
MA97-0119	ISSE	Severn River	39.048	-76.536
MA97-0120	ISSE	Severn River	39.043	-76.548
MA97-0121	ISSE	Severn River	39.043	-76.559
MA97-0122	ISSE	Severn River	39.035	-76.558
MA97-0123	ISSE	Severn River	39.034	-76.532
MA97-0124	ISSE	Severn River	39.034	-76.53
MA97-0125	ISSE	Severn River	39.034	-76.541
MA97-0126	ISSE	Severn River	39.03	-76.53
MA97-0127	ISSE	Severn River	39.022	-76.514
MA97-0128	ISSE	Severn River	39.017	-76.536
MA97-0129	ISSE	Severn River	39.013	-76.514
MA97-0130	ISSE	Severn River	39.007	-76.51
MA97-0131	ISSE	Severn River	39.004	-76.523
MA97-0132	ISSE	Severn River	39.003	-76.494
MA97-0133	ISSE	Severn River	38.998	-76.502
MA97-0134	ISSE	Severn River	38.989	-76.48

STATION	STRATUM	ESTUARY	STA_LAT	STA_LNG
MA97-0135	ISSE	Severn River	38.977	-76.464
MA97-0136	ISSE	Severn River	38.974	-76.469
MA97-0137	ISSE	Severn River	38.969	-76.471
MA97-0138	ISSE	South River	38.967	-76.597
MA97-0139	ISSE	Severn River	38.962	-76.482
MA97-0140	ISSE	South River	38.956	-76.581
MA97-0141	ISSE	South River	38.956	-76.575
MA97-0142	ISSE	South River	38.953	-76.565
MA97-0143	ISSE	South River	38.952	-76.57
MA97-0144	ISSE	South River	38.951	-76.538
MA97-0145	ISSE	South River	38.95	-76.55
MA97-0146	ISSE	South River	38.949	-76.537
MA97-0147	ISSE	South River	38.941	-76.509
MA97-0148	ISSE	South River	38.939	-76.58
MA97-0149	ISSE	South River	38.938	-76.535
MA97-0150	ISSE	South River	38.933	-76.524
MA97-0151	ISSE	South River	38.932	-76.519
MA97-0152	ISSE	South River	38.929	-76.521
MA97-0153	ISSE	South River	38.926	-76.489
MA97-0154	ISSE	South River	38.925	-76.503
MA97-0155	ISSE	South River	38.923	-76.492
MA97-0156	ISSE	South River	38.918	-76.482
MA97-0157	ISSE	South River	38.915	-76.505
MA97-0158	ISSE	South River	38.913	-76.496
MA97-0159	ISSE	South River	38.912	-76.481
MA97-0160	ISSE	South River	38.91	-76.5
MA97-0161	ISSE	South River	38.909	-76.47
MA97-0162	ISSE	South River	38.907	-76.476
MA97-0163	ISSE	South River	38.903	-76.488
MA97-0164	ISSE	South River	38.899	-76.481
MA97-0165	ISSE	South River	38.893	-76.486
MA97-0168	ISSE	Pamunkey River	37.571	-77.023
MA97-0169	ISSE	Pamunkey River	37.569	-76.983
MA97-0170	ISSE	Pamunkey River	37.566	-76.973
MA97-0171	ISSE	Pamunkey River	37.566	-76.883
MA97-0172	ISSE	Pamunkey River	37.563	-76.903
MA97-0173	ISSE	Pamunkey River	37.561	-76.994
MA97-0174	ISSE	Pamunkey River	37.56	-76.961
MA97-0175	ISSE	Pamunkey River	37.557	-76.877

STATION	STRATUM	ESTUARY	STA_LAT	STA_LNG
MA97-0176	ISSE	Pamunkey River	37.549	-76.97
MA97-0177	ISSE	Pamunkey River	37.549	-76.891
MA97-0178	ISSE	Pamunkey River	37.55	-76.816
MA97-0228	ISSE	Cherrystone Inlet	37.319	-75.996
MA97-0229	ISSE	Cherrystone Inlet	37.319	-75.988
MA97-0230	ISSE	Cherrystone Inlet	37.318	-76.008
MA97-0231	ISSE	Cherrystone Inlet	37.314	-75.994
MA97-0232	ISSE	Cherrystone Inlet	37.312	-76.005
MA97-0233	ISSE	Cherrystone Inlet	37.309	-76.013
MA97-0234	ISSE	Cherrystone Inlet	37.303	-76.008
MA97-0235	ISSE	Cherrystone Inlet	37.3	-76.015
MA97-0236	ISSE	Cherrystone Inlet	37.291	-76.018
MA97-0237	ISSE	St. Jerome Creek	38.147	-76.354
MA97-0238	ISSE	St. Jerome Creek	38.139	-76.35
MA97-0239	ISSE	St. Jerome Creek	38.131	-76.35
MA97-0240	ISSE	St. Jerome Creek	38.125	-76.349
MA97-0241	ISSE	St. Jerome Creek	38.121	-76.345

STATION	STRATUM	ESTUARY	STA_LAT	STA_LNG
MA97-0242	ISSE	St. Jerome Creek	38.119	-76.347
MA97-0243	ISSE	St. Jerome Creek	38.115	-76.348
MA97-0244	ISSE	St. Jerome Creek	38.115	-76.343
MA97-0245	ISSE	St. Jerome Creek	38.114	-76.355
MA97-0246	ISSE	St. Jerome Creek	38.113	-76.343
MA97-0247	ISSE	Pocomoke River	38.189	-75.386
MA97-0248	ISSE	Pocomoke River	38.186	-75.394
MA97-0249	ISSE	Pocomoke River	38.145	-75.45
MA97-0250	ISSE	Pocomoke River	38.143	-75.444
MA97-0251	ISSE	Pocomoke River	38.053	-75.635
MA98-1021	RSSE	Eastern Bay	38.934	-76.223
MA98-1022	RSSE	Eastern Bay	38.868	-76.271
MA98-1023	RSSE	Eastern Bay	38.898	-76.24
MA98-1024	RSSE	Eastern Bay	38.851	-76.349
MA98-1026	RSSE	Eastern Bay	38.85	-76.212
MA98-1027	RSSE	Eastern Bay	38.825	-76.246
MA98-1028	RSSE	Eastern Bay	38.834	-76.235
MA98-1029	RSSE	Eastern Bay	38.799	-76.195
MA98-1030	RSSE	Eastern Bay	38.797	-76.204

METHODOLOGY DESCRIBING FIELD COLLECTION OF SAMPLES

The data described in this data set were collected by USEPA field crews will be described here.

These probability-based Base Sampling Sites were used to characterize the water quality of the province. Sampling at most stations included: a CTD cast, collection of three samples for benthic biology and grain size, collection of sediment for chemical analyses, grain size characterization and toxicity testing, performance of a fish trawl for determination of species composition and abundance and for collection of samples observed as having one or more gross external pathologies.

Samples and in situ measurements were collected for characterization of: (1) physical habitat (depth, temperature, salinity, dissolved oxygen, pH, water clarity, organic carbon content in sediments, and grain size of sediments); (2) water quality (dissolved and particulate nutrients, total suspended solids, chlorophyll a, and phaeophytin); (3) contamination in sediments (total metals, simultaneously-extracted metals, acid volatile sulfide, PAHs, PCBs, pesticides, butyltins, and sediment toxicity); (4) contaminants in fish and crab tissue (total metals, PAHs, PCBs, and pesticides); and (5) biotic condition (diversity and abundance of benthic invertebrates, fish and shellfish, and external pathology and spleen macrophage aggregates in fish).

A Hydrolab Datasonde was used to measure in situ values of physical habitat parameters at meter intervals, and water clarity was determined with a Secchi disk. Water samples were collected with a 5-L Go-Flo® bottle in the surface and bottom layers (one meter from the air and sediment interface, respectively), and filtered with 0.7-micron glass-fiber filters. The water and filters were frozen for later analysis. Sediments were collected with a 0.04-m2 Young-modified Van Veen grab sampler. Surface sediments (composites of

upper 2 cm) were collected from each station and used to measure physical, chemical, and toxicological characteristics of the sediments.. All analyses were performed on samples that were stored frozen.

Sediment was also collected separately with a 0.04-m2 Young-modified Van Veen grab sampler for the purpose of measuring species composition, enumeration, and biomass determination of infaunal and epifaunal benthic macroinvertebrates. One to three grab samples were taken from each station. The contents were live-sieved in the field with a 0.5 mm mesh screen, and organisms retained on the screen were fixed in a 10% buffered formalin with rose bengal for preservation and visualization. Only organisms larger than 0.5 mm were processed; therefore, groups such as turbellarian flatworms, nematodes, ostracods, harpacticoid copepods and foraminifera were excluded from the identification process.

METHODOLOGY DESCRIBING CHAIN OF CUSTODY FOR BIOLOGICAL LAB SAMPLES

Please see the following document for details:

Strobel, C.J. 1998. Mid Atlantic Integrated Assessment / Environmental Monitoring and Assessment Program - Estuaries: Virginian Province Quality Assurance Project Plan. U.S. EPA, Office of Research and Development, NHEERL-AED, Narragansett, RI. June 1998.

BIOLOGICAL ENUMERATION TECHNIQUES

BENTHIC SAMPLES: The samples were washed through 500 um mesh sieves. Benthic fauna were sorted from the sediments, identified to species, if possible, and enumerated. Benthic fauna identified included those commonly termed 'macrofauna', i.e., those metazoan organisms retained by a 0.5 mm mesh sieve. 'Meiofaunal' groups were not identified or enumerated. These groups included: nematodes, ostracods, turbellarians, harpacticoid copepods and foraminifera. In addition to meiofauna, taxonomic groups having only planktonic forms were excluded from the identification process. Examples of these groups were copepods andcladocerans. Benthic fauna were identified to the lowest practical taxonomic level. Macrobenthos were identified to species, except for the following groups: class anthozoa (class), subclass copepoda (order), phylum nemertinea (phylum), subclass ostracoda (subclass) and class turbellaria (class). For samples collected in low salinity (less than 5 ppt) water, oligochaetes and chironomids were identified to species, where possible. Above 5 ppt salinity, individuals of these groups from higher salinities were not further differentiated.

BIOMASS: Identified and counted organisms were grouped by categories of taxonomic and ecologically significance to be used in biomass determinations, placed in vials and preserved. Biomass was determined using formaldehyde dry weight. Soft-bodied organisms and those having significant inorganic body parts were treated separately. The dry weight biomass of soft-bodied organisms was directly measured after drying. However, hard-bodied organisms (e.g., bivalves, gastropods, and echinoderms) were acidified prior to measuring dry weight in order to remove calcium carbonate (bivalves >2 cm in length were shucked rather than acidified). Biomass measurements were made using an analytical balance with an accuracy of 0.1 mg. Biomass was determined as shell-free dry weight after drying to a constant weight at 60 degrees C.

In the data base, biomass data are reported along with an abundance value (the number of organisms included in the sample). Data base records with a biomass value greater than zero but with an abundance equal to zero indicate that organism fragments were included in the sample.

#FORMULAS AND CALCULATIONS FOR BIOLOGICAL DATA
BIOLOGICAL VARIABLES QA/QC PLAN FOR PROJECT

All EMAP-VP data used in the generation of this report were subjected to rigorous quality assurance measures as described in the following Quality Assurance Project Plan:

Strobel, C.J. 1998. Mid Atlantic Integrated Assessment / Environmental Monitoring and Assessment Program - Estuaries: Virginian Province Quality Assurance Project Plan. U.S. EPA, Office of Research and Development, NHEERL-AED, Narragansett, RI. June 1998.

#BIOLOGOCAL VARIABLE NAMES, MEASUREMENT UNITS AND DESCRIPTIONS

>PARAMETER: AFDW (taxon ash free dry weight in grams)
-COLLECTION METHODS: Young-modified Van Veen Grab sampler was used to collect sediment grabs for benthic analyses followed by field sieving through a 0.5mm sieve and preserved in the field. Organisms and detritus retained in sieve were transferred into labeled jars and preserved in 10% buffeted formalin with rose bengal.
-SAMPLE PRESERVATIVES: 10% buffeted formalin with rose bengal
-SAMPLE STORAGE ENVIRONMENT: Plastic (Nalgene) Bottles
-TIME IN STORAGE: Variable Until commencement of processing
-LABORATORY TECHNIQUES WITH REFERENCES:

Strobel, C.J. 1998. Mid Atlantic Integrated Assessment / Environmental Monitoring and Assessment Program - Estuaries: Virginian Province Quality Assurance Project Plan. U.S. EPA, Office of Research and Development, NHEERL-AED, Narragansett, RI. June 1998.

>DATA ENTRY METHOD: See following document for details:
Strobel, C.J. 1998. Mid Atlantic Integrated Assessment / Environmental Monitoring and Assessment Program - Estuaries: Virginian Province Quality Assurance Project Plan. U.S. EPA, Office of Research and Development, NHEERL-AED, Narragansett, RI. June 1998.

>DATA VERIFICATION: See following document for details:
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>PARAMETER: COUNT (# of a benthic taxon per sample)
-COLLECTION METHODS: Young-modified Van Veen Grab sampler was used to collect sediment grabs for benthic analyses followed by field sieving through a 0.5mm sieve and preserved in the field. Organisms and detritus retained in sieve were transferred into labeled jars and preserved in 10% buffeted formalin with rose bengal.
-SAMPLE PRESERVATIVES: 10% buffered formalin with Rose Bengal transferred to 70% ethanol after sorting.
-SAMPLE STORAGE ENVIRONMENT: Plastic (Nalgene) Bottles
-TIME IN STORAGE: Until commencement of processing
-LAB TECHNIQUES WITH REFERENCES: See following document for details:
Strobel, C.J. 1998. Mid Atlantic Integrated Assessment / Environmental Monitoring and Assessment Program - Estuaries: Virginian Province Quality Assurance Project Plan. U.S. EPA, Office of Research and Development, NHEERL-AED, Narragansett, RI. June 1998.

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SPECIES INHOUSE CODES AND SCIENTIFIC NAMES
Note inhouse species codes found in this data set are are a combination of original EMAP species codes and IT IS TSN numbers.

> IN HOUSE SPECIES LIST
The in-house species codes and Latin Names found in this data set are as follows:

TAXNCODE	TAXNAME
ABLAANNU	ABLABESMYIA ANNULATA
ABLABESM	ABLABESMYIA
ABLAPELE	ABLABESMYIA PELEENSIS
ABLARHAM	ABLABESMYIA RHAMPHE
ACANINTE	ACANTHOHAUSTORIUS INTERMEDIUS
ACANMILL	ACANTHOHAUSTORIUS MILLSI
ACANSIMI	ACANTHOHAUSTORIUS SIMILIS
ACETAMER	ACETES AMERICANUS CAROLINAE
ACTECANA	ACTEOCINA CANALICULATA
ACTEPUNC	ACTEON PUNCTOSTRIATUS
ACTINIAR	ACTINIARIA
AEGINELL	AEGINELLIDAE
AGLAVERR	AGLAOPHAMUS VERRILLI
ALIGELEV	ALIGENA ELEVATA
ALMYPROX	ALMYRACUMA PROXIMOCULI
ALPHHETE	ALPHEUS HETEROCHAELIS
ALPHNORM	ALPHEUS NORMANNI
AMASCAPE	AMASTIGOS CAPERATUS
AMERAMER	AMERICHELIDIUM AMERICANUM
AMEROCUL	AMEROCULODES SPECIES COMPLEX
AMNICOLA	AMNICOLA
AMPEABDI	AMPELISCA ABDITA
AMPELISC	AMPELISCA
AMPEVADO	AMPELISCA VADORUM
AMPEVERR	AMPELISCA VERRILLI
AMPHARTD	AMPHARETIDAE
AMPHATRA	AMPHIODIA ATRA
AMPHBIOC	AMPHIPORUS BIOCULATUS
AMPHIPOD	AMPHIPODA
AMPHORNA	AMPHITRITE ORNATA
AMPILONG	AMPITHOE LONGIMANA
AMPITHOE	AMPITHOE
AMYGPAPY	AMYGDALUM PAPYRIUM

TAXNCODE	TAXNAME
ANACHIS	ANACHIS
ANACOBES	ANACHIS OBESA
ANADTRAN	ANADARA TRANSVERSA
ANCIDEPR	ANCINUS DEPRESSUS
ANCIHART	ANCISTROSYLLIS HARTMANAE
ANCIJONE	ANCISTROSYLLIS JONESI
ANCISTRO	ANCISTROSYLLIS
ANCYLIDA	ANCYLIDAE
ANGUPALM	ANGUINELLA PALMATA
ANOMSIMP	ANOMIA SIMPLEX
ANOPPETI	ANOPLODACTYLUS PETIOLATUS
ANTHOZOA	ANTHOZOA
ANTHURID	ANTHURIDAE
AORIDAE	AORIDAE
APANMAGN	AMAKUSANTHURA MAGNIFICA
APOPPYGM	APOPRIONOSPIO PYGMAEA
ARABELLI	ARABELLIDAE
ARABIRMU	ARABELLA IRICOLOR
ARACARAN	ARANEAE
ARCIDFAM	ARCIDAE
ARCTLOMO	ARCTEONAIS LOMONDI
ARICCATH	ARICIDEA CATHERINAE
ARICCERU	ARICIDEA CERRUTII
ARICFRAG	ARICIDEA FRAGILIS
ARICIDEA	ARICIDEA
ARICSUEC	ARICIDEA SUECICA
ARICTAYL	ARICIDEA TAYLORI
ARICWASS	ARICIDEA WASSI
ASABOCUL	ASABELLIDES OCULATA
ASCIDIAC	ASCIDIACEA
ASTACAST	ASTARTE CASTANEA
ASTYLUNA	ASTYRIS LUNATA
AULOLIMN	AULODRILUS LIMNOBIUS

TAXNCODE	TAXNAME
AULOPIGU	AULODRILUS PIGUETI
AULOPLUR	AULODRILUS PLURISETA
AUTOLYTU	AUTOLYTUS
AXARUS	AXARUS
BALAIMPR	BALANUS IMPROVISUS
BALANUS	BALANUS
BARNTRUN	BARNEA TRUNCATA
BATECATH	BATEA CATHARINENSIS
BATHPARK	BATHYPOREIA PARKERI
BATHQUOD	BATHYPOREIA QUODDYENSIS
BATHYPOR	BATHYPOREIA
BEZZIA	BEZZIA
BHAWHETE	BHAWANIA HETEROSETA
BITTALTE	BITTIUM ALTERNATUM
BIVALVIA	BIVALVIA
BOCCLIGE	BOCCARDIELLA LIGERICA
BOCLHAMA	BOCCARDIELLA HAMATA
BODOTRUN	BODOTRIIDAE
BOONIMPR	BOONEA IMPRESSA
BOONSEMI	BOONEA SEMINUDA
BOWMANIE	BOWMANIELLA
BOWMFLOR	BOWMANIELLA FLORIDANA
BRACHYUR	BRACHYURA
BRANCARI	BRANCHIOSTOMA CARIBAEUM
BRANCHIO	BRANCHIOSTOMA
BRANCLAV	BRANIA CLAVATA
BRANIA	BRANIA
BRANSOWE	BRANCHIURA SOWERBYI
BRANSWED	BRANIA SWEDMARKI
BRANVIRG	BRANCHIOSTOMA VIRGINIAE
BRANWELL	BRANIA WELLFLEETENSIS
BRATUNID	BRATISLAVIA UNIDENTATA
BUSYCANA	BUSYCON CANALICULATUM
CABIINCE	CABIRA INCERTA
CAECIDOT	CAECIDOTEA SPP.
CAECREGU	CAECUM REGULARE
CALLBREV	CALLIPALLENE BREVIROSTRIS
CALLIANA	CALLIANASSIDAE
CALLSAPI	CALLINECTES SAPIDUS
CAPICAPI	CAPITELLA CAPITATA
CAPITELD	CAPITELLIDAE
CAPRELLI	CAPRELLIDAE

TAXNCODE	TAXNAME
CAPRPENA	CAPRELLA PENANTIS
CARAHOBS	CARAZZIELLA HOBSONAE
CARDIIDA	CARDIIDAE
CARITREM	CARINOMA TREMAPHOROS
CASSLUNI	CASSIDINIDEA LUNIFRONS
CASSOVAL	CASSIDINIDEA OVALIS
CAULKILL	CAULLERIELLA KILLARIENSIS
CAULLERI	CAULLERIELLA
CAULSPEB	CAULLERIELLA SP. B (BLAKE)
CAULSPEJ	CAULLERIELLA SP.J
CERAIRRI	CERATONEREIS IRRITABILIS
CERAPUS	CERAPUS
CERATFAM	CERATOPOGONIDAE
CERATUBU	CERAPUS TUBULARIS
CERELACT	CEREBRATULUS LACTEUS
CHAETOPT	CHAETOPTERIDAE
CHAEVARI	CHAETOPTERUS VARIOPEDATUS
CHAOALBA	CHAOBORUS ALBATUS
CHAOBORU	CHAOBORUS
CHAOPUNC	CHAOBORUS PUNCTIPENNIS
CHIRALMY	CHIRIDOTEA ALMYRA
CHIRAREN	CHIRIDOTEA ARENICOLA
CHIRCOEC	CHIRIDOTEA COECA
CHIRIDOT	CHIRIDOTEA
CHIRNIGR	CHIRIDOTEA NIGRESCENS
CHIRONOM	CHIRONOMUS
CHIRSTEN	CHIRIDOTEA STENOPS
CHIRSTIG	CHIRONOMUS STIGMATERUS
CHIRTUFT	CHIRIDOTEA TUFTSI
CHORDATA	CHORDATA
CHRNMDAE	CHIRONOMIDAE
CIRRATUL	CIRRATULIDAE
CIRRILVA	CIRROPHORUS ILVANA
CIRROPHO	CIRROPHORUS
CIRROSPB	CIRROPHORUS SP. B MORRIS
CLADMANC	CLADOTANYTARSUS MANCUS
CLADOPLE	CLADOPELMA
CLADOTAN	CLADOTANYTARSUS
CLIMACIA	CLIMACIA
CLINOTAN	CLINOTANYPUS
CLINPING	CLINOTANYPUS PINGUIS
CLYMTORQ	CLYMENELLA TORQUATA

TAXNCODE	TAXNAME
COELOTAN	COELOTANYPUS
COENAGRI	COENAGRIONIDAE
COLUMBLD	COLUMBELLIDAE
COPEHARP	HARPACTICOIDA
CORBFLUM	CORBICULA FLUMINEA
CORBMANI	CORBICULA MANILENSIS
CORDULII	CORDULIIDAE
COROACHE	COROPHIUM ACHERUSICUM
COROLACU	COROPHIUM LACUSTRE
COROPHIU	COROPHIUM
COROSIMI	COROPHIUM SIMILE
COROTUBE	COROPHIUM TUBERCULATUM
COSSSOYE	COSSURA LONGOCIRRATA
CRANSEPT	CRANGON SEPTEMSPINOSA
CRASOSTR	CRASSISPIRA OSTREARUM
CRASVIRG	CRASSOSTREA VIRGINICA
CRATPILA	CRATENA PILATA
CREPCONV	CREPIDULA CONVEXA
CREPFORN	CREPIDULA FORNICATA
CREPIDUL	CREPIDULA
CREPMACU	CREPIDULA MACULOSA
CREPPLAN	CREPIDULA PLANA
CRICBICI	CRICOTOPUS BICINCTUS
CRICORTH	CRICOTOPUS/ORTHOCLADIUS
CRYPFULV	CRYPTOCHIRONOMUS FULVUS
CRYPTOCH	CRYPTOCHIRONOMUS
CRYPTOTE	CRYPTOTENDIPES
CULICOID	CULICOIDES
CURCULIO	CURCULIONIDAE
CYATBURB	CYATHURA BURBANCKI
CYATHURA	CYATHURA
CYATPOLI	CYATHURA POLITA
CYCLVARI	CYCLASPIS VARIANS
CYLIBIDE	CYLICHNELLA BIDENTATA
CYMACOMP	CYMADUSA COMPTA
CYRNFRAT	CYRNELLUS FRATERNUS
DECANATA	DECAPODA NATANTIA
DECAPODA	DECAPODA
DECAREPT	DECAPODA REPTANTIA
DEMICRYP	DEMICRYPTOCHIRONOMUS
DEMOMICR	DEMONAX MICROPHTHALMUS
DERO	DERO

TAXNCODE	TAXNAME
DEROOBTU	DERO OBTUSA
DESSPHAL	DESSEROBDELLA PHALERA
DEUTINCE	DEUTELLA INCERTA
DIADLEUC	DIADUMENE LEUCOLENA
DICRMODE	DICROTENDIPES MODESTUS
DICRNERV	DICROTENDIPES NERVOSUS
DICROTEN	DICROTENDIPES
DICRSIMP	DICROTENDIPES SIMPSONI
DIOPCUPR	DIOPATRA CUPREA
DIPOSOCI	DIPOLYDORA SOCIALIS
DIPTERA	DIPTERA
DISPUNCI	DISPIO UNCINATA
DONAFOSS	DONAX FOSSOR
DONAVARI	DONAX VARIABILIS
DORIOBSC	DORIDELLA OBSCURA
DORVILLE	DORVILLEIDAE
DORVRUDO	DORVILLEA RUDOLPHI
DRILLONG	DRILONEREIS LONGA
DUBIRAPH	DUBIRAPHIA
DYSPSAYI	DYSPANOPEUS SAYI
ECHINOID	ECHINOIDEA
ECHIPARM	ECHINARACHNIUS PARMA
EDOTMONT	EDOTEA MONTOSA
EDOTTRIL	EDOTIA TRILOBA
EDWAELEG	EDWARDSIA ELEGANS
ELASLAEV	ELASMOPUS LAEVIS
ELMIDAE	ELMIDAE
ENCHYTRA	ENCHYTRAEIDAE
ENDOCHIR	ENDOCHIRONOMUS
ENOPSANG	ENOPLOBRANCHUS SANGUINEUS
ENSIDIRE	ENSIS DIRECTUS
EOBRSPIN	EOBROLGUS SPINOSUS
EPITGREE	EPITONIUM GREENLANDICUM
EPITONIU	EPITONIUM
EPITRUPI	EPITONIUM RUPICOLA
EPOICOCL	EPOICOCLADIUS
ERICATTE	ERICHSONELLA ATTENUATA
ERICBRAS	ERICTHONIUS BRASILIENSIS
ERICFILI	ERICHSONELLA FILIFORMIS
ERICHSON	ERICHSONELLA
ETEOFOLI	ETEONE FOLIOSA
ETEOHETE	HYPERETEONE HETEROPODA

TAXNCODE	TAXNAME
EUCEPRAE	EUCERAMUS PRAELONGUS
EUNICIDA	EUNICIDAE
EUPLCAUD	EUPLEURA CAUDATA
EURYDEPR	EURYPANOPEUS DEPRESSUS
EURYTHOE	EURYTHOE
EUSARSIE	EUSARSIELLA
EUSAZOST	EUSARSIELLA ZOSTERICOLA
EXOGDISP	EXOGONE DISPAR
FARGBUSH	FARGOA BUSHIANA
FERRISSI	FERRISSIA
GAMMARID	GAMMARIDAE
GAMMARUS	GAMMARUS
GAMMDAIB	GAMMARUS DAIBERI
GAMMFASC	GAMMARUS FASCIATUS
GAMMPALU	GAMMARUS PALUSTRIS
GAMMTIGR	GAMMARUS TIGRINUS
GASTROPO	GASTROPODA
GEMMGEMM	GEMMA GEMMA
GEUKDEMI	GEUKENSIA DEMISSA
GILLALTI	GILLIA ALTILIS
GITANOPS	GITANOPSIS
GLYCAMER	GLYCERA AMERICANA
GLYCDIBR	GLYCERA DIBRANCHIATA
GLYCERA	GLYCERA
GLYCERID	GLYCERIDAE
GLYCSOLI	GLYCINDE SOLITARIA
GLYCSPED	GLYCERA SP.D
GLYPTOTE	GLYPTOTENDIPES
GOBIIDAE	GOBIIDAE
GOMPHIDA	GOMPHIDAE
GONIADID	GONIADIDAE
GRUBCLAV	GRUBEOSYLLIS CLAVATA
GYPTBREV	GYPTIS BREVIPALPA
GYPTVITT	GYPTIS CRYPTA
HABESPEC	HABER SPECIOSUS
HAMISOLI	HAMINOEA SOLITARIA
HAPLSETI	HAPLOCYTHERIDEA SETIPUNCTATA
HARGRAPA	HARGERIA RAPAX
HARMEXTE	HARMOTHOE EXTENUATA
HARMIMBR	HARMOTHOE IMBRICATA
HARNISCH	HARNISCHIA
HAUSTIDA	HAUSTORIIDAE

TAXNCODE	TAXNAME
HAVESCAB	HAVELOCKIA SCABRA
HEMICHOR	HEMICHORDATA
HEPTAGEN	HEPTAGENIIDAE
HETEFILI	HETEROMASTUS FILIFORMIS
HEXABILI	HEXAGENIA BILINEATA
HEXAGENI	HEXAGENIA
HEXALIMB	HEXAGENIA LIMBATA
HIPPPLEU	HIPPOLYTE PLEURACANTHA
HIRUDINE	HIRUDINEA
HOBSFLOR	HOBSONIA FLORIDA
HOLOTHUR	HOLOTHUROIDEA
HUTCMACR	HUTCHINSONIELLA MACRACANTHA
HYDRDIAN	HYDROIDES DIANTHUS
HYDROBIA	HYDROBIA
HYDROBII	HYDROBIIDAE
HYDROIDE	HYDROIDES
HYDRPROT	HYDROIDES PROTULICOLA
HYDRSPEY	HYDROBIIDAE SP. Y MORRIS
HYDRSPEZ	HYDROBIIDAE SP. Z MORRIS
HYDRTRUN	HYDROBIA TRUNCATA
ILYAOBSO	ILYANASSA OBSOLETA
ILYATRIV	ILYANASSA TRIVITTATA
ILYOTEMP	ILYODRILUS TEMPLETONI
ISCHRECU	ISCHADIUM RECURVUM
ISCHYROC	ISCHYROCERIDAE
ISOCFREY	ISOCHAETIDES FREYI
JASSFALC	JASSA FALCATA
JASSMARM	JASSA MARMORATA
KIEFFERU	KIEFFERULUS
KURTCERI	KURTZIELLA CERINA
KURTLIMO	KURTZIELLA LIMONITELLA
LAEOCULV	LAEONEREIS CULVERI
LAEVFUSC	LAEVAPEX FUSCUS
LEITFRAG	LEITOSCOLOPLOS FRAGILIS
LEITOSCO	LEITOSCOLOPLOS
LEITROBU	LEITOSCOLOPLOS ROBUSTUS
LEMBSMIT	LEMBOS SMITHI
LEPICOMM	LEPIDAMETRIA COMMENSALIS
LEPIDYTI	LEPIDACTYLUS DYTISCUS
LEPISUBL	LEPIDONOTUS SUBLEVIS
LEPTOCHE	LEPTOCHEIRUS
LEPTPLUM	LEPTOCHEIRUS PLUMULOSUS

TAXNCODE	TAXNAME
LEPTTENU	LEPTOSYNAPTA TENUIS
LEUCAMER	LEUCON AMERICANUS
LIBIDUBI	LIBINIA DUBIA
LIMNCERV	LIMNODRILUS CERVIX
LIMNHOFF	LIMNODRILUS HOFFMEISTERI
LIMNODRI	LIMNODRILUS
LIMNUDEK	LIMNODRILUS UDEKEMIANUS
LIMUPOLY	LIMULUS POLYPHEMUS
LINEIDAE	LINEIDAE
LIPINELL	LIPINELLA
LIRCLINE	LIRCEUS LINEATUS
LISTBARN	LISTRIELLA BARNARDI
LISTCLYM	LISTRIELLA CLYMENELLAE
LISTRIEL	LISTRIELLA
LISTSMIT	LISTRIELLA SMITHI
LITTTENU	LITTORIDINOPS TENUIPES
LOIMMEDU	LOIMIA MEDUSA
LOPESCLA	LOPESCLADIUS SPP.
LUCOINCE	LUCONACIA INCERTA
LUMBRIND	LUMBRINERIDAE
LUMBTENI	LUMBRINERIS TENUIS
LYONHYAL	LYONSIA HYALINA
LYSIALBA	LYSIANOPSIS ALBA
MACOBALT	MACOMA BALTICA
MACOMA	MACOMA
MACOMITC	MACOMA MITCHELLI
MACOTENT	MACOMA TENTA
MACRZONA	MACROCLYMENE ZONALIS
MACTRFAM	MACTRIDAE
MAGELONA	MAGELONA
MAGESPEG	MAGELONA SP. G
MAJIDAE	MAJIDAE
MALDANID	MALDANIDAE
MALMLUNU	MALMGRENIA LUNULATA
MALMTAYL	MALMGRENIELLA TAYLORI
MANAAEST	MANAYUNKIA AESTUARINA
MANCSTEL	MANCOCUMA STELLIFERA
MAREVIRI	MARENZELLERIA VIRIDIS
MARGAPIC	MARGINELLA APICINA
MARPSANG	MARPHYSA SANGUINEA
MEDIAMBI	MEDIOMASTUS AMBISETA
MEDICALI	MEDIOMASTUS CALIFORNIENSIS

TAXNCODE	TAXNAME
MEDIOMAS	MEDIOMASTUS
MELANELL	MELANELLA
MELIMACU	MELINNA MACULATA
MELINITI	MELITA NITIDA
MELINNA	MELINNA
MELITA	MELITA
MELITIDA	MELITIDAE
MERCMERC	MERCENARIA MERCENARIA
MICRATRA	MICROPHIOPHOLIS ATRA
MICRGRYL	MICRODEUTOPUS GRYLLOTALPA
MICRHART	MICROPHTHALMUS HARTMANAE
MICRLEID	MICRURA LEIDYI
MICROPHT	MICROPHTHALMUS
MICRPEDE	MICROTENDIPES PEDELLUS
MICRRANE	MICROPROTOPUS RANEYI
MICRSCZE	MICROPHTHALMUS SCZELKOWII
MITRLUNA	MITRELLA LUNATA
MOLANNA	MOLANNA
MOLGAREN	MOLGULA ARENATA
MOLGMANH	MOLGULA MANHATTENSIS
MONOCULO	MONOCULODES
MONOEDWA	MONOCULODES EDWARDSI
MONOPYLE	MONOPYLEPHORUS
MONORUBR	MONOPYLEPHORUS RUBRONIVEUS
MONOTUBE	MONOCOROPHIUM TUBERCULATUM
MONTACUT	MONTACUTIDAE
MONTBAPT	MONTICELLINA BAPTISTEAE
MONTDORS	MONTICELLINA DORSOBRANCHIALIS
MONTICEL	MONTICELLINA
MUCRMUCR	MUCROGAMMARUS MUCRONATUS
MULILATE	MULINIA LATERALIS
MUSCTRAN	MUSCULIUM TRANSVERSUM
MUSCULIU	MUSCULIUM
MYAAREN	MYA ARENARIA
MYSEPLAN	MYSELLA PLANULATA
MYSIALMY	MYSIDOPSIS ALMYRA
MYSIBIGE	MYSIDOPSIS BIGELOWI
MYSIDACE	MYSIDACEA
MYSIDAE	MYSIDAE
MYSIDOPS	MYSIDOPSIS
MYSIFURC	MYSIDOPSIS FURCA
MYTILEUC	MYTILOPSIS LEUCOPHAEATA

TAXNCODE	TAXNAME
NAIDIDAE	NAIDIDAE
NAISSIMP	NAIS SIMPLEX
NAISVARI	NAIS VARIABILIS
NANOBALT	NANOCLADIUS BALTICUS
NANOCLAD	NANOCLADIUS
NANOCRAS	NANOCLADIUS CRASSICORNUS
NASSTRIV	NASSARIUS TRIVITTATUS
NASSVIBE	NASSARIUS VIBEX
NATICIDA	NATICIDAE
NEANAREN	NEANTHES ARENACEODENTATA
NEANSUCC	NEANTHES SUCCINEA
NEMATODA	NEMATODA
NEMERTEA	NEMERTEA
NEMERTIN	NEMERTINEA
NEOMAMER	NEOMYSIS AMERICANA
NEOPSAYI	NEOPANOPE SAYI
NEPHBUCE	NEPHTYS BUCERA
NEPHCRYP	NEPHTYS CRYPTOMMA
NEPHINCI	NEPHTYS INCISA
NEPHPICT	NEPHTYS PICTA
NEPHTYID	NEPHTYIDAE
NEPHTYS	NEPHTYS
NEREACUM	NEREIS ACUMINATA
NEREFRAG	NEREIPHYLLA FRAGILIS
NEREIDAE	NEREIDIDAE
NEREIS	NEREIS
NERERIIS	NEREIS RIISEI
NERESUCC	NEREIS SUCCINEA
NEUMANIA	NEUMANIA
NEVEDUPL	NEVERITA DUPLICATA
NILOTHAU	NILOTHAUMA
NOORGPRS	NO ORGANISMS PRESENT
NOTOMAST	NOTOMASTUS
NOTOSPA	NOTOMASTUS SP. A EWING
NOTOSPIN	NOTOCIRRUS SPINIFERUS
NUCUPROX	NUCULA PROXIMA
NUDIBRAN	NUDIBRANCHIA
ODONATA	ODONATA
ODOSENGO	ODOSTOMIA ENGONIA
ODOSTOMI	ODOSTOMIA
OECEINCO	OECETIS INCONSPICUA
OECETIS	OECETIS

TAXNCODE	TAXNAME
OEDICERO	OEDICEROTIDAE
OGYRALPH	OGYRIDES ALPHAEROSTRIS
OLIGOCHA	OLIGOCHAETA
ONUPHIDA	ONUPHIDAE
OPHIUROI	OPHIUROIDEA
ORBINIID	ORBINIIDAE
OSTRACOD	OSTRACODA
OVALIPES	OVALIPES
OVALOCEL	OVALIPES OCELLATUS
OWENFUSI	OWENIA FUSIFORMIS
OXYUSMIT	OXYUROSTYLIS SMITHI
PAGASTIE	PAGASTIELLA
PAGULONG	PAGURUS LONGICARPUS
PAGUPOLL	PAGURUS POLLICARIS
PAGURIDA	PAGURIDAE
PAGURUS	PAGURUS
PALEHETE	PALEANOTUS HETEROSETA
PANOHERB	PANOPEUS HERBSTII
PARAATTE	PARAHAUSTORIUS ATTENUATUS
PARACAUD	PARACEREIS CAUDATA
PARACHIR	PARACHIRONOMUS
PARACLAD	PARACLADOPELMA
PARACYPR	PARAMETOPELLA CYPRIS
PARADIRE	PARACHIRONOMUS DIRECTUS
PARAFULG	PARAONIS FULGENS
PARAHAUS	PARAHAUSTORIUS
PARALAUT	PARALAUTERBORNIELLA
PARALITT	PARANAIS LITORALIS
PARALNGI	PARAHAUSTORIUS LONGIMERUS
PARALONG	PARAPIONOSYLLIS LONGICIRRATA
PARALUTE	PARAHESIONE LUTEOLA
PARANAIS	PARANAIS
PARAONID	PARAONIDAE
PARAPINN	PARAPRIONOSPIO PINNATA
PARAPOLL	PARASTEROPE POLLEX
PARAPUSI	PARACAPRELLA PUSILLA
PARASPEC	PARADONEIS SP. C MORRIS
PARATENU	PARACAPRELLA TENUIS
PAROCAEC	PAROUGIA CAECA
PARVMULT	PARVILUCINA MULTILINEATA
PECTGOUL	PECTINARIA GOULDI
PENTPULC	PENTAMERA PULCHERRIMA

TAXNCODE	TAXNAME
PERIFRAG	PERIPLOMA FRAGILE
PEROVIRI	PEROPHORA VIRIDIS
PETRPHOL	PETRICOLA PHOLADIFORMIS
PHASSTRO	PHASCOLION STROMBI
PHERAFFI	PHERUSA AFFINIS
PHORARCH	PHORONIS ARCHITECTA
PHORONIS	PHORONIS
PHORPSAM	PHORONIS PSAMMOPHILA
PHOTIS	PHOTIS
PHOTPUGN	PHOTIS PUGNATOR
PHOTREIN	PHOTIS REINHARDI
PHOXOCEP	PHOXOCEPHALIDAE
PHYLAREN	PHYLLODOCE ARENAE
PHYLDCDE	PHYLLODOCIDAE
PHYLLODO	PHYLLODOCE
PHYLOCEN	PHYLOCENTROPUS
PIGUMICH	PIGUETIELLA MICHIGANENSIS
PILARGID	PILARGIDAE
PINNCHAE	PINNIXA CHAETOPTERANA
PINNIXA	PINNIXA
PIROROBE	PIROMIS ROBERTI
PISICOMP	PISIDIUM COMPRESSUM
PISIDIUM	PISIDIUM
PISTA	PISTA
PISTPALM	PISTA PALMATA
PISTQUAD	PISTA QUADRILOBATA
PLACPAPI	PLACOBDELLA PAPILLIFERA
PLEUGLAB	PLEUSYMTES GLABER
PLEUSTID	PLEUSTIDAE
PODALEVI	PODARKEOPSIS LEVIFUSCINA
PODAOBSC	PODARKE OBSCURA
POLIDUPL	POLINICES DUPLICATUS
POLYCIRR	POLYCIRRUS
POLYCOLO	POLYDORA COLONIA
POLYCOMM	POLYDORA COMMENSALIS
POLYCONV	POLYPEDILUM CONVICTUM
POLYCORN	POLYDORA CORNUTA
POLYDORA	POLYDORA
POLYEXIM	POLYCIRRUS EXIMIUS
POLYGORD	POLYGORDIUS
POLYHALT	POLYPEDILUM HALTERALE
POLYILLI	POLYPEDILUM ILLINOENSE

TAXNCODE	TAXNAME
POLYLIGN	POLYDORA LIGNI
POLYNOID	POLYNOIDAE
POLYPEDI	POLYPEDILUM
POLYSCAL	POLYPEDILUM SCALAENUM
POLYSOCI	POLYDORA SOCIALIS
POLYTRIT	POLYPEDILUM TRITUM
POLYWEBS	POLYDORA WEBSTERI
POTARENI	POTAMILLA RENIFORMIS
PRIOHETE	PRIONOSPIO HETEROBRANCHIA
PRIONOSP	PRIONOSPIO
PRIOPERK	PRIONOSPIO PERKINSI
PRISJENK	PRISTINELLA JENKINAE
PRISOSBO	PRISTINELLA OSBORNI
PROBEZZI	PROBEZZIA
PROCBELL	PROCLADIUS BELLUS
PROCCORN	PROCERAEA CORNUTA
PROCLADI	PROCLADIUS
PROCSUBL	PROCLADIUS SUBLETTEI
PROTDEIC	PROTOHAUSTORIUS DEICHMANNAE
PROTSPEB	PROTOHAUSTORIUS SP.B
PROTWIGL	PROTOHAUSTORIUS WIGLEYI
PSEUAMBI	PSEUDEURYTHOE AMBIGUA
PSEUCARO	PSEUDOHAUSTORIUS CAROLINIENSIS
PSEUDOCH	PSEUDOCHIRONOMUS
PSEUDOHA	PSEUDOHAUSTORIUS
PSEUOBLI	PSEUDUNCIOLA OBLIQUUA
PSEUPAUC	PSEUDEURYTHOE PAUCIBRANCHIATA
PTILTENU	PTILANTHURA TENUIS
PTILTRIC	PTILANTHURA TRICARINA
PYRACAND	PYRAMIDELLA CANDIDA
PYRACREN	PYRAMIDELLA CRENULATA
PYRAMIDE	PYRAMIDELLIDAE
PYRAMSPP	PYRAMIDELLA
QUISMULT	QUISTRADRILUS MULTISETOSUS
RANGCUNE	RANGIA CUNEATA
RHEOTANY	RHEOTANYTARSUS
RHEPEPIS	RHEPOXYNIUS EPISTOMUS
RHEPHUDS	RHEPOXYNIUS HUDSONI
RHEPOXYN	RHEPOXYNIUS
RHITHARR	RHITHROPANOPEUS HARRISII
RHYNCHOC	RHYNCHOCOELA
RICTPUNC	RICTAXIS PUNCTOSTRIATUS

TAXNCODE	TAXNAME
ROBACLAV	ROBACKIA CLAVIGER
SABAELON	SABACO ELONGATUS
SABELLID	SABELLIDAE
SABEVULG	SABELLARIA VULGARIS
SACCKOWA	SACCOGLOSSUS KOWALEVSKII
SAYECHES	SAYELLA CHESAPEAKEA
SAYEPROD	SAYELLA PRODUCTA
SCOLBOUS	SCOLELEPIS BOUSFIELDI
SCOLELEP	SCOLELEPIS
SCOLRUBR	SCOLOPLOS RUBRA
SCOLTENU	Lumbrineris tenuis
SCOLTEXA	SCOLELEPIS TEXANA
SCOLVIRI	SCOLECOLEPIDES VIRIDIS
SERPULID	SERPULIDAE
SIALIS	SIALIS
SIALMOHR	SIALIS MOHRI
SIDIDAE	SIDIDAE
SIGAAREN	SIGALION ARENICOLA
SIGABASS	SIGAMBRA BASSI
SIGATENT	SIGAMBRA TENTACULATA
SIPUNCUL	SIPUNCULA
SOLEVELU	SOLEMYA VELUM
SPHAERID	SPHAERIDAE
SPHAERII	SPHAERIIDAE
SPHAERIU	SPHAERIUM
SPHATAYL	SPHAEROSYLLIS TAYLORI
SPIOBOMB	SPIOPHANES BOMBYX
SPIOCOOC	SPIOCHAETOPTERUS COSTARUM OCULATUS
SPIOCOST	SPIOCHAETOPTERUS COSTARUM
SPIONIDA	SPIONIDAE
SPIOOCUL	SPIOCHAETOPTERUS OCULATUS
SPIOPETT	SPIO PETTIBONEAE
SPIRORBI	SPIRORBIS
SPISSOLI	SPISULA SOLIDISSIMA
SQUIEMPU	SQUILLA EMPUSA
STENBOA	STHENELAIS BOA
STENELMI	STENELMIS
STENGEOR	STENOTHOE GEORGIANA
STENMINU	STENOTHOE MINUTA
STENTHER	STENOPLEUSTES THERMIS
STHENELA	STHENELAIS
STICCAFF	STICTOCHIRONOMUS CAFFARIUS

TAXNCODE	TAXNAME
STICDEVI	STICTOCHIRONOMUS DEVINCTUS
STICTOCH	STICTOCHIRONOMUS
STREAREN	STREPTOSYLLIS ARENAE
STREBENE	STREBLOSPIO BENEDICTI
STREPETT	STREPTOSYLLIS PETTIBONEAE
STYLELLI	STYLOCHUS ELLIPTICUS
STYLNOTA	STYLURUS NOTATUS
SYLLIDAE	SYLLIDAE
SYLLVERR	SYLLIDES VERRILLI
SYNAPTID	SYNAPTIDAE
SYNCAMER	SYNCHELIDIUM AMERICANUM
TAGEDIVI	TAGELUS DIVISUS
TAGELUS	TAGELUS
TAGEPLEB	TAGELUS PLEBEIUS
TANAIDAC	TANAIDACEA
TANAPSAM	TANAISSUS PSAMMOPHILUS
TANYNEOP	TANYPUS NEOPUNCTIPENNIS
TANYORBI	TANYSTYLUM ORBICULARE
TANYPUS	TANYPUS
TANYTARS	TANYTARSUS
TANYTTRB	TANYTARSINI
TELLAGIL	TELLINA AGILIS
TELLINA	TELLINA
TELLINID	TELLINIDAE
TEREBELL	TEREBELLIDAE
THALASSI	THALASSINIDEA
THARACUT	THARYX ACUTUS
THARANNU	THARYX ANNULOSUS
THARSPA	THARYX SP. A MORRIS
TRAVPARV	TRAVISIA PARVA
TRAVSPEA	TRAVISIA SP. A MORRIS
TRIBJUCU	TRIBELOS JUCUNDUS
TRICHOPT	TRICHOPTERA
TUBIFICI	TUBIFICIDAE
TUBIFICO	TUBIFICOIDES
TUBIFIWI	TUBIFICIDAE WITH CAPILIFORM CHAETA
TUBIFIWO	TUBIFICIDAE WITHOUT CAPILIFORM CHA
TUBIHETE	TUBIFICOIDES HETEROCHAETUS
TUBIWASS	TUBIFICOIDES WASSELLI
TUBULANU	TUBULANUS
TURBELLA	TURBELLARIA
TURBINTE	TURBONILLA INTERRUPTA

TAXNCODE	TAXNAME
TURBONIL	TURBONILLA
UNCIOLA	UNCIOLA
UNCISERR	UNCIOLA SERRATA
UNIONICO	UNIONICOLA
UNIONIDA	UNIONIDAE
UPOGAFFI	UPOGEBIA AFFINIS

TAXNCODE	TAXNAME
UROSCINE	UROSALPINX CINEREA
VALVATA	VALVATA
VALVTRIC	VALVATA TRICARINATA
XANTHIDA	XANTHIDAE
XENABREV	XENANTHURA BREVITELSON
YOLDLIMA	YOLDIA LIMATULA

METHODOLOGY DESCRIBING CHAIN OF CUSTODY FOR WATER QUALITY AND SAMPLES
See following document for details:
Valente, R. and Strobel, C.J. 1993. Environmental Monitoring and Assessment Program-Estuaries: 1993 Virginian Province Quality Assurance Project Plan. U.S. EPA,NHEERL-AED, Narragansett, RI. May 1993

WATER QUALITY AND SEDIMENT ANALYSIS TECHNIQUES
A Sea-Bird Electronics, Inc. model SBE-25 SeaLogger CTD is a self-contained array of instruments capable of measuring salinity, temperature, dissolved oxygen, pH, transmissivity (an estimate of suspended solids concentration), fluorescence (an estimate of chlorophyll_a concentration) and photosynthetically active radiation (PAR; a measurement of the intensity of light in the range of wavelengths used by algae in photosynthesis). Oxygen was measured with a Beckman polarographic DO electrode. The core of the unit is a data logger which stores all data collected by the individual probes. The entire array is powered internally using batteries; therefore, it does not require any electronic connection to the boat during operation. Supplied with the instrument is the software required for communicating with the data logger and for downloading data to an on-board computer.

>PARAMETER: TOTAL_DEPTH(Total Station Depth, Meters)
-COLLECTION METHODS:
-SAMPLE PRESERVATIVES: None
-SAMPLE STORAGE ENVIRONMENT: None
-TIME IN STORAGE: None
-LAB TECHNIQUES WITH REFERENCES:

Strobel, C.J. 1998. Environmental Monitoring and Assessment Program - Mid-Atlantic Integrated Assessment. Estuaries Component, Field Operations and Safety Manual. U.S. EPA, Office of Research and Development, NHEERL-AED, Narragansett, RI.

>PARAMETER: Latitude and Longitude (Degrees, decimal minutes and seconds)
-COLLECTION METHODS: Station positions were selected by GIS based on random strata site selection. Locations were then entered into a Northstar LORAN or Raytheon GPS receivers. Sampling protocol dictates the navigation goal was to be within 100 m of the assigned latitude and longitude of a sampling site.
-SAMPLE PRESERVATIVES: None
-SAMPLE STORAGE ENVIRONMENT: None
-TIME IN STORAGE: None
-LAB TECHNIQUES WITH REFERENCES:
Valente, R., C.J. Strobel, J.E. Pollard, K.M. Peres, T.C. Chang and J. Rosen. 1990. Quality Assurance Project Plan for EMAP Near Coastal: 1990 Demonstration Project. U.S. Environmental Protection Agency. NHEERL-AED. Narragansett,RI.

>PARAMETER: SAMPLE_DEPTH (Sampling Depth, Meters)
-COLLECTION METHODS: Sea-Bird SeaLogger CTD equipped probes for salinity, temperature, dissolved oxygen (DO) concentration, light transmission, chlorophyll a fluorescence, and PAR
SAMPLE PRESERVATIVES: N/A

-SAMPLE STORAGE ENVIRONMENT: N/A
-TIME IN STORAGE: N/A
-LAB TECHNIQUES WITH REFERENCES:

Strobel, C.J. 1998. Environmental Monitoring and Assessment Program - Mid-Atlantic Integrated Assessment. Estuaries Component, Field Operations and Safety Manual. U.S. EPA, Office of Research and Development, NHEERL-AED, Narragansett, RI.

>PARAMETER: WTEMP (Water Temperature, Centigrade)
-COLLECTION METHODS: Sea-Bird SeaLogger CTD equipped probes for salinity, temperature, dissolved oxygen (DO) concentration, light transmission, chlorophyll a fluorescence, and PAR
-SAMPLE PRESERVATIVES: N/A
-SAMPLE STORAGE ENVIRONMENT: N/A
-TIME IN STORAGE: N/A
-LAB TECHNIQUES WITH REFERENCES:
Strobel, C.J. 1998. Environmental Monitoring and Assessment Program - Mid-Atlantic Integrated Assessment. Estuaries Component, Field Operations and Safety Manual. U.S. EPA, Office of Research and Development, NHEERL-AED, Narragansett, RI.

>PARAMETER: SPCOND (Conductivity,umHo/cm)
-COLLECTION METHODS: Sea-Bird SeaLogger CTD equipped probes for salinity, temperature, dissolved oxygen (DO) concentration, light transmission, chlorophyll a fluorescence, and PAR
-SAMPLE PRESERVATIVES: N/A
-SAMPLE STORAGE ENVIRONMENT: N/A
-TIME IN STORAGE: N/A
-LAB TECHNIQUES WITH REFERENCES:
Strobel, C.J. 1998. Environmental Monitoring and Assessment Program - Mid-Atlantic Integrated Assessment. Estuaries Component, Field Operations and Safety Manual. U.S. EPA, Office of Research and Development, NHEERL-AED, Narragansett, RI.

>PARAMETER: DO (Dissolved Oxygen, mg\l)
-COLLECTION METHODS: Oxygen was measured with a Beckman polarographic DO electrode.
-SAMPLE PRESERVATIVES: N/A
-SAMPLE STORAGE ENVIRONMENT: N/A
-TIME IN STORAGE: N/A
-LAB TECHNIQUES WITH REFERENCES:
Strobel, C.J. 1998. Environmental Monitoring and Assessment Program - Mid-Atlantic Integrated Assessment. Estuaries Component, Field Operations and Safety Manual. U.S. EPA, Office of Research and Development, NHEERL-AED, Narragansett, RI.

>PARAMETER: SALINITY (Salinity, psu)
-COLLECTION METHODS: Sea-Bird SeaLogger CTD equipped probes for salinity, temperature, dissolved oxygen (DO) concentration, light transmission, chlorophyll a fluorescence, and PAR
-SAMPLE PRESERVATIVES: N/A
-SAMPLE STORAGE ENVIRONMENT: N/A
-TIME IN STORAGE: N/A
-LAB TECHNIQUES WITH REFERENCES: N/A
Strobel, C.J. 1998. Environmental Monitoring and Assessment Program - Mid-Atlantic Integrated Assessment. Estuaries Component, Field Operations and Safety Manual. U.S. EPA, Office of Research and Development, NHEERL-AED, Narragansett, RI.

PARAMETER

>PARAMETER:SAND (Sand Content, %), CLAY (Clay Content, %), Silt(Silt Content, %) , Moist(Moisture %) PHI25, PHI50, PHI75, Skewness
-COLLECTION METHODS: Young-modified Van Veen Grab sampler was used to collect sediment grabs for benthic analyses followed by field sieving through a 0.5mm sieve and preserved in the field. 20ml and 100ml sample were taken from a bottom grab and frozen.
-SAMPLE PRESERVATIVES: None
-SAMPLE STORAGE ENVIRONMENT: Refrigerated until analysis
-TIME IN STORAGE: Holding Time Unknown
-LAB TECHNIQUES WITH REFERENCES:
Plumb, R.H. (1981), Procedures for handling and chemical analysis of sediment and water samples. Prepared for the U.S. Environmental Protection Agency/Corps of Engineers Technical Committee of Criteria for Dredge and Fill Material. Published by Environmental Laboratory, U.S. Army Waterways Experimental Station, Vicksburg. Mississippi. Technical Report EPA/CE-81-1

>PARAMETER: Secchi Depth
-COLLECTION METHODS: A secchi disk was lowered on a marked line straight down into the water until the disk just disappears from sight. Depth was recorded on a field log sheet.
-SAMPLE PRESERVATIVES: None
-SAMPLE STORAGE ENVIRONMENT: None
-TIME IN STORAGE: None
-LAB TECHNIQUES WITH REFERENCES: None

>PARAMETER: TOC (Total organic carbon content in percent),
-COLLECTION METHODS: Young-modified Van Veen Grab sampler was used to collect sediment grabs for benthic analyses followed by field sieving through a 0.5mm sieve and preserved in the field. 20ml and 100ml sample were taken from a bottom grab and frozen.
-SAMPLE PRESERVATIVES: Frozen
-SAMPLE STORAGE ENVIRONMENT: Frozen until analysis
-TIME IN STORAGE: Holding time unknown.
-LAB TECHNIQUES WITH REFERENCES: The concentration of total organic carbon in each sediment sample was determined by ultraviolet light-promoted persulfate oxidation.

U.S. EPA. 1995. Environmental Monitoring and Assessment Program (EMAP):Laboratory Methods Manual-Estuaries, Volume 1: Biological and Physical Analyses. U.S. Environmental Protection Agency, Office of Research and Development, Narragansett, RI. EPA/620/R-95/008.

VARIABLES NAMES AND DESCRIPTIONS FOR DATA FILES
Structures for data files on http://www.chesapeakebay.net
> BENTHIC SURVEY EVENT DATA

Field Name	Type	Width	Descriptions
EVENT_ID	Number	8	Database Generated Event Identification Number
SOURCE	Text	6	Data Collection Agency
SAMPLE_DATE	Text	8	Sampling Date (MM/DD/YYYY)
LATITUDE	Number	8.5	Latitude (Decimal Degrees- NAD83)
LONGITUDE	Number	8.5	Longitude (Decimal Degrees-NAD83)
R_DATE	Text	8	Data Version Date (MM/DD/YYYY)
SITETYPE	Text	4	Sampling Site Type
STATION	Text	15	Sampling Station
TOTAL_DEPTH	Number	8.1	Total Station Depth (Meters)
SAMPLE_TIME	Text	5	Sample Collection Time (HHMM)

> BENTHIC WATER QUALITY SURVEYS

Field Name	Type	Width	Descriptions
EVENT_ID	Number	8	Database Generated Event Identification Number
SOURCE	Text	6	Data Collection Agency
SAMPLE_TYPE	Text	2	Sample Collection Type
STATION	Text	15	Sampling Station
SAMPLE_DATE	Text	8	Sampling Date (MM/DD/YYYY)
SAMPLE_DEPTH	Number	8.1	Sampling Depth
SAMPLE_NUMBER	Number	8.0	Sample Number
REPORTED_PARAMETER	Text	15	Sampling Parameter
REPORTED_VALUE	Number	8.4	Sampling Parameter Value
REPORTED_UNITS	Text	15	Reporting Units of Value
WQ_METHOD	Text	8	Chesapeake Bay Program Parameter Analysis Code
R_DATE	Text	8	Data Version Date (MM/DD/YYYY)

>BENTHIC SEDIMENT SURVEY DATA

Field Name	Type	Width	Descriptions
EVENT_ID	Number	8	Database Generated Event Identification Number
SOURCE	Text	6	Data Collection Agency
SAMPLE_TYPE	Text	2	Sample Collection Type
STATION	Text	15	Sampling Station
SAMPLE_DATE	Text	8	Sampling Date (MM/DD/YYYY)
TOTAL_DEPTH	Number	8.1	Total Station Depth
SAMPLE_NUMBER	Number	8.0	Sample Number
REPORTED_PARAMETER	Text	15	Sampling Parameter
REPORTED_VALUE	Number	8.4	Sampling Parameter Value
REPORTED_UNITS	Text	15	Reporting Units of Value
R_DATE	Text	8	Data Version Date (MM/DD/YYYY)

> BENTHIC SURVEY BIOTA EVENT DATA

Field Name	Type	Width	Description
EVENT_ID	Number	8	Database Generated Event Identification Number
SOURCE	Text	6	Data Collection Agency
SAMPLE_DATE	Date/Time	8	Sampling Date (MM/DD/YYYY)
LATITUDE	Number	8.5	Latitude (Decimal Degrees-NAD83)
LONGITUDE	Number	8.5	Longitude (Decimal Degrees-NAD83)
PENETR	Number	8.4	Sampling Gear Penetration Depth (cm)
R_DATE	Date/Time	8	Data Version Date (MM/DD/YYYY)
SAMPLE_NUMBER	Number	8.0	Sample Number
SITE_TYPE	Text	10	Sampling Site Type
STATION	Text	15	Sampling Station
TOTAL_DEPTH	Number	8.1	Total Station Depth (Meters)
SAMPLE_TIME	Date/Time	8	Sample Collection Time (HHMM)

>BENTHIC TAXONOMIC SURVEY DATA

Field Name	Type	Width	Descriptions

EVENT_ID	Number	8	Database Generated Event Identification Number
SOURCE	Text	6	Data Collection Agency
SAMPLE_TYPE	Text	7	Sample Collection Type
STATION	Text	15	Sampling Station
SAMPLE_DATE	Date/Time	8	Sampling Date (MM/DD/YYYY)
SAMPLE_NUMBER	Number	8.0	Sample Number
GMETHOD	Text	3	Chesapeake Bay Program Gear Method Code
CONVFACT	Number	8.2	Conversion Factor (# Individual/Sample to # Individuals/Meter Squared)
NET_MESH	Number	8.2	Screen Mesh Width (Millimeters)
TSN	Text	7	ITIS Taxon Serial Number
LIFE_STAGE	Text	45	Species Life Stage
LATIN_NAME	Text	45	Species Latin Name
REPORTING_VALUE			
	Number	12	Total Count of Given Taxa in Sample
REPORTING_UNITS	Text	15	Reporting Units of Value
NODCCODE	Text	12	National Oceanographic Data Center Species Code
SPEC_CODE	Text	14	Agency Species Code
SER_NUM	Text	12	Sample Serial Number
R_DATE	Date/Time	8	Data Version Date (MM/DD/YYYY)

>BENTHIC BIOMASS SURVEY DATA

Field Name	Type	Width	Descriptions
EVENT_ID	Number	8	Database Generated Event Identification Number
SOURCE	Text	6	Data Collection Agency
SAMPLE_TYPE	Text	7	Sample Collection Type
STATION	Text	15	Sampling Station
SAMPLE_DATE	Date/Time	8	Sampling Date (MM/DD/YYYY)
SAMPLE_NUMBER	Number	8.0	Sample Number
GMETHOD	Text	3	Chesapeake Bay Program Gear Method Code
CONVFACT	Number	8.2	Conversion Factor (# Individual/Sample to # Individuals/Meter Squared)
NET_MESH	Number	8.2	Screen Mesh Width (Millimeter)
TSN	Text	7	ITIS Taxon Serial Number
LIFESTAGE	Text	45	Organisms Life Stage
LATIN_NAME	Text	45	Species Latin Name
VALUE_TYPE	Text	10	Actual or Estimated Parameter Value
REPORTING_VALUE	Number	8.4	Taxon Biomass
REPORTING_UNITS	Text	15	Sampling Parameter Reporting Units
NODCCODE	Text	12	National Oceanographic Data Center Species Code
SPEC_CODE	Text	14	Agency Species Code
SER_NUM	Text	12	Agency Sample Serial Number
R_DATE	Date/Time	8	Data Version Date (MM/DD/YYYY)

> The following fields may also appear in a downloaded data set:

Name	Type	Width	Description
BASIN	Text	20	Chesapeake Bay Basin Designation
HUC8	Text	8	USGS Eight Digit Hydrologic Unit Code
CATALOGING_UNIT_DESCRIPTION	Text	50	USGS Cataloging Unit Code Description
FIPS	Text	5	Federal Information Processing Code
STATE	Text	3	Federal Information Processing Code State Designation
COUNTY_CITY	Text	30	Federal Information Processing Code City/County Designation

CBSEG_2003	Text	6	2003 Chesapeake Bay Segment Designation
CBSEG_2003_DESCRIPTION	Text	50	2003 Chesapeake Bay Segment Designation Description

#VARIABLE NAMES AND DESCRIPTIONS FOR SPECIES KEY
These tables cross references Versar species codes and spellings with current Integrated Taxonomic Information System (ITIS) and National Oceanographic Data Center taxonomic codes and spellings. Web address: http://www.chesapeakebay.net/

Name	Type	Width	Description
SPECCODE	Text	14	Data provider Species Code
SOURCE_LBL	Text	45	Source Species Latin Name
LBL	Text	45	ITIS Latin Name
NODC_LBL	Text	45	National Oceanographic Data Center Latin Name
NODCCODE	Text	12	National Oceanographic Data Center Species Code
TSN	Text	7	ITIS Taxon Serial Number
R_DATE	Date/Time	8	Version Date of Data (YYYYMMDD)

REFERENCE CODES IN DATA FILES AND TAXONOMIC KEY
See The 2000 Guide to Biological and Living Resources Data for full listing.

> DATA_TYPE: Data Type
BE Benthic
FL Fluorescence
MI Microzooplankton
MZ Mesozooplankton
PD Primary Production
PH Phytoplankton
PP Picoplankton

>A/EAFDW: Actual or Estimated Ash Free Dry Weight
A or ACTUAL - Actual Determination of Ash Free Dry Weight
E or ESTIMATE - Estimated Ash Free Dry Weight

>SOURCE : Data Collection Agency
VERSAR- Versar Incorporated

>COLTYPE: Collection Type
D or DISCRETE - Discrete Sample
C or COMPOSITE- Composite Sample

>BASIN - Sampling Station Tributary or Mainstem Designation

TRIB_COD	BASIN
BAY	CHESAPEAKE BAY
CHS	CHESTER RIVER
CHP	CHOPTANK RIVER
ELZ	ELIZABETH RIVER
JAM	JAMES RIVER
PAT	PATAPSCO RIVER
PAX	PATUXNET RIVER
POT	POTOMAC RIVER
RAP	RAPPAHANOCK

TRIB_COD	BASIN
	RIVER
YRK	YORK RIVER

>GMETHOD- Sampling Gear Codes
16-Post-Hole Digger (250 square centimeters)
20-Wildco Box Core Grab(220 square centimeters)
96-Hydrolic Van Veen Grab(1000 square centimeters)
97-Young Modified Van Veen Grab (440 square centimeters)
98-Petite Ponar Grab (250 square centimeters)

>TSN: Interagency Taxonomic Identification System, Taxon Serial Numbers Note for current listing of Chesapeake Bay Program Species and their codes . Organisms without current serial numbers have ALL been assigned TSN of BAYXXXX.

>LIFE STAGE
Life stages are any addional descriptors of a species in addition to
The scientific name see IN HOUSE SPECIES LIST for details

>LATIN_NAME
See for IN HOUSE SPECIES LIST for details

>NODCCODE: National Oceanographic Data Center Species Code
NOTE: For current listing of Chesapeake Bay species and their codes,
see 1998 Chesapeake Bay Basin Species List.

>STATION- Station Names-Please See Station Names and
Positions for details on name designation.

>SKIP- THE SKIP VARIABLE OF THE BENTHIC TAXONOMIC AND ABUNDANCE
DATA RECORD: In counting the number of taxa present in a sample, general taxonomic designations at the generic, familial, and higher taxonomic levels are dropped if there is one valid lower level designation for that group. For example, if both *Leitoscoloplos* sp. And *Leitoscoloplos fragilis* have been identified in one sample, *Leitoscoloplos* sp. is skipped when counting the number of taxa. Skip codes are used to track these general taxonomic designations.

>SITETYPE- Sampling Station Site Type
F or FIXED - Fixed Sampling Site
R or RANDOM- Randomly Selected Site within a habitat area

>TSN: Interagency Taxonomic Identification System taxon serial numbers
NOTE: For current listing of Chesapeake Bay species and their codes,
see the 2007 Bay Basin Species List for details.

>PARAMETERS-

PARAMETER	DESCRIPTION
CLAY	CLAY CONTENT,PERCENT
DO	DISSOLVED OXYGEN
PENETR	GEAR PENETRATION DEPTH
SALINITY	SALINITY

PARAMETER	DESCRIPTION
SAND	SAND CONTENT, PERCENT
SILT	SILT CONTENT, PERCENT
SPCOND	SPECIFIC CONDUCTIVITY
SECCHI	SECCHI DEPTH
TIC	CARBONTATE CONTENT
TOC	TOTAL ORGAINIC CARBON
WTEMP	WATER TEMPERATURE, CENTEGRAGE

> HUC8: USGS Hydrologic Unit Codes

HUC8	CATALOGING_UNIT_DESCRIPTION
02050306	LOWER SUSQUEHANNA
02060001	UPPER CHESAPEAKE BAY
02060002	CHESTER-SASSAFRAS
02060003	GUNPOWDER-PATAPSCO
02060004	SEVERN
02060005	CHOPTANK
02060006	PATUXENT
02060007	BLACKWATER-WICOMICO
02060008	NANTICOKE
02060009	POCOMOKE
02070010	MIDDLE POTOMAC-ANACOSTIA-OCCOQUAN
02070011	LOWER POTOMAC

>FIPS: Federal Information Processing Codes

FIPS	NAME
24003	ANNE ARUNDEL
24005	BALTIMORE
24009	CALVERT
24011	CAROLINE
24015	CECIL
24017	CHARLES
24019	DORCHESTER
24025	HARFORD
24029	KENT
24033	PRINCE GEORGES
24035	QUEEN ANNES

FIPS	NAME
24037	SAINT MARYS
24039	SOMERSET
24041	TALBOT
24045	WICOMICO
24510	BALTIMORE CITY
51001	ACCOMACK
51059	FAIRFAX
51099	KING GEORGE
51153	PRINCE WILLIAM
51179	STAFFORD
51193	WESTMORELAND

> CBSEG_2003: Chesapeake Bay Program Monitoring Segment

CBSEG_2003	DESCRIPTION
BACOH	BACK RIVER-OLIGOHALINE REGION
BIGMH	BIG ANNEMESSEX RIVER-MESOHALINE REGION
BOHOH	BOHEMIA RIVER-OLIGOHALINE REGION
BSHOH	BUSH RIVER-OLIGOHALINE REGION
CB1TF	CHESAPEAKE BAY-TIDAL FRESH REGION
CB2OH	CHESAPEAKE BAY-OLIGOHALINE REGION
CB3MH	CHESAPEAKE BAY-MESOHALINE REGION

CBSEG_2003	DESCRIPTION
CB4MH	CHESAPEAKE BAY-MESOHALINE REGION
CB5MH	CHESAPEAKE BAY-MESOHALINE REGION
CHOMH1	CHOPTANK RIVER-MESOHALINE REGION 1
CHOMH2	CHOPTANK RIVER-MESOHALINE REGION 2
CHOOH	CHOPTANK RIVER-OLIGOHALINE REGION
CHOTF	CHOPTANK RIVER-TIDAL FRESH REGION
CHSMH	CHESTER RIVER-MESOHALINE REGION
CHSOH	CHESTER RIVER-OLIGOHALINE REGION
CHSTF	CHESTER RIVER-TIDAL FRESH REGION
EASMH	EASTERN BAY-MESOHALINE REGION
ELKOH	ELK RIVER-OLIGOHALINE REGION
FSBMH	FISHING BAY-MESOHALINE REGION
GUNOH	GUNPOWDER RIVER-OLIGOHALINE REGION
HNGMH	HONGA RIVER-MESOHALINE REGION
LCHMH	LITTLE CHOPTANK RIVER-MESOHALINE REGION
MAGMH	MAGOTHY RIVER-MESOHALINE REGION
MANMH	MANOKIN RIVER-MESOHALINE REGION
MATTF	MATTAWOMAN CREEK-TIDAL FRESH REGION
MIDOH	MIDDLE RIVER-OLIGOHALINE REGION
NANMH	NANTICOKE RIVER-MESOHALINE REGION
NANOH	NANTICOKE RIVER-OLIGOHALINE REGION
NORTF	NORTHEAST RIVER-TIDAL FRESH REGION
PATMH	PATAPSCO RIVER-MESOHALINE REGION
PAXMH	PATUXENT RIVER-MESOHALINE REGION
PAXOH	PATUXENT RIVER-OLIGOHALINE REGION
PAXTF	PATUXENT RIVER-TIDAL FRESH REGION
POCMH	POCOMOKE RIVER-MESOHALINE REGION
POCOH	POCOMOKE RIVER-OLIGOHALINE REGION
POTMH	POTOMAC RIVER-MESOHALINE REGION
POTOH	POTOMAC RIVER-OLIGOHALINE REGION
POTTF	POTOMAC RIVER-TIDAL FRESH REGION
RHDMH	RHODE RIVER-MESOHALINE REGION
SASOH	SASSAFRAS RIVER-OLIGOHALINE REGION
SEVMH	SEVERN RIVER-MESOHALINE REGION
SOUMH	SOUTH RIVER-MESOHALINE REGION
TANMH	TANGIER SOUND-MESOHALINE REGION
WICMH	WICOMICO RIVER-MESOHALINE REGION
WSTMH	WEST RIVER-MESOHALINE REGION

>PROGRAM- Chesapeake Bay Program Monitoring Program Designation

PROGRAM	DESCRIPTION
EPA\NCAS	EPA EMAP NATIONAL COASTAL ASSESSMENT PROGRAM
HISTORIC	PRE-CHESAPEAKE BAY MONITORING PROGRAM
WQMP	CHESAPEAKE BAY MAINSTEM AND TIDAL TRIBUTARY WATER QUALITY MONITORING PROGRAM

> PROJECT - Chesapeake Bay Program Monitoring Project Designation

PROJECT	DESCRIPTION
MAIN/TRIB	LONG-TERM BENTHIC MONITORING PROGRAM
VA/CBAY	VIRGINIA COASTAL BAY MONITORING
VA/HIST	VIRGINIA HISTORIC DATA RECOVERY

>PARAMETER and UNIT: Measured Parameter and reporting units.

PARAMETER	UNITS
AFDW_TAX	GRAMS/SAMPLE
COUNT	NUMBER/SAMPLE
DO	MG/L
MOIST	PERCENTI
PH	SU
SALINITY	PPT
SAND	PERCENT
SILTCLAY	PERCENT
TOC	PERCENT
WTEMP	DEG C

NUMERIC WARNING AND ERROR BOUNDS

Variable	Valid Ranges
AFDW	0- 999.9999
TIC	0 - 100 PERCENT
TOC	0 - 100 PERCENT
COUNT	0-99999999
SPCOND	0 - 50000 uVHOS
DO	0- 15.0 PPT
PENETR	0-30.0
SALINITY	0 - 32.0 PPT
SAMPLE_DEPTH	1-100 METERS
SAMPLE_NUMBER	1-25
SAMPLE_TIME	0000-2400 missing time denoted as 00:00
SAND	0-100 PERCENT
SILT	0-100 PERCENT
CLAY	0-100 PERCENT
TOTAL_DEPTH	0.1-100 METERS
WTEMP	0- 35 DEGREES CELSIUS

#IMPORTANT DATA REVISIONS

THE LIVING RESOURCES DATA MANAGER RECOMMENDS THAT ALL DATA ANALYSIS BE ERFORMED WITH THE MOST RECENT DATA SETS VERSIONS AVAILABLE. HOWEVER IF YOU HAVE BEEN WORKING WITH OLDER DATA SETS THE FOLLOWING ARE IMPORTANT CHANGES TO BE AWARE OF.

07/20/2012- LBL all Latin Names and spelling for names have been corrected InteragencyTaxonomic Identification System accepted spelling.

07/20/2012- NODCCODES all Species have been given their assigned National Oceanographic Data Center Version 8.0 Species Codes where possible. This Hiracrchial Code provides taxonomic information about a given species. If A code number is not available, a partial code based on available taxonomic Information ending with alphabetic characters has been provided.

07/20/2012- TSN all Species have been given their assigned InteragencyTaxonomic Identification System taxon serial number. The taxon serial number is a permanent number assigned to a species and does not change with changes in taxonomic classification. Species without assigned coded have been assigned temporary BAYXXXX serial numbers. Permanent ITIS serial numbers have been applied for.

07/20/2012- Samples analyzed for biological content and found to contain no organisms are recorded in the data base with an empty count record and a TSN of BAY0229.

07/20/2012- The time of sampling was not recorded in this data set. All sample times set to 00:00:00

7/20/2012-There is additional toxicity, fishery, water quality and biotic index associated with the benthic sampling events in this study which are not included in the CBPO data base. Other MAIA collected parameter for the Chesapeake Bay region can be obtained at http://www.epa.gov/emap/maia/html/data/estuary/9798/index.html

#KEY WORDS (EXCLUDING VARIABLE NAMES)

Benthic Taxon Counts
Benthic Organism densities
Benthic Biomass
Benthic Organism Biomass
Benthic sediments
Sediment characterization
Water Quality Measurement
Hydrographic Profiles
Benthic Sampling Event
Benthic Monitoring Surveys

THIS IS THE END OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
COASTAL OCEAN ASSESSMENTS, STATUS, AND TRENDS
BIOEFFECTS ASSESSMENT PROGRAM
CHESAPEAKE BAY – SPECIAL BENTHIC SURVEY
DATA DICTIONARY
