
MARYLAND POWERPLANT RESEARCH PROGRAM LONG TERM BENTHIC MONITORING AND ASSESSMENT PROGRAM DATA DICTIONARY

Maryland Powerplant Research Program: Long Term Benthic Monitoring and Assessment Program

- Taxonomic Data Dictionary
- Sediment Data Dictionary
- Water Quality Data Dictionary
- Event and Biota Event Data Dictionary

NOTE THIS DICTIONARY WAS REVISED ON 21 JULY 2012 AND SUPERSEDES ALL OTHER CBP DICTIONARIES FOR THE MARYLAND BENTHIC MONITORING DATA

The study is designed to detect, monitor, and assess long-term responses of benthic communities to changes in water quality resulting from Bay-wide cleanup efforts, and to assess short and long-term responses of the benthos to power plant operations.

NAMES AND DESCRIPTIONS OF ASSOCIATED DATA DICTIONARY FILE

2012 User's Guide to Chesapeake Bay Program Biological Data

#PROJECT TITLE:

Maryland Powerplant Research Program: Long Term Benthic Monitoring and Assessment Program

PREVIOUS PRINCIPAL INVESTIGATORS:

>PROGRAM MANAGER: Bruce Michaels, Maryland Department of Natural Resources

>PROJECT MANAGER: Fred Holland Versar Inc.

>PRINCIPAL INVESTIGATORS: Anna T Shaughnessy, Lisa Scott, Fred Hollings Versar Inc.

>DATA COORDINATOR: V.A. Dickens and Ananda Ranasinghe Versar Inc.

#PREVIOUS FUNDING AGENCIES:

Maryland Department of Natural Resources Power Plant Siting Program (1975-1988)

Maryland Department of Health and Mental Hygiene, Office of Environmental Programs (1984-1986?)

U. S. Department of Energy, Baltimore Gas and Electric Co. & Maryland Department of the Environment (1984 - 1988)

#PROJECT COST

\$ UNKNOWN

#CURRENT QA/QC OFFICER: Not Applicable

#POINT OF CONTACT:

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#LOCATION OF STUDY

Chesapeake Bay and tidal tributaries in Maryland

#DATE INTERVALS

08/18/1971-06/20/1984

#ABSTRACT

The purpose of this study is to detect, monitor and assess long term responses of benthic communities to changes in water quality resulting from Bay-wide cleanup efforts, and to assess the long and short term responses of the benthos to power plant operations.

STATION NAMES AND DESCRIPTIONS

The sampling conducted in this program consisted of fixed site monitoring at as many as 50 fixed sites. A fixed sampling site is defined by geography (within a 1 km radius from a fixed location) and by specific habitat (depth and substrate) criteria. Samples were collected haphazardly within the 1 KM radius of a fixed location. During each sampling event multiple samples were taken at each site, with varying types of gear.

STATION NAMES AND POSITIONS

>Fixed Station Naming. Note original station names have been maintained in the data. Stations were renamed in July 1984 when this program was reformatted and became the Maryland Chesapeake Bay Water Quality Monitoring Program: Benthic Component. New names are noted as STAEQ85 in the station table below.

>Fixed Site Positions. Sampling station list for Surveys done from July 1971 through June 1984. Station Number, Location, Longitude, (decimal degrees), Latitude (decimal degrees), Total_Depth (average station depth is given in meters), FIPS, Chesapeake Bay Program Monitoring Segment and USGS Hydrologic Unit Code. Positions in data sets are NAD83 Coordinates.

STATION	STAEQ85	DESCRIPTION	LATITUDE	LONGITUDE	AVERAGE DEPTH	FIPS	CBPSEG	HUC8
01	901	St Leonard	38.4876	-76.489	2.6	24009	CB4MH	02060001
02	902	St Leonard	38.491	-76.488	6.7	24009	CB4MH	02060001
03	903	St Leonard	38.4951	-76.476	9.5	24009	CB4MH	02060001
04	904	Calvert Beach	38.469	-76.472	3.2	24009	CB4MH	02060001
05	905	Calvert Beach	38.4751	-76.461	6.3	24009	CB4MH	02060001
06	006	Calvert Cliffs	38.4425	-76.443	2.3	24009	CB4MH	02060001
09	007	Calvert Cliffs	38.4421	-76.438	6.9	24009	CB4MH	02060001
10	008	Calvert Cliffs	38.453	-76.425	11.4	24009	CB4MH	02060001
11	006	Calvert Cliffs	38.4629	-76.433	2.8	24009	CB4MH	02060001
12	912	Scientists Cliffs	38.5086	-76.506	5.2	24009	CB4MH	02060001
13	001	Rocky Point	38.4188	-76.417	2.1	24009	CB4MH	02060001
14	914	Scientists Cliffs	38.512	-76.453	2.9	24009	CB4MH	02060001
15	915	Holland Point	38.714	-76.513	7	24003	CB4MH	02060001
17	917	Calvert Beach	38.4823	-76.45	11.1	24009	CB4MH	02060001
18	009	Flag Pond	38.456	-76.448	2.1	24009	CB4MH	02060001
19	010	Flag Pond	38.4561	-76.448	5.4	24009	CB4MH	02060001
20	011	Flag Pond	38.4628	-76.433	9.7	24009	CB4MH	02060001
21	921	Calvert Cliffs	38.446	-76.441	6.9	24009	CB4MH	02060001
22	922	Calvert Cliffs	38.4548	-76.432	10.8	24009	CB4MH	02060001
23	923	Calvert Cliffs	38.4326	-76.432	2.1	24009	CB4MH	02060001
24	924	Calvert Cliffs	38.438	-76.426	6.4	24009	CB4MH	02060001
25	925	Calvert Cliffs	38.4456	-76.418	10	24009	CB4MH	02060001
26	002	Rocky Point	38.4218	-76.406	8.8	24009	CB4MH	02060001
27	003	Rocky Point	38.4238	-76.39	13	24009	CB4MH	02060001
28	928	Elk Neck State Park	39.4576	-76.034	2.5	24015	CB1TF	02060001
29	929	Elk River	39.4796	-75.945	4	24015	ELKOH	02060002
30	012	Scientists Cliffs	38.5086	-76.506	1.8	24009	CB4MH	02060001

STATION	STAEQ85	DESCRIPTION	LATITUDE	LONGITUDE	AVERAGE DEPTH	FIPS	CBPSEG	HUC8
31	013	Scientists Cliffs	38.5088	-76.496	6	24009	CB4MH	02060001
32	014	Scientists Cliffs	38.512	-76.453	10.7	24009	CB4MH	02060001
33	015	Holland Point	38.714	-76.513	1.4	24003	CB4MH	02060001
34	016	Holland Point	38.7308	-76.451	8.7	24041	CB4MH	02060001
39	039	Maryland Point	38.3651	-77.223	1.5	24017	POTOH	02070011
40	040	Maryland Point	38.3576	-77.231	5.3	24017	POTOH	02070011
41	041	Popes Creek	38.4057	-77	2.2	24017	POTMH	02070011
42	042	Popes Creek	38.3973	-77.01	13.4	24017	POTMH	02070011
43	043	Popes Creek	38.3846	-76.989	1.8	24017	POTMH	02070011
44	044	Popes Creek	38.3858	-76.996	10.1	24017	POTMH	02070011
45	045	Aqualand	38.3698	-76.986	1.8	24017	POTMH	02070011
46	046	Aqualand	38.3688	-76.994	10.1	24017	POTMH	02070011
47	047	Route 301 Bridge	38.3641	-76.984	1.8	24017	POTMH	02070011
48	048	Route 301 Bridge	38.362	-76.99	13.5	24017	POTMH	02070011
49	049	Picowaxen Creek	38.3268	-76.943	1.6	24017	POTMH	02070011
50	050	Picowaxen Creek	38.319	-76.985	10.1	24017	POTMH	02070011
51	051	St. Clements Island	38.2061	-76.738	1.6	24037	POTMH	02070011
52	052	St. Clements Island	38.1921	-76.748	7.1	24037	POTMH	02070011
53	053	Cornfield Point	38.0561	-76.36	1.6	24037	POTMH	02070011
54	054	Cornfield Point	38.0481	-76.362	8.4	24037	POTMH	02070011
55	055	Point No Point	38.1335	-76.312	1.9	24037	CB5MH	02060001
56	056	Point No Point	38.1315	-76.278	4.8	24037	CB5MH	02060001
57	057	Point No Point	38.13	-76.281	8.7	24037	CB5MH	02060001

METHODOLOGY DESCRIBING CHAIN OF CUSTODY FOR LAB SAMPLES

Upon completion of field sampling, samples were inspected for proper labeling and logged into a master control notebook. Three replicate were designated for processing and one was archived. Samples were stored on shelves in the laboratory by sample date until they were processed. Alternatively, samples were transferred to the Cove Corporation for processing. Each sample was tracked on an archive log sheet maintained in the project files.

BIOLOGICAL ENUMERATION TECHNIQUES

Samples were filtered through a 0.5 mm sieve (a 1.0mm sieve was used prior to 1977) in the field and preserved in 10% buffered formalin with rose bengal in plastic bottles. Samples were filtered in the lab through a 1mm sieve and the organisms retained on the 1 mm and 0.5 mm sieves were sorted and identified to the lowest practical taxonomic level. Oligochaetes and chironomids were mounted on slides and examined under a compound microscope for genus and species identification. It is unknown if and how many samples were reprocessed as a QA/QC check. Species identifications are verified by comparison to voucher specimens

#FORMULAS AND CALCULATIONS

>Taxonomic Abundance Data

Multiplication of organism count per size class by gear conversion factor will give concentration of organisms per area value.

BIOLOGICAL VARIABLES QA/QC PLAN FOR PROJECT

All sorting and identifying operations were conducted, QA/QC checked in accordance with the Versar ESM Operations Benthic Laboratory Operations Manual. All variables were checked for accuracy and admissibility by computer program.

#VARIABLE NAMES, MEASUREMENT UNITS AND DESCRIPTIONS

>PARAMETER: TIC (Total Inorganic Carbon Content: CHN Analyzer, %)

-COLLECTION METHODS: 20ml and 100ml sample were taken from a bottom grab and frozen. The bottom depth at each stratum determined the type of gear used to collect benthos. A hand operated box core was used on all strata with a total depth less than three meters. At Station depths between 3 and 9 meters a hydraulic grab was used. Sampling of deeper habitats was performed with either the Ponar grab or WildCo box corer.

-SAMPLE PRESERVATIVES: Frozen

-SAMPLE STORAGE ENVIRONMENT: Frozen

-TIME IN STORAGE: Until thawed for analysis

-LAB TECHNIQUES WITH REFERENCES: Ashing in a muffle furnace at a low temperature of 500oC results in the removal of organic carbon. The inorganic carbon remaining in the ash is then injected in a carbon analyzer (Exeter Analytical, Inc., CE-440 Elemental Analyzer) and combusted at high temperature (975o C). The carbon dioxide produced during combustion is measured by thermal conductivity detection. Prior to ashing, each sample is homogenized and oven-dried. No acid applied.

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

Buchanan, J.B. (1984) Sediment analysis . In: Method for study of Marine Benthos. IBP Handbook NO 16, 2nd Edition., 41-65. N.A. Holme and A.D. McIntyre, eds. Oxford, England: Blackwell Scientific Publications.

>PARAMETER: TC (Carbon Content: Ignition, %)

-COLLECTION METHODS: 20ml and 100ml sample were taken from a bottom grab and frozen. The bottom depth at each stratum determined the type of gear used to collect benthos. A hand operated box core was used on all strata with a total depth less than three meters. At Station depths between 3 and 9 meters a hydraulic grab was used. Sampling of deeper habitats was performed with either the Ponar grab or WildCo box corer.

-SAMPLE PRESERVATIVES: Frozen

-SAMPLE STORAGE ENVIRONMENT: Frozen

-TIME IN STORAGE: Until thawed for analysis

-LAB TECHNIQUES WITH REFERENCES:

Combustion at high temperature (975o C) in a carbon analyzer (Exeter Analytical, Inc., CE-440 Elemental Analyzer) and subsequent measurement of the carbon dioxide produced by thermal conductivity detection. Prior to combustion, each sample is homogenized and oven-dried. No acid applied.

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

Buchanan, J.B. (1984) Sediment analysis . In: Method for study of Marine Benthos. IBP Handbook NO 16, 2nd Edition., 41-65. N.A. Holme and A.D. McIntyre, eds. Oxford, England: Blackwell Scientific Publications.

>PARAMETER: COUNT (# of a benthic taxon per sample)

-COLLECTION METHODS: Data was also collected under the direction of: Chesapeake Biological Laboratory of the University of Maryland, Benedict Estuarine Research Laboratory of the Academy of

Natural Sciences of Philadelphia and Versar Staff. Samples were collected with a 0.02 m² box corer at depths less than 4m. Between 4 and 9 m, a 0.10 m² or 0.12 m² hydraulic closing van Veen grab was used. At greater than 10m, a 0.02 m² Ponar grab was used. Samples collected before 1977 were sieved in the field through a 1 mm screen. After 1977, a 0.5 mm screen was used.

-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: Laboratory Technique: Most organisms are separated from the detritus in gridded Petri dishes and sorted into major taxa using binocular dissecting microscopes. After sorting, the organisms are stored in 70% ethanol and subsequently identified to the lowest possible taxonomic level (usually species) and counted. Fragments without heads are eliminated from the counts but included in biomass determinations. Oligochaetes and chironomids are mounted on microscope slides, examined under a compound microscope, and identified to genus and species following procedures based upon currently accepted practices in benthic ecology. Evenly spreading the specimens in a gridded tray and selecting half of the total number of grids at random split the sample. If the number of individuals is greater than 300, grids are selected randomly until 150 specimens are mounted. Total taxonomic counts for each oligochaete and chironomid species are adjusted by the proportion of the total number of specimens mounted in the sample.

>PARAMETER: DO (Dissolved Oxygen, MGL)

-COLLECTION METHODS: YSI Model 57 or 58 Oxygen meter with automatic temperature and manual salinity correction corroborated by Winkler titrations.

-SAMPLE PRESERVATIVES: N/A

-SAMPLE STORAGE ENVIRONMENT: N/A

-TIME IN STORAGE: N/A

-LAB TECHNIQUES WITH REFERENCES: Winkler Titration

Carpenter, J.H. (1965) *Limnology and Oceanography* 10:135-140

Carritt, D.E. and J.H. Carpenter (1966) NASCO Report. *Journal of Marine Research* 24:286-318

>PARAMETER: Latitude and Longitude (Degrees, decimal minutes and seconds)

-COLLECTION METHODS: Loran-C

-SAMPLE PRESERVATIVES: None

-SAMPLE STORAGE ENVIRONMENT: None

-TIME IN STORAGE: None

-LAB TECHNIQUES WITH REFERENCES:

Station latitudes and longitudes were determined by Loran-C. Loran-C is accurate to +/-1500 ft. All positions in the datasets have been converted to NAD83 coordinates.

PARAMETER: MEDDIAM (Folk Median Diameter)

-COLLECTION METHODS: 20ml and 100ml sample were taken from a bottom grab and frozen. The bottom depth at each stratum determined the type of gear used to collect benthos. A hand operated box core was used on all strata with a total depth less than three meters. At Station depths between 3 and 9 meters a hydraulic grab was used. Sampling of deeper habitats was performed with either the Ponar grab or WildCo box corer.

-SAMPLE PRESERVATIVES: Frozen

-SAMPLE STORAGE ENVIRONMENT: Frozen

-TIME IN STORAGE: Until thawed for analysis

-LAB TECHNIQUES WITH REFERENCES: Dry Sieve Series and Pipette Analysis;

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: MOIST (Sediment Moisture Content, %)

-COLLECTION METHODS: 20ml and 100ml sample were taken from a bottom grab and frozen. The bottom depth at each stratum determined the type of gear used to collect benthos. A hand operated box core was used on all strata with a total depth less than three meters. At Station depths between 3 and 9 meters a hydraulic grab was used. Sampling of deeper habitats was performed with either the Ponar grab or WildCo box corer.

-SAMPLE PRESERVATIVES: Frozen

-SAMPLE STORAGE ENVIRONMENT: Frozen

-TIME IN STORAGE: Until thawed for analysis

-LAB TECHNIQUES WITH REFERENCES: Weight loss on drying for at least 24 hours at 60 degrees centigrade.

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: SALINITY (Salinity, PSU)

-COLLECTION METHODS: Beckman Model RS5-3 Salinometer with a toroidal conductivity cell with thermistor compensation.

-SAMPLE PRESERVATIVES: N/A

-SAMPLE STORAGE ENVIRONMENT: N/A

-TIME IN STORAGE: N/A

-LAB TECHNIQUES WITH REFERENCES: N/A

>PARAMETER: SAND (Sand Content, %)

-COLLECTION METHODS: 20ml and 100ml sample were taken from a bottom grab and frozen. The bottom depth at each stratum determined the type of gear used to collect benthos. A hand operated box core was used on all strata with a total depth less than three meters. At Station depths between 3 and 9 meters a hydrolic grab was used. Sampling of deeper habitats was performed with either the Ponar grab or WildCo box corer.

-SAMPLE PRESERVATIVES: Frozen

-SAMPLE STORAGE ENVIRONMENT: Frozen

-TIME IN STORAGE: Until thawed for analysis

-LAB TECHNIQUES WITH REFERENCES: Wet sieving through 63um mesh;

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: SAMPLE_DEPTH (Sampling Depth, Meters)

-COLLECTION METHODS: Hydrolab Surveyor II-

SAMPLE PRESERVATIVES: N/A

-SAMPLE STORAGE ENVIRONMENT: N/A

-TIME IN STORAGE: N/A

-LAB TECHNIQUES WITH REFERENCES: N/A

>PARAMETER: WTEMP (Water Temperature, Centigrade)

-COLLECTION METHODS: Thermistor attached to Hydrolab Surveyor II

-SAMPLE PRESERVATIVES: N/A

-SAMPLE STORAGE ENVIRONMENT: N/A

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

>PARAMETER: SILTCLAY (Silt-Clay Content,%)

-COLLECTION METHODS: 20ml and 100ml sample were taken from a bottom grab and frozen. The bottom depth at each stratum determined the type of gear used to collect benthos. A hand operated box core was used on all strata with a total depth less than three meters. At Station depths between 3 and 9 meters a hydraulic grab was used. Sampling of deeper habitats was performed with either the Ponar grab or WildCo box corer.

-SAMPLE PRESERVATIVES: Frozen

-SAMPLE STORAGE ENVIRONMENT: Frozen

-TIME IN STORAGE: Until thawed for analysis

-LAB TECHNIQUES WITH REFERENCES: Wet sieving through 63um mesh
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: SITETYPE (Sampling Site Type)

-COLLECTION METHODS: Pre-Determined by Investigator

-SAMPLE PRESERVATIVES: None

-SAMPLE STORAGE ENVIRONMENT: None

-TIME IN STORAGE: None

-LAB TECHNIQUES WITH REFERENCES: See Station Listing Above for sampling Site criteria

>PARAMETER: SKEWNESS (Folk Skewness), SORTING (Folk Sort), QUARTDEV(Quartile Deviation)

-COLLECTION METHODS: 20ml and 100ml sample were taken from a bottom grab and frozen. The bottom depth at each stratum determined the type of gear used to collect benthos. A hand operated box core was used on all strata with a total depth less than three meters. At Station depths between 3 and 9 meters a hydraulic grab was used. Sampling of deeper habitats was performed with either the Ponar grab or WildCo box corer.

-SAMPLE PRESERVATIVES: Frozen

-SAMPLE STORAGE ENVIRONMENT: Frozen

-TIME IN STORAGE: Until thawed for analysis

-LAB TECHNIQUES WITH REFERENCES: Dry Sieve Series and Pipette Analysis;
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: TOTAL_DEPTH(Total Station Depth, Meters)

-COLLECTION METHODS: YSI CTD, Ships fathometer

-SAMPLE PRESERVATIVES: None

-SAMPLE STORAGE ENVIRONMENT: None

-TIME IN STORAGE: None

-LAB TECHNIQUES WITH REFERENCES: Water column salinity , temperature and depth is recorded prior to benthic sampling.

>DATA ENTRY METHOD: Double key punch to disk. Data is then entered to SAS data sets for management and storage.

>DATA VERIFICATION: Visually verified twice and then checked by computer programs.

SPECIES INHOUSE CODES AND SCIENTIFIC NAMES

Versar employed Maryland Power Plant species codes for taxonomic identification.

> IN HOUSE SPECIES LIST

The in-house species codes and Latin Names are as follows:

SPEC_CODE	SOURCE_LBL	TSN
T101	AMPHIPODA	0093294
T102	CALLINECTES SAPIDUS	0098696
T1029	LYONSIA HYALINA	0081926
T103	RHITHROPTANOPEUS HARRISII	0098790
T1030	BALANUS IMPROVISUS	0089622
T1031	CAPRELLA	0095392
T1034	UNID. TUBULANIDAE	0057415
T1037	GAMMARUS FASCIATUS	0093780
T1038	LIMNODRILUS SP.	0068638
T1039	TUBIFICOIDES SP.	0068687
T104	EURYPTANOPEUS DEPRESSUS	0098759
T106	PALAEONETES SP.	0096383
T107	CRANGON SEPTEMPINOSA	0097110
T1073	RHITHROPTANOPEUS HARRISII ZOEAE	0098790
T1074	MACOMA BALTHICA SIPHON	0081052
T1076	BALANUS AMPHITRITE NIVEUS	0089617
T108	NEOMYSIS AMERICANA	0090062
T1113	CHIRONOMIDAE PUPAE	0127917
T1116	NEPHTYS BUCERA	0066027
T1117	PHYLLODOCE ARENAE	0065366
T1118	PARAHESIONE LUTEOLA	0065493
T1119	PODARKEOPSIS LEVIFUSCINA	0555698
T1120	SIGAMBRA TENTACULATA	0065552
T1121	SPHAEROMA QUADRIDENTATUM	0092339
T1123	UNID. SCYPHOZOAN POLYPS	0051483
T1125	EDWARDSIA ELEGANS	0052489
T1157	CHIROMANIA ADULT	0127917
T1170	SPIONIDAE	0066781
T1177	HAUSTORIUS ARENARIUS	0206492
T1210	LEPIDONOTUS SUBLEVIS	0064610
T1211	PARAONIS FULGENS	0066697
T1212	SCOLELEPIS TEXANA	0066949
T1215	SPIOPHANES BOMBYX	0066897
T1216	CLYMENELLA TORQUATA	0067528
T1217	PARVILUCINA MULTILINEATA	0080388
T1220	STENOTHOE MINUTA	0094936
T1221	PSEUDOLEPTOCUMA MINOR	0091040
T1222	SPIOCHAETOPTERUS COSTARUM	0067107
T1223	CYMOTHOIDAE (IMMATURE)	0092437
T1224	LEPTOSYNAPTA TENUIS	0158432
T1226	BRANCHIOSTOMA CARIBAEUM	0159682
T1227	THARYX SP.	0067141
T1228	ANADARA OVALIS	0079342
T1229	NASSARIUS TRIVITTATUS	0074109
T1230	COLUS SP.	0073892
T1231	LEPIDAMETRIA COMMENSALIS	0064703
T1232	CASSIDINIDEA OVALIS	0092348
T1233	UNID. SIPUNCULIDA	0181215
T1234	TURBONILLA INTERRUPTA	0075687
T1236	EUPLANA GRACILIS	0054139
T1237	EXOGONE DISPAR	0065722
T1238	PORIFERA	0046861
T1240	CARINOMA TREMAPHORUS	0057429
T1241	MICRURA RUBRA	0057478
T1243	CAPITELLIDAE	0067413
T1244	CAPITELLA CAPITATA	0067415
T1247	PRIONOSPION CIRRIFERA	0067031
T1249	AMPHINOMIDAE	0065164
T1251	LITTORIDINOPS TENUIPES	0070528

SPEC_CODE	SOURCE_LBL	TSN
T1252	RETUSIDAE	0076277
T1253	CARDIIDAE	0080865
T1254	CERASTODERMA PINNULATUM	0080900
T1255	TELLINA AGILIS	0081088
T1260	AMPITHOE VALIDA	0093424
T1300	AMERICAMYSIS BIGELOWI	0682618
T142	LIMULUS POLYPHEMUS	0082703
T1582	PHYLLODOCIDAE	0065228
T1591	MALDANIDAE	0067515
T1599	ORBINIIDAE	0066570
T1611	AMPITHOIDAE	0093408
T1688	HYDROBIIDAE	0070493
T171	GASTROPODA	0069459
T1972	NEPHTYS PICTA	0066030
T1973	HESIONIDAE	0065467
T2024	CUMACEAN	0090745
T2036	SACCOGLOSSUS KOWALEVSKII	0158626
T2082	Erichsonella attenuata	0092618
T2093	ORBINIA ORNATA	0066621
T2101	PISIDIDAE	0081388
T2139	AMPITHOE LONGIMARA	0093423
T2140	COROPHIUM TUBERCULATUM	0093596
T2177	CAPRELLIDAE	0095375
T2178	CYCLASPIS VARIANS	0091033
T2179	GAMMARUS PALUSTRIS	0093782
T2201	BOONEA IMPRESSA	0075989
T2202	MYSELLA SP.	0080651
T2203	PLEUSYMTES SP.	0094794
T2204	BOCCARDIELLA LIGERICA	0067012
T2205	PARAMETOPELLA CYPRI	0094927
T233	NEMERTEA	0057411
T235	POLYCHAETA	0064358
T236	BIVALVIA	0079118
T292	CHAOBORUS SP.	0125904
T316	GLYCERA DIBRANCHIATA	0066107
T317	LEITOSCOLOPLOS FRAGILIS	0066656
T318	NUDIBRANCH	0078156
T319	GASTROPOD 3	0069459
T320	GASTROPOD 4	0069459
T325	CHRYSAORA POLYPS	0051640
T326	MICROPHTHALMUS ABERRANS	0065478
T328	NEPHTYS SP.	0066011
T329	MYTIOPSIS LEUCOPHAETA	0081335
T330	TURBELLARIA (ACOELA) SP. A	0053964
T332	AMYGDALUM PAPHYRIA	0079529
T401	TUBIFICOIDES GABRIELLAE	0068590
T411	ETEONE HETEROPODA	0065266
T412	ETEONE FOLIOSA	0065270
T415	GLYCINDE SOLITARIA	0066132
T416	HETEROMASTUS FILIFORMIS	0067420
T417	LAONEREIS CULVERI	0065965
T418	LOIMIA MEDUSA	0068015
T419	NEPHTYS INCISA	0066028
T420	NEANTHES SUCCINEA	0065918
T421	PARANAITIS SPECIOSA	0065321
T423	PECTINARIA GOULDII	0067709
T424	NEREIPHYLLA FRAGILIS	0065336
T426	POLYDORA CORNUTA	0204501
T427	PARAPRIONOSPION PINNATA	0066937

SPEC_CODE	SOURCE_LBL	TSN
T428	PSEUDEURYTHOE PAUCIBRANCHIATA	0065176
T429	SABELLARIA VULGARIS	0067671
T430	MARENZELLERIA VIRIDIS	0573739
T432	LEITOSCOLOPLOS ROBUSTUS	0182728
T433	STREBLOSPIO BENEDICTI	0066939
T446	MEMBRANIPORA SP.	0155823
T451	MOLGULA MANHATTENSIS	0159557
T456	DIADUMENE LEUCOLENA	0052749
T457	OBELIA SP.	0049514
T461	AMPELISCA VADORUM	0093330
T463	MUCROGAMMARUS MUCRONATUS	0093783
T464	GAMMARUS SP.	0093773
T465	LEPIDACTYLUS DYTISCUS	0093998
T466	LEPTOCHEIRUS PLUMULOSUS	0093486
T467	MELITA NITIDA	0093812
T468	AMEROCULODES SPECIES COMPLEX	0656551
T476	BALANUS BALANOIDES	0089601
T481	LEUCON AMERICANUS	0090790
T482	OXYUROSTYLIS SMITHI	0090923
T496	CHIRIDOTEA CAECA	0092641
T497	CYATHURA POLITA	0092149
T498	EDOTEA TRILOBA	0092627
T500	ISOPODA	0092120
T512	HOLOTHURIAN SP.	0158140
T516	ISCHADIUM RECURVUM	0079561
T517	CRASSOSTREA VIRGINICA	0079872
T518	ENSIS DIRECTUS	0081022
T519	GEMMA GEMMA	0081511
T520	MACOMA BALTHICA	0081052
T521	MACOMA MITCHELLI	0081054
T522	MULINIA LATERALIS	0080959
T523	MYA ARENARIA	0081692
T524	PETRICOLA PHOLADIFORMIS	0081627
T525	TAGELUS PLEBEIUS	0081272
T526	RANGIA CUNEATA	0080962
T536	ACTEOCINA CANALICULATA	0076117
T537	RICTAXIS PUNCTOSTRIATUS	0076083
T538	CRATENA PILATA	0078713

SPEC_CODE	SOURCE_LBL	TSN
T539	DORIDELLA OBSCURA	0078439
T540	EPITONIUM RUPICOLA	0072249
T541	HAMINOEA SOLITARIA	0076258
T543	GASTROPOD 1	0069459
T544	GASTROPOD 2	0069459
T551	MICRURA LEIDYI	0057477
T552	TUBULANUS PELLUCIDUS	0057420
T556	STYLOCHUS ELLIPTICUS	0054089
T573	SPIO FILICORNIS	0066865
T578	TURBELLARIA	0053964
T587	Gastropod unid.	0069459
T625	CHIRIDOTEA ALMYRA	0092638
T634	COROPHIUM SP.	0093589
T635	APOCOROPHIUM LACUSTRE	0656749
T658	GAMMARUS DAIBERI	0093779
T659	GAMMARUS TIGRINUS	0093781
T662	HIRUDINEA	0069290
T664	HYDRA SP.	0050845
T666	HYDROBIA SP. 3	0070494
T667	SAYELLA CHESAPEAKEA	0070946
T668	HYDROBIA SP. 2	0070494
T669	HOBSONIA FLORIDA	0067755
T680	LITTORINA IRRORATA	0070414
T688	NAIDIDAE	0068854
T694	PALAEMONETES PUGIO	0096390
T765	UNID. CRAB ZOEAE	0098276
T787	CHIRONOMID LARVAE	0127917
T962	PINNIXA RETINENS	0099001
T963	PHORONIS SPP.	0155462
T964	ACTEOCINA SP.	0076107
T966	PARAPLEUSTES AESTUARIUS	BAY0199
T967	GAMMARUS JUVENILES	0093773
T968	HARGERIA RAPAX	0092068
T970	PLATYHELMINTHES	0053963
T974	OLIGOCHAETA	0068422

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)

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

REFERENCE CODES IN DATA FILES AND TAXONOMIC KEY
See The 2012 Guide to Biological and Living Resources Data for full listing.

> DATA_TYPE: Data Type
BE Benthic

> SAMPLE_EVENT_TYPE

EVENT_TYPE	EVENT_TYPE_DESCRIPTION
WQ	WATER QUALITY ONLY
BEN\SED	BENTHIC\HABITAT SAMPLING
BEN	BENTHIC TAXA COUNT ONLY
WQ\SED	WATER QUALITY\SEDIMENT
WQ\BEN\SED	WATER QUALITY\BENTHIC\SEDIMENT
SED	SEDIMENT ASSESSMENT ONLY

>SOURCE : Data Collection Agency
VERSAR- Versar Incorporated

>COLTYPE: Collection Type
D or DISCRETE - Discrete Sample

>BASIN - Sampling Station Tributary or Mainstem Designation

TRIB_COD	BASIN
BAY	CHESAPEAKE BAY
CHS	CHESTER RIVER
POT	POTOMAC RIVER

>GMETHOD- Sampling Gear Codes

G_METHOD	G_METHOD_DESCRIPTION
15	HAND CORE (45 SQ. CM)
16	POST-HOLE DIGGER (250 square centimeters)
21	VAN VEEN GRAB (0.07 M2)
96	HYDROLIC VAN VEEN GRAB (1000 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 additional 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 2007 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

>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
INTSAL	INTERSTITIAL SALINITY
MEDDIAM	MEDIAN SEDIMENT DIAMETER
MOIST	MOISTURE CONTENT
PENETR	GEAR PENETRATION DEPTH
QUARTDEV	QUARTILE DEVIATION
SALINITY	SALINITY
SAND	SAND CONTENT, PERCENT
SILTCLAY	SILT CLAY CONTENT, PERCENT
SKEWNESS	SKEWNESS
TC	CARBON CONENT-CHN ANALYZER
TIC	CARBONTATE CONTENT
WTEMP	WATER TEMPERATURE, CENTEGRAGE

> HUC8: USGS Hydrologic Unit Codes

HUC8	CATALOGING_UNIT_DESCRIPTION
02060001	UPPER CHESAPEAKE BAY
02060002	CHESTER-SASSAFRAS
02070011	LOWER POTOMAC

>FIPS: Federal Information Processing Codes

FIPS	NAME
24003	ANNE ARUNDEL
24009	CALVERT
24015	CECIL
24017	CHARLES
24037	SAINT MARYS
24041	TALBOT

> CBSEG_2003: Chesapeake Bay Program Monitoring Segment

CBSEG_2003	CBSEG_2003_DESCRIPTION
ELKOH	ELK RIVER-OLIGOHALINE REGION
CB4MH	CHESAPEAKE BAY-MESOHALINE REGION
CB5MH	CHESAPEAKE BAY-MESOHALINE REGION
POTMH	POTOMAC RIVER-MESOHALINE REGION
CB1TF	CHESAPEAKE BAY-TIDAL FRESH REGION
POTOH	POTOMAC RIVER-OLIGOHALINE REGION

>PROGRAM- Chesapeake Bay Program Monitoring Program Designation

PROGRAM	DESCRIPTION
HISTORIC	PRE-CHESAPEAKE BAY MONITORING PROGRAM

> PROJECT - Chesapeake Bay Program Monitoring Project Designation

PROJECT	PROJECT_DESCRIPTION
ANSP-LTB	Maryland Long Term Benthic Monitoring Program-Academy of Natural Sciences Component
CBL-LTB	Maryland Long Term Benthic Monitoring Program-Chesapeake Biological Laboratory Component
ERDA-LTB	Maryland Long Term Benthic Monitoring Program-US Energy Research & Development Administration
MMES-LTB	Maryland Long Term Benthic Monitoring Program- Martin Marietta Environmental Services Component

>PARAMETER and UNIT: Measured Parameter and reporting units.

TIC	PERCENT
TC	PERCENT
COUNT	PER SAMPLE
DO	MGL
INTSAL	PSU
MEDDIAM	PHI
MOIST	PERCENT
PENETR	CENTIMETERS
QUARTDEV	UNITLESS
SALINITY	PSU
SAMPLE_DEPTH	METERS
SAND	PERCENT
SILTCLAY	PERCENT
SKEWNESS	UNITLESS
TOTAL_DEPTH	METERS
WTEMP	DEGREES CELSIUS

NUMERIC WARNING AND ERROR BOUNDS

Variable	Valid Ranges
TIC	0 - 100 PERCENT
TC	0- 100 PERCENT
COUNT	0-99999999
DO	0- 32 MGL
INTSAL	0-32 PSU
MEDDIAM	0-99999999 PHI
MOIST	0-100 PERCENT
PENETR	0-30.0 CENTIMETERS
QUARTDEV	0- 14 UNITLESS
SALINITY	0 - 32.0 PSU
SAMPLE_DEPTH	1-100 METERS
SAMPLE_NUMBER	1-25
SAMPLE_TIME	0000-2400 SEE NOTE BELOW
SAND	0-100 PERCENT
SILTCLAY	0-100 PERCENT
SKEWNESS	-1.0 - 1.0 UNITLESS
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 PERFORMED 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.

07/11/2012- Note that VERSAR, Inc. 9200 Rumsey Rd. Columbia, MD 21045-1934 (301)964-9200 was formerly Martin Marietta Environmental Center, 1450 S. Rolling Road, Baltimore, MD.

07/11/2012- LBL all Latin Names and spelling for names have been corrected to the Interagency Taxonomic Identification System (ITIS) accepted spelling.

07/11/2012- SEDIMENT SURVEYS- Not all sediment parameter are available for complete period of record. Please see table below for timeperiods of collection for available parameters.

Parameter	Start_Date	End_Date
INTSAL	8/12/1976	6/20/1984
MEDDIAM	11/30/1971	12/15/1982
MOIST	8/12/1976	6/20/1984
QUARTDEV	8/12/1976	12/15/1982
SAND	11/30/1971	6/20/1984
SILTCLAY	11/30/1971	6/20/1984
SKEWNESS	8/12/1976	12/15/1982
TC	7/20/1981	6/20/1984
TIC	8/12/1976	12/15/1982

07/11/2012- NODCCODES all Species have been given their assigned National Oceanographic Data Center Version 8.0 Species Codes where possible. This Hierarchical 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.

07/11/2012- TSN all Species have been given their assigned Interagency Taxonomic 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.

07/11/2012- Please note that for each sampling event different parameters were collected. Please look at the event type field in the event table to determine which media were sampled(water quality, biology, sediment) There for please note the difference in the number of records between the general event records and the biological event records.

07/11/2012- 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.

7/11/2012-Sampling Time Assignments. No actual sampling times were available for data. However since stations were sampled by multiple projects on the same date arbitrary sample times were assigned to each project to allow for the creations of unique sampling events. All project MMES-LTB has sample times assigned as 00:00:30. All project ERDA-LTB had times assigned as 00:00:15. All ANS-LTB and CBL-LTB had sample times assigned at 00:00:00. There were 36 additional sampling events who had times individually assigned. See table below.

PROJECT	STATION	SAMPLE_DATE	SAMPLE_TIME
MMES-LTB	01	8/12/1976	12:00:00 PM
MMES-LTB	01	12/6/1976	12:00:00 PM
CBL-LTB	02	8/12/1976	12:00:00 PM
MMES-LTB	02	12/6/1976	12:00:00 PM
MMES-LTB	03	8/12/1976	12:00:00 PM
MMES-LTB	03	12/6/1976	12:00:00 PM
MMES-LTB	03	2/22/1977	12:00:00 PM
MMES-LTB	03	5/17/1977	12:00:00 PM
MMES-LTB	06	8/12/1976	12:00:00 PM
MMES-LTB	06	12/6/1976	12:00:00 PM
MMES-LTB	06	2/22/1977	12:00:00 PM
MMES-LTB	06	5/17/1977	12:00:00 PM
MMES-LTB	09	8/12/1976	12:00:00 PM
MMES-LTB	09	12/6/1976	12:00:00 PM
MMES-LTB	09	2/22/1977	12:00:00 PM
ERDA-LTB	09	5/17/1977	12:00:00 PM
CBL-LTB	10	8/12/1976	12:00:00 PM
CBL-LTB	10	12/6/1976	12:00:00 PM

PROJECT	STATION	SAMPLE_DATE	SAMPLE_TIME
CBL-LTB	10	2/22/1977	12:00:00 PM
ERDA-LTB	10	5/17/1977	12:00:00 PM
CBL-LTB	13	8/12/1976	12:00:00 PM
CBL-LTB	13	12/6/1976	12:00:00 PM
CBL-LTB	13	2/22/1977	12:00:00 PM
CBL-LTB	13	5/17/1977	12:00:00 PM
CBL-LTB	26	5/17/1977	12:00:00 PM
CBL-LTB	27	5/17/1977	12:00:00 PM
CBL-LTB	30	2/22/1977	12:00:00 PM
MMES-LTB	30	5/17/1977	12:00:00 PM
MMES-LTB	31	2/22/1977	12:00:00 PM
MMES-LTB	31	5/17/1977	12:00:00 PM
MMES-LTB	32	2/22/1977	12:00:00 PM
ERDA-LTB	32	5/17/1977	12:00:00 PM
MMES-LTB	09	5/17/1977	1:00:00 AM
CBL-LTB	10	5/17/1977	1:00:00 AM
ERDA-LTB	31	5/17/1977	1:00:00 AM
MMES-LTB	32	5/17/1977	1:00:00 AM

07/11/2012- The following apparent duplicate records were found in the source data. Duplicates records were summed before loading into the CBP data base.

STATION	SAMPLE_DATE	SAMPLE_NUMBER	TSN	LATIN_NAME	LIFE_STAGE	SPEC_CODE	VALUE
02	2/13/1974	2	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	5
02	2/13/1974	2	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	5
09	5/14/1984	2	0081692	MYA ARENARIA	89	T523	1
09	5/14/1984	2	0081692	MYA ARENARIA	89	T523	2
19	6/18/1984	2	0081692	MYA ARENARIA	89	T523	11
19	6/18/1984	2	0081692	MYA ARENARIA	89	T523	1
19	5/14/1984	3	0081692	MYA ARENARIA	89	T523	8
19	5/14/1984	3	0081692	MYA ARENARIA	89	T523	5
19	7/12/1982	4	0081692	MYA ARENARIA	89	T523	4
19	7/12/1982	4	0081692	MYA ARENARIA	89	T523	3

MDHIBEDOC.docx

STATION	SAMPLE_DATE	SAMPLE_NUMBER	TSN	LATIN_NAME	LIFE_STAGE	SPEC_CODE	VALUE
19	7/20/1983	2	0081692	MYA ARENARIA	89	T523	1
19	7/20/1983	2	0081692	MYA ARENARIA	89	T523	3
19	6/15/1983	1	0081692	MYA ARENARIA	89	T523	5
19	6/15/1983	1	0081692	MYA ARENARIA	89	T523	4
19	6/15/1983	2	0081692	MYA ARENARIA	89	T523	5
19	6/15/1983	2	0081692	MYA ARENARIA	89	T523	1
19	6/15/1983	4	0081692	MYA ARENARIA	89	T523	15
19	6/15/1983	4	0081692	MYA ARENARIA	89	T523	1
24	5/16/1972	2	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	163
24	5/16/1972	2	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	152
25	5/15/1978	2	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	7
25	5/15/1978	2	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	1
26	7/20/1983	3	0081692	MYA ARENARIA	89	T523	1
26	7/20/1983	3	0081692	MYA ARENARIA	89	T523	1
26	2/13/1974	1	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	8
26	2/13/1974	1	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	8
26	2/9/1981	1	0081692	MYA ARENARIA	89	T523	6
26	2/9/1981	1	0081692	MYA ARENARIA	89	T523	3
26	6/15/1981	1	0081692	MYA ARENARIA	89	T523	1
26	6/15/1981	1	0081692	MYA ARENARIA	89	T523	14
26	6/15/1981	2	0081692	MYA ARENARIA	89	T523	1
26	6/15/1981	2	0081692	MYA ARENARIA	89	T523	14
26	6/15/1981	3	0081692	MYA ARENARIA	89	T523	1
26	6/15/1981	3	0081692	MYA ARENARIA	89	T523	1
26	10/7/1980	1	0081692	MYA ARENARIA	89	T523	1
26	10/7/1980	1	0081692	MYA ARENARIA	89	T523	2
26	9/9/1980	3	0081692	MYA ARENARIA	89	T523	1
26	9/9/1980	3	0081692	MYA ARENARIA	89	T523	1
26	7/30/1980	2	0081692	MYA ARENARIA	89	T523	13
26	7/30/1980	2	0081692	MYA ARENARIA	89	T523	1
30	6/18/1984	3	0081692	MYA ARENARIA	89	T523	1
30	6/18/1984	3	0081692	MYA ARENARIA	89	T523	1
30	6/14/1979	3	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	17
30	6/14/1979	3	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	1
30	7/31/1979	1	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	2
30	7/31/1979	1	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	12
30	7/31/1979	2	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	1
30	7/31/1979	2	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	2
30	5/18/1976	11	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	10
30	5/18/1976	11	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	16
31	6/14/1979	3	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	1
31	6/14/1979	3	0066656	LEITOSCOLOPLOS FRAGILIS	89	T317	5
31	7/30/1980	5	0081692	MYA ARENARIA	89	T523	2
31	7/30/1980	5	0081692	MYA ARENARIA	89	T523	3
31	7/21/1981	1	0081692	MYA ARENARIA	89	T523	4
31	7/21/1981	1	0081692	MYA ARENARIA	89	T523	3
31	7/21/1981	2	0081692	MYA ARENARIA	89	T523	2
31	7/21/1981	2	0081692	MYA ARENARIA	89	T523	4
31	3/10/1981	2	0081692	MYA ARENARIA	89	T523	54
31	3/10/1981	2	0081692	MYA ARENARIA	89	T523	2
45	4/19/1983	2	0081692	MYA ARENARIA	89	T523	1
45	4/19/1983	2	0081692	MYA ARENARIA	89	T523	3
45	7/13/1982	1	0081692	MYA ARENARIA	89	T523	1
45	7/13/1982	1	0081692	MYA ARENARIA	89	T523	1
45	4/13/1982	3	0081692	MYA ARENARIA	89	T523	4
45	4/13/1982	3	0081692	MYA ARENARIA	89	T523	1
49	6/14/1983	1	0081692	MYA ARENARIA	89	T523	2
49	6/14/1983	1	0081692	MYA ARENARIA	89	T523	1
49	7/13/1982	1	0081692	MYA ARENARIA	89	T523	1
49	7/13/1982	1	0081692	MYA ARENARIA	89	T523	1
51	8/18/1982	4	0081692	MYA ARENARIA	89	T523	1
51	8/18/1982	4	0081692	MYA ARENARIA	89	T523	1
30	5/17/1977	7	0656749	APOCOROPHIUM LACUSTRE	89	T635	1
30	5/17/1977	7	0656749	APOCOROPHIUM LACUSTRE	89	T635	1

#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 MARYLAND POWERPLANT RESEARCH PROGRAM
LONG TERM BENTHIC MONITORING AND ASSESSMENT PROGRAM
BENTHIC DATA DICTIONARY**
