Maryland CORE/Trend Water Quality Monitoring Program – 2015

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator: Maryland Department of Natural Resources (MD DNR), Resource Assessment Service
Publication_Date: 20160322
Title: MD DNR 2015 CORE/Trend Water Quality Monitoring Project
Geospatial_Data_Presentation_Form: Spatial database
Online_Linkage:
[http://www.chesapeakebay.net/data/downloads/cbp_water_quality_database_1984_present]

Description:
Abstract: These are water quality monitoring data from a long term fixed location monitoring study of stations located in the Chesapeake Bay and Ohio River watersheds. The data are collected from fifty-six stations for a time period beginning January 1986 and extending to the present. Fifty-five of the stations are in non-tidal waters. One station (XGG8251) is in tidal waters.

Purpose:
The Maryland Department of Natural Resources Section 106 Ambient Water Quality Monitoring Program (CORE\Trend) is part of a cooperative effort between the Federal government and State and local governments in the Chesapeake Bay watershed to assess the status and trends of nutrient concentrations in Maryland's waters.

The information is integrated with data from other Chesapeake Bay water quality stations and living resources monitoring projects and used to understand linkages, temporal variation and long-term trends.

Water quality data are used to refine, calibrate and validate Chesapeake Bay ecological models. The models are used to develop and assess water quality criteria with the goal of removing the Chesapeake Bay and its rivers from the list of impaired waters.

Supplemental_Information:
Two reports contain information that should be considered when CORE/Trend data are used for data analysis. The reports are named: DAITS 043: Comparability of parameter estimates from whole water and filtered samples for MD Department of Health and Mental Hygiene data (June 2006, revised April 2009) and DAITS 046: Comparison of chlorophyll and pheophytin analyzed at DHMH and CBL (May 2009). Copies of the reports may be downloaded. [http://www.chesapeakebay.net/documents/Completed_DAITS_as_of_9-21-10.pdf].

Data users who desire very detailed information about Water Quality Monitoring data definition, sampling procedures and data processing are encouraged to refer to documents listed below. The documents may be obtained from The Chesapeake Bay Program Office.

Water Quality Database - Database Design and Data Dictionary, Prepared For: U.S. Environmental Protection Agency, Region III, Chesapeake Bay Program Office, January 2004. [http://archive.chesapeakebay.net/pubs/cbwqdb2004_RB.PDF]. An updated data dictionary is a Chesapeake Bay Program work in progress.

The Quality Assurance Project Plan for the Maryland Department of Natural Resources Chesapeake Bay Water Quality Monitoring Program - Chemical and Physical Properties Component for the period July 1, 2015 - June 30, 2016 can be found using publication type 'Quality Assurance Project Plan' to search the monitoring stories and publications page of [http://www.eyesonthebay.net]

Guide to Using Chesapeake Bay Program Water Quality Monitoring Data, EPA 903-R-12-001, February 2012, CBP/TRS 304-12 [http://www.chesapeakebay.net/documents/3676/wq_data_userguide_10feb12_mod.pdf].

Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 20150107
Ending_Date: 20151217
Currentness_Reference: Ground Condition
Status:
Progress: In Work
Maintenance_and_Update_Frequency: As needed
Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -79.4938
East_Bounding_Coordinate: -75.0405
North_Bounding_Coordinate: 39.7425
South_Bounding_Coordinate: 37.8713
Keywords:
Theme:
Theme_Keyword_Thesaurus: Global Change Master Directory (GCMD). 2015. GCMD Keywords, Version 8.1. Greenbelt, MD: Global Change Data Center, Science and Exploration Directorate, Goddard Space Flight Center (GSFC) National Aeronautics and Space Administration (NASA). URL: [http://gcmd.nasa.gov/learn/keywords.html]
Theme_Keyword: Biosphere > Aquatic Ecosystems > Estuarine Habitat
Theme_Keyword: Biosphere > Aquatic Ecosystems > Rivers/Stream Habitat
Theme_Keyword: Biosphere > Ecological Dynamics > Ecosystem Functions > Nutrient Cycling
Theme_Keyword: Terrestrial Hydrosphere > Surface Water > Rivers/Streams

Theme_Keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry > Chlorophyll
Theme_Keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry > Nitrogen Compounds
Theme_Keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry > Nutrients
Theme_Keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry > Oxygen
Theme_Keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry > pH
Theme_Keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry > Phosphorous Compounds
Theme_Keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry > Turbidity
Theme_Keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry > Water Ion Concentration
Theme_Keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry > Water Temperature

Place:
Place_Keyword_Thesaurus: User Defined Keyword List
Place_Keyword: Chesapeake Bay
Place_Keyword: Hydrologic Unit
Place_Keyword: Major Watershed/Basin
Place_Keyword: Maryland (MD)
Place_Keyword: Subbasin
Place_Keyword: Tributary
Temporal:
Temporal_Keyword_Thesaurus: Producer defined
Temporal_Keyword: 2015
Access_Constraints: NONE
Use_Constraints: Use At Your Own Risk

Point_of_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: William D. Romano
Contact_Position: Natural Resources Biologist
Contact_Address:
Address_Type: Mailing and physical
Address: 580 Taylor Avenue, D-2
City: Annapolis
State_or_Province: Maryland
Postal_Code: 21401
Contact_Voice_Telephone: 410 260 8630
Contact_Electronic_Mail_Address: bill.romano_no_spam_@maryland.gov [remove _no_spam_ for valid email address]

Browse_Graphic:

Browse_Graphic_File_Name: MDDNR Core\Trend Monitoring Project 2015 Station Map can be found using publication type 'map' to search the monitoring stories and publications page of [http://www.eyesonthebay.net]

Browse_Graphic_File_Description: Fifty-six Maryland Department of Natural Resources CORE/Trend water quality monitoring stations.

Browse_Graphic_File_Type: PDF

Data_Set_Credit:

Survey and calibration data were collected by MD DNR Resource Assessment Service (RAS) Annapolis Field Office staff.

The Maryland Department of Health and Mental Hygiene (DHMH) analyzed samples for most of the CORE Trend sites.

The Nutrient Analytical Services Laboratory (NASL) at the Chesapeake Biological Laboratory (University of Maryland) analyzed samples collected at stations: PIS0033, TF1.0 and XGG8251. NASL analyzed CORE\Trend station chlorophyll a, chloride and sulfate samples.

The project was made possible with funding provided by the State of Maryland and the United States Environmental Protection Agency Chesapeake Bay Program.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

QUALITY ASSURANCE/QUALITY CONTROL

Maryland Department of Natural Resources followed specific procedures to ensure that the Tributary component of the Chesapeake Bay Water Quality Monitoring Program design was properly implemented and managed with sufficient accuracy, precision and detection limits. Accuracy (closeness to the true value) of collected data was controlled and assured by proper use, calibration and maintenance of both field and laboratory equipment for the measurement of physical and chemical parameters.

The procedures to control and assure the accuracy of field measurements involved the calibration of field instruments, the verification of calibrations, and equipment maintenance. Most of the details of how data acquired with YSI sondes and Hydrolab sondes were quality assured and quality controlled are described in the process description elements in the Lineage portion of this metadata record.

Daily quality control checks which included the running of blanks and standards were used to control and assure laboratory accuracy.

Accuracy of Chesapeake Biological Laboratory, Nutrient Analytical Services Laboratory (CBL NASL) and Maryland Department of Health and Mental Hygiene (DHMH) results was also assessed through DNR's participation in the Chesapeake Bay Coordinated Split Sample Program (CSSP) a split sampling program in which five laboratories involved in Chesapeake Bay monitoring analyze the coordinated split samples. CSSP was established in June 1989 to

establish a measure of comparability between sampling and analytical operations for water quality monitoring throughout the Chesapeake Bay and its tributaries. The Chesapeake Bay Program Data Integrity Workgroup (formerly AMQAW) oversees the CSSP. DNR followed the protocols in the Chesapeake Bay Coordinated Split Sample Program Implementation Guidelines (EPA 1991) and its revisions. Split samples were collected quarterly. Results were analyzed by appropriate statistical methods to determine if results differed significantly among labs. If a difference occurred, discussions began regarding techniques and potential methods changes to resolve discrepancies.

January 2015: Readings of pH at station PAT0285 were very unstable. As the Secchi disk was completely visible resting on the bottom, the Secchi disk depth at station XGG8251 was greater than the station total depth. Dissolved oxygen decimal values were not recorded at station GUN0125.

February 2015: A station TF1.0 field sheet comment stated that pH read 8.2 with meter T. At station RCM0111 road salt was possibly still affecting the stream. Stream water at stations BDK0000 and WIL0013 were dark orange. Rain and snow/ice melting was observed during the two days preceding sampling activities at stations: NBP0326, NBP0461, NBP0689, SAV0000 and ET5.0. A light covering of didymo was seen at station SAV0000.

March 2015: The occurrence of snow/ice melt, during the one to three days preceding sampling, was noted in comments for all stations except: ANT0203, CON0005, CON0180, ET5.0 and POT2386. Heavy rain fell two days before stations ANT0203, CON0005 and POT2386 were sampled. High water conditions were observed at stations: ANT0203, CON0005, CON0180, POT2386, ET5.0, NBP0103, NBP0023, NBP0534, SAV0000 and WIL0013. Long strands of didymo were seen at station SAV0000. Water was murky at station WIL0013 and clear at station NBP0534.

April 2015: Overnight rain preceded sampling at stations: ET5.0, GEO0009, NBP0461 and SAV0000. Heavy rains occurred before TF1.0 water samples were collected and the waters were characterized as muddy. The Secchi disk was visible resting on the bottom at station XGG8251. Clear water was noted at station ANT0366, as well as, some suspended solids in the sample bucket and a manure smell. A school group was on site when station POT1595 samples were collected.

May 2015: Secchi disk depth at station XGG8251 exceed total station depth. There were swimmers upstream when waters at station ANT0044 were sampled. A lot of tree debris in the water at station CON0180 was noted. The water at station NBP0461 was orange. A small amount of didymo was visible at station SAV0000. Waters were above the bank and muddy when station TF1.0 was sampled.

June 2015: Heavy rain fell two days before stations: ANT0044, BPC0035, CAC0031, CAC0148, MON0020, MON0155, MON0269, MON0528, POT1471 and POT1830 were sampled. River waters were cloudy at station CAC0031, muddy at station MON0155 and very muddy at station MON0020. Monocacy waters flowing in upstream of station POT1471 were very muddy. Dusty conditions, related to the dirt parking area and truck traffic were observed at

station NBP0534. The waters at stations ANT0203 and CON0180 were murky. A small amount of didymo was visible at station SAV0000. The water level at station ANT0333 was high and the water was brown.

July 2015: Scattered showers during the night preceding sampling were noted at stations CB1.0, DER0015, GUN0258, GUN0476 and XGG8251. Rainfall during the previous night was remarked at stations: GUN0125, GWN0115, JON0184, NPA0165, PAT0176 and PAT0285. The occurrence of heavy rain overnight was noted at stations: ANA0082, CJB0005, POT1184, PXT0809, PXT0972 and RCM0111. Thunderstorms overnight preceded sampling at stations: ANT0044, BPC0035, CAC0148, MON0269, MON0528 and POT1830. Heavy rain occurred during sampling at stations: CAC0031, MON0020, MON0155, POT1471, POT1472, POT1595 and SEN0008. Waters were murky at stations ANT0203 and POT2386. At stations ANT0044, BPC0035, CAC0148, CON0005, CON0180 and MON0528 the waters were described as muddy. High water levels and muddy conditions were noted at stations: CAC0031, DER0015, MON0020, MON0155, POT1471, POT1472, POT1595, POT1596 and SEN0008. The river was muddy at stations MON0269 and POT1830. The pipe was not discharging when water samples were collected at station NPA0165. A small amount of didymo was visible at station SAV0000.

August 2015: Debris blocked the right side of the bridge at station CON0005. Morning rain fell before stations BDK0000, NBP0023 and NBP0103 were sampled. Overnight rain preceded sampling at stations: CB1.0, DER0015, GUN0258 and GUN0476. Heavy rain fell overnight before water samples were collected at stations: GUN0125, GWN0115, JON0184, NPA0165, PAT0176 and PAT0285. Tree trimming was noted on the upstream side of the bridge at station GWN0115. The pipe was not discharging when water samples were collected at station NPA0165. At station GEO0009, presence of filamentous algae throughout the creek was observed. The water at station NBP0689 was very clear. Didymo was not seen at station SAV0000.

September 2015: The water sample filtration pads at station CON0005 were slightly green. The pipe was not discharging when water samples were collected at station NPA0165. Rain preceded sampling at station ET5.0. The dissolved oxygen reading at station ET5.0 was verified using a second meter. Rain fell the night before station TF1.0 was sampled. When station WIL0013 was sampled the waters of Braddock Run were evident across the creek. Didymo was not observed at station SAV0000.

October 2015: Clear water was noted at station POT2766 and very clear water was noted at station CON0180. High water levels and murky waters were observed at station POT2386 suggesting a possible relationship with the passage of Hurricane Joaquin four days earlier. Scattered thunderstorms occurred the night before station TF1.0 was sampled. The Secchi disk measurement was greater than the total depth at station XGG8251. A small amount of didymo was noted at station SAV0000.

November 2015: Unseasonably warm temperatures were noted on the field data sheet when station ANA0082 was sampled. The continued presence of submerged aquatic vegetation throughout the creek was observed at station TOW0030. The center of the bridge at station

CON0005 was blocked with debris. The Secchi disk measurement was greater than the total depth at station XGG8251. Didymo was not observed at station SAV0000.

December 2015: The rains tapered off by the time station CON0005 was sampled. Rain fell during the morning before station ANT0044 was sampled. The river was high and muddy at stations CAC0031, MON0020 and MON0155. The waters at station POT1596 were characterized as sediment laden one quarter of the way across from the Virginia bank. A strong smell and heavy haze, possibly from the paper mill, was noted at station NBP0534. Lots of leaf debris was noted in the water when station SAV0000 water samples were collected. Didymo was not observed at station SAV0000. The Secchi disk measurement was greater than the total depth at station XGG8251.

Logical_Consistency_Report:

January 2015: Sampling at station CAC0148 was conducted from the bridge.

February 2015: Due to frozen river conditions, the water samples at station TOW0030 were collected approximately one thousand feet downstream from a small opening in the ice. Station WIL0013 water samples were collected to the left of Braddock Run.

March 2015: Station CAC0148 samples were collected under the bridge because 90 percent of the river was frozen. Samples at POT1471 were collected from the shore because the ferry was closed. Due to frozen conditions, water samples at station TOW0030 were collected from a small opening on the far right edge of the stream. Similarly, due to high water at station CON0180, samples were collected from the bank.

April 2015: Station MON0155 sampling was conducted from the Pinecliff Park boat ramp, three hundred yards upstream of the bridge. Samples at station POT1595 were collected from the boat ramp downstream of the Route 15 Bridge and samples at station POT1596 were collected from the boat ramp upstream of the Route 15 Bridge.

Station POT2766 water samples were collected from the beach area, upstream of the bridge in March, April, May, June, July, August, September,
October, November and December 2015.

Station NBP0326 water samples were collected from the stream bank, upstream of the bridge in March, May, July, August, September and October 2015.

Completeness_Report:

Biological Oxygen Demand samples are collected at a subset of CORE\Trend project stations: ANA0082, ANT0044, BPC0035, CAC0031, CAC0148, CJB0005, MON0020, MON0155, MON0269, MON0528, PIS0033, POT1184, POT1471, POT1472, POT1595, POT1596, POT1830, RCM0111 and SEN0008. When the Monday following Biological Oxygen Demand sample collection was a holiday, samples were not collected.

Chloride and sulfate sample are collected at the following subset of CORE\Trend stations: GEO0009, NBP0023, NBP0103, NBP0461, NBP0534 and TOW0030.

January 2015: Air temperature was not measured at station CJB0005.

February 2015: Sample time was not recorded at station POT1184.

March 2015: Station POT1184 was not sampled due to ice and snow conditions.

August 2015: It was not possible to access station MON0020 due to road construction. Neither was it possible to collect samples at station POT1596 due to an ongoing crime scene investigation.

September 2015: Total depth was not measured at station XGG8251.

November 2015: The station NPA0165 chlorophyll filtration pads were not submitted to the laboratory for analysis.

There are no known completeness issues in April, May, June, July, October and December 2015.

Lineage:
Process_Step:
Process_Description:
SONDE CALIBRATION and POST-CALIBRATION

HydroLab sondes were maintained and calibrated before and after each survey in accordance with manufacturer's recommendations.

HYDROLAB PROFILE SAMPLING PROTOCOLS:

Measurements of temperature, specific conductance, dissolved oxygen and pH were obtained from YSI or Hydrolab water quality sensors immersed just below the water surface.

GRAB SAMPLING DEPTH PROTOCOLS:

Grab samples of water for laboratory analysis were collected at stations at a depth of 0.0m.
Process_Date: Unknown
Process_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Kristen Heyer
Contact_Position: Project Chief (Acting), Monitoring Field Office, DNR
Contact_Address:
A*ddress_Type:* mailing and physical
Address: 1919 Lincoln Drive
City: Annapolis
State_or_Province: Maryland
Postal_Code: 21401

Country: USA
Contact_Voice_Telephone: 410 990-4600
Contact_Electronic_Mail_Address: kristen.heyer_nospam_@maryland.gov[Remove _nospam_ for valid email address]

Process_Step:
Process_Description:
CORE/Trend DHMH ECDL LABORATORY ANALYSIS

Maryland Department of Health and Mental Hygiene, Environmental Chemistry Division Laboratory, Baltimore, MD, analyzed total dissolved nitrogen, particulate nitrogen, nitrite, nitrite + nitrate, ammonium, total dissolved phosphorus, particulate phosphorus, orthophosphate, dissolved organic carbon, particulate carbon, total suspended solids, biological oxygen demand, total alkalinity and turbidity for CORE/Trend stations.
Process_Date: Unknown
Process_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Shahla Ameli
Contact_Position: Laboratory Scientist Supervisor
Contact_Address:
Address_Type: mailing and physical
Address: 1770 Ashland Ave.
City: Baltimore
State_or_Province: Maryland
Postal_Code: 21205
Country: USA
Contact_Voice_Telephone: 433 681-3855
Contact_Electronic_Mail_Address: shahla.ameli_nospam_@maryland.gov[Remove _nospam_ for valid email address]

Process_Step:
Process_Description:
CORE/Trend NASL LABORATORY ANALYSIS

University of Maryland's Chesapeake Biological Laboratory (CBL), Nutrient Analytical Services Laboratory (NASL), Solomons, MD, analyzed chlorophyll, sulfate and chloride for CORE/Trend stations.

NASL began performing chlorophyll analyses in the year 2009. Prior to 2009, chlorophyll analyses were performed by the Maryland Department of Health and Mental Hygiene (DHMH) laboratory in Baltimore, MD. Sulfate analyses were performed by DHMH WMRL until March 2011, no sulfate samples were analyzed in February 2011 due to a reduction in staff. NASL began performing sulfate analyses in April 2011 and chloride analyses in May 2011.
Process_Date: Unknown
Process_Contact:

Contact_Information:
Contact_Person_Primary:
Contact_Person: Jerry Frank
Contact_Position: Manager Nutrient Analytical Services Laboratory
Contact_Address:
Address_Type: mailing and physical
Address: Chesapeake Biological Laboratory, Center for Environmental and Estuarine Studies, The University of Maryland System, 146 Williams St; P.O. Box 38
City: Solomons
State_or_Province: Maryland
Postal_Code: 20688
Country: USA
Contact_Voice_Telephone: 410 326-7252
Contact_Electronic_Mail_Address: frank_nospam_@umces.edu[Remove _nospam_ for valid email address]

Process_Step:
Process_Description:
VERIFICATION AND DATA MANAGEMENT

Each month DNR Tawes Office and Field Office personnel conducted data QA/QC procedures. All of the water quality calibration "grab" sample data were plotted. Outliers and anomalous values were thoroughly researched. Staff compared unusual values to historic values from the site and values from nearby sites. Weather events were considered, event logs were reviewed and DHMH and CBL analytical laboratory staff and DNR field staff members were consulted regarding possible legitimate causes for outlying values. In cases where values were not considered to be legitimate, they were masked from the published dataset with the approval of the field staff and the Quality Assurance Officer.

Process_Date: Unknown
Process_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Diana Domotor
Contact_Position: Administrator II
Contact_Address:
Address_Type: Mailing
Address: 580 Taylor Avenue, D2
City: Annapolis
State_or_Province: Maryland
Postal_Code: 21401
Country: USA
Contact_Voice_Telephone: 410 260-8630
Contact_Electronic_Mail_Address: diana.domotor_nospam_@maryland.gov[Remove _nospam_ for valid email address]

Spatial_Data_Organization_Information:
Indirect_Spatial_Reference: Anacostia River, Antietam Creek, Big Pipe Creek, Braddock Run, Cabin John Branch, Catoctin Creek, Chester River, Choptank River, Conococheague Creek, Deer Creek, Georges Creek, Gunpowder River, Monocacy River, North Branch Patapsco River, North Branch Potomac River, Patapsco River, Patuxent River, Piscataway Creek, Potomac River, Rock Creek, Savage River, Seneca Creek, Susquehanna River, Town Creek, Wills Creek
Direct_Spatial_Reference_Method: point
Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0001
Longitude_Resolution: 0.0001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodetic Reference System 80
Semi-major_Axis: 6378137
Denominator_of_Flattening_Ratio: 298.257

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
This metadata record is a description of the Maryland Department of Natural Resources Chesapeake Bay Water Quality Monitoring Program - Chemical and Physical Properties Component Database for the Maryland Chesapeake Bay Tributaries. Project data are an aggregation of data collected at Maryland CORE Trend project stations during 2015.

The data are contained in three related entities (tables): Station_Information, Monitoring_Event_Data and Water_Quality_Data. Each table contains attributes (fields).

The entity Station_Information is comprised of the attributes: Station, StationDescription, CBSeg2003, CBSeg2003Description, CBSegmentShed2009, CBSegmentShed2009Description, HUC12, FIPS, State, CountyCity, USGSGage, FallLine, Latitude, Longitude, UTMX, UTMY and LLDatum.

The entity Monitoring_Event_Data is comprised of the attributes: Details, GaugeHeight, EventId, Source, Program, Project, Station, Latitude, Longitude, EventStartDate, EventStartTime, Cruise, TotalDepth, UpperPycnocline, LowerPycnocline, WindSpeed, WindDirection, PrecipType, TideStage, CloudCover, Pressure and FlowStage.

The entity Water_Quality_Data is comprised of the attributes: MeasureValue, EventId, Station, Source, Project, SampleDate, SampleTime, Depth, TotalDepth, Layer, SampleType, SampleReplicateType, Parameter, Qualifier, MeasureValue, Unit, Method, Lab, Problem, Details, Latitude, Longitude, UpperPycnocline and LowerPycnocline.

Entity_and_Attribute_Detail_Citation:
The Quality Assurance Project Plan for the Maryland Department of Natural Resources Chesapeake Bay Water Quality Monitoring Program - Chemical and Physical Properties Component for the period July 1, 2015 - June 30, 2016 can be found using publication type 'Quality Assurance Project Plan' to search the monitoring stories and publications page of [http://www.eyesonthebay.net]

An updated data dictionary is a Chesapeake Bay Program work in progress.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Michael Mallonee
Contact_Position: Water Quality Database Manager
Contact_Address:
Address_Type: mailing and physical
Address: 410 Severn Avenue, Suite 109
City: Annapolis
State_or_Province: Maryland
Postal_Code: 21403
Country: USA
Contact_Voice_Telephone: 800 968-5785
Contact_Electronic_Mail_Address: mmallone@_no_spam_chesapeakebay.net[Remove _nospam_ for valid email address]

Resource_Description: Downloadable data
Distribution_Liability: None of the Chesapeake Bay Program partners nor any of their employees, contractors, or subcontractors make any warranty, expressed or implied, nor assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information or data contained within the web site. Reference to any specific commercial products, processes, or services or the use of any trade, firm, or corporation name is for the information and convenience of the public and does not constitute endorsement, recommendation or favoring by the Chesapeake Bay Program partners.
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Format_Name: ASCII Text File
Format_Information_Content: Station Information data, Monitoring Event data, and Water Quality data
File_Decompression_Technique: No compression applied
Transfer_Size: 2.2
Digital_Transfer_Option:
Online_Option:
Computer_Contact_Information:
Network_Address:

Network_Resource_Name:
[http://www.chesapeakebay.net/data/downloads/cbp_water_quality_database_1984_present]
Access_Instructions: Data are available through the Chesapeake Bay Programs CIMS data hub. Select Water Quality Database (1984-Present). Access the data by following web site (see network resource name) instructions.
Fees: None

Metadata_Reference_Information:
Metadata_Date: 20160408
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Ben Cole
Contact_Position: Natural Resources Biologist
Contact_Address:
Address_Type: mailing and physical
Address: 580 Taylor Avenue, D-2
City: Annapolis
State_or_Province: Maryland
Postal_Code: 21401
Country: USA
Contact_Voice_Telephone: 410 260-8630
Contact_Electronic_Mail_Address: benjamin.cole_no_spam_@maryland.gov[remove _no_spam_ for valid email address]
Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998