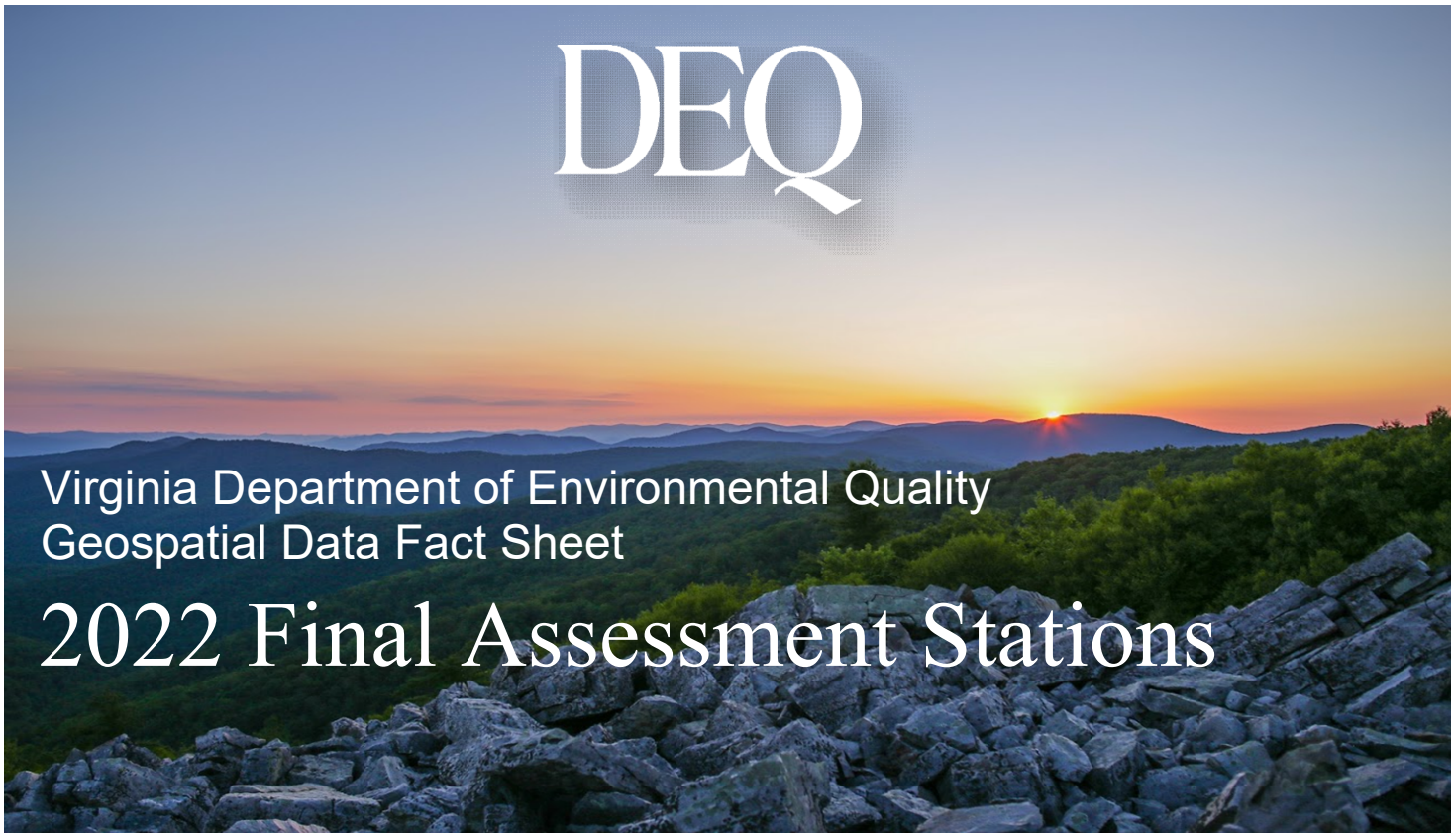
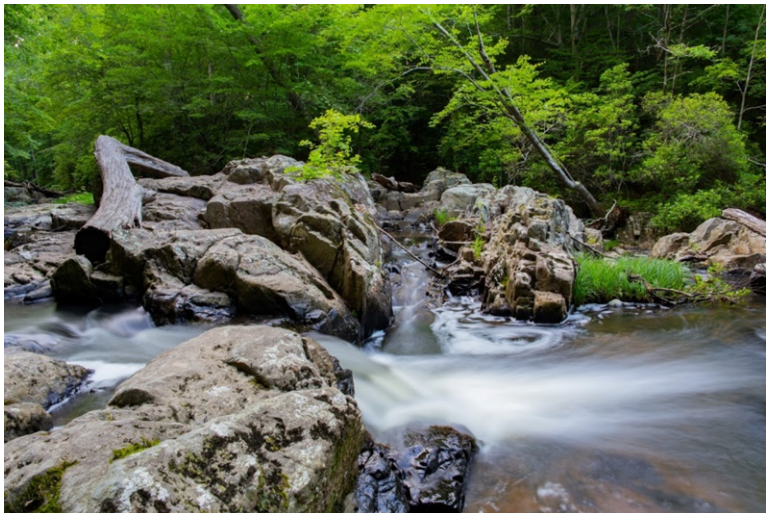


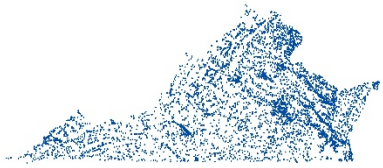
Virginia Department of Environmental Quality
Geospatial Data Fact Sheet

2022 Final Assessment Stations

Dataset Summary

2022 Final Water Quality Assessment Monitoring Stations GIS dataset. Biennially, DEQ must produce a Water Quality Assessment Integrated Report (IR) on the surface waters within the state's jurisdiction as mandated by the federal Clean Water Act (CWA) sections 303(d), 305(b), and 314 and the state's Water Quality Monitoring, Information, and Restoration Act (WQMIRA). This geographic layer is a component of the process used to supplement and support the assessment decisions made in the IR. Data from DEQ and non-DEQ contributors collected from Jan. 1 2015 through Dec. 31 2020 was used to characterize each applicable Assessment Unit (AU) within the Commonwealth.





Data Highlights:

Geodatabase name: va_ir22_wqms

> 7,408 Monitoring Stations

> 5,099 River/Stream Stations

> 493 Lake/Reservoir Stations

> 1,816 Estuarine Stations

4,935 stations were used to make Fully Supporting or Not Supporting (Impaired) assessment decisions

2,566 stations were included from non-DEQ data contributors

Dataset Description and Purpose

Display and summarize monitoring data collected for and identified within the 2022 305(b)/303(d) Water Quality Assessment Integrated Report. This dataset was created from DEQ's Comprehensive Environmental Data System (CEDS), various state, federal or local organizations, as well as many citizen monitoring groups across the commonwealth. The station data is used by regional assessment staff to assist in determining the status of the waterbody as compared to the applicable Water Quality Standards criteria set for each water.

The data represents a summary of all monitoring stations used to assess the waters represented in the IR for the 2022 assessment cycle. All points correspond to the relative position of the monitoring site as provided by DEQ staff or external data contributors. Attributes assigned to each record are aggregated over the 6 year data window for the individual station ID.

While not directly reviewed by EPA, this data constitutes the final version of this dataset to supplement the assessment hydrology layers. Attributes assigned to each water segment are based on water column, sediment, fish tissue or benthic macroinvertebrate samples collected within the given assessment data window. Data validations are performed to verify attribute and spatial accuracy, however errors may still occur.

Stations monitored prior to the 2022 IR data window may be included for clarification of assessment unit ID status but have no data within the station table's parameter columns. See the Comments field for further information in those instances.

Please direct any questions about attribute accuracy to the Data Contact.

Resource Constraints / Use Limitations

Point locations and attributes should not be altered except by the developer (DEQ). Crediting the Virginia Department of Environmental Quality as data source is requested. This data may be shared with others.

Data Contact:

Organization: Virginia Department of Environmental Quality

Name: Cleo L. Baker

Phone: 804-774-9391

Address: 1111 East Main Street, Richmond, VA 23219

Email: cleo.baker@deq.virginia.gov

Dataset Credits:

> Virginia Department of Environmental Quality, Office of Ecology, Water Monitoring & Assessment Program

Update Cycle:

> Each cycle's data is considered static and will not be altered once the IR receives EPA approval. However, data is analyzed for a 6 year inclusive data window. That data is used to update and report on AUs for the given cycle biennially, in the even numbered year.

Data Disclaimer

This geographic information system (GIS) data is made available as a public service. **This dataset is to be used for reference purposes only. The Virginia Department of Environmental Quality is not responsible for any inaccuracies contained herein**. No responsibility is assumed for damages or other liabilities due to the accuracy, availability, use or misuse of the information provided herein. GIS information is in the public domain and may be copied without permission; citation of the source is requested.

The information contained within this geospatial dataset is for reference purposes only and is **not** to be construed or used as a "legal description" or for legal purposes. This information is believed to be accurate, but accuracy is not guaranteed. Information drawn from this dataset must be used in consultation with appropriate federal, state, or local resource management

officials. Any errors or omissions should be reported to Virginia Department of Environmental Quality via email, or via the contact listed within this Fact Sheet.

Data Quality

The geospatial product is maintained and updated by DEQ each assessment cycle (biennially) using all valid sample data provided that was collected within the assessment data window.

See the ArcGIS/FGDC compliant metadata included with the geodatabase for more information about the attribute fields.

Due to the structure and limitations of the data and conversion steps from its source data to the file geodatabase, there are numeric (integer) data fields that show the text string <Null> where there is no data entered. Review Appendix 7 of the 2022 IR web page (https://www.deq.virginia.gov/water/water-quality/assessments/integrated-report) for an Excel file (ir22_Appendix7_MonitoringStationsKey-List.xlsx) which contains a sheet of codes and descriptions as well as a sheet with the list of stations containing unaltered exceedance and sample values.

Spatial Reference Information

NAD83(2011), Geographic Decimal Degrees (EPSG: 6318) https://epsg.io/6318

Data Dictionary / Field Information.

Field Name	Field Alias	Field Summary
FID		Auto-generated number assigned to each feature
Shape		Feature geometry type
Station_ID	Station ID	Monitoring Station ID
Assessment_Unit_ID_1	Assessment Unit ID 1	Assessment Unit monitored by this station ID
Assessment_Unit_ID_2	Assessment Unit ID 2	Assessment Unit monitored by this station ID, if applicable
Assessment_Unit_ID_3	Assessment Unit ID 3	Assessment Unit monitored by this station ID, if applicable
Assessment_Unit_ID_4	Assessment Unit ID 4	Assessment Unit monitored by this station ID, if applicable
Assessment_Unit_ID_5	Assessment Unit ID 5	Assessment Unit monitored by this station ID, if applicable
Assessment_Unit_ID_6	Assessment Unit ID 6	Assessment Unit monitored by this station ID, if applicable
Assessment_Unit_ID_7	Assessment Unit ID 7	Assessment Unit monitored by this station ID, if applicable
Assessment_Unit_ID_8	Assessment Unit ID 8	Assessment Unit monitored by this station ID, if applicable
Assessment_Unit_ID_9	Assessment Unit ID 9	Assessment Unit monitored by this station ID, if applicable
Assessment_Unit_ID_10	Assessment Unit ID 10	Assessment Unit monitored by this station ID, if applicable

Field Name	Field Alias	Field Summary
Assessment_Unit_ID_List	Assessment Unit ID List	Comma separated list of all Assessment Units monitored by this station ID
Region	Regional Office	DEQ Regional Office responsible for assessment evaluation
Water_Type	Water Type	RIVER / RESERVOIR / ESTUARY / OCEAN
Salinity	Salinity	For stations in estuarine AUs and certain riverine segments within the Chowan Basin: Saltwater, Tidal Freshwater, Transition Zone
Lacustrine	Lacustrine	For lake/reservoir AUs only: Y = Yes, sampled within the lacustrine zone, N = No, not sampled within the lacustrine zone
Station_Type_1	Station Type 1	Monitoring station sample type
Station_Type_2	Station Type 2	Monitoring station sample type, if applicable
Station_Type_3	Station Type 3	Monitoring station sample type, if applicable
Station_Type_4	Station Type 4	Monitoring station sample type, if applicable
Station_Type_5	Station Type 5	Monitoring station sample type, if applicable
Station_Type_6	Station Type 6	Monitoring station sample type, if applicable
Station_Type_7	Station Type 7	Monitoring station sample type, if applicable
Station_Type_8	Station Type 8	Monitoring station sample type, if applicable
Station_Type_9	Station Type 9	Monitoring station sample type, if applicable
Station_Type_10	Station Type 10	Monitoring station sample type, if applicable
Station_Type_List	Station Type List	Comma separated list of station types associated with this station ID
Latitude	Latitude	Latitude of the station in Decimal Degrees
Longitude	Longitude	Longitude of the station in Decimal Degrees
VAHU6	6th Order Watershed ID	Virginia's 6th order hydrologic unit code of the National Watershed Boundary Dataset (NWBD). For more information on the 6th order codes visit https://www.dcr.virginia.gov/soil_and_water/hu.shtml.
TempExc	Temperature Exceedances	Number of Temperature Water Quality Standard Exceedances
TempSamples	Temperature Samples	Number of Temperature Samples
TempStatusCode	Temperature Status	Temperature Assessment Status
DOExc	Dissolved Oxygen Exceedances	Number of Dissolved Oxygen Water Quality Standard Exceedances
DOSamples	Dissolved Oxygen Samples	Number of Dissolved Oxygen Samples
DOStatusCode	Dissolved Oxygen Status	Dissolved Oxygen Assessment Status
pHExc	pH Exceedances	Number of pH Water Quality Standard Exceedances
pHSamples	pH Samples	Number of pH Samples
pHStatusCode	pH Status	pH Assessment Status

Field Name	Field Alias	Field Summary
EcoliExc	E. coli Exceedances	Number of Escherichia coli (E. coli) Water Quality Standard Exceedances
EcoliSamples	E. coli Samples	Number of E. coli Samples
EcoliGMExc	E. coli GeoMean Exceedances	Number of E. coli Geometric Mean Water Quality Standard Exceedances
EcoliGMSamples	E. coli GeoMean Samples	Number of E. coli Geometric Mean Samples
EcoliStatusCode	E. coli Status	E. coli Assessment Status
EnteroExc	Enterococci Exceedances	Number of Enterococci Water Quality Standard Exceedances
EnteroSamples	Enterococci Samples	Number of Enterococci Samples
EnteroGMExc	Enterococci GeoMean Exceedances	Number of Enterococci Geometric Mean Water Quality Standard Exceedances
EnteroGMSamples	Enterococci GeoMean Samples	Number of Enterococci Geometric Samples
EnteroStatusCode	Enterococci Status	Enterococci Assessment Status
AmmoniaExc	Ammonia Exceedances	Number of Ammonia Water Quality Standard Exceedances
AmmoniaStatusCode	Ammonia Status	Ammonia Assessment Status
WaterMetExc	Water Column Metals Exceedances	Number of Water Column Metals Water Quality Standard Exceedances
WaterMetStatusCode	Water Column Metals Status	Water Column Metals Assessment Status
WaterToxExc	Water Column Toxics Exceedances	Number of Water Column Toxics Water Quality Standard Exceedances
WaterToxStatusCode	Water Column Toxics Status	Water Column Toxics Assessment Status
SedMetExc	Sediment Metals Exceedances	Number of Sediment Metals Water Quality Standard Exceedances
SedMetStatusCode	Sediment Metals Status	Sediment Metals Assessment Status
SedToxExc	Sediment Toxics Exceedances	Number of Sediment Toxics Water Quality Standard Exceedances
SedToxStatusCode	Sediment Toxics Status	Sediment Toxics Assessment Status
FishMetExc	Fish Tissue Metals Exceedances	Number of Fish Tissue Metals Water Quality Standard Exceedances
FishMetStatusCode	Fish Tissue Metals Status	Fish Tissue Metals Assessment Status
FishToxExc	Fish Tissue Toxics Exceedances	Number of Fish Tissue Toxics Water Quality Standard Exceedances
FishToxStatusCode	Fish Tissue Toxics Status	Fish Tissue Toxics Assessment Status
BenthicStatusCode	Benthic Status	Benthic Macroinvertebrates Assessment Status
BIBI_Score	BIBI Score	Chesapeake Bay Estuarine Benthic Index of Biological Integrity Score
WoECategory	Weight of Evidence Category	Virginia or EPA assessment category representing the general assessment of the Aquatic Life Use for estuarine benthic communities as defined in 2022 Assessment Guidance Appendix G.
TotPhosExc	Total Phosphorus Exceedances	Number of Total Phosphorus Water Quality Standard Exceedances; in Lake/Reservoir stations this number refers to the number of monitoring years exceeding the criteria

Field Name	Field Alias	Field Summary
TotPhosSamples	Total Phosphorus Samples	Number of Total Phosphorus Samples; in Lake/Reservoir stations this number refers to the number of monitoring years
TotPhosStatusCode	Total Phosphorus Status	Total Phosphorus Assessment Status
ChlAExc	Chlorophyll-a Exceedances	Number of Chlorophyll-a Water Quality Standard Exceedances; in Lake/Reservoir stations this number refers to the number of monitoring years exceeding the criteria
ChlASamples	Chlorophyll-a Samples	Number of Chlorophyll-a Samples; in Lake/Reservoir stations this number refers to the number of monitoring years
ChlAStatusCode	Chlorophyll-a Status	Chlorophyll-a Assessment Status
Comments	Comments	Comments for the monitoring station including any notes deemed relevant to explain assessment determinations
Assessed	Assessed	Evaluated = data analyzed and used to make Category 3* (Insufficient Information) determinations No = no data collected within the 6 year data window, historical listing station for impairment carryover Yes = data used for Fully Supporting Category 1* or 2* or Not Supporting (Impaired) Category 4* or 5* assessment determinations
DEQStation	DEQ Station	Y = Yes, data collected by or on behalf of DEQ N = No, data not collected by DEQ
MapStationType	Map Station Type	Code to group the station into one station type identifier for map display
Map	Map Code	Major River Basin mapping code
BasinName	Basin Name	Major River Basin name