Integrated Reporting (IR) 102

CAP Workgroup
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The views expressed in this presentation are those of the authors and do not necessarily represent the views or the policies of the U.S. Environmental Protection Agency.

What is Integrated? CWA 303(d) & 305(b) (& 314)

Table 2-1. Summary of State Reporting Requirements Under CWA Sections 303(d), 305(b), and 314, and Corresponding Regulations

Authority	State Reporting Requirement
CWA section 303(d); 40 CFR 130.7	By April 1 of all even numbered years, states must submit to EPA the following information: • A list of water quality-limited (impaired and threatened) waters still requiring TMDL(s), pollutants causing the impairment and priority ranking for TMDL development (including waters targeted for TMDL development within the next two years). • A description of the methodology used to develop the list. • A description of the data and information used to identify waters, including a description of the existing and readily available data and information used. • A rationale for any decision to not use any existing and readily available data and information. • Any other reasonable information requested by EPA, such as demonstrating good cause for not including a water or waters on the list.

303(d) list – Impaired Waters needing TMDLs

EPA approves/ disapproves

CWA section 305(b); 40 CFR 130.8	By April 1 of all even numbered years, states must submit to EPA the following information: • A description of the water quality of all waters[a] in the state and the extent to which the quality of waters provides for the protection and propagation of a balanced population of shellfish, fish, and wildlife and allows recreational activities in and on the water. • An estimate of the extent to which CWA control programs have improved water quality or will improve water quality, and recommendations for future actions necessary and identifications of waters needing action. • An estimate of the environmental, economic and social costs and benefits needed to achieve the objectives of the CWA and an estimate of the date of such achievement. • A description of the nature and extent of nonpoint source pollution and recommendations of programs needed to control each category of nonpoint sources, including an estimate of implementation costs. • An assessment of the water quality of all publicly owned lakes, including the status and trends of such water quality as specified in section 314(a)(1) of the CWA [see below for additional information].

2006 Integrated Reporting Guidance

Waterbody Categories – Condition Reporting

- Place all waterbody–use-parameter combinations into categories

303(d) list

Five Reporting Categories

Category 1: All designated uses are supported, no use is threatened;
Category 2: Available data and/or information indicate that some, but not all of the designated uses are supported;
Category 3: There is insufficient available data and/or information to make a use support determination;
Category 4: Available data and/or information indicate that at least one designated use is not being supported or is threatened, but a TMDL is not needed;
Category 5: Available data and/or information indicate that at least one designated use is not being supported or is threatened, and a TMDL is needed.


303(d) list ≠
Impaired Waters List

IR process separate from TMDL process

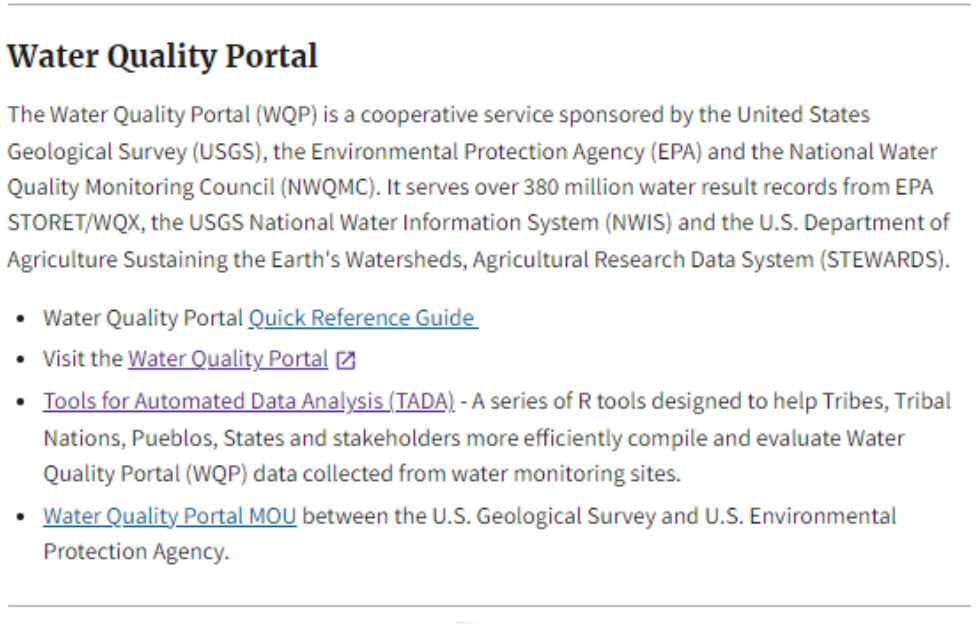
- Determining an impaired waterbody with TMDL (category 4) is attaining (category 2) in IR does not obviate TMDL
- Withdrawing a TMDL would require a separate request by the state and a separate administrative process

Reporting Results

Environmental Monitoring Data – Water Quality Portal

Upload monitoring data to WQX -> Water Quality Portal

- EPA grant requirement
- Any organization can upload data



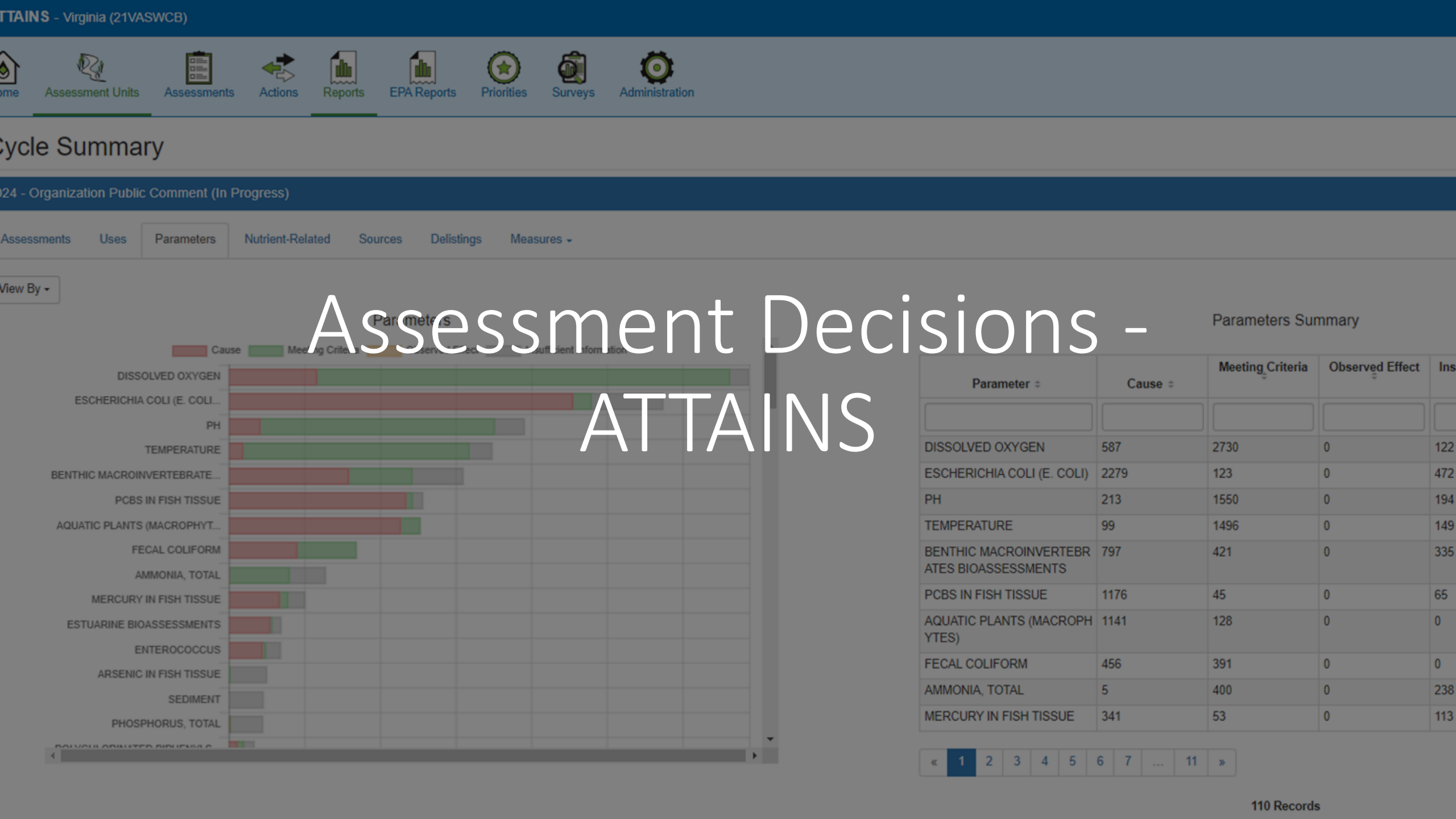
Water Quality Portal

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA) and the National Water Quality Monitoring Council (NWQMC). It serves over 380 million water result records from EPA STORET/WQX, the USGS National Water Information System (NWIS) and the U.S. Department of Agriculture Sustaining the Earth's Watersheds, Agricultural Research Data System (STEWARDS).

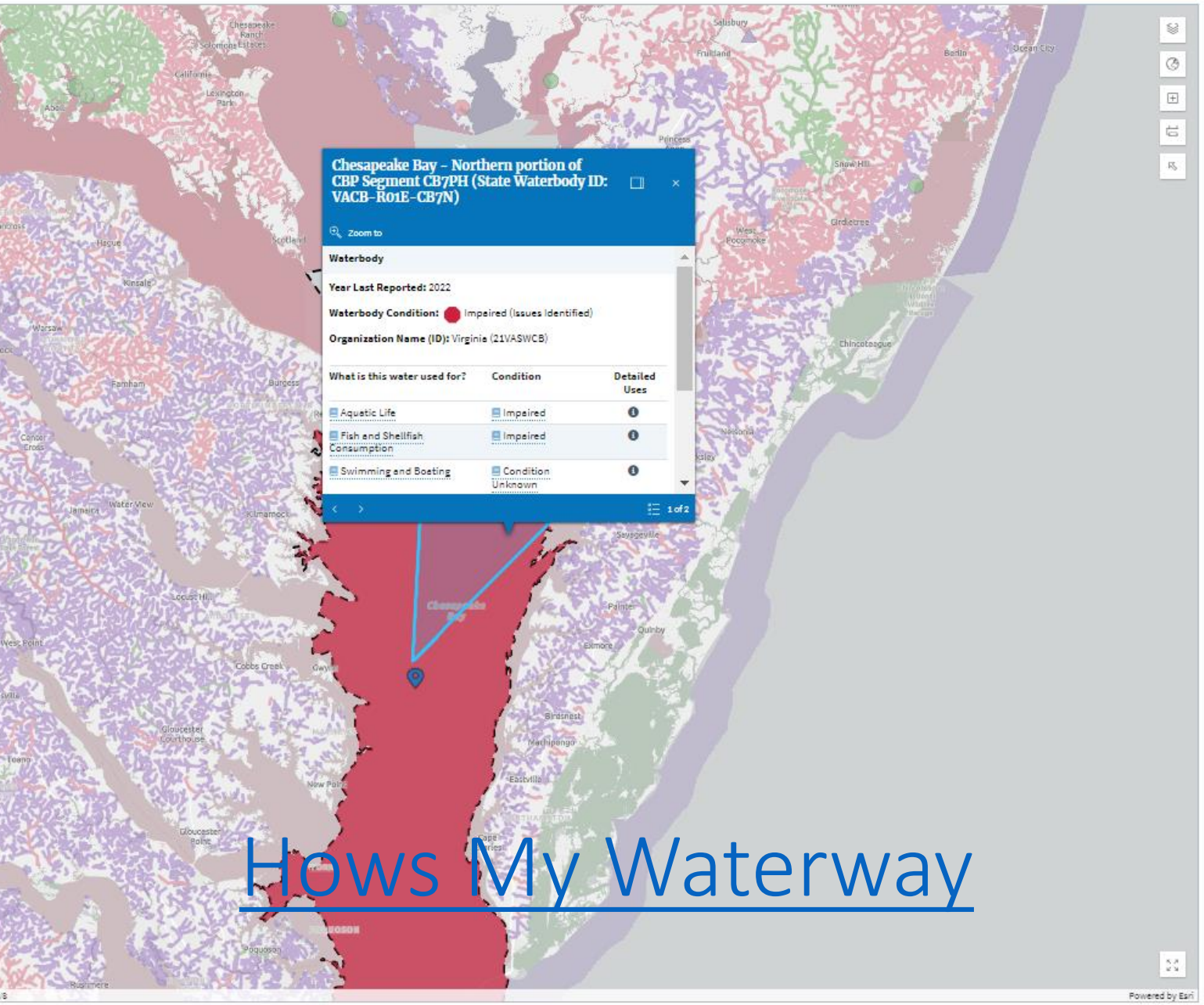
- Water Quality Portal Quick Reference Guide
- Visit the Water Quality Portal
- Tools for Automated Data Analysis (TADA) - A series of R tools designed to help Tribes, Tribal Nations, Pueblos, States and stakeholders more efficiently compile and evaluate Water Quality Portal (WQP) data collected from water monitoring sites.
- Water Quality Portal MOU between the U.S. Geological Survey and U.S. Environmental Protection Agency.

All WQP data is readily available data to be considered in development of IR

Assessment Decisions - ATTAINS



Assessment Unit ID	Assessment Unit Name	Parameter Name	Parameter Status	Use Name	Use Attainment	Parameter Attainment	Cycle First Listed	Organization IR Category	Consent Decree Cycle	Impaired Water Comment
VACB-C10E-POC	Chesapeake Bay - VA portion of CBP segment POCMH	AQUATIC PLANTS (MACROPHYTES)	Cause	Aquatic Life	Not Supporting	Not meeting criteria	2006	4A		Submerged aquatic vegetation goal is 4067 acres and only 56% of this goal was attained in the most recent 3 years. POCMH-SAV-BAY
VACB-C10E-POC	Chesapeake Bay - VA portion of CBP segment POCMH	AQUATIC PLANTS (MACROPHYTES)	Cause	Shallow-Water Submerged Aquatic Vegetation	Not Supporting	Not meeting criteria	2006	4A		Submerged aquatic vegetation goal is 4067 acres and only 56% of this goal was attained in the most recent 3 years. POCMH-SAV-BAY
VACB-C10E-POC	Chesapeake Bay - VA portion of CBP segment POCMH	PCBS IN FISH TISSUE	Cause	Fish Consumption	Not Supporting	Not meeting criteria	2006	5A		PCB fish consumption advisory throughout Chesapeake Bay 2006 90015 / 2010 C01E-17-PCB
VACB-C10E-TAN	Chesapeake Bay - VA portion of CBP Segment TANMH	AQUATIC PLANTS (MACROPHYTES)	Cause	Aquatic Life	Not Supporting	Not meeting criteria	2006	4A		Submerged Aquatic Vegetation acres goal is 13,585 acres. Aerial analysis of SAV over the three most recent years of data indicate segment has attained 67% of the goal. 2006 80002 / 2010 TANMH-SAV-BAY
VACB-C10E-TAN	Chesapeake Bay - VA portion of CBP Segment TANMH	AQUATIC PLANTS (MACROPHYTES)	Cause	Shallow-Water Submerged Aquatic Vegetation	Not Supporting	Not meeting criteria	2006	4A		Submerged Aquatic Vegetation acres goal is 13,585 acres. Aerial analysis of SAV over the three most recent years of data indicate segment has attained 67% of the goal. 2006 80002 / 2010 TANMH-SAV-BAY
VACB-C10E-TAN	Chesapeake Bay - VA portion of CBP Segment TANMH	DISSOLVED OXYGEN	Cause	Aquatic Life	Not Supporting	Not meeting criteria	2006	4A	1998	Segment does not meet the 30-Day mean criteria for summer DO. Insufficient data to assess other DO criteria. All Open Water criteria must be assessed until segment can be delisted for DO. 2006 80001 / TANMH-DO-BAY
VACB-C10E-TAN	Chesapeake Bay - VA portion of CBP Segment TANMH	DISSOLVED OXYGEN	Cause	Open-Water Aquatic Life	Not Supporting	Not meeting criteria	2006	4A	1998	Segment does not meet the 30-Day mean criteria for summer DO. Insufficient data to assess other DO criteria. All Open Water criteria must be assessed until segment can be delisted for DO. 2006 80001 / TANMH-DO-BAY
VACB-C10E-TAN	Chesapeake Bay - VA portion of CBP Segment TANMH	PCBS IN FISH TISSUE	Cause	Fish Consumption	Not Supporting	Not meeting criteria	2006	5A		PCB fish consumption advisory throughout Chesapeake Bay. 2006 90016 / 2008 C01E-17-PCB
VACB-R01E-CB5	Chesapeake Bay - VA portion of CBP Segment CB5MH	DISSOLVED OXYGEN	Cause	Deep-Channel Seasonal Refuge	Not Supporting	Not meeting criteria	2004	4D	1998	Dissolved oxygen criteria are met for Open Water, Deep Water and Deep Channel subuses. There is insufficient information to assess all applicable DO criteria. 2006 01766 / 2010 CB5MH-DO-BAY
VACB-R01E-CB5	Chesapeake Bay - VA portion of CBP Segment CB5MH	DISSOLVED OXYGEN	Cause	Deep-Water Aquatic Life	Not Supporting	Not meeting criteria	2004	4D	1998	Dissolved oxygen criteria are met for Open Water, Deep Water and Deep Channel subuses. There is insufficient information to assess all applicable DO criteria. 2006 01766 / 2010 CB5MH-DO-BAY
VACB-R01E-CB6N	Chesapeake Bay - Northern portion of CBP Segment CB6PH	DISSOLVED OXYGEN	Cause	Deep-Water Aquatic Life	Not Supporting	Not meeting criteria	2006	4D	1998	Segment meets 30-day mean DO criterion for the Open Water and 30-day mean criterion for the Deep Water subuse. 2006 80008 / 2008 CB6PH-DO-BAY
VACB-R01E-CB7N	Chesapeake Bay - Northern portion of CBP Segment CB7PH	DISSOLVED OXYGEN	Cause	Deep-Water Aquatic Life	Not Supporting	Not meeting criteria	1998	4D	1998	Aquatic life designated use is not attained due to insufficient information to assess all applicable DO criteria. 2006 80012 / CB7PH-DO-BAY
VACB-R01E_CB7N01A20	Chesapeake Bay - Northern portion of CBP Segment CB7PH	DISSOLVED OXYGEN	Cause	Deep-Water Aquatic Life	Not Supporting	Not meeting criteria	1998	4D	1998	Aquatic life designated use is not attained due to insufficient information to assess all applicable DO criteria. 2006 80012 / CB7PH-DO-BAY



Hows My Waterway

Go OR Use My Location

53	357	2
Waterbodies	Water Monitoring Locations	Permitted Dischargers

Waterbodies | Water Monitoring Locations | Permitted Dischargers

Waterbody Conditions:

Good | Impaired | Condition Unknown

Overall condition of **53** waterbodies in the *Lower Chesapeake Bay* watershed.

Expand All

- **10th View Beach** — State Waterbody ID: VAT-C08E_CBB01C16
- **13th View Beach** — State Waterbody ID: VAT-C08E_CBB01A06
- **Atlantic Ocean - Deep** — State Waterbody ID: VAT-AO24_ATL01A12
- **Atlantic Ocean Beaches - South** — State Waterbody ID: VAT-AO23_ATL01A06
- **Ball Creek** — State Waterbody ID: VAP-C01E_BAL01B20
- **Ball Creek** — State Waterbody ID: VAP-C01E_BAL02A02
- **Ball Creek** — State Waterbody ID: VAP-C01E_BAL01A02
- **Buckroe Beaches** — State Waterbody ID: VAT-C07E_BCB01A06
- **Ches Bay Beaches** — State Waterbody ID: VAT-C08E_CBB02A16
- **Chesapeake Bay - CBP Segment CB8PH** — State Waterbody ID: VACB-R01E-CB8
- **Chesapeake Bay - CBP Segment MOBPH** — State Waterbody ID: VACB-R01E-MOB
- **Chesapeake Bay - Northern portion of CBP Segment CB7PH** — State Waterbody ID: VACB-R01E-CB7N

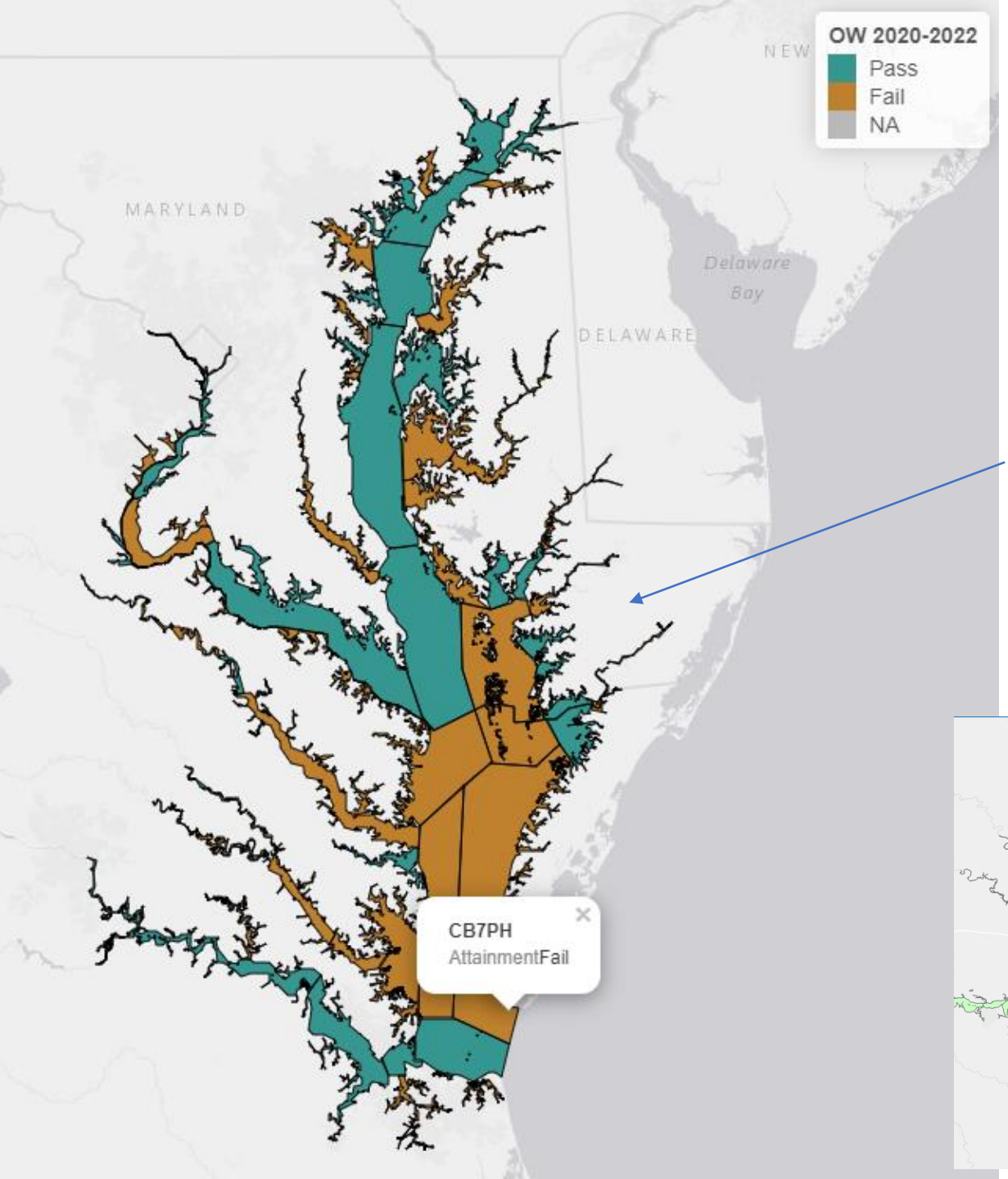
Year Last Reported: 2022

Waterbody Condition: Impaired (Issues Identified)

Organization Name (ID): Virginia (21VASWCB)

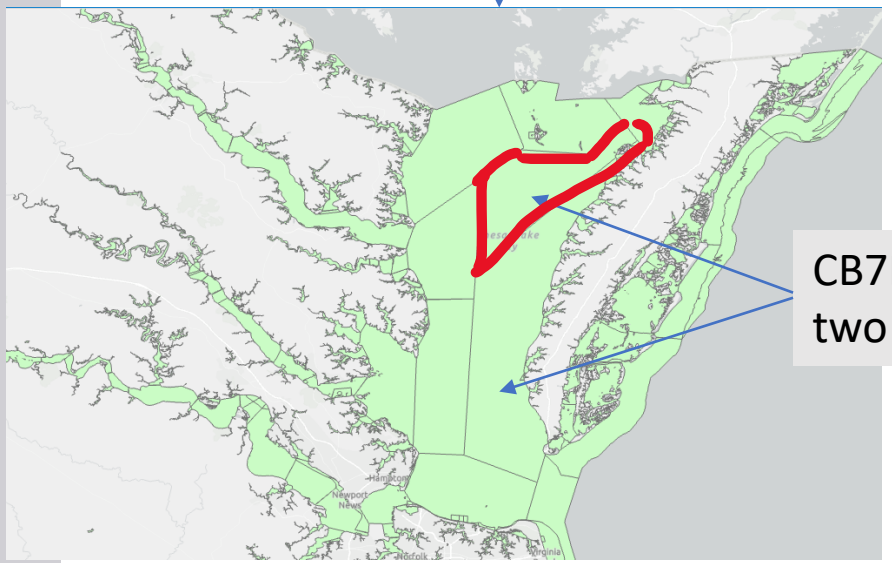
What is this water used for?	Condition	Detailed Uses
Aquatic Life	Impaired	
Fish and Shellfish Consumption	Impaired	
Swimming and Boating	Condition Unknown	

States Report on State Assessment Units



CBP

VADEQ



CB7PH Split into two AUs

Using all Data

§ 130.7 Total maximum daily loads (TMDL) and individual water quality-based effluent limitations

(5) Each State shall assemble and evaluate all existing and readily available water quality-related data and information to develop the list required by §§ 130.7(b)(

(6) Each State shall provide documentation to the Regional Administrator to support the State's determination to list or not to list its waters as required by §§ 130.7(b)(1) and 130.7(b)(2). This documentation shall be submitted to the Regional Administrator together with the list required by §§ 130.7(b)(1) and 130.7(b)(2) and shall include at a minimum:

(i) A description of the methodology used to develop the list; and

(ii) A description of the data and information used to identify waters, including a description of the data and information used by the State as required by § 130.7(b)(5); and

(iii) A rationale for any decision to not use any existing and readily available data and information for any one of the categories of waters as described in § 130.7(b)(5); and

(iv) Any other reasonable information requested by the Regional Administrator. Upon request by the Regional Administrator, each State must demonstrate good cause for not including a water or waters on the list. Good cause includes, but is not limited to, more recent or accurate data; more sophisticated water quality modeling; flaws in the original analysis that led to the water being listed in the categories in § 130.7(b)(5); or changes in conditions, e.g., new control equipment, or elimination of discharges.

IR Guidance - 2024

Data Assembly, Evaluation, and Use

States, territories, and authorized tribes are required under 40 CFR 130.7(b)(5) to assemble and evaluate all existing and readily available water quality-related data and information when determining which waterbodies belong on the state's, territory's, or authorized tribe's CWA 303(d) list.[32] States, territories and authorized tribes must use such data and information in making listing decisions unless they provide a rationale for not doing so. 40 CFR 130.7(b)(6)(iii). EPA will evaluate whether a state, territory, or authorized tribe provides a technical, science-based rationale for decisions not to use data or information.[33]

Existing and readily available water-quality related data and information includes segment-specific ambient monitoring[34] and observations and comments from the public. Data and information should be solicited from a wide variety of entities including, but not limited to, local governments, research institutions, outdoor recreation organizations, citizen monitoring groups, and environmental organizations. For more information on data assembly see, e.g., EPA's 2006 IR memo.

2006 IR Guidance

- Lack of a State-approved QAPP should not, however, be used as the basis for summarily rejecting data and information submitted by such organizations, or assuming it is of low quality, regardless of the actual QA/QC protocols employed during the gathering, storage, and analysis of these data.
- Lack of an assessment methodology is not a science, technical based rationale for not using data
- Existing and Readily Available Water Quality-Related Data and Information Includes:

  Results of use of predicative tools/ extrapolative tools (e.g., probabilistic surveys, landscape models, dilution calculations and models estimating pollutant loadings and ambient water quality).

Expectations Expanded

- “It is important that assessment methodologies must be consistent with applicable WQSs. They should also be consistent with sound science and statistics.” 2006 IR guidance
  - If state assessment deviates from EPA implementation guidance, scientifically defensible rationale should be provided
- 2003 Bay Criteria Chapter VI: Recommended Implementation Procedures (Dissolved Oxygen)
  - “Criteria attainment should be presented in terms of spatial extent, i.e., the percentage of the volume (dissolved oxygen)… that meets or exceeds the applicable criteria.”
  - “Frequency is directly assessed through comparison of the generated cumulative frequency distribution with the applicable criterion reference curve”

Spatial and Temporal Considerations: 2006 IR Guidance

- The spatial and temporal representativeness of data and information should be considered by states as they attempt to characterize conditions in a given segment…. Hence, state methodologies should describe, in general terms, the decision logic used to determine the temporal and spatial extent a grab sample can be construed to represent. In order to make credible assessment determinations, states should employ approaches that strike a balance between the extremes of:

(1) considering every grab sample to be representative of merely the instant in which, and the drop of water from which, each was taken; or,

(2) assuming each such sample is representative of conditions over several years, and covering hundreds of stream miles or hundreds of lake acres. (Note that available data and information should be used to assess attainment of applicable water quality standards unless a specific technical rationale is provided to support a determination that such data and information should not be used (see 40 CFR 130.7(b)(6)(iii-iv)).

Lines of Evidence: Potential Assessment Approach

- Each line of evidence (observed data, interpolator output, citizen data) is readily available data that should be considered in assessment.
- A technical, science-based rationale must be provided for not using the data (or one line of evidence)*
  - Could evaluate uncertainty in each line of evidence

* Applies to 303(d) list

IR Process Notes

- EPA does not approve assessment methodology, just 303(d) list
- EPA evaluates if
  - state final decision = EPA final decision

  (no additional impairments requiring TMDLs)
- EPA approves removal of waters from 303(d) list
- EPA may comment on decisions regarding waterbody movement in other categories (public comment, decision rationale)

Questions