



# Cold/Coolwater Advisory Committee

## Meeting #1

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- Welcome and Introductions
- Please sign-in
- Housekeeping Items



# Use Class Redesignation

## A brief history

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- MDE previously had a policy that could independently use one type of data (e.g. biological, temperature) to redesignate a stream from Class I warmwater to Class III coldwater.
- In light of EPA direction and concern over attainability of water quality criteria, MDE reconsidered this policy and now requires both the use (trout) and water quality (temperature, DO) to be met for redesignation



# Background

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- MDE was made aware of streams with cold/coolwater aquatic species but which are not designated as Class III or Class IV in Maryland's water quality standards (list provided)
- Some of these streams had both coldwater species and temperature data while others lacked one or the other



# Background

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- MDE recognized that it needed a formalized policy for dealing with these variety of stream scenarios
- Need to re-evaluate Maryland's Designated Use Classification System
- Develop a process for determining what uses are attainable.



# General Plan for the Committee

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- Monthly meetings with limited attendees (by invite only) to keep group manageable
- Webinar listening/recording capability
- Work according to deadlines in the handout
- What we ask of Committee Members
  - Between meetings, discuss information amongst the group/organization you are representing, gathering perspectives to bring back
  - Come to meetings prepared and ready to engage
  - Have an alternate up-to-speed in case you cannot attend a given meeting



# Ground Rules

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- Everyone will get a chance to provide input.
- Please be respectful of other Committee members.
- Tim and I will co-facilitate so as to keep to the agenda, so please don't be offended if we have to move on to the next subject.



**Maryland**  
Department of  
the Environment

# Water Quality Standards and Existing Use Primer

Matt Stover and Timothy Fox

Cold/Cool Water Advisory Committee Meeting #1

April 20, 2018



# Presentation Overview

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- Clean Water Act
- Water Quality Standards
  - Designated Uses
  - Water Quality Criteria
  - Antidegradation policy
- Triennial Review of Water Quality Standards
- Existing Uses



# Clean Water Act

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- Objective: “restore and maintain the chemical, physical and biological integrity of the Nation’s waters”

USEPA (2009)



## Clean Water Act (cont.)

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- Relevant sections of CWA:
  - **Section 301: Technology Based Effluent Limits**
  - **Section 302: Water Quality Based Effluent Limits**
  - **Section 303: Water Quality Standards and Implementation**
  - **Section 305: Water Quality Inventory**
  - **Section 316: Thermal Discharge**
  - **Section 402: Point Source Permitting (NPDES)**



## Clean Water Act (cont.)

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- Role of States and Authorized Tribes
  - **Have the Primary authority to adopt, review and revise water quality standards (Section 303(c))**
  - **May adopt standards more stringent than recommended by EPA**
  - **May certify Federal licensed activities that result in discharge to waters of the US (section 401)**

USEPA (2009)



# Water Quality Standards (WQS)

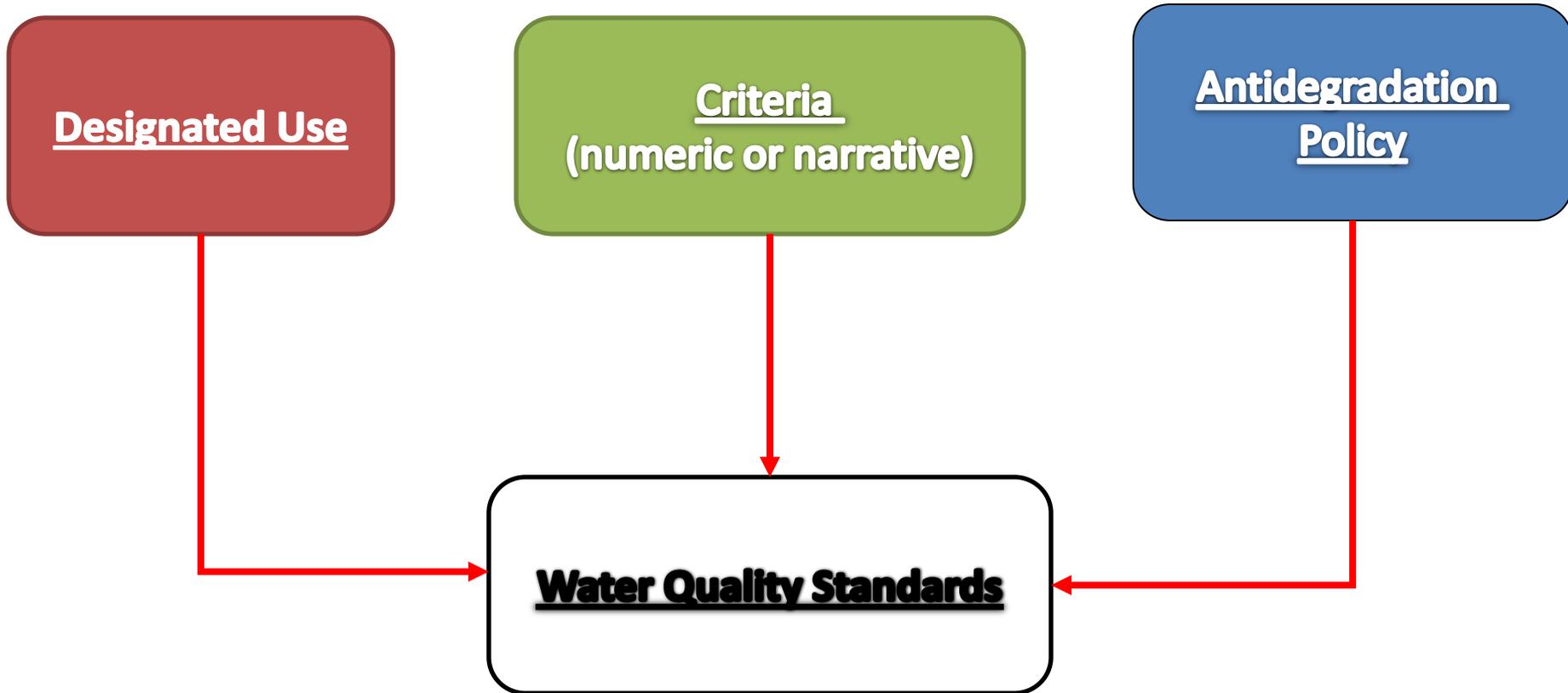
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- Role of States and Authorized Tribes regarding WQS
  - Establish water quality goals and targets for a water body
  - WQS are used to determine attainment and non-attainment
    - (impaired or not impaired)



# Water Quality Standards

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# Designated Uses

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- Jargon definition: “Those uses specified in state or tribal water quality standards regulations for each water body or segment whether or not they are being attained”
- In other words: “A concise statement of management objectives and exceptions for each of the individual surface waters under state/tribal jurisdiction”
- Designated Uses set goals for a specific water body
- **Important!** The goal of Water Quality Standards is to restore water quality, Designated Uses must be assigned appropriately to be attainable

USEPA (2009)



# Designated Uses and Maryland's Use Classifications

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## Designated Uses (examples)

- Aquatic Life
- Fishing
- Swimming
- Secondary Water Contact
- Drinking water

## Maryland's Use Classifications (groupings of designated uses refined for types of water)

- Use Class I: Water Contact recreation, and protection of nontidal warmwater aquatic life
- Use Class II: Support of estuarine and marine aquatic life and shellfish harvesting
- Use Class III: Nontidal Cold Water
- Use Class IV: Recreational trout waters
- *p subcategory indicates drinking water use class*



# The Existing Uses

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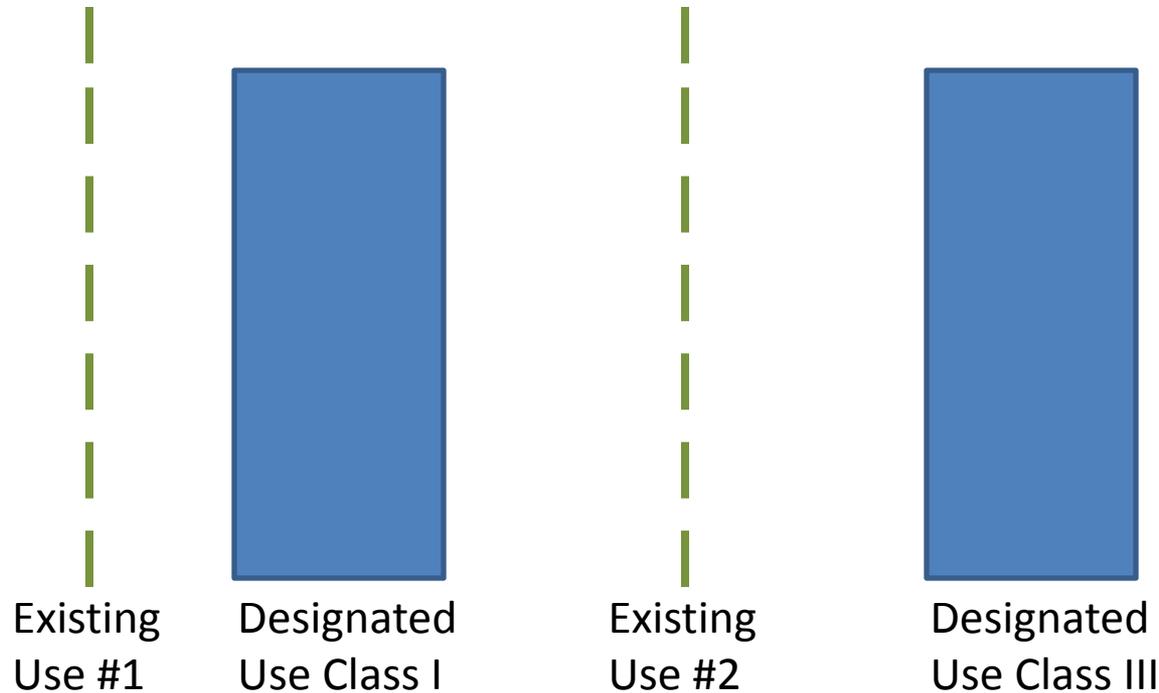
- CWA (40 CFR 131.3) defines existing uses as “...*those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards*”
- Made on a site-specific basis and can be expressed in very specific terms
- Existing uses serve as baseline or “floor” of water quality
- According to EPA, existing uses are not generally adopted into state/tribal law.
- They can be the same as the designated use for a water body or they can be lower or better than the designated use for a water body

USEPA (2008)



# Existing Uses – An Illustration

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## Stream Characteristics

Existing Use #1: Represents an impaired warmwater stream

Existing Use #2: Represents a stream with naturally reproducing coldwater species but which exceeds Class III temperature criteria



## Are Existing Uses Protected?

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- CWA (40 CFR 131.12(a)) states “*at a minimum...(1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.*”
- Maryland’s water quality standards (COMAR 26.08.02.04) echo the CWA stating “*Waters of this State shall be protected and maintained for existing uses and the basic uses of water ...*”



# Differences between Designated and Existing Uses

<b>Designated Uses</b>	<b>Existing Uses</b>
<ul style="list-style-type: none"><li>- adopted into State law</li><li>- expressed in a more standardized fashion to reflect water quality goal</li><li>- focuses on the attainable condition</li></ul>	<ul style="list-style-type: none"><li>- not generally adopted into State law</li><li>- can be expressed more specifically than a designated use to reflect the degree of use attained</li><li>- focuses on the highest condition attained since 1975</li></ul>



# Water Quality Criteria

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- A concentration, level, or a narrative statement that represents a level of water quality that supports a particular designated use
- When criteria are being met, it implies that the associated Designated Use is being attained
- **Important:** when a Designated Use of a particular water body changes, associated Water Quality Criteria change!



# Difference in Criteria Between Use Classifications

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Use Classification	Description	Primary Differences in Water Quality Criteria	
		Dissolved Oxygen	Water Temperature
I	Warmwater Aquatic Life	5mg/L	90°F or ambient
II	Estuarine and Marine Aquatic Life including shellfish	Unique to each water segment	90°F or ambient
III	Nontidal Coldwater	minimum daily average $\geq 6$ mg/l and 5mg/L at any time	68°F or ambient
IV	Recreational Trout Waters	5mg/L	75°F or ambient



# Water Quality Criteria (cont.)

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- Water Quality Criteria are used for:
  - Calculating discharge limits for NPDES permits
  - Identifying water bodies that are not attaining the Designated Use
  - Setting WLAs in TMDLs
- Examples of Water Quality Criteria:
  - Lead concentration limit
  - PCB fish tissue limit
  - Biological Data
  - pH
  - Temperature



# Antidegradation Policy

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- Maryland's Antidegradation policy is focused on protecting waterbodies that are achieving a "higher" water quality standard
- These high quality streams are identified through a narrative interpretation of the Maryland Biological Stream indices
- High Quality Streams are classified as Tier II streams
  - Project that may impact Tier II streams may be subject to a Tier II review



# Triennial Review of Water Quality Standards

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- States and authorized tribes are required under the Clean Water Act to review and , if necessary, revise their water quality standards once every three years (referred to as the Triennial Review)
- This is the process for how MD makes regulatory changes to designated uses, criteria, and antidegradation regs.
- Revised standards must be approved by EPA
  - Consults with USFWS and NMFS



# Questions

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# Works Cited

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- USEPA. Water Quality Standards Academy, Basic Course. EPA-823-B-00-005. December 2009
- USEPA. Letter from Denise Keehner (Director of the USEPA Standards and Health Protection Division) to Mr. Derek Smithee (State of Oklahoma Water Resources Board) dated September 5th 2008. Available at: <https://www.epa.gov/wqs-tech/reference-library-water-quality-standards-policy-and-guidance-documents>.



# Major Goals for this advisory committee (handout)

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- Develop Policy for protecting cold/coolwater existing uses in advance of changing the use classification
- Explore the development of a new Designated Use Classification
- Re-evaluate Class IV Recreational Trout Waters designation
- Develop a process for conducting a Use Attainability Analysis (UAA)



# Task 1

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## **Develop MDE policy for protecting streams with cold or coolwater species in advance of changing the use classification.**

- Will provide more timely communication of important information with various authorities and stakeholders
- Clarify the process for all parties involved



# Management scenarios

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- Stream A
  - Reproducing trout population or cold water obligate benthic species present
  - Data available showing that stream meets Use Class III temperature and DO criteria
  - **Result: Stream re-designated to Use Class III during subsequent Triennial Review**
  - **Question: But what actions should be taken in the interim to protect resources?**



# Management scenarios

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- Stream B
  - Reproducing trout population or cold water obligate benthic species present
  - Temperature data show that stream does not meet Class III coldwater criteria
  - **Question: What actions should be taken to protect resources?**



# Management scenarios

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- Stream C
  - Reproducing trout population or cold water obligate benthic species present
  - No temperature data available
  - **Question: What actions should be taken to protect resources?**



# Major Items for Discussion

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- Notification Procedures – the who, what, when, and how
- Materials to be provided
  - Mapping
  - website
- Spatial Scale
- Protection Mechanisms
  - Permits
  - Timing – along the permitting process