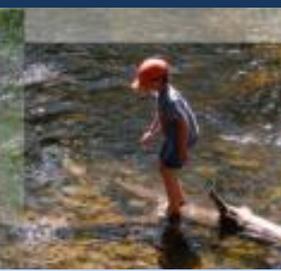
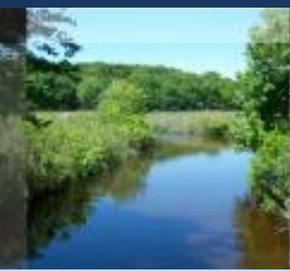




Connecticut Department of Energy and Environmental Protection



Connecticut Department of
**ENERGY &
ENVIRONMENTAL
PROTECTION**

Connecticut Water Quality Standards: 2019 Review and Request for Public Input

March 13, 2019

Presented by Traci Iott

WQS Triennial Review Public Meeting



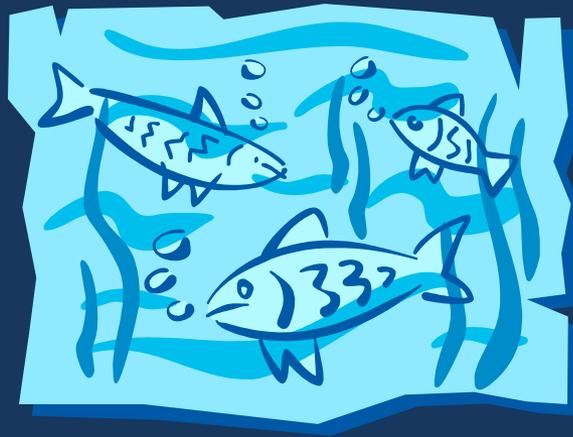
Connecticut Department of Energy and Environmental Protection

Presentation Overview

- Background on CT Water Quality Standards
- 2019 Triennial Review Process
- Other Public Participation Opportunities



WATER QUALITY STANDARDS: BACKGROUND INFORMATION



CT Water Quality Standards

❖ An Act Concerning the Elimination of Pollution of the Waters of the State, [Public Act No. 57](#), is passed by the General Assembly of Connecticut.



❖ First CT Water Quality Standards are established.

1967

- 18 revisions
- 1980: ground water standards established
- 2011: Change in state law required conversion of WQS to regulations
- 2013: current standards adopted



Why are WQS Important?

- Protect and restore the quality of the surface waters
- Identify water quality problems
- Support efforts to achieve and maintain protective water quality conditions within various regulatory programs



Water Quality Standards & Classifications

- Designated Uses & Classification

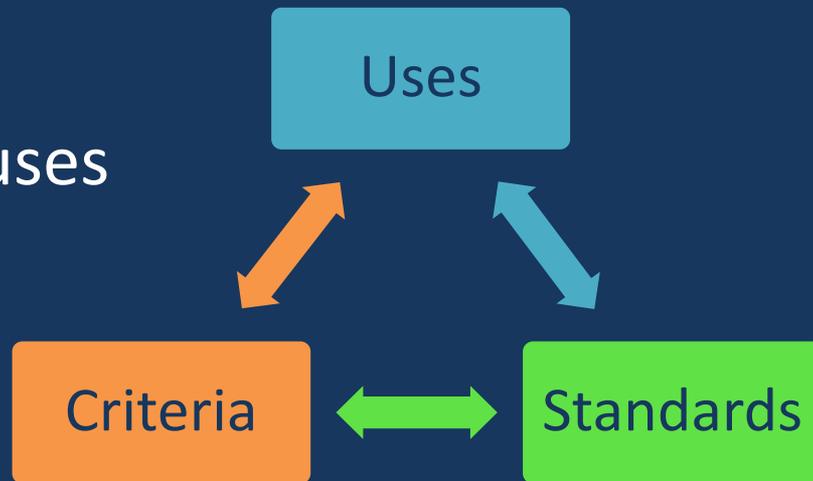
- Establishes existing and designated uses by class
- Assignment of designated uses to specific waters

- Standards

- Overall Goals & Policies

- Criteria

- Narrative & numeric criteria to sustain the use
 - chemical, physical, biological



Designated Uses



Surface Water

- Healthy aquatic life and wildlife habitat
- Recreation (Fishing & Swimming)
- Fish and Shellfish Consumption
- Drinking Water
- Industrial & Agricultural Supply
- Waste Assimilation
- Navigation

Ground Water

- Drinking Water Supply
- Base flow for Surface Water Bodies
- Industrial & Agricultural Supply
- Waste Assimilation



Designated Uses & WQ Classifications

Designated Uses & Water Quality Classifications for Surface and Ground Waters											
Uses	AA	A	B	Uses	SA	SB	Uses	GAA	GA	GB	GC
Existing Drinking Water Supply	Blue			Shellfish harvesting for direct consumption	Green		Public Drinking Water - Existing	Orange			
Potential Drinking Water Supply	Blue	Blue		Commercial shellfish harvesting		Green	Public Drinking Water - Potential	Orange	Orange		
Habitat for fish, aquatic life & wildlife	Blue	Blue	Blue	Habitat for marine fish, aquatic life & wildlife	Green	Green	Private Drinking Water - Existing or Potential	Orange			
recreation	Blue	Blue	Blue	Recreation	Green	Green	Basefor for Hydraulically Connectedd Surface Waters	Orange			
water supply of industry & agriculture	Blue	Blue	Blue	Industrial Water Supply	Green	Green	water supply of industry & agriculture	Orange			
							Drinking Water with Treatment			Orange	
							Waste Assimilation				Orange



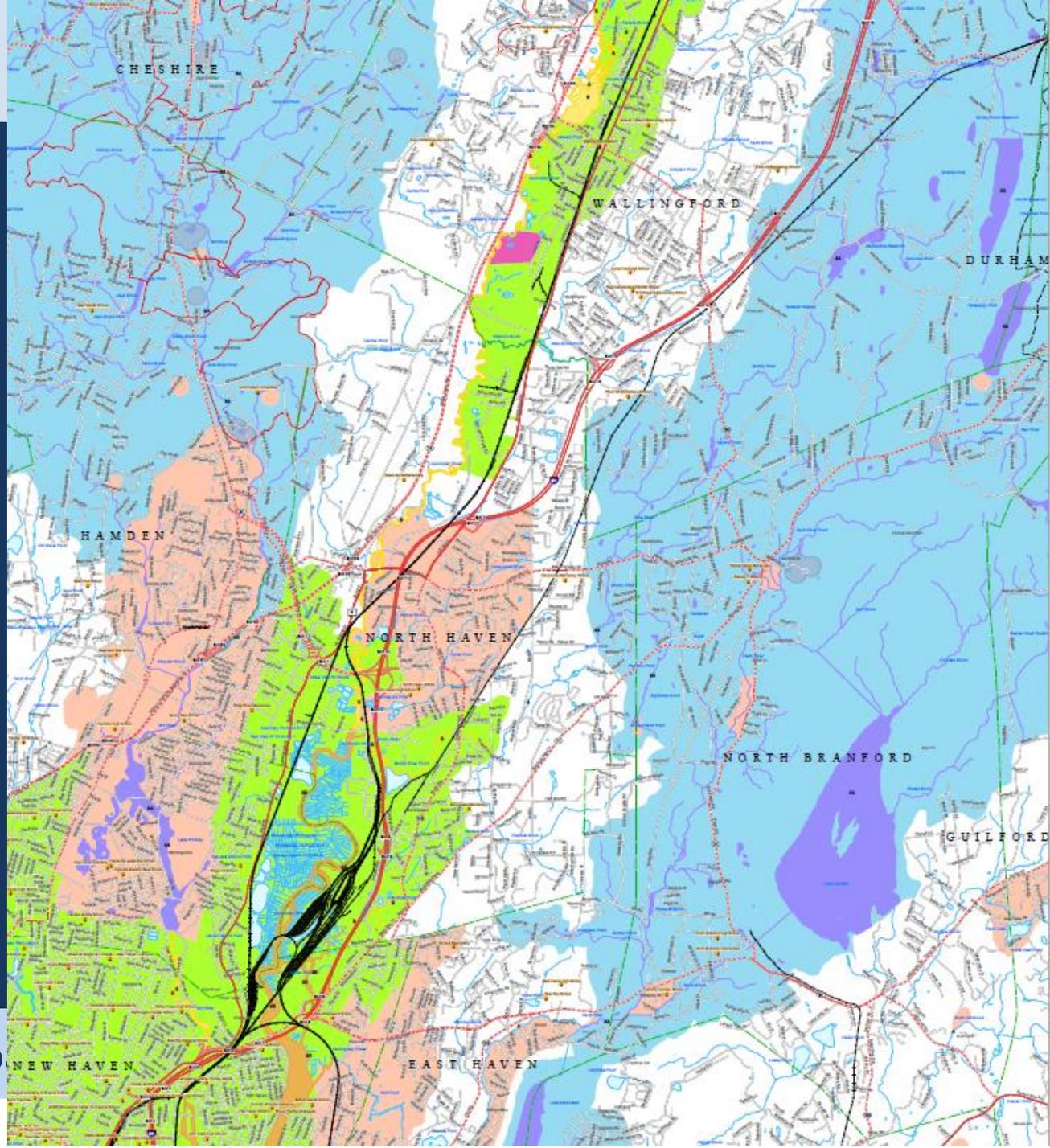
WQ Classification Maps

SURFACE WATER QUALITY CLASSES



NOTES:
Surface Water Classifications beginning with Under or Over and State Surface Water B⁺ or a subset of Class B, where no other water quality designations are allowed other than those consistent with Class AA, A and SA surface water.

GROUND WATER QUALITY CLASSES



Structure of CT WQS

WQS Regulations	
426 Sections	Regulation Title
1	Definitions
2	Short Title & Description
3	Purpose Goals & Applicability
4	Surface Waters
5	Biological Gradient Model
6	Lake Trophic Category
7	Ground Waters
8	Antidegradation Standards and Antidegradation Implementation Procedures
9	Environmental Criteria



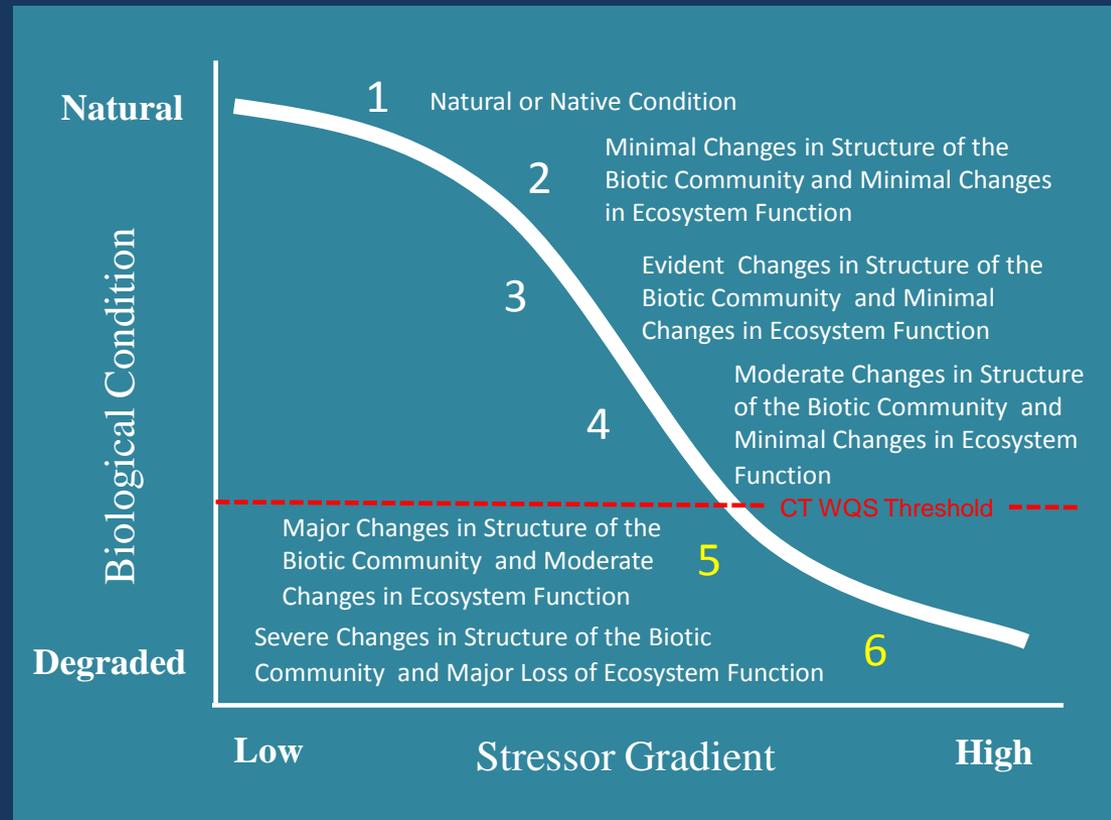
Surface Waters

- Requirements for discharges
- Dredge material disposal
- Best Management Practice requirements for nutrients, nonpoint sources and pesticide application
- Allocation of surface waters for mixing and assimilation
- Prevention of toxic impacts
- Low flow considerations



Biological Condition Gradient Model

- A model which relates the level of environmental stress (physical, chemical or biological) to water quality
- Supports assessment and evaluation of environmental conditions



Lake Trophic Status

- Defines trophic categories for lakes
 - Relates to level of biological productivity
 - Includes consideration of aquatic plant abundance
- Identifies conditions associated with each trophic level
 - Total Nitrogen
 - Total Phosphorous
 - Chlorophyll A
 - Secchi disk transparency



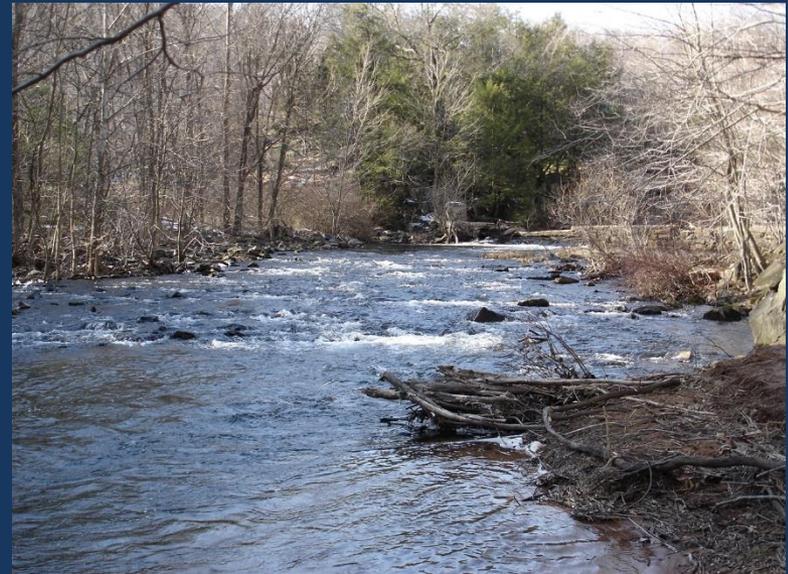
Ground Waters

- Protection of drinking water resources
- Protection of natural quality of certain ground waters
- Requirements for discharges
- Allocates soil & GW for treatment and assimilation of pollutants
- Requirement that ground water quality support surface water uses

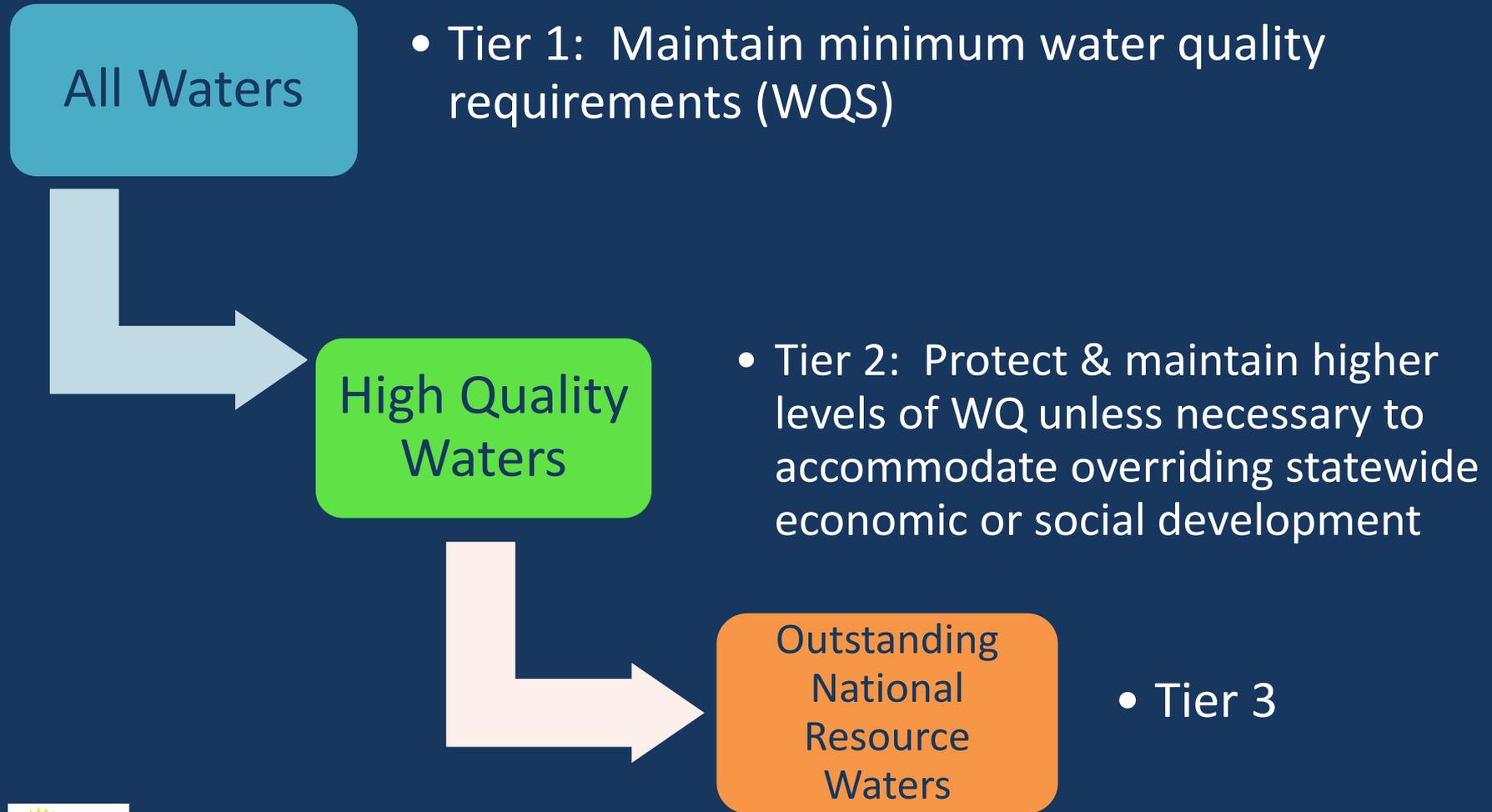


Antidegradation Policy

- Protection of Designated Uses
- Protection of water quality in waters with high quality
- Maintain at existing high quality unless there is an overriding statewide social or economic need
- Implementation Requirements



Antidegradation Implementation Tiers



Surface Water Quality Criteria

- Narrative Criteria

- Aesthetics
- Solids
- Bacteria
- Taste & Odor
- Temperature
- pH
- Chemical Concentrations
- Biological Condition
- Toxics

- Numerical Criteria

- Dissolved Oxygen
- Bacteria
- Temperature
- Toxics



Ground Water Quality Criteria

- Narrative Criteria
- Linked to Remediation Standard Regulations
- GAA & GA Areas
 - Criteria is set at natural conditions
 - Dissolved oxygen, chemicals, oil and grease, color turbidity, taste and odor and bacteria
 - Protect Surface Water Uses
- GB Areas
 - Protect Surface Water Uses
 - Protect other existing uses including drinking water as applicable
- GC Areas
 - Case by case determination
 - Allows for waste assimilation



Classification Process

- Classification links water body to designated uses
- WQS provide for classification & amendment process
- Through statutory (22a-426) public process
- Specific class definition must be met and protect existing and proposed uses of water
- Consider Antidegradation Provisions
- Consider down-gradient areas/uses





Use of Water Quality Standards in Environmental Programs



Connecticut Department of Energy and Environmental Protection

Federal and State Requirements

State & Federal Requirements

Incorporates Risk-based decision making

Federal
CWA,
CERCLA &
RCRA

State
Statutes

- Environmental Goals
 - WQ Standards
- Implementation Regulations
 - Remediation Standard Regulations
 - Coastal Permitting Program
 - NPDES Permitting Program

Meet
Environmental
Goals



WQS Changes & Existing Regulations

- Changes in the WQS do not change other currently adopted state regulations or currently issued permits & authorization
 - WQS provide support to regulatory programs
 - Existing regulations or authorizations do not change “automatically” by revision of the WQS
 - Changes to existing regs or permits would need to follow procedures for revising and updating

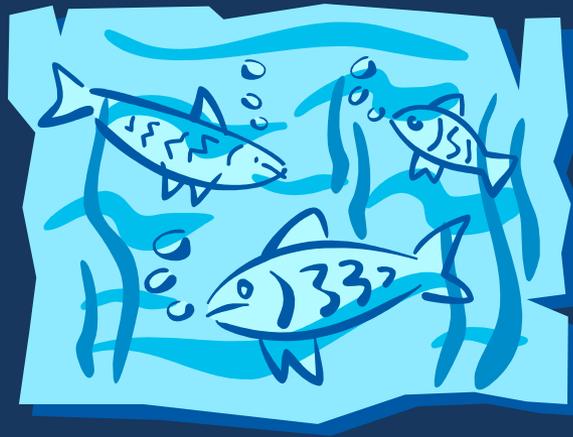


Examples: DEEP Decisions Influenced by WQS

- Acceptability of a discharge to a specific water resource
- Siting a landfill
- Type of remediation and priority for the cleanup of hazardous waste sites
- Prioritization of improvements/funding of municipal sewerage systems
- Water Quality Certification for federally permitted activities resulting in a discharge to a surface water resource
- Evaluation of water quality for monitoring, assessment & watershed planning



WATER QUALITY STANDARDS: TRIENNIAL REVIEW



Water Quality Standards & the Law

- Adoption and periodic revision of Water Quality Standards is required by both federal and state law
 - Section 303 of the Federal Clean Water Act
 - Section 22a-426 of the Connecticut General Statutes



WQS Triennial Review



Know Your H₂O

Connecticut's Triennial Review

Every three years, Connecticut reviews our Water Quality Standards to determine if revisions are necessary. The State requests public input during this time while reviewing the current standards.

**Changing Water
Quality**

Changes by EPA

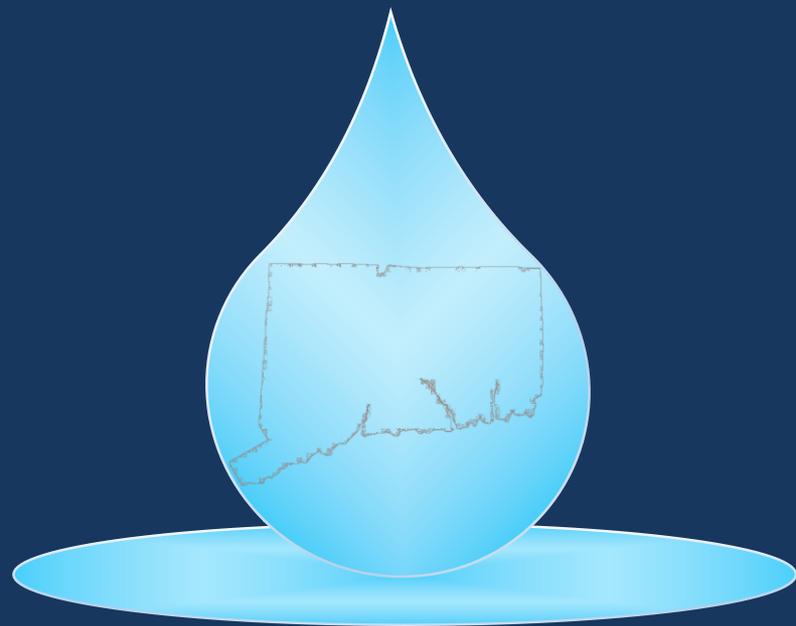
**New Scientific
Information**



Connecticut Department of Energy and Environmental Protection

2019 Triennial Review

- March 4 – April 5, 2019
- Identified topics being evaluated by DEEP
- Requesting public comments on any aspect of the WQS
- No formal proposal to make changes at this time
- Triennial Review informs potential future changes



Water Quality Criteria Review

State and authorized tribal criteria

MUST

Be based on
sound scientific
rationale

Contain
sufficient
parameters or
constituents to
protect the
designated use

Support the
most sensitive
designated use
of the water
body

- Detailed review of Water Quality Criteria
- Focus on EPA recommendations since 2011



EPA Updates to Numeric WQC

Aquatic Life Criteria Updates

- Aluminum (FW)
- Ammonia (FW)
- Cadmium
- Carbaryl
- Selenium (FW)
- Updated Toxicity Information (all)
- Updated Model (AI)
- Inclusion of fish tissue criteria (Se)

<https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table>



EPA Updates to Numeric WQC

Human Health Criteria Updates

- Toxics
 - 94 Chemicals
 - Updated Exposure Inputs
 - Updated Toxicity Values



<https://www.epa.gov/wqc/2015-epa-updated-ambient-water-quality-criteria-protection-human-health>

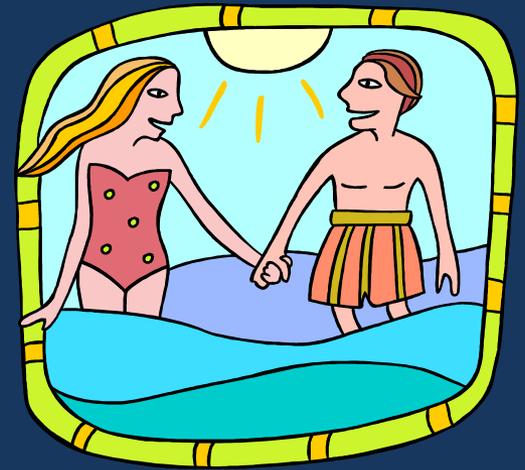


Connecticut Department of Energy and Environmental Protection

EPA Updates to Numeric WQC

Human Health Criteria Updates

- Recreational Criteria
 - Updated research and science
 - Use of different statistical measures



<https://www.epa.gov/wqc/2012-recreational-water-quality-criteria-documents>



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Stream Flows

- Water Quality Standards apply to surface waters under minimum flow conditions within the waterbody
- 7Q10 flow
- Minimum flows for tidal waters based on low tide unless otherwise approved



Considering change for fresh water low flow to annual Q99 flow



Stream Stats

lott, Traci - Outlook Web App x 2012 Recreational Water Quality x StreamStats x StreamStats x +

https://streamstats.usgs.gov/ss/

USGS StreamStats Report About ? Help

SELECT A STATE / REGION

Step 2: You have zoomed in sufficiently to select a state or regional study area. Your selection will dictate the data used to perform basin delineation and flow statistics calculation.

Click to select a State or Regional Study Area

- Connecticut
- Massachusetts
- New Jersey
- New York
- Rhode Island
- Connecticut River Basin

Exploration Tools

Layers

Zoom Level: 9
Map Scale: 1:1,155,581
Lat: 42.1532, Lon: -72.8613

7:42 AM
3/8/2019

Web-based
GIS
application
developed
and
maintained
by USGS

<https://streamstats.usgs.gov/ss/>

https://pubs.usgs.gov/fs/2006/3129/pdf/FS-2006-3129_StreamstatsCT.pdf

https://pubs.usgs.gov/sir/2010/5052/pdf/sir2010-5052_web.pdf



Connecticut Department of Energy and Environmental Protection

Disinfection Period

- **Current WQS**

- Below I-95: Continuous Disinfection

- Protect Shell fishing Resources

- Above I-95: May 1 – October 1

- Protect sanitary quality for recreation

- **Anticipated Change**

- Above I-95: Extend Disinfection Season

- Information that recreational activities occurs outside of May 1 – October 1
 - In response to previous public comments



Define Highest Attainable Use

- EPA recommendation
 - If uses of a water body are revised, the highest attainable use for the water body should be established
- Goal
 - Protect designated uses for water body



Downstream Protection

- Federal regulation requires that water quality in downstream waters be protected and maintained
- EPA recommends adopting criteria to ensure this protection



WQ Classification Maps

- Evaluating consistency between water body classifications and uses
 - Ground Water
 - Insure that aquifer protection areas are classified for drinking water use
 - Marine Waters
 - Insure that classification is consistent with shell fishing designations



Water Quality Standard Process



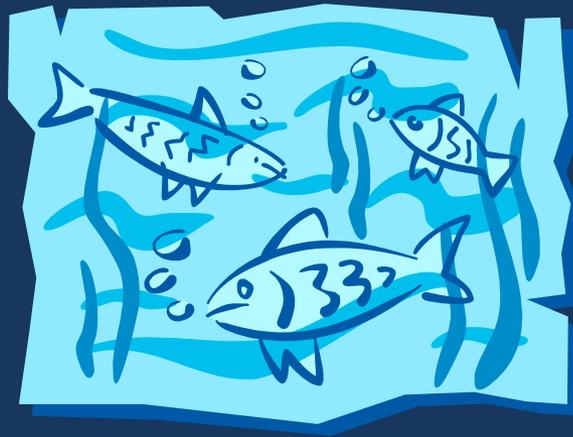
Public Participation Opportunity

- **Triennial Review of the Water Quality Standards**
 - When: March 4, 2019 – April 5, 2019
 - Public Meeting: March 13 @ 1:30 PM
- **Public Interest:**
 - Public participation allows public & stakeholders to influence policies and criteria that drive WQ-related actions in CT

March 2019

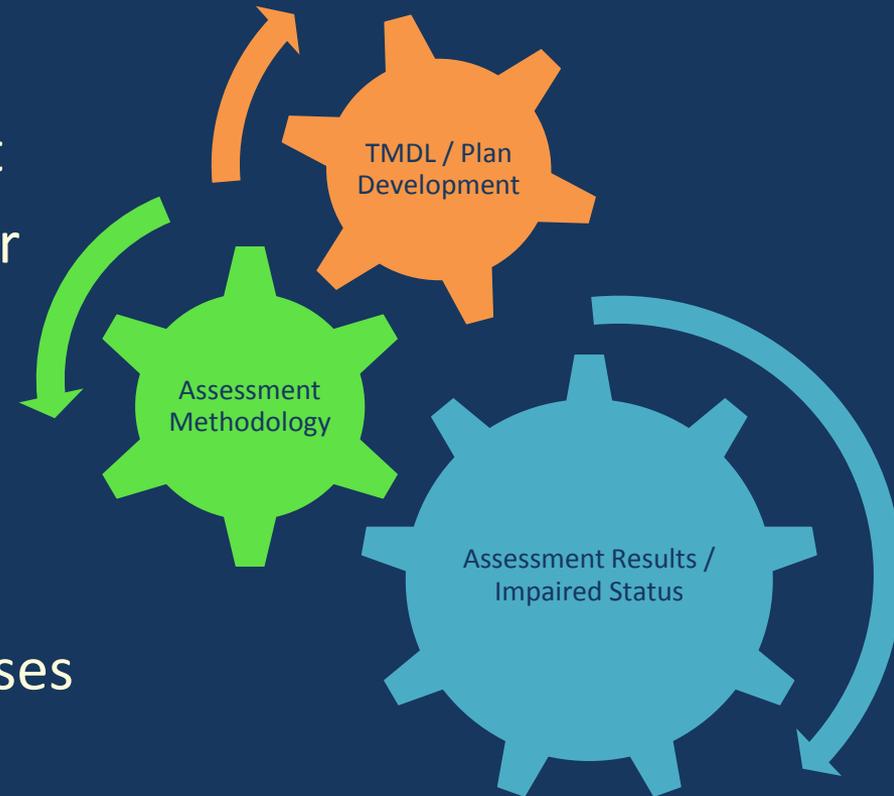


WATER QUALITY STANDARDS: OTHER PUBLIC INPUT OPPORTUNITIES



Integrated Water Quality Report

- **What:**
 - Integrated Water Quality Report
 - Required by Federal Clean Water Act
- **Purpose:**
 - Communicates how the state evaluates water quality and identifies whether designated uses are being met within monitored surface waters. Also identifies waters that have or need WQ plans.



April 2019



Integrated Water Resource Management

- **What:**
 - Integrated Water Resource Management Update
 - Follow up to 2016 public process on Water Quality planning
- **Purpose:**
 - Water quality planning effort to identify water quality issues and associated water bodies for the development of Action Plans to restore or protect water quality



2016 CT Identified WQ Focus Areas

May/June 2019



Stay Current on WQ Issues

- Sign Up for [Water Quality Planning ListServ](#)
- Information on WQ based programs at CT DEEP, such as
 - Water Quality Standards
 - TMDLs
 - Monitoring & Assessment
 - Watershed Management
 - 319 Grant Program
 - Aquifer Protection

Stream Flow



Learn More About WQS



- Interactive web-based platform & mapping tool
- On DEEP [Water Quality Standards Web Page](#)



Important Dates & Web Pages

- Public comment periods will be announced via email, DEEP website and ListServ
- Public meetings will be scheduled as part of each comment period
- Comments will be accepted via email or in writing

Important Public Participation Dates	Date
Water Quality Standards Triennial Review	March 2019
Integrated Water Quality Report Public Comment	April 2019
Integrated Water Resource Management	May/June 2019

Water Quality Web Page: www.ct.gov/deep/waterquality

Water Quality Standards: www.ct.gov/deep/wqsc

Integrated Water Quality Report: www.ct.gov/deep/iwqr

Integrated Water Resource Management: <http://www.ct.gov/deep/iwrm>



Questions

2019 Water Quality Standards Triennial Review

Public comments accepted through April 5, 2019

Submit Comments to:

DEEP.WQS@ct.gov

Traci Iott

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Supervising Environmental Analyst

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