



**TRIENNIAL REVIEW  
2023 – 2025  
PUBLIC HEARING  
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY**

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# OUTLINE

- Triennial review (TR)
  - Overview
  - Process
  - Timeline
  - Topics
- Questions and comments

# TR OVERVIEW

## Definition and purpose

- Assess, develop, update/revise water quality standards (WQS)
- Designated uses
- Water quality criteria
- Antidegradation

## Justification

- Federal mandate – Clean Water Act (CWA), Section 303(c)
- Illinois EPA mission

Periodic effort – every three (3) years

# ILLINOIS EPA TR PROCESS

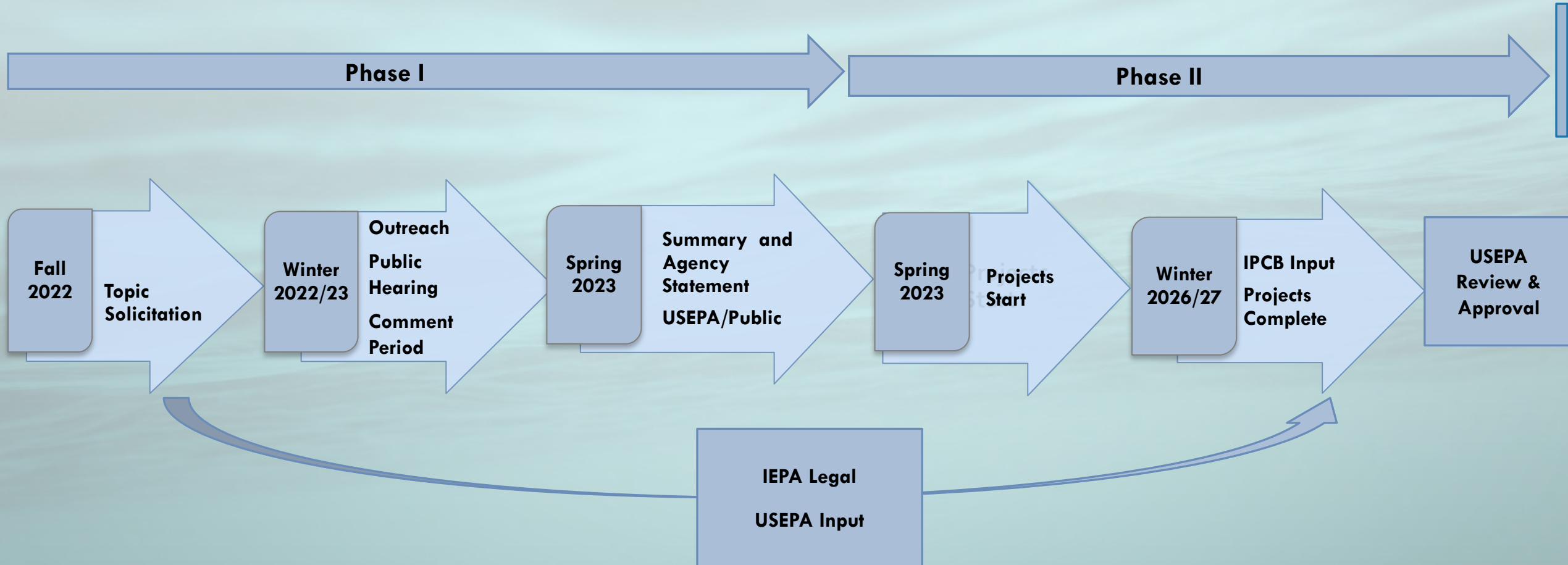
## Phase 1

- Internal topic suggestions and rankings
- Public notification, hearing, and comments
- Finalize priorities and submit to USEPA

## Phase 2

- Propose relevant WQS to the Illinois Pollution Control Board (IPCB) (3 years)
  - Subject to Illinois EPA resources
- USEPA review and approval

# TENTATIVE TR TIMELINE



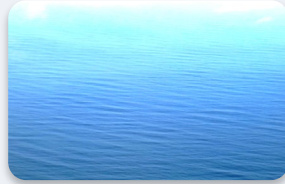
# WHAT IS THE TR?

An opportunity to revise or develop WQS or related guidance for Illinois' surface waters

Occurs every 3 years

Required of states by Section 303(c) of CWA

# PURPOSE OF THE TR



## Protect

- Illinois waters



## Gain

- valuable input from stakeholders



## Develop

- work-plan for projects



## Meet

- federal requirements set by CWA

# CWA SECTION 303(C) TR REQUIREMENTS

- Solicit public suggestions for WQS additions/revisions
- Review statewide provisions
- Select specific waterbodies to review
- Evaluate designated uses of water bodies
- Evaluate WQS
- Evaluate antidegradation



# TOPIC RANKING FORM

- An online survey form to gather public input (you can only take the survey once.)
- From list of topics on online survey form
  - Rank the topics you believe should be Illinois EPA's highest priorities
    - The Agency's intent is to select three (3) topics
    - Some topics on the form will have an option to explain your choice and provide additional information on the form
- The Agency will prioritize projects for the next three years based on:
  - Public input gathered
  - External partners' input
  - Agency needs

# DESIGNATED USES

- General Use
- Lake Michigan
  - Open Waters
  - Lake Michigan Basin Waters
- Upper Dresden Island Pool
- Chicago Area Waterway System Aquatic Life Use A
- Chicago Area Waterway System and Brandon Pool Aquatic Life Use B
- Secondary Contact (Bubbly Creek)

# ONGOING AGENCY PROJECTS

- Nutrients – Illinois EPA’s current plan to reduce nutrients in the environment
  - Facilities must meet effluent limit of 0.5 mg/L for phosphorus by 2025, 2030, and 2035 depending on nutrient removal methodology applied
    - if by chemical addition – 2025
    - if by biological removal – 2030
    - if by biological nutrient removal (total nitrogen will receive a goal) – 2035
  - Facilities upstream of an impairment will receive a nutrient assessment and reduction plan (NARP) special condition in their permit
    - NARP will act as a site-specific WQS for phosphorus
  - Non-point reductions
- Ammonia – The Agency is working on Multi-discharger Variance for small facilities

The background of the slide is a light gray gradient. It is decorated with several realistic water droplets of various sizes, some clustered in the top-left and bottom-right corners, and others scattered throughout. The droplets have highlights and shadows, giving them a three-dimensional appearance.

## POTENTIAL TOPICS (NEXT 3 YEARS)

# ADDRESS DISAPPROVALS FOR CAWS (R2008-009(A))

Background - USEPA Region 5 disapproved designated uses for four waterbody segments in Illinois' Chicago Area Waterway System (CAWS)/Recreation rulemaking:

1. Upper North Shore Channel (from the Wilmette pumping station to northside water reclamation plant)
  - Previous designation was General Use
  - IPCB revised General Use designation providing for “recreation in and on water” to Incidental Contact Recreation
  
2. Calumet River (from Lake Michigan to the O'Brien Lock and Dam)
  - Previous designation was General Use
  - IPCB revised General Use designation providing for “recreation in and on water” to Incidental Contact Recreation and Non-contact Recreation for different sections.

# ADDRESS DISAPPROVALS (R2008-009(A)) (CONT'D)

3. Chicago Sanitary and Ship Canal (CSSC) from its confluence with the Calumet-Sag Channel to its confluence with the Des Plaines River, and
4. Lower Des Plaines River (LDPR) from its confluence with the CSSC to the Brandon Road Lock and Dam
  - CSSC and LDPR were previously designated Secondary Contact Recreation Use
  - IPCB removed Secondary Contact Recreation Use designation for these two waterbody segments and designated them as “Non-recreation Waters”
- Illinois EPA could reevaluate USEPA’s disapprovals of the designated uses of the four stream segments to
  - assign approvable designated uses
  - remove the “Non-recreation Waters” category from Agency Rules



# HARMFUL ALGAE BLOOM (HABS) WQS

- Illinois does not currently have any WQS for HABS or algae toxins
- The Agency could adopt WQS for algae toxins to:
  - protect human health (recreation and drinking water), and
  - aid preparation of the integrated report



# UPDATE SUBPART F: PROCEDURES FOR DETERMINING WATER QUALITY CRITERIA

- Subpart F is more than 30 years old
  - Found at 35 Ill. Adm. Code 302.210
  - Procedures for determining water quality criteria for parameters that do not have established WQS is obsolete
  - Apparent in the evaluation of Per- and Polyfluoroalkyl Substances (PFAS) parameters
    - Values derived with the current Subpart F procedures are not protective
  - Updates to Subpart F will ensure criteria derivation based on latest science, federal policies and guidelines

# PFAS WQS

PFAS are a broad class of manufactured organic chemicals that are diversely used in consumer goods and industrial products

- In use since the 1940s
- Water-, grease-, oil-, and heat-resistant properties contribute to widespread use
- Members of chemical class include perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS)
- PFAS are contaminants that have received a lot of attention due to their:
  - ubiquitous nature
  - environmental persistence
  - public health impact
- USEPA is proposing to issue surface water criteria to protect Human Health by the end of 2024

# EVALUATE DESIGNATED USES

- The CWA requires reevaluation of designated uses that do not meet its **“fishable/swimmable” goals**
- Illinois waterways with designated uses that do not meet the Act’s “fishable/swimmable” goals include:
  - Chicago Area Waterway System (CAWS) including the Lower Des Plaines River (LDPR) aquatic life use designations and non-primary contact designations
- If you believe that the designated uses need to be evaluated, please state the designated use to be evaluated and the water body with location and explain your choice

# REEVALUATE DESIGNATED USE OF SOUTH FORK OF CHICAGO RIVER (BUBBLY CREEK)

- Evaluate designated uses
  - South Fork of the South Branch of Chicago River (Bubbly Creek)

## Background:

- When IPCB evaluated the CAWS waterways, the US Army Corps of Engineers had a project under consideration to perform a habitat restoration on Bubbly Creek
- IPCB, as a result, decided to leave Bubbly Creek as an Indigenous Aquatic Life Use water until after the US Army Corps of Engineers completed the habitat restoration to ensure a correct evaluation of the designated use
- The habitat restoration planning is still ongoing, and the Agency is not aware of a reason to reassess Bubbly Creek
- If you have new information about Bubbly Creek that necessitates its reassessment, please provide it

# UPDATE CHLORIDE WQS (EPA 440/5-88-001)

- The current WQS for chloride is 500 mg/L
- USEPA has issued a chloride criteria document with an acute (860 mg/L) and chronic (230 mg/L) criteria
  - Illinois has not adopted the recommended criteria
- USEPA is working on an ions criteria

# UPDATE SELENIUM WQS (EPA-R-21-006)

## Background:

- The current WQS for selenium is 1.0 mg/L in Illinois
- USEPA has issued a selenium criteria document that includes fish tissue criterion with:
  - an option of a monthly average of 1.5 ug/L in lentic (lake) aquatic systems and
  - 3.1 ug/L in lotic (stream) systems
- Illinois EPA could update Illinois WQS for selenium based on USEPA criteria
  - An update will entail the removal of species that are not relevant to the state, such as Salmonids, from the USEPA dataset

# UPDATE COPPER WQS TO BIOTIC LIGAND MODEL (EPA-822-R-07-001)

## Background:

- Illinois EPA currently has a copper WQS that is based on hardness
- USEPA has developed the copper biotic ligand model (or BLM)
  - The copper BLM uses 10 water quality parameters to define toxicity to aquatic life
- Illinois EPA could update its copper WQS to the BLM

# ADOPT ARSENIC TO PROTECT HUMAN HEALTH

## Background:

- Illinois has adopted WQS for arsenic to protect the Aquatic Life Use
- The state's current WQS for arsenic are:
  - an acute (0.36 mg/L), and
  - a chronic (0.19 mg/L) criteria
- USEPA has issued an arsenic criteria document with a human health criteria of approximately 0.018  $\mu\text{g/L}$  (0.000018 mg/L)
- Illinois EPA could adopt arsenic human health criteria for the state
  - Doing so may entail the removal of species that are not relevant to Illinois, such as Salmonids, from the USEPA dataset



# UPDATE WQS FOR ARSENIC, CHROMIUM (TRIVALENT, DISSOLVED), AND SILVER

- Update WQS for three parameters:
  - Arsenic (EPA-820-B-96-001)
  - Chromium (trivalent, dissolved) (EPA-820-B-96-001)
  - Silver (EPA 44015-80-071)
- These three parameters were updated in the CAWS rulemaking in R2008-009(D) and could, therefore, be adopted for General Use waters
- The current General Use WQS for arsenic:
  - acute (0.36 mg/L) and chronic (0.19 mg/L), and
  - for the CAWS WQS, acute (0.34 mg/L) and chronic (0.15 mg/L)

# UPDATE WQS FOR ARSENIC, CHROMIUM (TRIVALENT, DISSOLVED), AND SILVER (CONT'D)

- Current General Use WQS for chromium (trivalent, dissolved) are:
  - acute\* (1.7365 mg/L) and chronic\* (0.2070 mg/L), and
  - for the CAWS WQS, acute (1.803 mg/L)\* and chronic (0.0862 mg/L)\*
- Current General Use WQS for silver are:
  - 0.005 mg/L, and
  - for the CAWS WQS, (0.0034 mg/L)\*

\*Note: WQS is dependent on hardness

- A hardness of 100 mg/L as CaCO<sub>3</sub> was used for these values

# ADOPT ALUMINUM WQS

Aluminum (EPA-822-R-18-001)

- The USEPA's criteria is dependent on:
  - pH
  - Hardness
  - DOC
- Acute WQS for aluminum (USEPA): 1 – 4,800  $\mu\text{g}/\text{L}$
- Chronic WQS for aluminum (USEPA): 0.63 – 3,200  $\mu\text{g}/\text{L}$

Illinois EPA could adopt these aluminum WQS

# UPDATE PATHOGEN WQS FROM FECAL COLIFORM TO E. COLI

- Current fecal coliform WQS in Illinois:
  - 400 CFU/100 ml to protect recreation
- USEPA recommendations:
  - Replace fecal coliform criteria with *Escherichia coli* (E.coli) criteria
  - An equivalent of the E. Coli criteria is 126 CFU/100 ml

# INVESTIGATE EMERGING CONTAMINANTS

- Potential emerging contaminants
  - 6ppd-quinone (rubber crumbles)
  - Microplastics
  - Neonicotinoids
- If you believe that the Agency needs to investigate any of the above-listed emerging contaminants, please identify the contaminant

# EVALUATE ANTIDegradATION RULES

- The CWA requires that the antidegradation rules be **evaluated**
  - The antidegradation rules can be found at 35 Ill. Adm. Code 302.105
  - However, the Agency does not currently have proposed changes
  - If you believe that the antidegradation rules should be updated, please clearly specify and explain what you believe needs updated

# PROPOSE UPDATES/ADOPT LAKE NUMERIC NUTRIENT CRITERIA

## Background:

- The current WQS for Phosphorus in Lakes greater than 20 acres is 0.05 mg/L in Illinois
- USEPA has issued a Lake Numeric Nutrient Criteria document that includes phosphorus and total nitrogen criterion. Using the default chlorophyll and certainty setting, and changing the depth and DOC concentrations (<https://nsteps.epa.gov/apps/tp-tn-chl/>), the LNNC predicts that:
  - Phosphorus could range between 0.036 mg/L and 0.109 mg/L depending on depth of the lake
  - Total Nitrogen could range between 0.33 mg/L and 2.0 mg/L depending on dissolved organic carbon concentration in the lake

# OTHER

- Other (explain):
  - Please include any other water quality-related topics or issues that are not included on the topic list, but that you believe the Agency should consider
  - Please explain the topic or issue as thoroughly as possible



# YOUR COMMENTS!

- Topic ranking form:
  - [ONLINE SURVEY](#)
- Deadline to submit the form & comments: August 7, 2023
- Reminder:
  - Finalized list of priority topics available in summer/fall 2023
- More public participation opportunities when new or revised standards go through rulemaking

# CONTACT INFORMATION

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