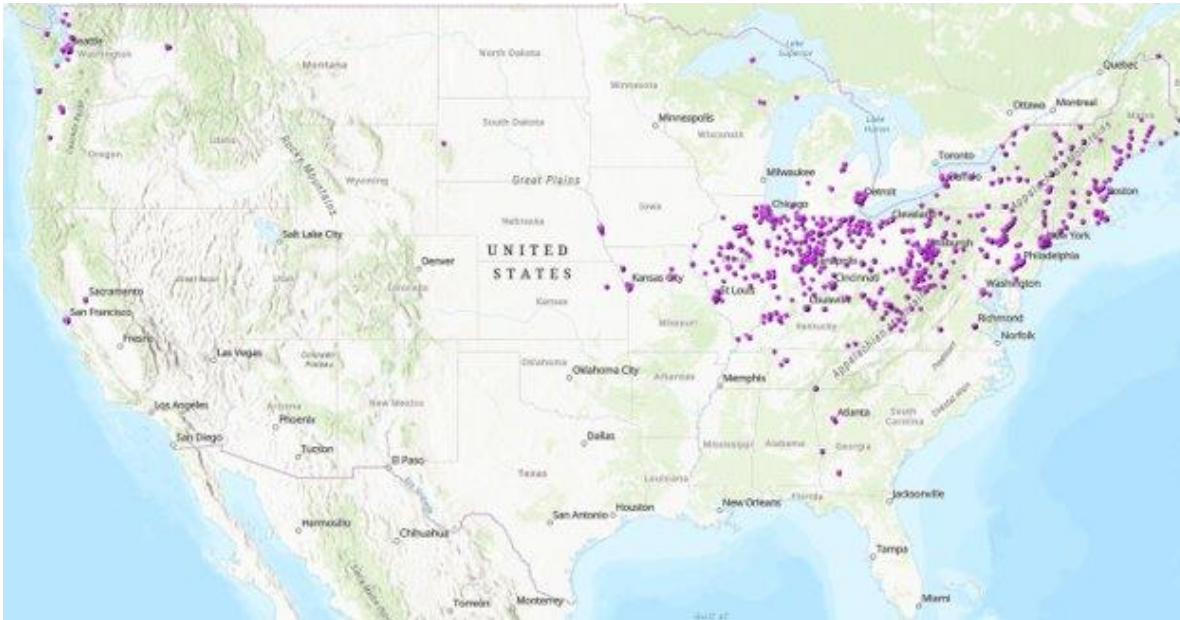


The CSO Landscape in 2024 and Beyond

Deborah G. Nagle, Director
Office of Science and Technology
EPA Office of Water

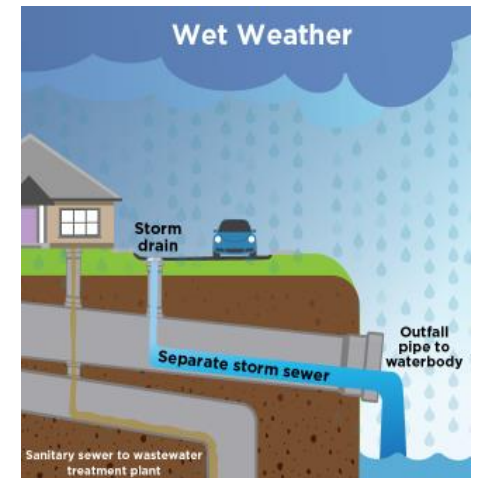
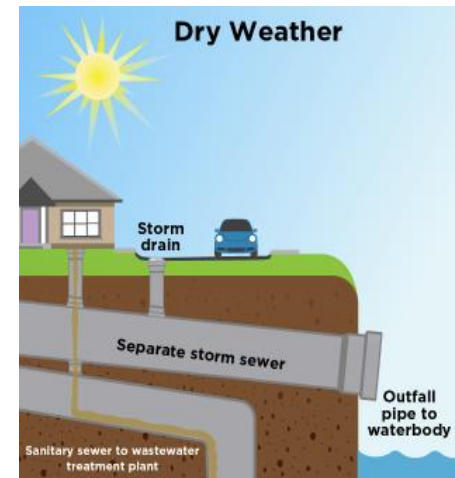
Background

- Approximately 18,000 publicly owned wastewater treatment plants in the U.S.
 - Most communities have *separate* sanitary sewer systems
 - Approx. 700 communities have *combined* sewer systems

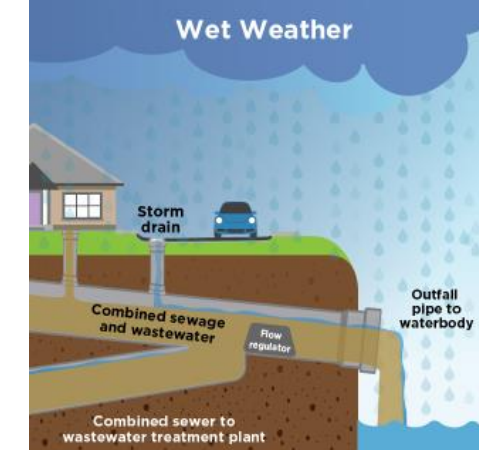
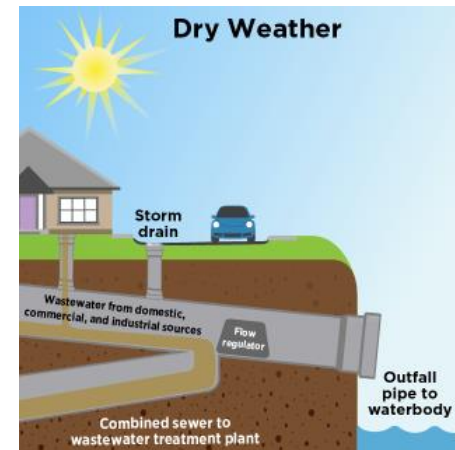


<https://www.epa.gov/npdes/combined-sewer-overflows-csos>

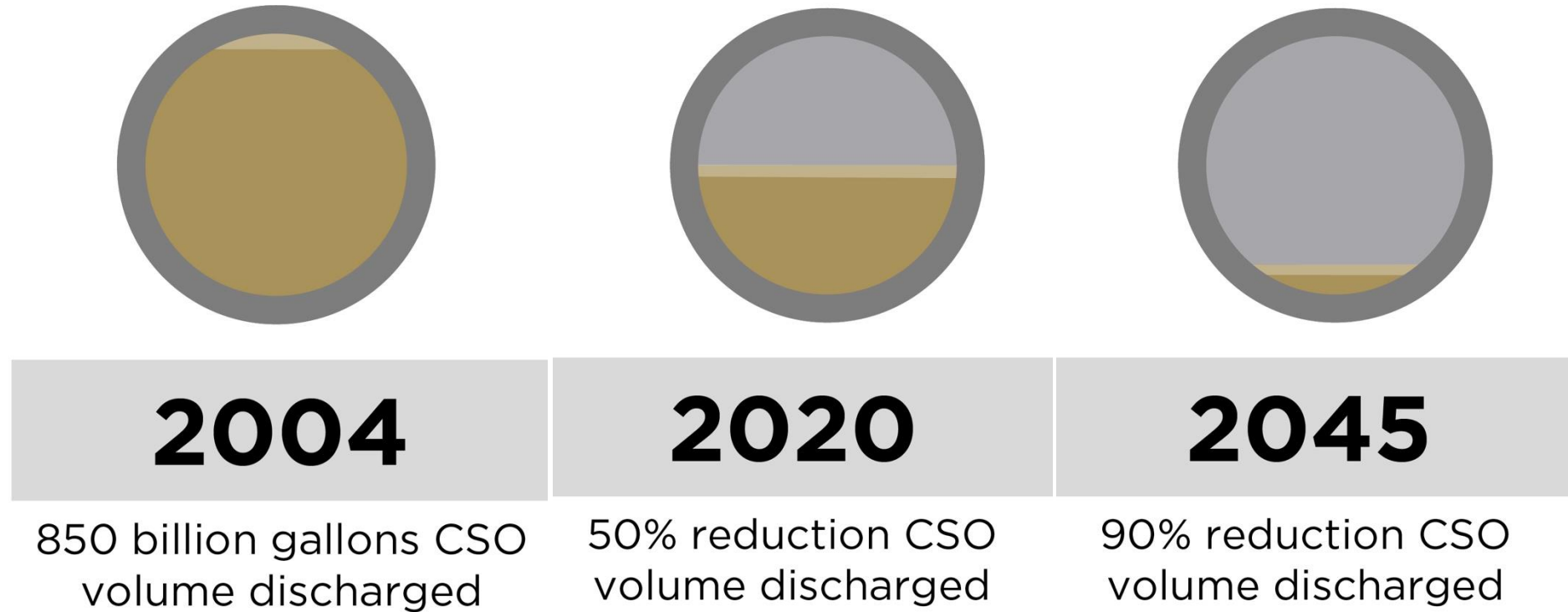
Separated Systems



Combined Systems



Progress



Challenges for CSO Communities

- Complexity
- Water Quality
- Climate Change
- Environmental Justice



Solutions

- Gray infrastructure
- Green infrastructure
- Integrated Planning
- Smart Sewers

Find more: <https://www.epa.gov/npdes/combined-sewer-overflows-csos>



Guidance Development

- [1994 Combined Sewer Overflow Control Policy](#), Clean Water Act, Section 402(q)
- [2012 Integrated Municipal Stormwater and Wastewater Planning Framework](#), Clean Water Act, Section 402(s)
- Both the CSO Policy and the Integrated Planning Framework were developed through stakeholder driven processes
- Guidance followed this collaborative process – EPA engaged with states, the water sector, and NGO over the last four years



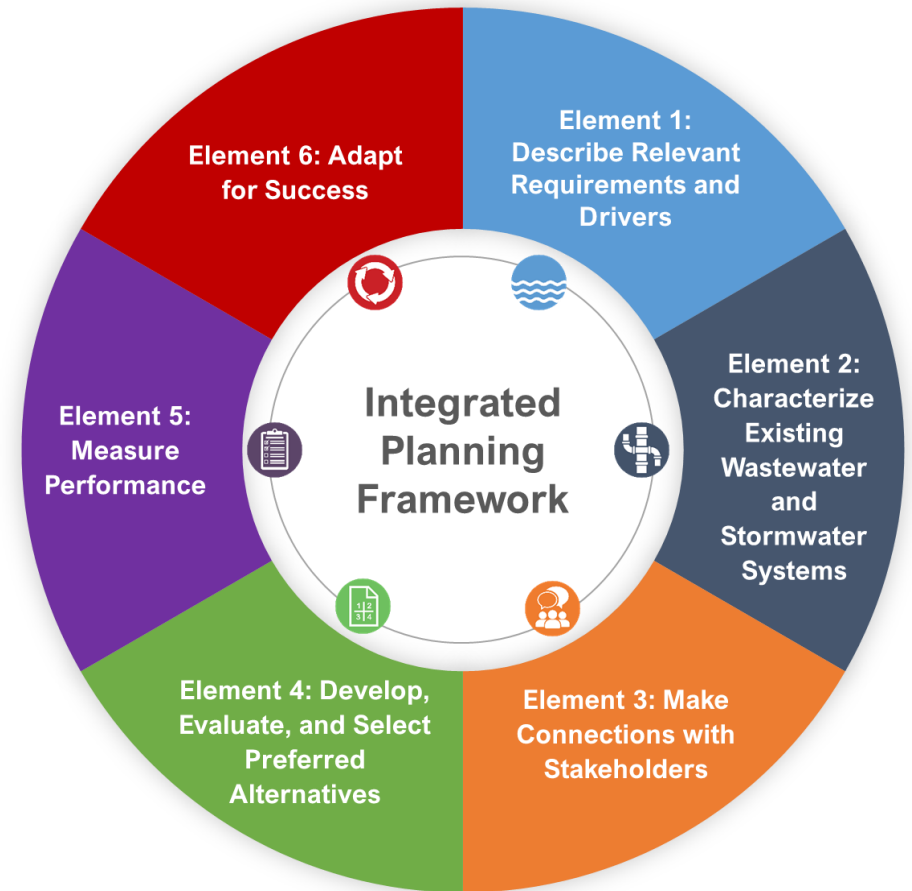
Draft Guidance for Future NPDES Permitting of Combined Sewer Systems



- Draft Guidance explains the interaction of the CSO Policy and Integrated Planning Framework
 - Provides direction to permitting authorities on how to develop the next phase of CSO permits in a transparent, equitable, and resilient manner
 - Identifies acceptable approaches for compliance, including using integrated planning to identify the most cost-effective solutions, as well as, variances, compliance schedules, and temporal use changes
- Timeline:
 - [Federal Register Notice](#) – February 20, 2024
 - Public comment period ended March 21, 2024
 - EPA is currently reviewing comments and revising the draft guidance in response

Integrated Planning Resources

- [Integrated Planning Report to Congress \(2021\)](#) and [Integrated Planning Storymap](#) to showcase successes
- [Fact Sheet Series](#) to develop an integrated plan
- [Permitting Authority Toolkit](#) for States and EPA Regions to guide and collaborate with permittees on integrated planning and incorporate integrated plans in permits – currently piloting
- [Recorded Webinars and Training](#)



Water Quality Standards—Expectations



- States must designate uses for all waters that provide for recreation in and on the water unless they demonstrate that such a use is unattainable (CWA Section 101(a)(2), 40 CFR 131.10)
 - 40 CFR 131.10(g) identifies **six “factors”** that may be used to demonstrate that a use is unattainable
- When revising a designated use, states must adopt the highest attainable use (or condition for variances)

WQS Handbook

- Primary program guidance for the national WQS program.
- Provides a plain language discussion of:
 - The relevant regulatory and statutory requirements; and
 - The EPA's recommendations for how states, authorized Tribes, and U.S. territories can develop and implement WQS consistent with both.
- Winter 2024/2025 - EPA expects to release, for public comment, updated draft WQS Handbook chapters on **Designated Uses** and **Antidegradation** as well as a new chapter on **WQS Variances** to reflect EPA's most recent WQS programmatic policy and guidance to implement Part 131.
- <https://www.epa.gov/wqs-tech/water-quality-standards-handbook>

Factor 6

*...[c]ontrols more stringent than those required by Sections 301(b) and 306 of the Act would result in **substantial and widespread economic and social impact.***

- The EPA's Financial Capability Assessment Guidance (2024) supplements the 1995 Economic Guidance.
- FCA provides additional indicators to consider low-income residents and an updated matrix and recommendations for WQS decisions.
- The EPA updated its spreadsheet tools for the public sector to reflect the revised guidance.

Factor 6

- The FCA did not alter EPA's applicable regulations.
- Factor 6 can still be used as a basis for designated use revisions.
- However, EPA recommends caution in using this factor for designated use revisions because:
 - Recommended analysis does not include a temporal component (i.e., whether economics conditions might change over time in a manner that would allow communities to benefit from higher water quality.)
 - Economic conditions are more likely to be unevenly distributed within a community, impacting certain segments more than others.

Factor 6

- The EPA recommends first determining if any other factors preclude attainment of the designated use.
 - Other factors evaluate conditions less likely to change over time.
 - Other factors tend to impact communities more evenly.
- If pursuing a designated use revisions using Factor 6, the FCA recommends conducting an expanded approach to evaluate economic impacts.
- In addition, the EPA recommends additional analyses.
 - Trend analysis of the Lowest Quintile Poverty Indicator Score over 10-year period to ensure prevalence and severity of poverty is representative.
 - Evaluation of up-to-date economic information, including consideration of future debt capacity.



A Potential Path Forward

- State/Community interest in a path to allow CSO communities that have achieved a high level of control after implementing a LTCP to shift focus away from CSOs to other bacteria sources affecting recreation uses.
- In some cases, further CSO controls would not cause substantial and widespread social and economic impact under Factor 6.
- EPA further explored a novel interpretation of Factor 3 after working through some state specific actions to be able to provide an alternate path forward.
- EPA HQ to EPA Regions Memo - *CSO Temporal Recreational Uses or WQS variances based on 40 CFR 131.10(g)(3) (1/19/24) (i.e., Factor 3 CSO Memo)*

Factor 3

*Human caused conditions or sources of pollution prevent the attainment of the use and ... would cause **more environmental damage to correct than to leave in place***

- Factor 3 CSO Memo identifies one potential path where:
 - a CSO community has achieved or will achieve significant reductions in their CSOs after implementing their approved LTCP, but
 - is unable to comply with the WQBELs necessary to achieve the bacteria criteria for the recreation use for that would be consistent with Factor 3.
- The memo specifically addresses recreational uses impacted by bacteria criteria.

Factor 3 - Foregone Environmental Benefit = “Environmental Damage”



- Implementing additional CSO control projects beyond the LTCP performance objectives would preclude implementation of non-CSO control alternatives.
- These non-CSO control alternatives would provide greater environmental benefit than CSO controls alone by providing increased opportunities for safe recreation.
- Implementing additional CSO controls would forego these greater environmental benefits and thus cause “more environmental damage.”

Factor 3 – Unique Benefits of this Rationale

- Rationale allows communities to shift resources away from additional CSO controls.
- Provides the public with an assurance that shifting resources away from CSOs will still result in a greater environmental and public health benefit by implementing non-CSO controls.
- Allows states and communities to be transparent on the steps they will take to achieve this greater environmental benefit.

Factor 3 – Expected Demonstration

- To demonstrate that it would cause “more environmental damage” to further reduce CSOs beyond the LTCP performance objectives, EPA would evaluate whether the state has demonstrated the following:
 1. **clear and measurable data** show that implementing specified non-CSO control alternatives would have a **greater environmental benefit** to the recreation use than only controlling CSOs,
 2. such **non-CSO control alternatives would not occur** if the community were required to implement **additional CSO controls**, and
 3. the **non-CSO control alternatives will**, in fact, **be implemented** if the EPA approves the WQS revision.

Documenting “Greater Environmental Benefit” from Non-CSO control alternatives

- Could include consideration of reductions to bacteria OR pollutants *in addition* to bacteria, such as nutrients to minimize harmful algal blooms. This combination would increase opportunities for safe recreation in the same geographic area impacted by the CSO.
- Could include environmental benefits gained beyond the CSO impacted water in addition to the immediate receiving water.
- Consider impacts to downstream WQS, sensitive areas, and the length of time to achieve the environmental benefits.
- Recommend leveraging the Integrated Planning process

Demonstrating the Greater Environmental Benefit would be “Foregone”

- The “environmental damage” is foregoing incrementally greater environmental benefits than the benefits of additional CSO controls only.
 - “incrementally greater” = Non-CSO control alternatives are not already required, financially committed to, or otherwise in progress.
- **One option:**
 - Letter signed by same authority transmitting WQS revision providing detailed analysis explaining why implementing the non-CSO control alternative(s) could not occur, as a practical matter, if the community is also required to remedy remaining CSOs beyond the LTCP.

Demonstrating the Non-CSO Control Alternatives Will be Implemented

- Demonstrate that non-CSO control alternatives would, in fact, be implemented if WQS revisions were approved and no further CSO controls required.
- **One option:**
 - Include in the WQS a narrative statement that implementing the non-CSO control alternatives will protect primary contact recreation when the water is not impacted by CSOs; and
 - Submit with the WQS revision an NPDES permit that would only become applicable if EPA approved the WQS revision.
- EPA will work with any state interested in figuring out whether this or another way of providing this demonstration is appropriate.

Factor 3 – Triennial Review/Re-Evaluation

- Both modified recreation uses and variances must be reevaluated regularly (40 CFR 131.20(a), 40 CFR 131.14(b)(1)(v))
- During these reevaluations, EPA recommends that states review:
 1. Whether the non-CSO control alternatives have been implemented as scheduled
 2. The extent to which the greater environmental benefits have been realized
 3. Whether non-CSO sources of bacteria have been controlled to an extent such that implementing additional CSO controls would now provide the greater environmental benefit

Next Steps

- EPA looks forward to continuing to work with States and CSO communities on paths forward.
- Interested in what you think would be a useful format for these discussions.
- EPA expecting to soon release updated draft WQS Handbook chapters including an updated Designated Uses chapter and a new WQS variance chapter that may provide useful insights for these discussions.
- These chapters will be available for public comment.
- EPA has posted a Use Revision Process Interactive Diagram that includes a few tips when revising designated uses for CSO impacted waters - <https://www.epa.gov/wqs-tech/use-attainability-analysis-and-use-revision-process>]