Water Quality Standards Variances

OFFICE OF SCIENCE AND TECHNOLOGY
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U.S. EPA

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Objectives

1. Learn the basics of a Water Quality Standards (WQS) variance
2. Understand how using a WQS variance can help to get real improvements in water quality
3. Decide if WQS variance is right tool for your situation
4. Learn how to adopt a WQS variance and submit it to EPA
5. Understand how WQS variances relate to other Clean Water Act (CWA) programs

What is a WQS Variance?

Statutory Basis for WQS Variances

Sec. 101 of the Clean Water Act

(a) The objective of this Act is to **restore** and maintain the chemical, physical, and biological integrity of the Nation's waters.

- (1) …
  - (2) it is the national goal that **wherever attainable**, an interim goal of water quality which provides for…

Interpretation

- The goal is to make water quality better
- This goal may not always be readily attainable

A WQS Variance is:

A time-limited designated use and criterion:

- for a specific pollutant
- from a specific source or for a specific water body
- that reflects the highest attainable condition for a specific time period.

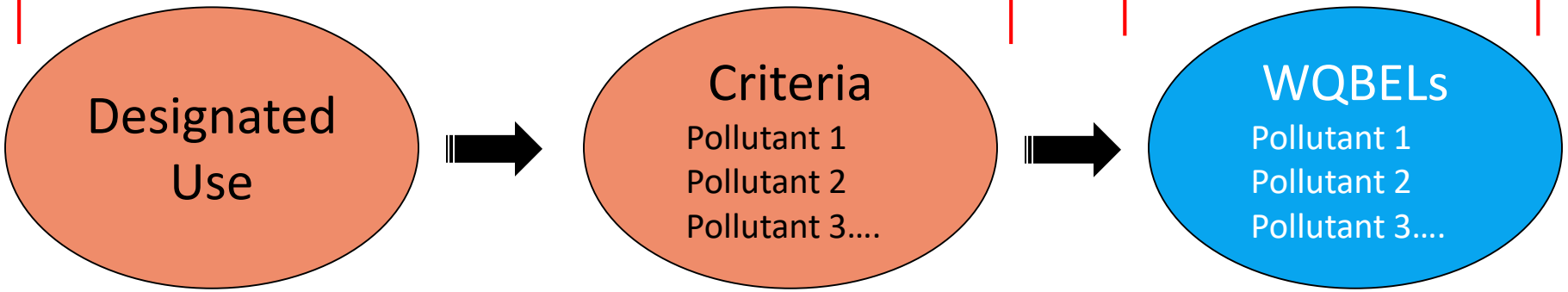
A regulatory mechanism that **allows progress toward attaining a designated use and criterion** that is **not currently attainable**.

Transparent path, accountable progress

Link Between WQS Variances and NPDES Permits

Water Quality Standards

NPDES Permit

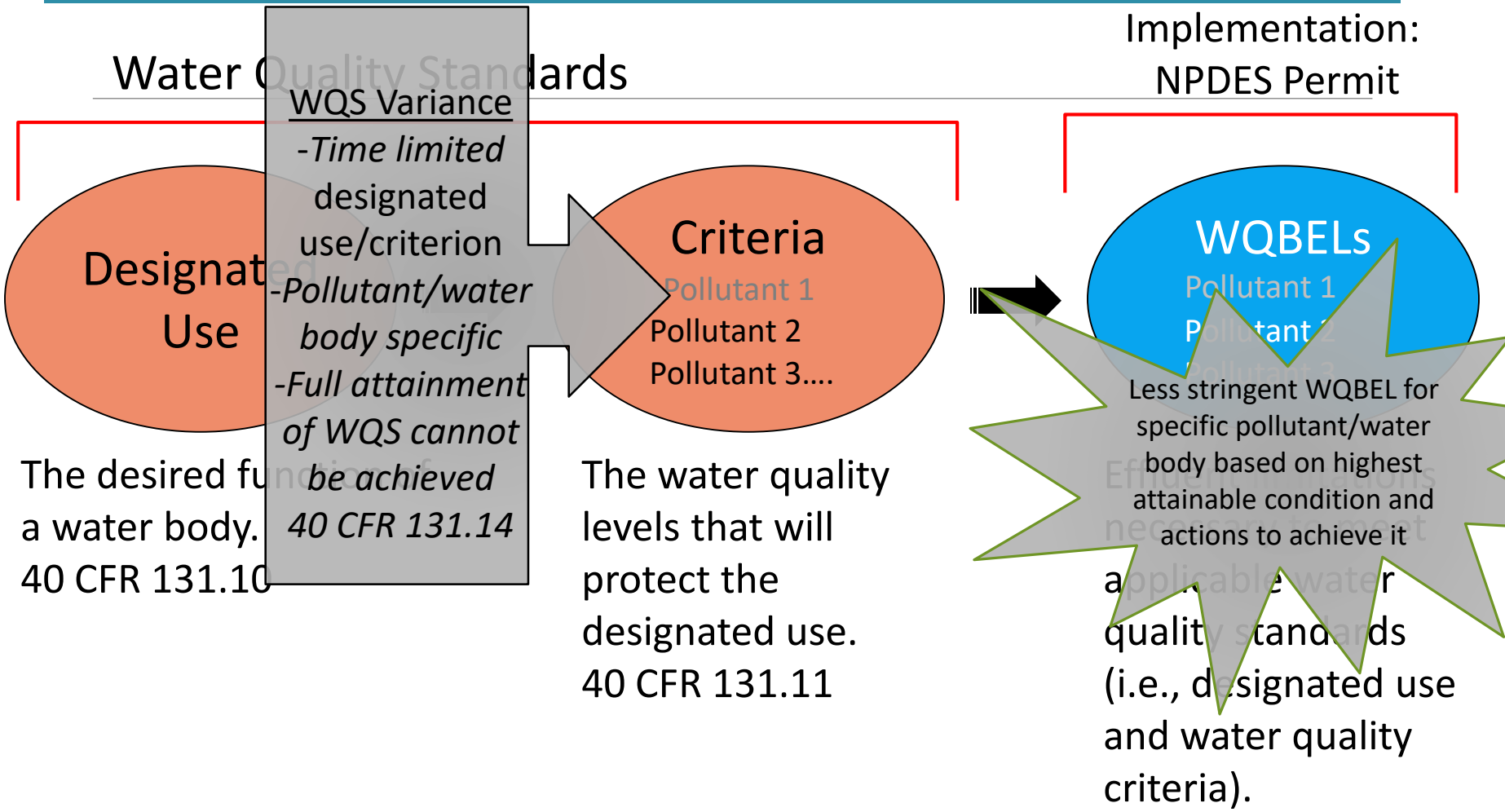


The desired function of a water body.

The water quality levels that will protect the designated use.

Effluent limitations necessary to meet applicable water quality standards (i.e., designated use and water quality criteria).

Link Between WQS Variances and NPDES Permits



Variances: A Legitimate Tool

A WQS variance is a WQS that requires review and approval by EPA

Provides a legal bridge between WQS and NPDES permit limits that allows permitting authorities:

- To establish less stringent Water Quality Based Effluent Limits (WQBELs) for specific pollutant or water body based on what is the best condition (i.e. HAC) that the discharger can achieve,
- for a specified period of time (only as long as necessary to achieve HAC),
- that still derive from and comply with all applicable WQS consistent with 40 CFR 122.44(d)(1)(vii)(A).

How Can WQS Variances Lead to Real Improvements in Water Quality?

When WQS Variances Can Be Useful

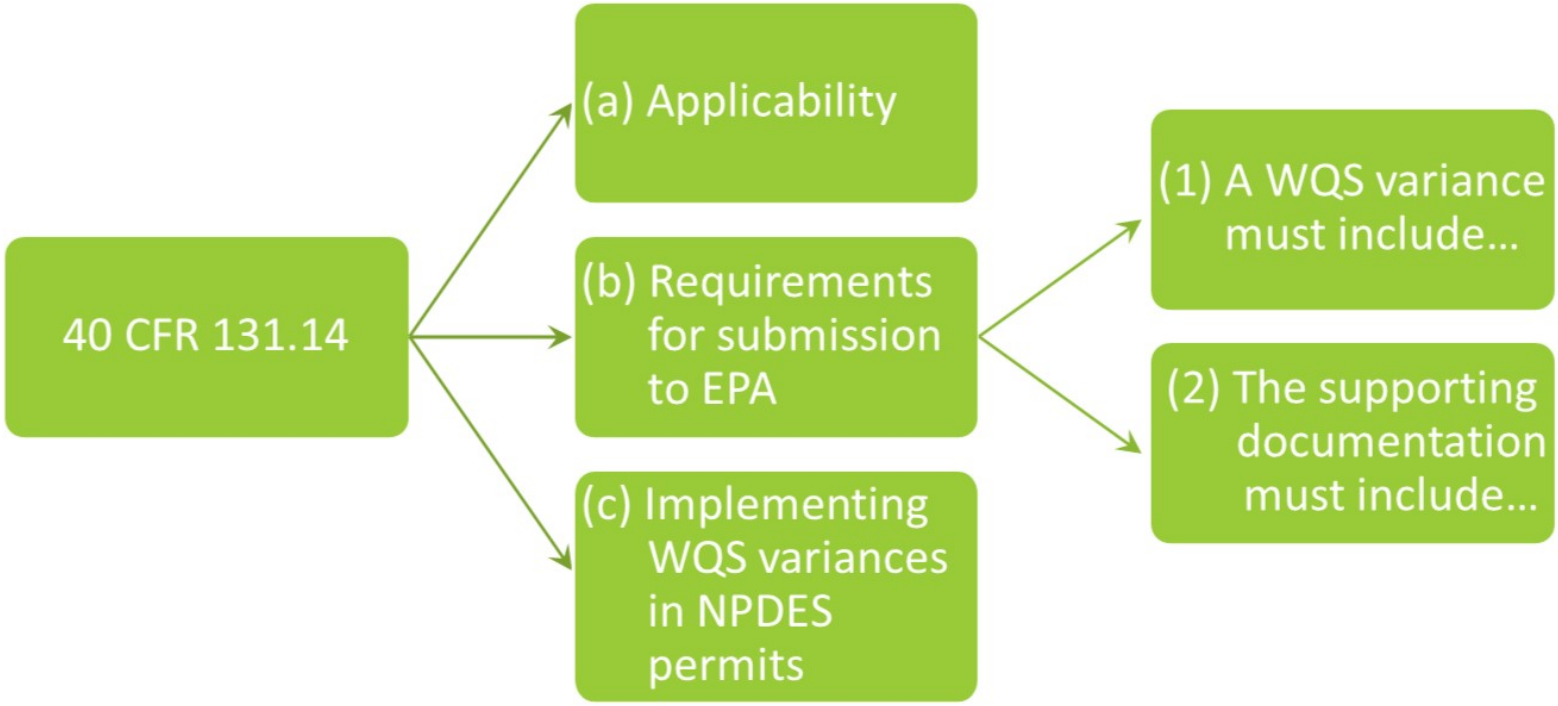
Incremental water quality improvements can be made even though:

- The designated use and criterion is not attainable now, but the state or authorized tribe believes it can be in the future, or
- The feasibility of attaining the designated use and criterion in the future is uncertain, but feasible progress towards attaining the designated use can still be made by implementing known controls and tracking environmental improvements

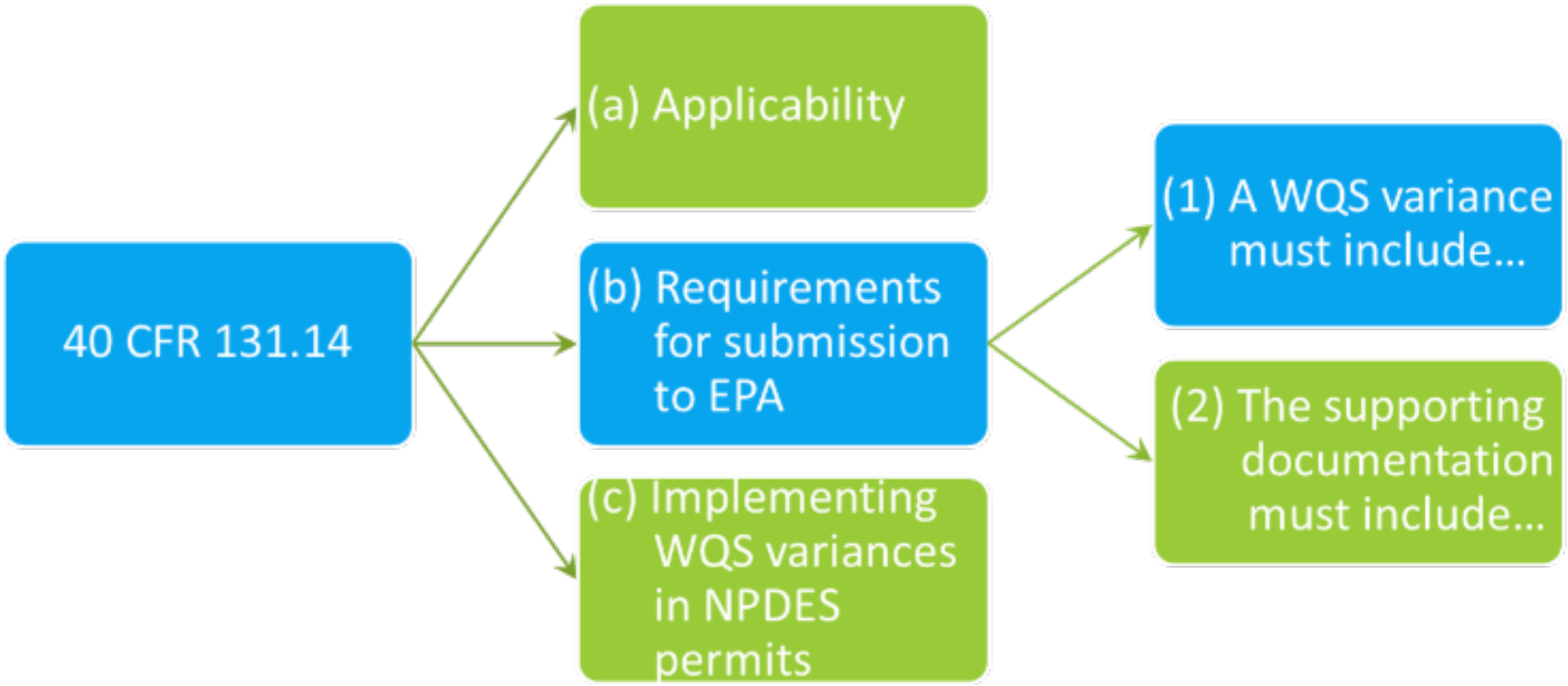
Intent of 40 CFR 131.14

- **Explicitly authorizes WQS variances** - states and authorized tribes are not required to adopt their own authorizing provisions or procedures.
- **Reduces uncertainty** and **facilitates** appropriate, consistent, and effective **implementation over a defined period of time.**
- **Ensures transparency and accountability** to both the regulated community and the public.

Basic structure of 40 CFR 131.14



Variance Requirements



WQS Variance Requirements-Scope

- Defines the **scope of the variance**:
  - Pollutant specific
  - Discharger specific
    - Individual discharger
    - Multiple dischargers*
  - Waterbody/waterbody segment specific

*A multiple-discharger variance (MDV):

-Can reduce the administrative burden associated with adopting many otherwise similarly justifiable individual discharger-specific WQS variances

-Must fulfill the requirements at 131.14 (e.g. dischargers included in an MDV must be eligible to receive a WQS variance)

WQS Variance Requirements-HAC

Similarities between HAU and HAC

- HAU is defined as a "modified…use that is both closest to the uses specified in section 101(a)(2) of the Act and attainable, based on the evaluation of the factors in131.10(g) that precludes attainment of the use and any other information or analyses used to evaluate attainability."

- HAC is a similar requirement- a quantifiable expression of the best condition that can be achieved during the term of the variance. Cannot lower currently attained water quality.

Differences Between HAU and HAC

Highest Attainable Use (HAU)	Highest Attainable Condition (HAC)
-Only expressed as a use -Applies only to CWA 101(a)(2) uses and subcategories of such uses	-does not have to be expressed as a use -Applies to WQS variance for either 101(a)2 or non-101(a)(2) uses

WQS Variance Requirements- Term and Public Input

- **Term of the variance must be a specified time after EPA approval of variance, or date**. Must document that the term is only as long as necessary to achieve the highest attainable condition.
  - Timeframe is justified by describing the pollutant control activities that need to occur during that term.
- **Established after a public hearing** consistent with 40 CFR 131.20

WQS Variance Requirements- Reevaluations

A variance with a term of longer than 5 years must also reevaluate the highest attainable condition

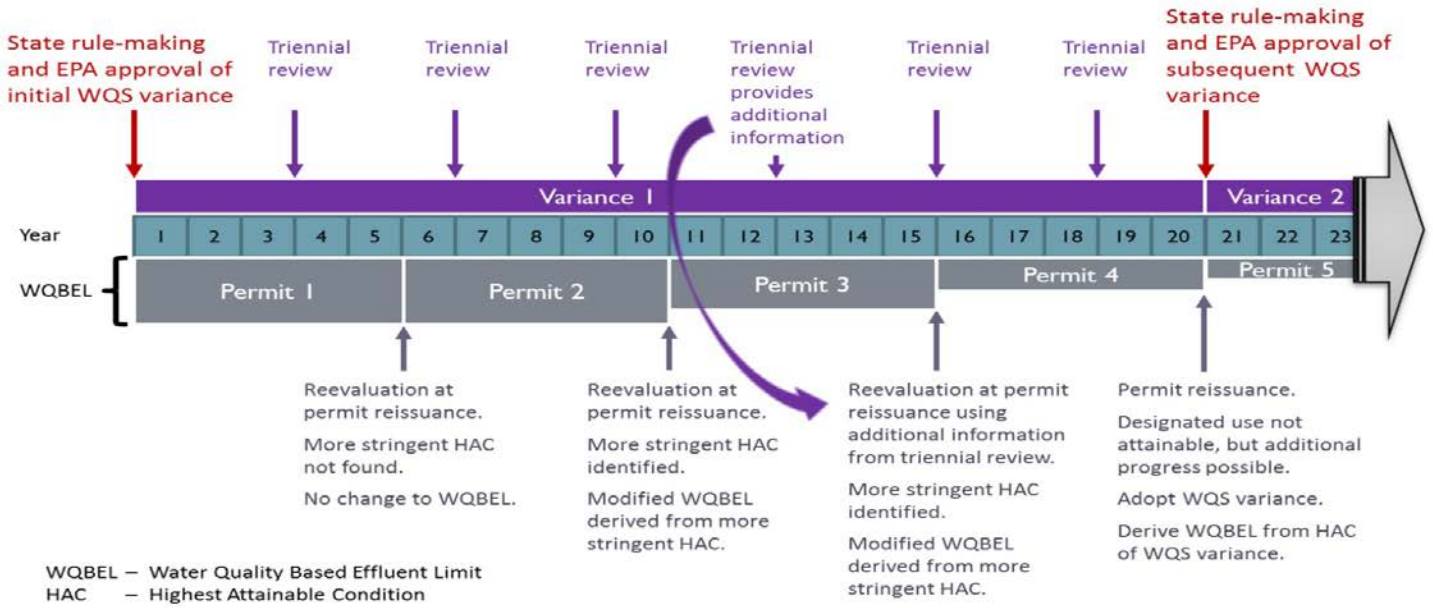
- Reevaluations provide public assurance that the variance terms are evaluated in a transparent way at predictable periods, instead of the regulations requiring a time limit on all variance terms
- Variance must specify a frequency to reevaluate, but at least every 5 years.
  - The reevaluations must be submitted to EPA within 30 days of completion

** Great Lakes Waters (40 CFR Part 132) Federal Max term = 5 years*

WQS Variance Requirements-Reevaluations

- Variance must also state the following:
  - Variance will no longer be the applicable WQS for purposes of the Act, if the reevaluation is not conducted consistent with the frequency specified in the WQS variance or the results are not submitted to EPA, until the reevaluation is complete or the results are submitted
  - If the reevaluation identifies a more stringent highest attainable condition, it becomes the applicable highest attainable condition.
  - How the state/tribe intends to obtain public input on the reevaluation.
    - Public input at the reevaluation does not need to be a public hearing

Example: Reevaluation at Permit Reissuance



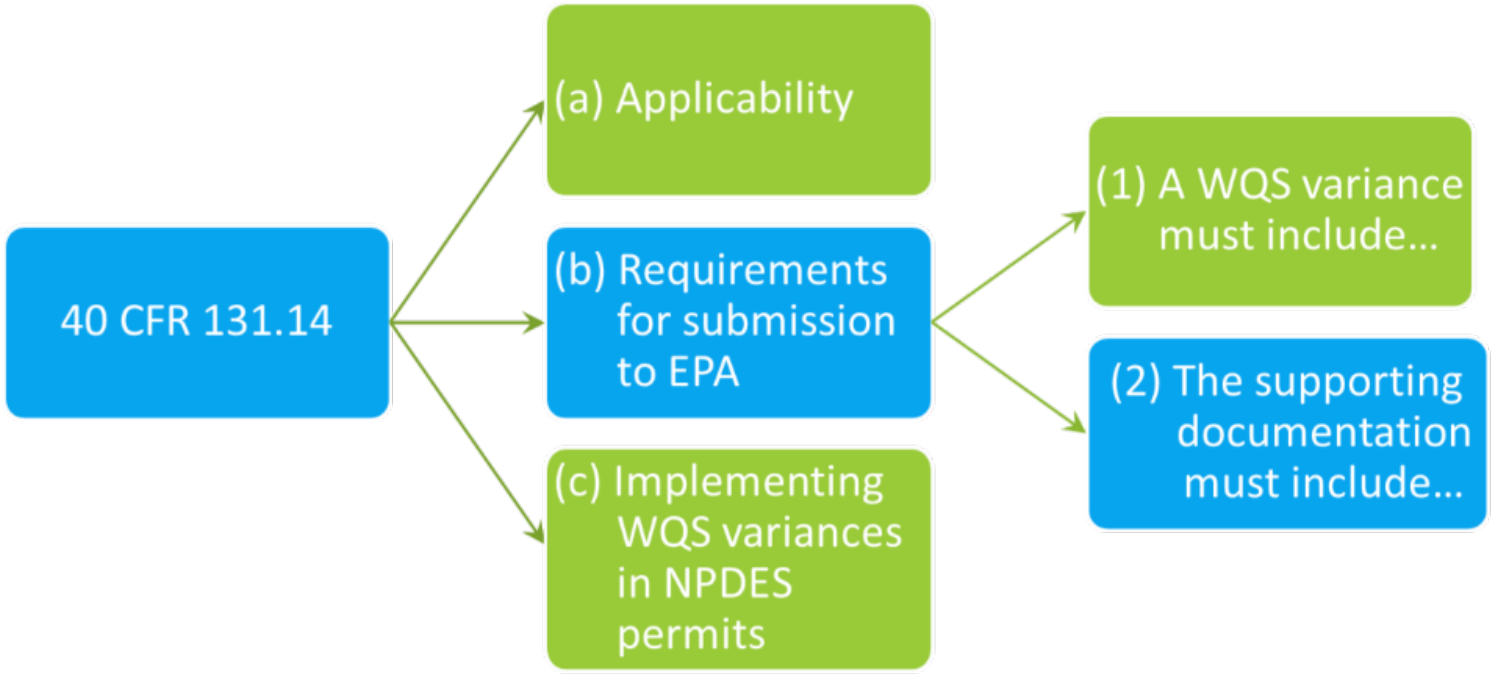
WQS Variance: Summary of Requirements

1) Scope –Identification of the pollutant(s) or water quality parameter(s) and water body or waterbody segment
2) Requirements that apply throughout term of the variance (i.e. HAC)
3) Statement that variance requirements are the more stringent of either HAC at time of adoption, or HAC identified at reevaluation
4) Variance Term
5) Reevaluation for variances with term >5 years
6) Reevaluation provision

Is a WQS Variance the Right Tool for Your Situation?

SUBMISSION REQUIREMENTS

WQS Variance Supporting Documentation



Strong Supporting Documentation: Ensures Consistency with 40 CFR 131.14

1. The need for the WQS variance

   40 CFR 131.14(b)(2): "The supporting documentation must include (i) Documentation demonstrating the need for a WQS variance."

2. The term of the WQS variance is only as long as necessary to achieve the highest attainable condition.

   40 CFR 131.14(b)(2): "The supporting documentation must include (ii) "Documentation demonstrating that the term of the WQS variance is only as long as necessary to achieve the highest attainable condition."

3. The interim WQS represents the highest attainable condition

   40 CFR 131.14(b)(1)(ii): "The requirements shall represent the highest attainable condition of the water body or waterbody segment applicable throughout the term of the WQS variance based on the documentation required in (b)(2) of this section.

Is a WQS Variance the Right Tool?

1. **Can you identify the geographic scope of your problem?**

   - Single Discharger
   - Multiple Discharger

   - Waterbody segment
   - Entire Waterbody

- Nonpoint sources can have a significant bearing on whether a designated use and criteria can be attained.

- It is essential to consider nonpoint sources and potential controls when adopting a waterbody/ waterbody segment variance and identifying highest attainable condition.

Is a WQS Variance the Right Tool?

2. Can you demonstrate that a use related to aquatic life or recreation is unattainable for a limited period of time (at this geographic scope and for a specific pollutant(s)) based on one of the 7 regulatory factors?

40 CFR 131.10(g)

1. Naturally occurring pollutant concentrations.
2. Natural, ephemeral, intermittent or low flow conditions.
3. Human caused conditions cannot be remedied or would cause more environmental damage to correct than leave in place.
4. Dams, diversions or other hydrologic modifications.
5. Physical conditions related to natural features preclude aquatic life uses.
6. Controls more stringent than needed to meet technology based limits cause substantial and widespread economic and social impact.

40 CFR 131.14

7. Actions necessary to facilitate lake, wetland, or stream restoration through dam removal or other significant reconfiguration activities preclude attainment of the designated use and criterion while the actions are being implemented.

Is a WQS Variance the Right Tool?

2. Can you demonstrate that a use related to aquatic life or recreation is unattainable for a limited period of time (at this geographic scope and for a specific pollutant(s)) based on one of the 7 regulatory factors?

   Or

   Can you demonstrate that you considered the use and value of a non-101(a)(2) use and find that a variance is needed to make incremental progress toward attaining that use (at this geographic scope and for a specific pollutant(s))?

Justification of Variance Term and HAC

3. Can you identify the best condition achievable (i.e., Highest Attainable Condition) and how much time is needed to attain it?
4. Can you identify the pollutant control activities that will be implemented during this time to make incremental progress towards that highest attainable condition?

If you answered "yes" to these questions, then a WQS variance may be useful to address your situation.

Supporting Documentation: Discharger(s)-specific HAC and Pollutant Control Activities

1. Highest attainable interim criterion; or
2. Interim effluent condition reflecting greatest pollutant reduction achievable; or
3. *If no additional feasible pollutant controls*, the interim criterion or interim effluent condition reflecting greatest pollutant reduction with optimization of installed treatment **AND** adoption and implementation of a pollutant minimization program (PMP).

- *Pollutant Minimization Program (131.3(p))* – "in the context of 131.14, is a structured set of activities to improve processes and pollutant controls that will prevent and reduce pollutant loadings."

Supporting Documentation: Water body or Waterbody Segment HAC and Pollutant Control Activities

1. Highest attainable interim use and interim criterion; or
2. *If no additional feasible pollutant controls*, the interim use and interim criterion reflecting greatest pollutant reduction with optimization of installed treatment **AND** adoption and implementation of a pollutant minimization program (PMP).

- *Pollutant Minimization Program (131.3(p))* – "in the context of 131.14, is a structured set of activities to improve processes and pollutant controls that will prevent and reduce pollutant loadings."

Subsequent Variances

The regulations do not prohibit adoption of a subsequent variance once the initial variance expires.

A subsequent variance may be obtained if the requirements of 131.14 are fully met again.

In addition, a subsequent waterbody or waterbody segment variance would require additional documentation on implementation of Best Management Practices (BMPs)and progress for nonpoint sources.

How Do WQS Variances Relate to Other CWA Programs?

WQS Variances and Other CWA Tools

Site-specific criteria

Permit compliance schedules

Impaired waters listings

Total Maximum Daily Load allocations

401 certifications

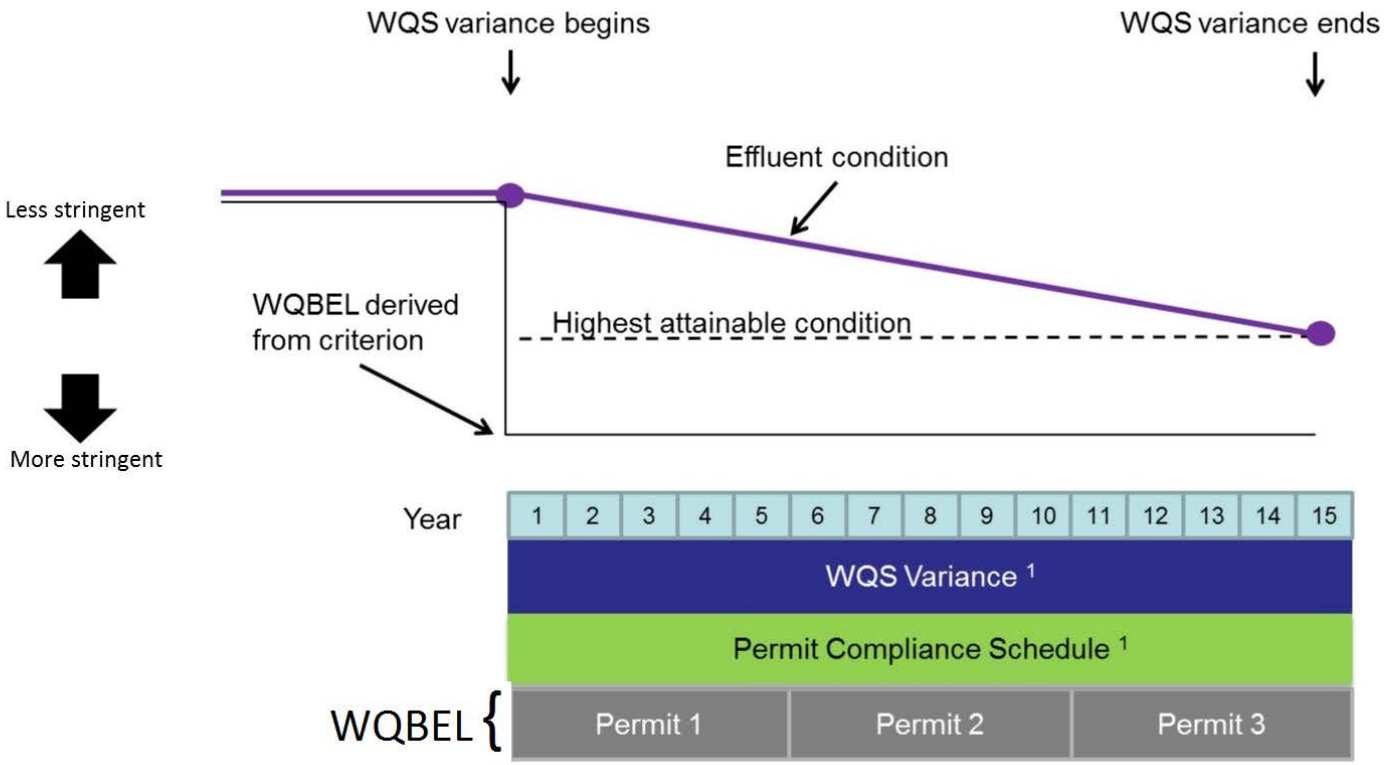
Site Specific Criteria

Site Specific Criteria	WQS Variance
Where the same designated use will be protected but with different (e.g. more or less stringent) water quality criteria.	Where the designated use cannot be attained for a period of time and the state adopts a less stringent designated use and criteria to be put in place for a specified period of time.

Permit Compliance Schedule

Permit Compliance Schedule	WQS Variance
The permit requires compliance with final WQBELs (based on WQS) “as soon as possible.”	The WQS variance is a temporary designated use and criterion and WQBELs are adjusted to make incremental progress toward attaining the standard.
Actions and time needed to comply with the WQBEL are known.	Actions and time needed to comply with the WQBEL are uncertain.
A condition included in a permit.	WQS basis for a less stringent permit limit.

Example: Using a Permit Compliance Schedule with a WQS Variance

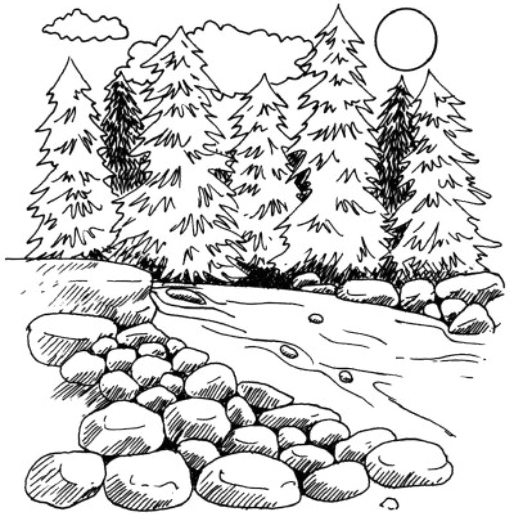


[1] Meets all statutory and regulatory requirements.

Impaired Waters Listing (303(d))

Assessment for 303(d) listing is based on the underlying designated use and criteria, not the interim requirements of a variance.

Variances are time-limited and intended to restore the underlying designated use, not change the long-term goal of the waterbody.



Total Maximum Daily Loads

Interim requirements of a WQS variance do not replace the underlying designated use and criteria.

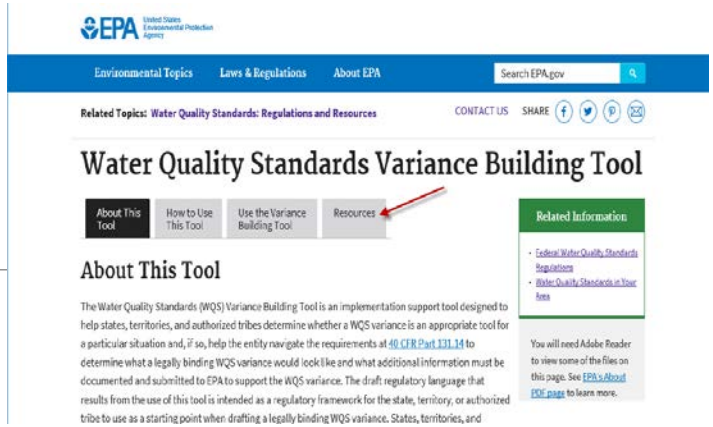
- Load allocations must be based on the underlying designated use because a WQS variance is time-limited and intended to restore the waterbody.

However, a permit may include limits based on the WQS variance even where there is a TMDL for that parameter because the allocations in the TMDL are not “available” during that time period.

CWA Section 401 Certifications

- If a WQS variance is the applicable WQS, a state or authorized tribe can use the WQS variance as a basis for 401 certification.

Helpful Resources



- Online WQS Variance Building Tool
  - Checklist For Evaluating State Submission Of Discharger-Specific Water Quality Standards Variances
  - Checklist for Water Quality Standards Variance Supporting Documentation Requirements (PDF)
  - Interim Economic Guidance for Water Quality Standards
  - Worksheets to implement the Interim Economic Guidance for Water Quality Standards
  - Multiple-discharger WQS variance FAQ