



WATER QUALITY STANDARDS VARIANCES

**OFFICE OF SCIENCE AND TECHNOLOGY
OFFICE OF WATER
U.S. EPA**

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- Change or substitute for any statutory provision or regulatory requirement.
- Change or substitute for any Agency policy or guidance.
- Control in any case of conflict between this discussion and statute, regulation, policy or guidance.

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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...

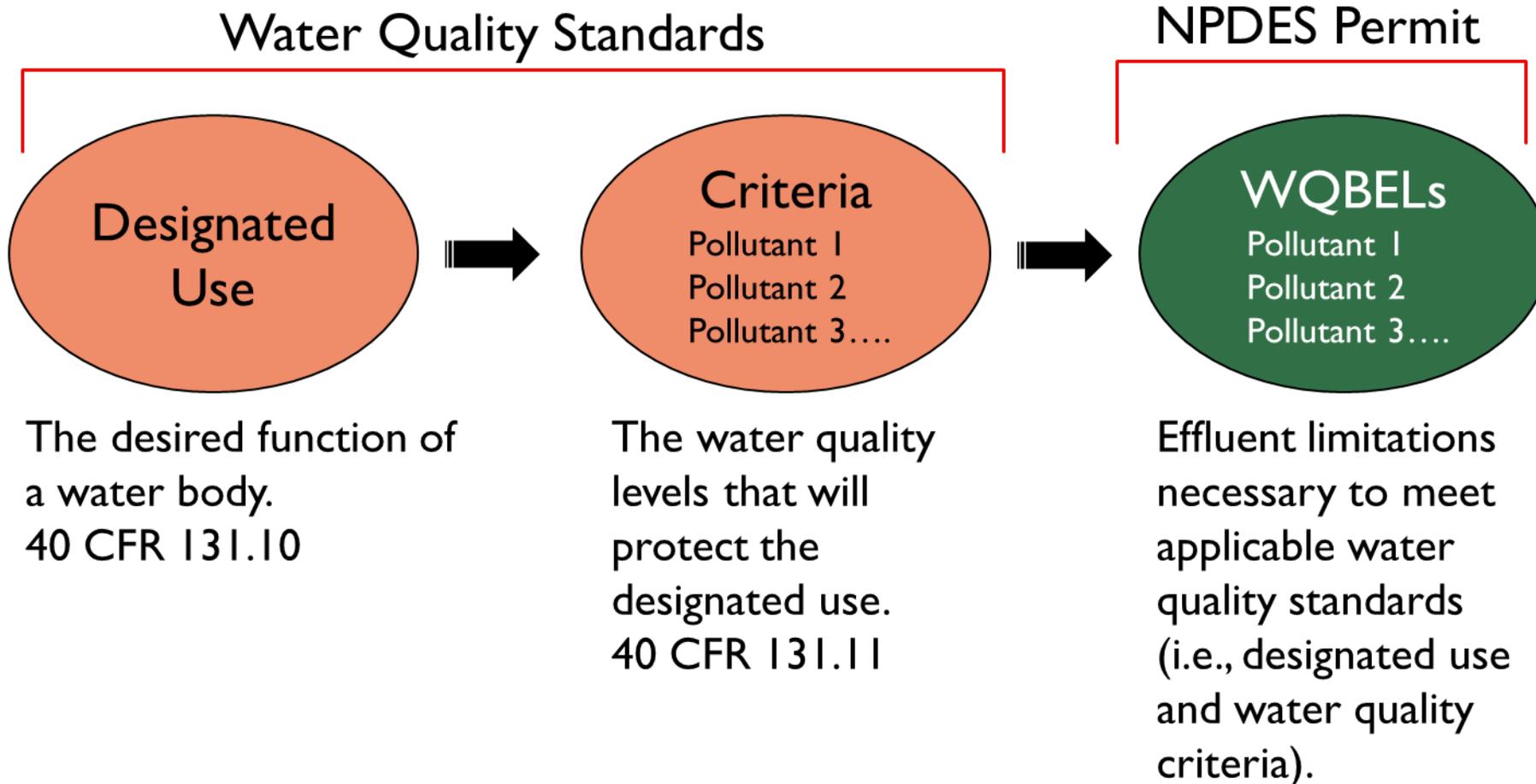
❖ Interpretation

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

A WQS VARIANCE IS:

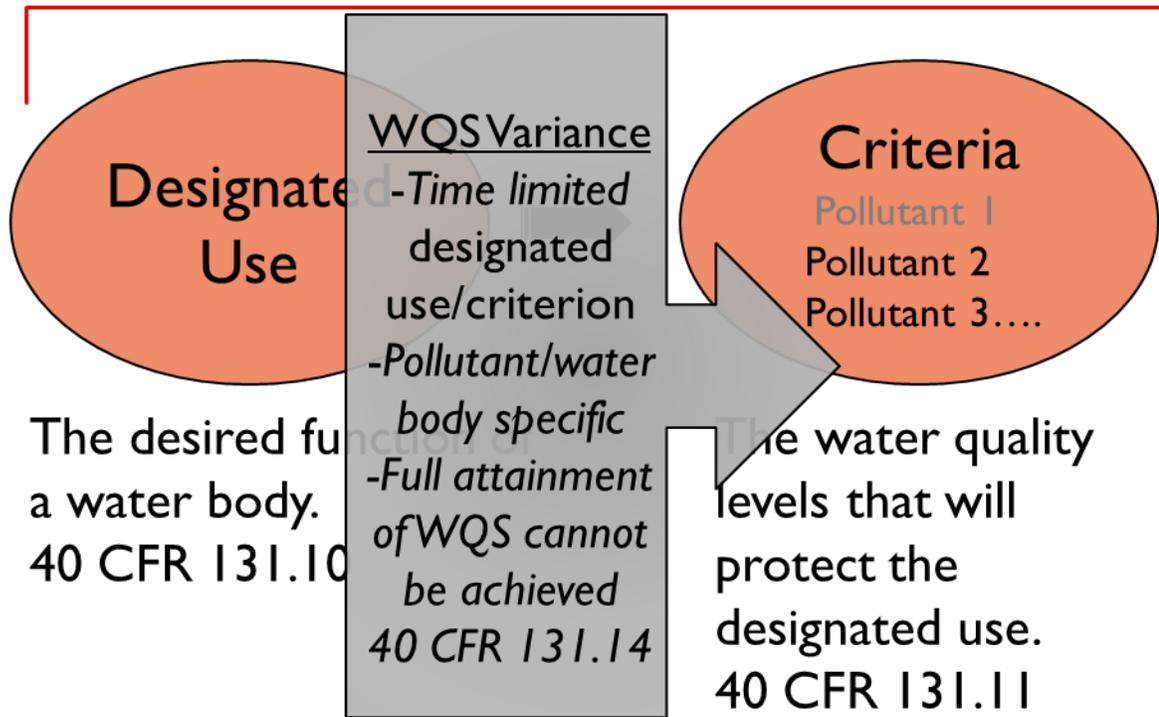
- ❖ A time-limited designated use and criterion:
 - for a specific pollutant or water quality parameter,
 - from a specific source or for a specific waterbody,
 - that reflects the highest attainable condition for a specific time period.
- ❖ A regulatory mechanism that **ensures incremental water quality improvements** when/where the designated use and criterion are not currently attainable and there is uncertainty as to what designated use and criterion may be ultimately attainable.

LINK BETWEEN WQS VARIANCES AND NPDES PERMITS

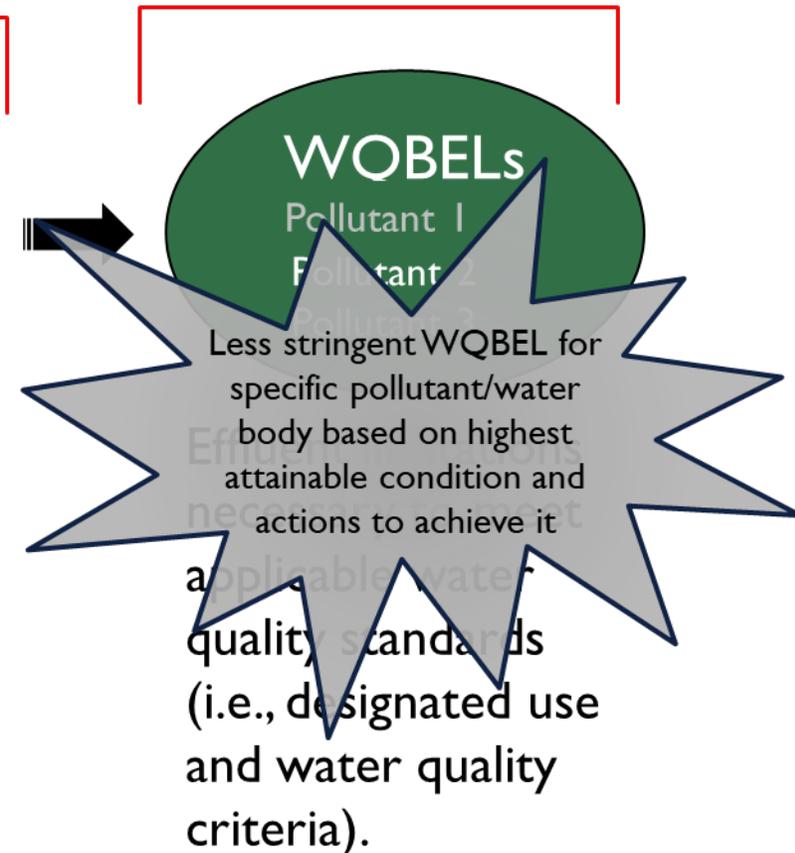


LINK BETWEEN WQS VARIANCES AND NPDES PERMITS

Water Quality Standards



Implementation: NPDES Permit



WQS VARIANCES: A BRIDGE BETWEEN WQS AND NPDES EFFLUENT LIMITS

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

Permitting authorities implement the requirements of WQS variances by:

- Establishing less stringent Water Quality Based Effluent Limits (WQBELs) for a specific pollutant based on what is the best condition (i.e., HAC) that the discharger (or waterbody) 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).

SITE SPECIFIC CRITERIA

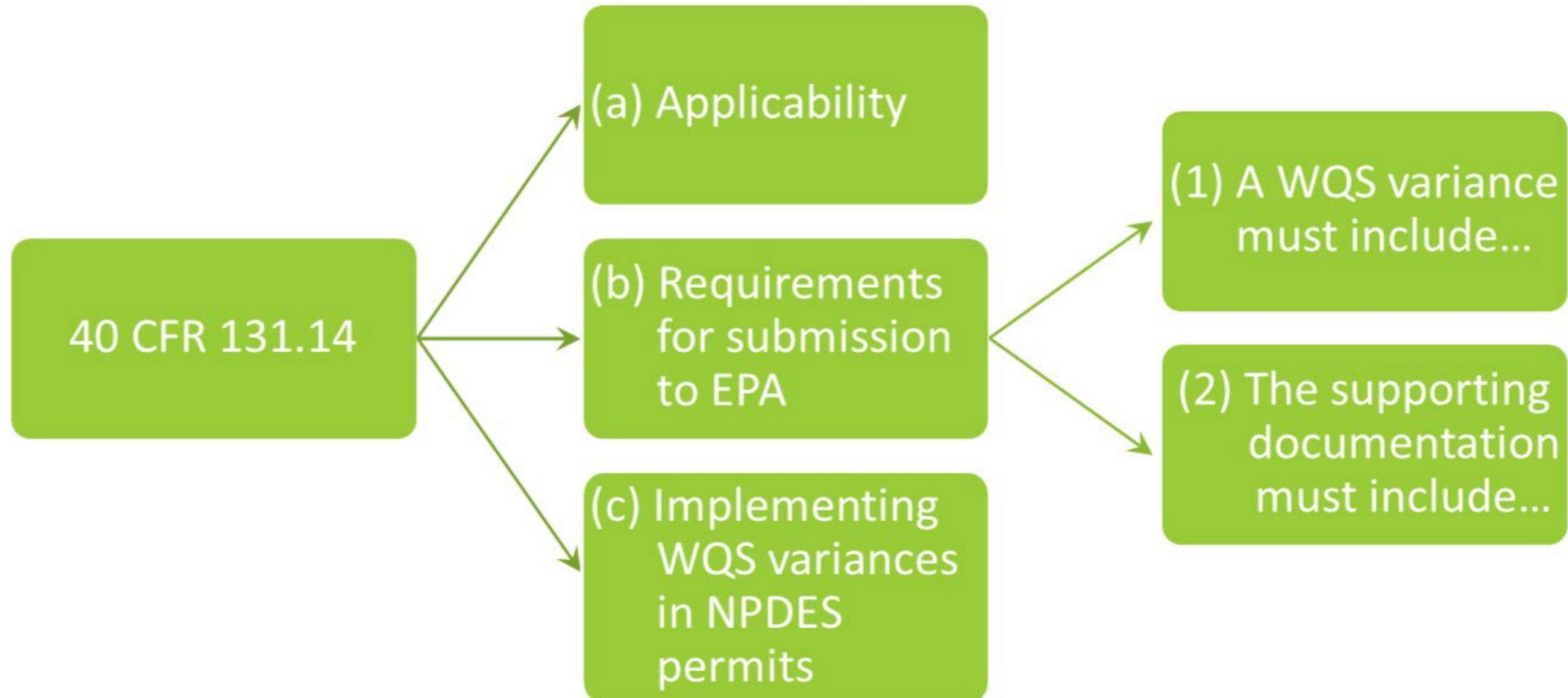
Site Specific Criteria	WQS Variance
<p>Where the same designated use will be protected but with different (e.g., more or less stringent) water quality criteria.</p>	<p>Where the designated use cannot be attained for a period of time and the state adopts a less stringent designated use and criteria to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

HOW CAN WQS VARIANCES LEAD TO REAL IMPROVEMENTS IN WATER QUALITY?

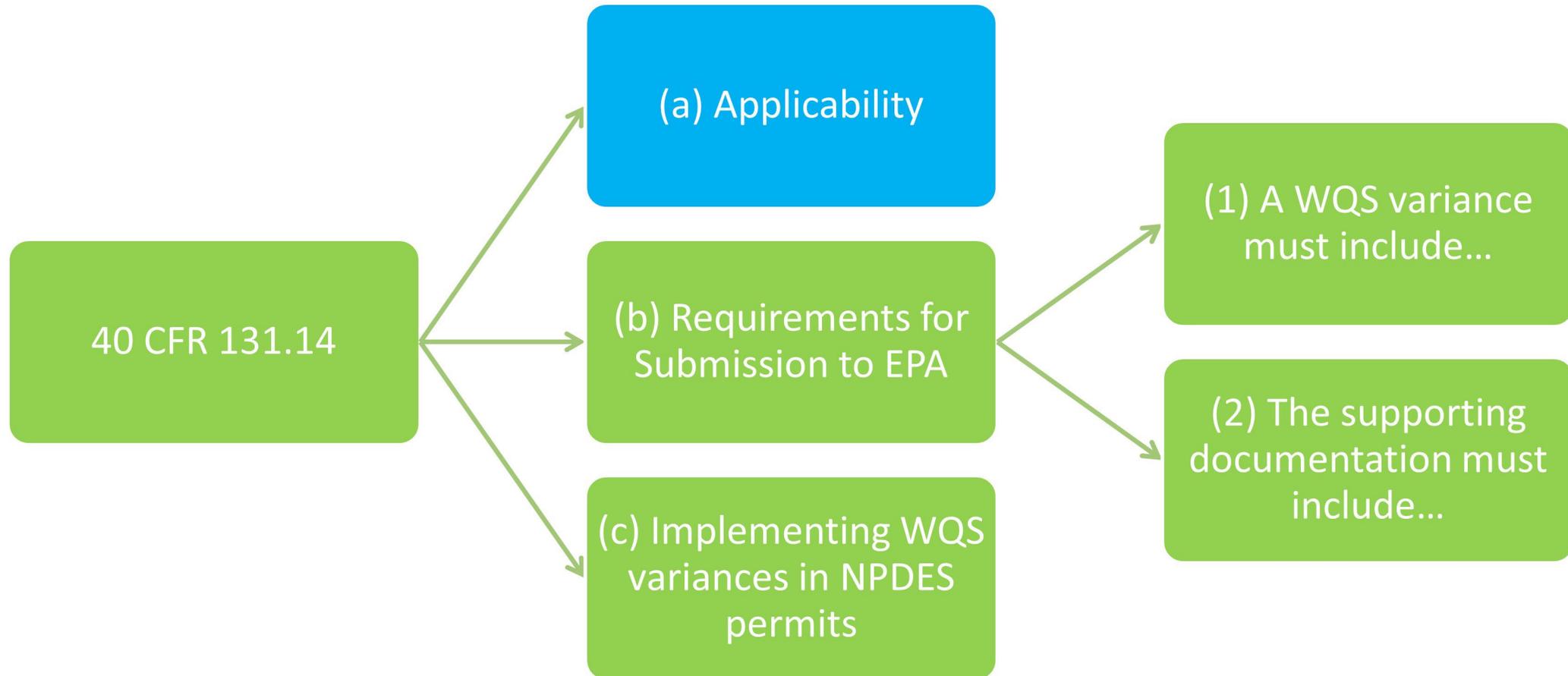
INTENT OF 40 CFR 131.14

- ❖ EPA promulgated 40 CFR 131.14 to explicitly authorize the use of WQS variances and the requirements to obtain EPA approval.
- ❖ 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.
- ❖ Provides specific regulatory basis and required documentation to justify the need for the variance, the interim requirements, and the length of the variance.

BASIC STRUCTURE OF 40 CFR 131.14



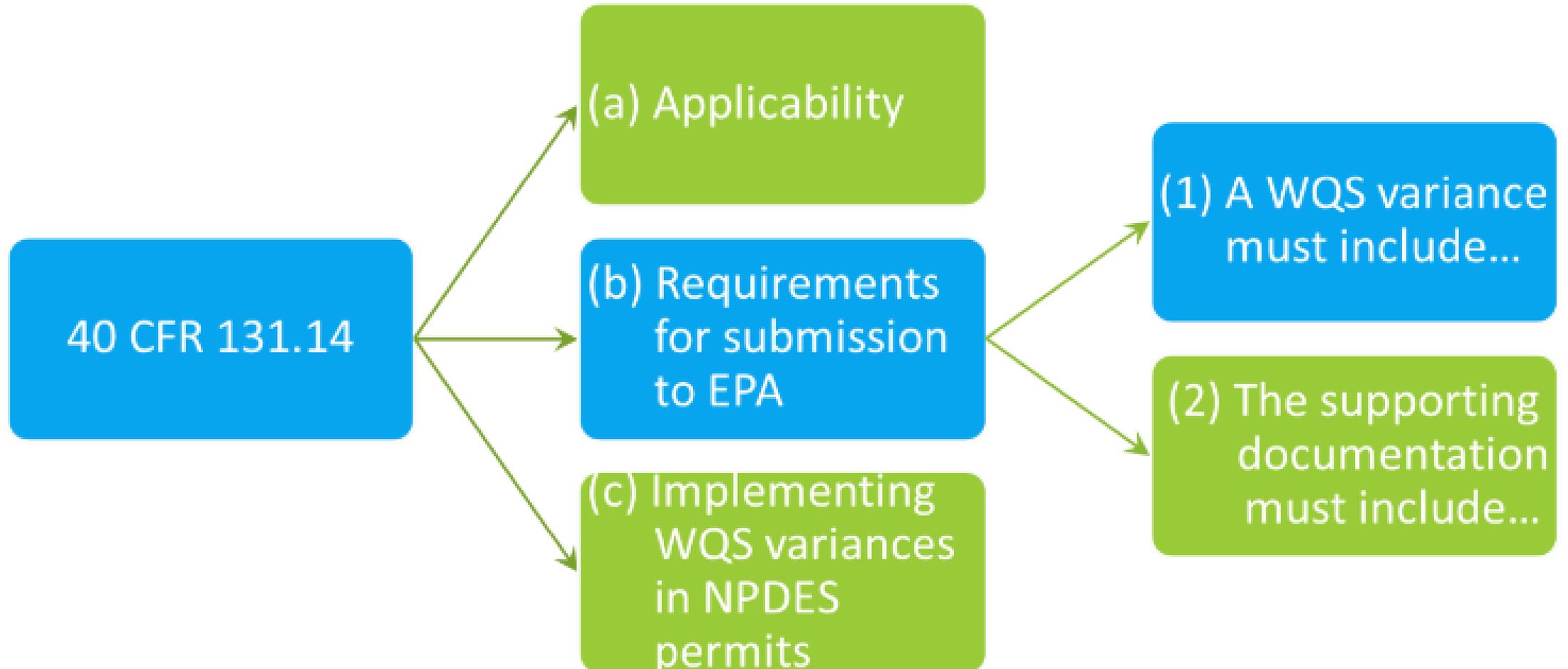
WQS VARIANCE-APPLICABILITY



WQS VARIANCE-APPLICABILITY

- A WQS variance only applies to the permittee(s) or water body/waterbody segment(s) specified in the WQS variance (40 CFR 131.14 (a)(1))
- The state or authorized Tribe must retain, in its WQS, the underlying designated use and criterion addressed by the WQS variance, and all other applicable WQS remain applicable (40 CFR 131.14 (a)(2))
- An approved WQS variance is the applicable WQS for developing NPDES permit limits and requirements and for CWA Section 401 certifications (40 CFR 131.14 (a)(3))
- A WQS variance cannot be adopted if the designated use and criterion addressed by the WQS variance can be met by implementing technology-based effluent limits (40 CFR 131.14 (a)(4))

WQS VARIANCE REQUIREMENTS



WQS VARIANCE REQUIREMENTS-SCOPE

□ Define 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- HIGHEST ATTAINABLE CONDITION (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 in 131.10(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)
<ul style="list-style-type: none">-Only expressed as a use-Applies only to CWA 101(a)(2) uses and subcategories of such uses	<ul style="list-style-type: none">-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-HIGHEST ATTAINABLE CONDITION (HAC)

For discharger(s)-specific WQS variances, the highest attainable condition of the water body or waterbody segment must be specified as a quantifiable expression that is one of the following (40 CFR 131.14(b)(1)(ii)(A)):

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.”

WQS VARIANCE REQUIREMENTS-HIGHEST ATTAINABLE CONDITION (HAC)

For WQS variances applicable to a water body or waterbody segment (40 CFR 131.14(b)(1)(ii)(B)):

1. Highest attainable interim use and interim criterion; or
 2. *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.”

WQS VARIANCE REQUIREMENTS- TERM AND PUBLIC INPUT

- ❑ **Term of the WQS variance must be a specified time after EPA approval of the WQS 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 REEVALUATIONS

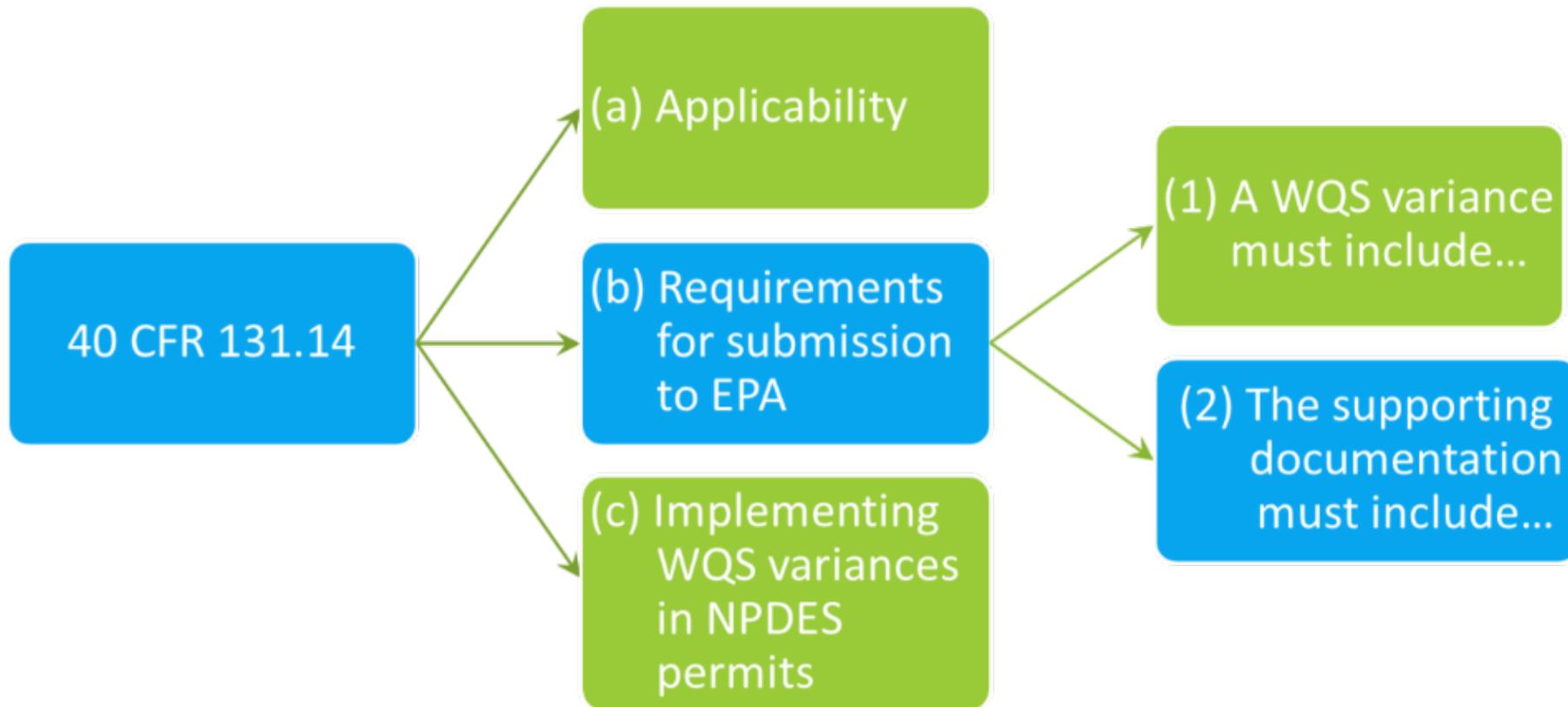
A WQS variance with a term of longer than 5 years must also reevaluate the highest attainable condition.

- ❑ Reevaluations provide public assurance that the WQS variance terms are evaluated in a transparent way at predictable periods, instead of the regulation requiring a time limit on all WQS variance terms.
- ❑ WQS variance must specify a frequency to reevaluate, at least once every 5 years.
 - The reevaluations must be submitted to EPA within 30 days of completion.
- ❑ Additional WQS variance reevaluation requirements are found at 40 CFR 131.14 (b)(1)
- * *Great Lakes Waters (40 CFR Part 132) Federal Max term = 5 years*

WQS VARIANCE: SUMMARY OF REQUIREMENTS

- 1) Scope – Identification of the pollutant(s) or water quality parameter(s) and waterbody or waterbody segment.
- 2) Interim Requirements - Requirements that apply throughout the term of the variance (i.e., Highest Attainable Condition (HAC)), which must be quantifiable but can be expressed as an interim ambient criterion or as an effluent condition.
- 3) Variance Term – term of the variance that is only as long as necessary to achieve the HAC.
- 4) Reevaluation
 - Reevaluation schedule, and process for public input, where WQS variance term > 5 years.
 - Reevaluation provisions at 40 CFR 131.14 (b)(1)(iii, v and vi)

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)(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)(ii): “Documentation demonstrating that the term of the WQS variance is only as long as necessary to achieve the highest attainable condition.”

STRONG SUPPORTING DOCUMENTATION: ENSURES CONSISTENCY WITH 40 CFR 131.14

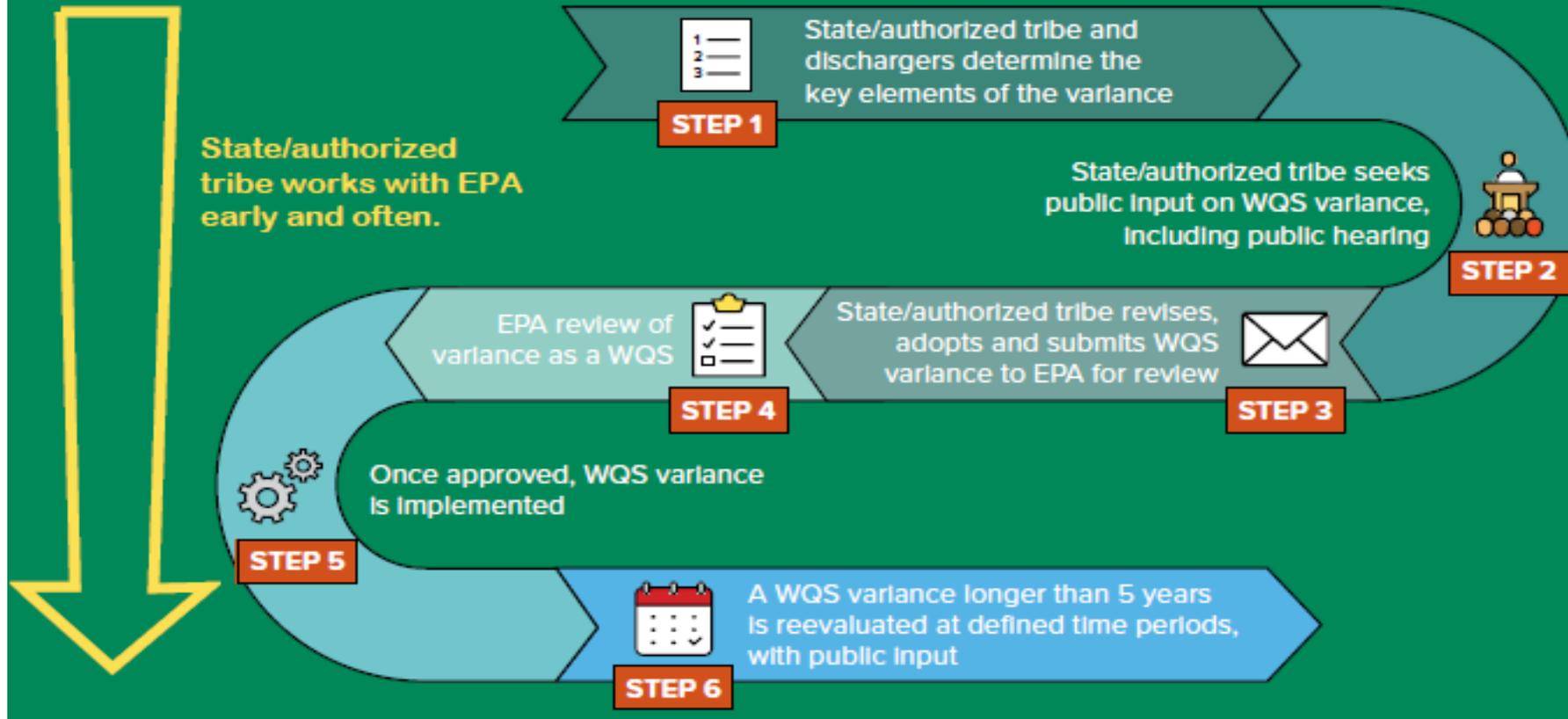
3. The interim WQS represents the highest attainable condition
 - 40 CFR 131.14(b)(1)(ii): “The requirements shall represent the highest attainable condition of the water body or waterbody segment applicable throughout the term of the WQS variance based on the documentation required in (b)(2) of this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

4. For water body or waterbody segment WQS variances, identification and documentation of any cost-effective and reasonable best management practices (BMPs) for nonpoint source controls
 - 40 CFR 131.14(b)(2)(iii): “Identification and documentation of any cost-effective and reasonable best management practices for nonpoint source controls related to the pollutant(s) or water quality parameter(s) and water body or waterbody segment(s) specified in the WQS variance that could be implement to make progress towards attaining the underlying designated use and criterion. A State must provide public notice and comment for any such documentation.”

HOW DOES A WQS VARIANCE WORK?

WQS variances focus on what can be done to improve water quality, not what can't be done.

THE WQS VARIANCE PROCESS



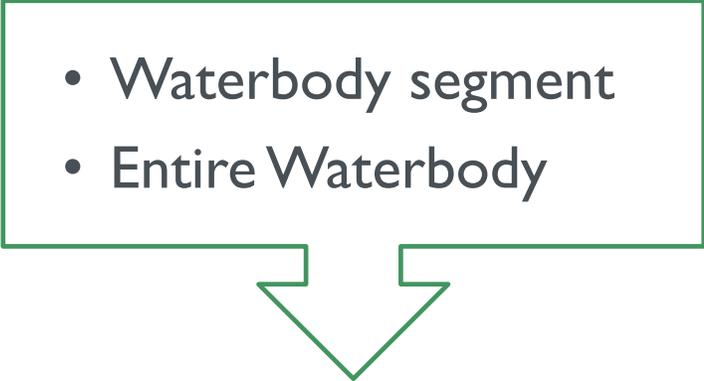
SUBSEQUENT WQS VARIANCES

- The regulations do not prohibit adoption of a subsequent WQS variance once the initial WQS variance expires.
- A subsequent WQS variance may be obtained if the requirements of 40 CFR 131.14 are fully met again.
- In addition, to adopt a subsequent waterbody or waterbody segment WQS variance, states and authorized Tribes must submit additional documentation on whether and to what extent BMPs for nonpoint sources were implemented and the water quality progress achieved. (40 CFR 131.14(b)(2)(iii))

IS A WQS VARIANCE THE RIGHT TOOL?

I. 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))?

IS A WQS VARIANCE THE RIGHT TOOL?

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.



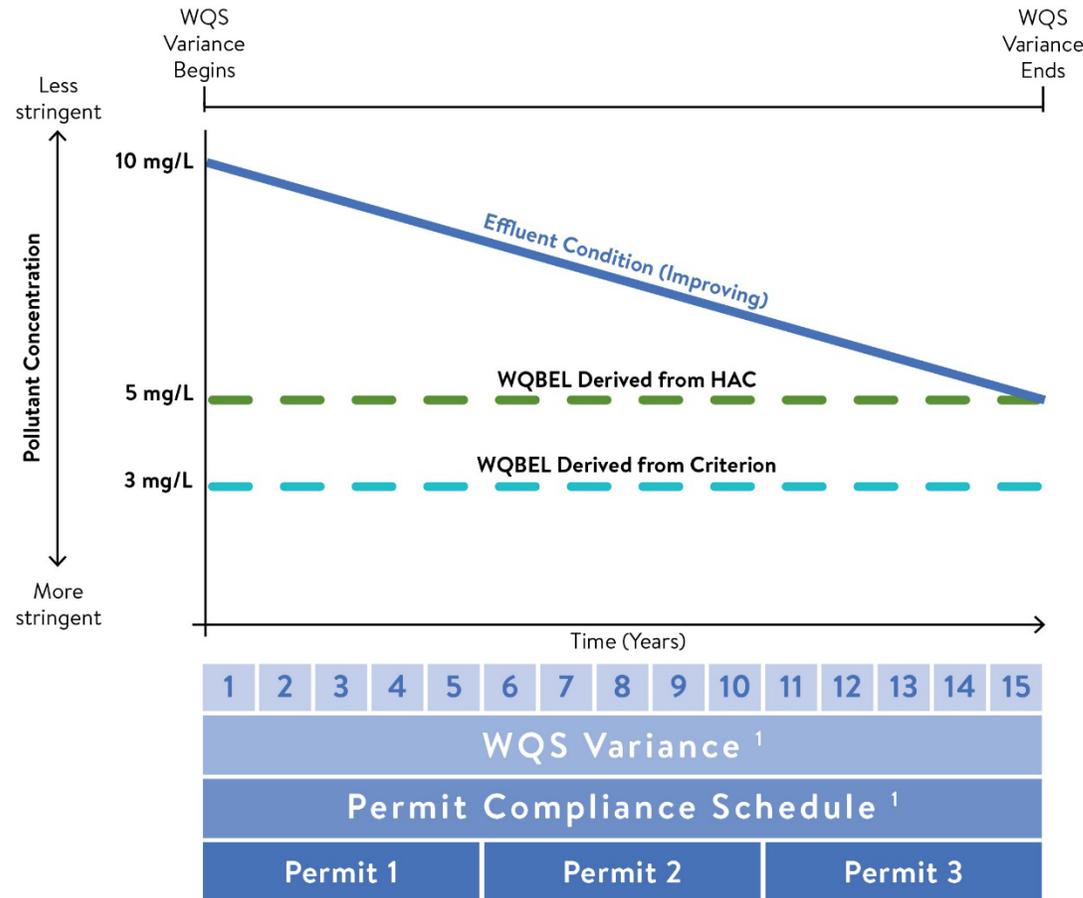
HOW DO WQS VARIANCES RELATE TO OTHER CWA PROGRAMS?

NPDES PERMIT COMPLIANCE SCHEDULES AND WQS VARIANCES

- A WQS variance and an NPDES permit compliance schedule are two distinct tools each with its own purpose.

Permit Compliance Schedule	WQS Variance
<p>An NPDES permit compliance schedule provides time for a permittee to complete actions needed to achieve a WQBEL in an NPDES permit.</p>	<p>A WQS variance provides time to make incremental water quality progress and attain the HAC while evaluating whether or not the designated use and criteria are attainable in the future.</p>
<p>An NPDES permit compliance schedule must contain remedial measures, including an enforceable sequence of requirements such as actions and operations, leading to compliance with a final WQBEL (based on the designated use and criterion) “as soon as possible.” See 40 CFR 122.47.</p>	<p>A WQS variance is a time-limited designated use and criterion that reflects the HAC to drive incremental water quality improvements and serves as the basis for WQBELs. The WQS variance term reflects the time needed to achieve the HAC.</p>
<p>A permit compliance schedule is a condition included in an NPDES permit by the permitting authority consistent with CWA Section 502(17) and 40 CFR 122.47; a compliance schedule can be changed if the requirements of 40 CFR 122.47 are met.</p>	<p>A WQS variance is a new WQS adopted by the state or authorized Tribe and must be approved by the EPA consistent with CWA Section 303(c) and 40 CFR 131.14; a subsequent WQS variance can be obtained if it meets the requirements of 40 CFR 131.14.</p>

EXAMPLE: USING A PERMIT COMPLIANCE SCHEDULE WITH A WQS VARIANCE



¹ Meets all statutory and regulatory requirements

IMPAIRED WATERS LISTING (CWA SECTION 303(D))

- Assessment for CWA Section 303(d) listing is based on the underlying designated use and criteria, not the interim requirements of a WQS variance.
- WQS variances are time-limited and intended to restore the underlying designated use, not change the long-term goal of the waterbody.



TOTAL MAXIMUM DAILY LOAD (TMDL)

- The interim requirements of a WQS variance do not replace the underlying designated use and criteria.
- The TMDL allocations must be based on the underlying designated use.
- However, an NPDES 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” (i.e. not applicable) during the WQS variance term.

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 CWA 401 certification.

HELPFUL RESOURCES

➤ WQS Variances website:

Provides information on WQS variances including links to the online WQS Variance Building Tool

<https://www.epa.gov/wqs-tech/water-quality-standards-variances>

➤ WQS Variance Building Tool

<https://www.epa.gov/wqs-tech/water-quality-standards-variance-building-tool>

- [Checklist For Evaluating State Submission Of Discharger-Specific Water Quality Standards Variances](#)
- [Checklist for Water Quality Standards Variance Supporting Documentation Requirements \(PDF\)](#)
- Dedicated chapter in the [WQS Handbook](#) (under development)

