



Water Quality Standards (WQS)



- Designated uses
- Water quality criteria
- Antidegradation policy and implementation methods, 40 CFR 131.12





Antidegradation Origins

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- First policy issued 1968, by Dept of Interior
 - Included in the first WQS Reg. Nov. 28, 1975
 - Re-promulgated with refinements (its current form) in the WQS Reg of November 8, 1983

Antidegradation Origins

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- Conceived as being consistent with the objective of the CWA at Sec. 101(a) to restore and maintain the chemical, physical, and biological integrity of the nations waters.



Federal Antidegradation Policy in short...

- Protects Existing Uses
- Attempts to protect water quality that **exceeds** that necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water (i.e. CWA 101(a)(2) "goal uses"), i.e., Protect "High Quality Waters"
- Provides a mechanism to protect waters of exceptional ecological or recreational significance as outstanding national resources "ONRWS"



Applicability to State and Tribal WQS



- States and Tribes are to adopt, as part of water quality standards, an antidegradation policy consistent with 40 CFR 131.12
- Identify implementation methods for this policy

Antidegradation Applicability

- Like uses and criteria, antidegradation policies should apply to the waters in general and be implemented to address both point and non-point source discharges, and other activities that could effect those waters
- However, federal antidegradation requirements do not create, or require the creation of, state or tribal regulatory authorities over otherwise unregulated activities



What Are The Elements Of An Antidegradation Policy Consistent With 40 CFR 131.12 ?

Water Quality for:



(Also note 131.12(a)(4) FYI)



Water Quality For Existing Uses

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- Existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected.
 - Existing uses are those uses actually attained in the water body on or after 11/28/75, whether or not they are included in the WQS
 - The "floor" for protection for all waters of US.
 - Existing use protection/Tier 1 is always applicable



High Quality Waters

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- Seeks to maintain and protect existing water quality that is better than necessary to support the 101(a)(2) “goal uses” of the CWA, but...

High Quality Waters - Cont.

- Allows the lowering of such water quality if the State or Tribe finds, after full satisfaction of the intergovernmental coordination and public participation provisions of its continuing planning process, that lowering of water quality is necessary to accommodate important economic or social development in the area of the water

High Quality Waters - Cont.

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- Will the proposed activity provide important economic or social development?
 - if so, is a lowering of water quality necessary to accommodate that development?

High Quality Water - Assimilative Capacity (example)



Dissolved Oxygen = 10 ug/l
High Quality Water

3 ug/l "available"
assimilative
capacity



Water Quality Criterion = 7 ug/l Dissolved Oxygen
CWA 101 (a)(2) interim goal use supported





High Quality Water - Important Economic or Social Development Provided?

Consider Implications to:

- Local employment
- Household income
- Local Tax base
- Necessary services to the community
- Public health
- Tourism



High Quality Water - Is it Necessary to Lower Water Quality?

Are there alternatives, that would avoid or minimize the degradation?

Proposed new or increased NPDES discharge:

- alternative methods of production
- wastewater minimization technologies
- new wastewater treatment technologies
- non-discharge alternatives
- alternative sites



High Quality Water Analysis - Cont.

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- Intergovernmental Coordination and Public Participation can assist in identifying alternatives and addressing the question of whether important economic or social development will be provided.
 - Local, State, Tribal, and Federal economic development and resource agencies may be able to contribute important information that the State or Tribal environmental agency is not aware of.



High Quality Waters - Cont.

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- Also, in allowing a lowering of water quality, the State or Tribe shall assure achievement of the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for non-point source control.



High Quality Waters - Review If lowering water quality...

- Identify high quality water, is assimilative capacity available?
- Does the activity support important economic or social development?
- Is a lowering of water quality necessary?
- Intergovernmental Coordination?
- Opportunity for public participation?
- Will existing uses be protected?
- Appropriate Technology and BMPs required for other point and non-point sources, respectively?

Only then may degradation be authorized



Outstanding National Resource Waters (ONRWs)

- Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

ONRWs - Cont.

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- States and Tribes are to provide an ONRW level of protection in their antidegradation policies, but...
 - No federal requirement that any waterbody be so designated

ONRWs - Cont.

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- “Maintain and Protect” generally means no new or increased discharge, except for those of short term and temporary nature
 - Existing Uses must be protected
 - Existing discharges or other activities do not preclude designation, but the spirit of ONRW protection could lead to managing for reduction or removal of the activity over time

Implementation Methods

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- In addition to adopting an antidegradation policy, states and tribes are to identify implementation methods consistent with their policy
 - Such methods should describe how the State or Tribe will implement the required elements of the federal antidegradation policy
 - This is where the “details” generally are
 - Such methods may be part of the WQS regulation, or in other documents



Implementation Methods should Address:

- Applicability - Activities and Waters covered
- When a particular Tier is applicable (e.g., How "high quality water" is identified)
- Method for ensuring Existing use protection
- Methods for addressing the various components of a Tier 2 review.
- Method to ensure that the water quality of ONRWs is maintained and protected - including the process for identifying ONRWs.

Tier 2 Antidegradation Review

invented example



**Heather's Lake
existing Zn = 20 ug/l**

**Aquatic Life criterion
for Zn = 120 ug/l**



**Tom's Widget Factory
proposed discharge
predicted to bring
Zn levels to 50 ug/l**

Tier 2 Antidegradation Review

invented example-continued



Identify the high WQ

Alternatives analysis

Social/economic analysis

Existing uses?

Point source &
Nonpoint source controls?

Intergovernmental coord &
Public participation

Only then...
State determination

“Advanced” Antideg Topics

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- Approached to identifying “high quality water?”
 - “Parameter by Parameter,” or
 - “Waterbody by Waterbody”
 - To distinguish, or not, between significant and “insignificant” (“de minimis”) degradation in determining the extent of review for proposals to lower high quality water?
 - How to ensure antidegradation is substantively addressed in the context of general permits.



“Advanced” Antideg Topics - continued

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- Adopt a “Tier 2.5” provision, between high quality water protection and ONRW protection?

(not a provision of the federal regulation)

EPA's Review of Antidegradation Policies and Implementation Methods



- Is the antidegradation policy consistent with §131.12(a)(1)-(3)?
 - Are existing uses, high quality waters and ONRWs protected?
 - Are implementation methods identified and consistent with the federal policy and the state's policy?

Review Question #1

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- True or False. The federal antidegradation policy allows a lowering of water quality necessary to protect existing uses, if justified through a process that includes public participation and intergovernmental review?

Review Question #1

-
- True or False. The federal antidegradation policy allows a lowering of water quality necessary to protect existing uses, if justified through a process that includes public participation and intergovernmental review?

Answer:

- ◆ *False. 40 CFR 131.12(a)(1) requires that existing uses, and the water quality necessary for their protection, be maintained.*

Review Question #2

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- True or False. The federal antidegradation policy is a strict prohibition on all economic development, as a means to protect high quality water?

Review Question #2

-
- True or False. The federal antidegradation policy is a strict prohibition on all economic development, as a means to protect high quality water?

Answer:

✘ *False.* The federal antidegradation policy allows for the lowering of high quality water when it is necessary to provide for important economic or social development in the area in which the waters are located.

Review Question #3

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- True or False. When determining if a lowering of high quality water is justified, the promise of important economic or social development means that any associated proposed lowering of water quality is automatically necessary?

Review Question #3

- True or False. When determining if a lowering of high quality water is justified, the promise of important economic or social development means that any associated proposed lowering of water quality is automatically necessary?

Answer:

✗ False. Alternatives analysis may result in an ability to avoid or minimize the lowering of water quality while still providing for the economic or social development.

Review Question #4

- 
- True or False. Before antidegradation “came to town,” there was never a need to know a receiving water’s assimilative capacity prior to authorizing a new or increased discharge of pollutants.

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- True or False. Before antidegradation “came to town,” there was never a need to know a receiving water’s assimilative capacity prior to authorizing a new or increased discharge of pollutants.

Answer:

✍ False. Information concerning a receiving waters assimilative capacity for a pollutant(s) is important to ensure that effluent limits will meet water quality criteria and protect designated uses, (i.e., is there “room” for new pollutant loads?). Antideg is additional review that uses such information.

Review Question #5

- 
- True or False. ONRWs may include waters that are of exceptional recreational or ecological significance, even if they are not high quality as judged against a state's or tribe's water quality criteria.

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- True or False. ONRWs may include waters that are of exceptional recreational or ecological significance, even if they are not high quality as judged against a state's or tribe's water quality criteria.

Answer:

- ✍ *True. Waters of exceptional recreational or ecological significance may be designated as ONRWs by a state or tribe, in accordance with 40 CFR 131.12(a)(3). Such waters may include wetlands and hot springs.*

Review Question #6

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- True or False. A state's or tribe's antidegradation policy must be consistent with EPA's policy outlined in 40 CFR131.12, and may be more protective if desired.

Review Question #6

- True or False. A state's or tribe's antidegradation policy must be consistent with EPA's policy outlined in 40 CFR131.12, and may be more protective if desired.

Answer:

True. At a minimum, the State's or Tribe's antidegradation policy must be consistent with 40 CFR 131.12. However, states and authorized tribes may develop antidegradation policies that are more protective than the federal policy.

Review Question #7

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- True or False. The federal antidegradation policy reflects the objective of the Clean Water Act.

Review Question #7

- True or False. The federal antidegradation policy reflects the objective of the Clean Water Act.

Answer:

True. The federal antidegradation policy is consistent with the objective of the CWA at Sec. 101(a) to restore and maintain the chemical, physical, and biological integrity of the nations waters.