Module 14
Antidegradation

- What do the antidegradation regulations require?
- What are the levels of protection?
- What are the elements of an antidegradation review?
- Examples
- Hot topics

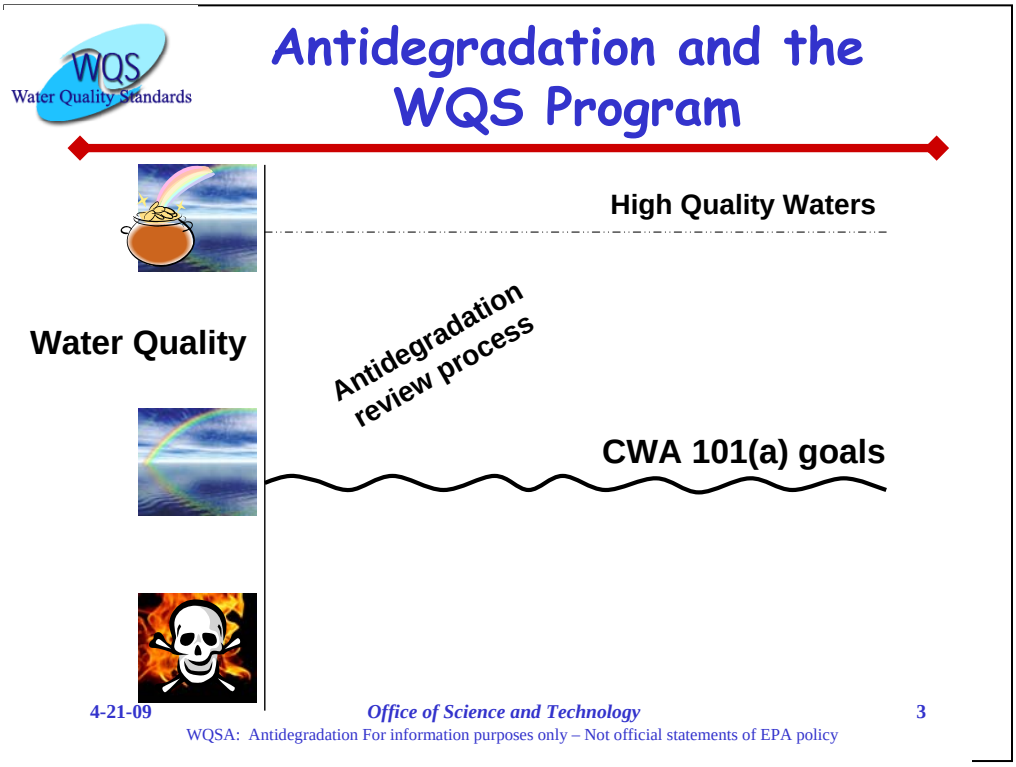
Background

Water Quality Standards consist of:

DESIGNATED USES: e.g., protection and propagation of aquatic life, recreation in and on the water

CRITERIA: numeric and/or narrative parameters to protect the designated uses

ANTIDEGRADATION POLICY AND PROCEDURES: to maintain and protect existing water quality.



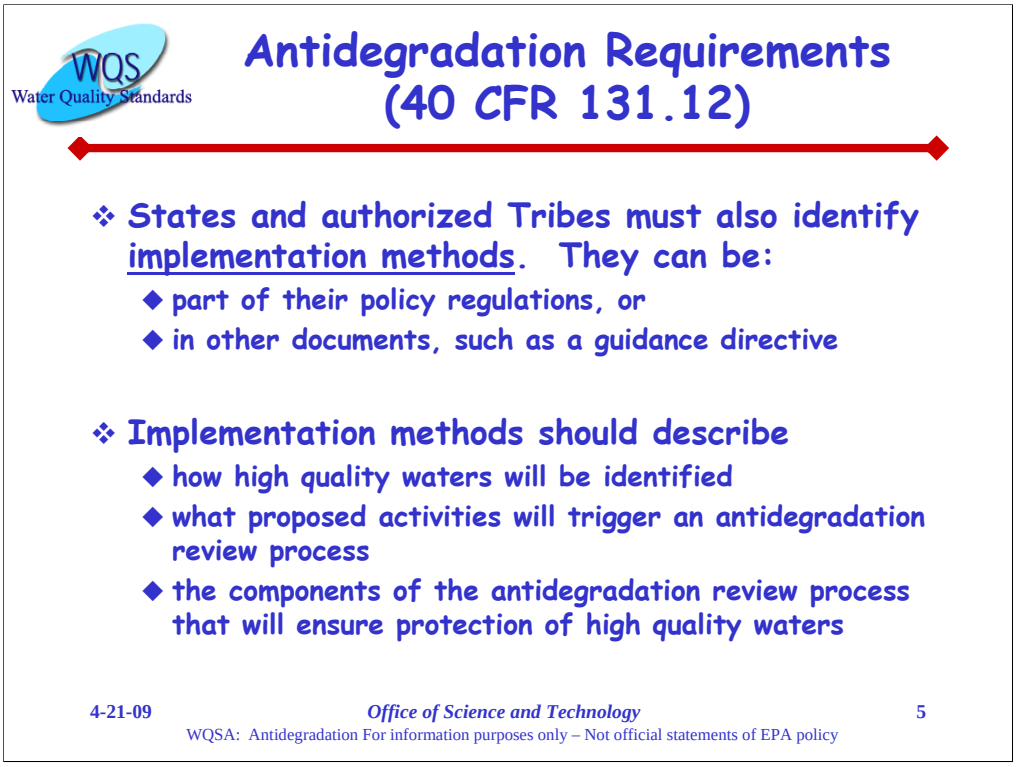
One purpose of designated uses and criteria is to bring waters up to at least the Clean Water Act 101 (a) goals.

Antidegradation is for waters that are “above and beyond” that already.

An Antidegradation review is the decision making process for what to do about high quality waters

Antidegradation Requirements (40 CFR 131.12)

- States and authorized Tribes must develop and adopt a statewide antidegradation policy to protect:
  - existing in-stream uses for all waters of the U.S.;
  - high quality waters (water quality that is better than the levels necessary to support propagation of fish, shellfish and wildlife and recreation in and on the waters (i.e., CWA 101(a) goals)); and
  - Outstanding National Resource Waters (ONRWs) designated by the state.



•EPA interprets the requirement in §131.12(a) to identify implementatiomethods to mean that states/tribes must have implementation methods.

• The Water Quality Standards Handbook, Chapter 4 explains that EPA's review of the implementation methods is to ensure that the methods describe how the state will implement the required elements of the antidegradation review. EPA uses the implementation methods as information to ensure that the state or tribal policy is consistent with the provision of the regulations (§131.12(a)(1)-(4). State antidegradation policies have been disapproved, based on the implementation methods.

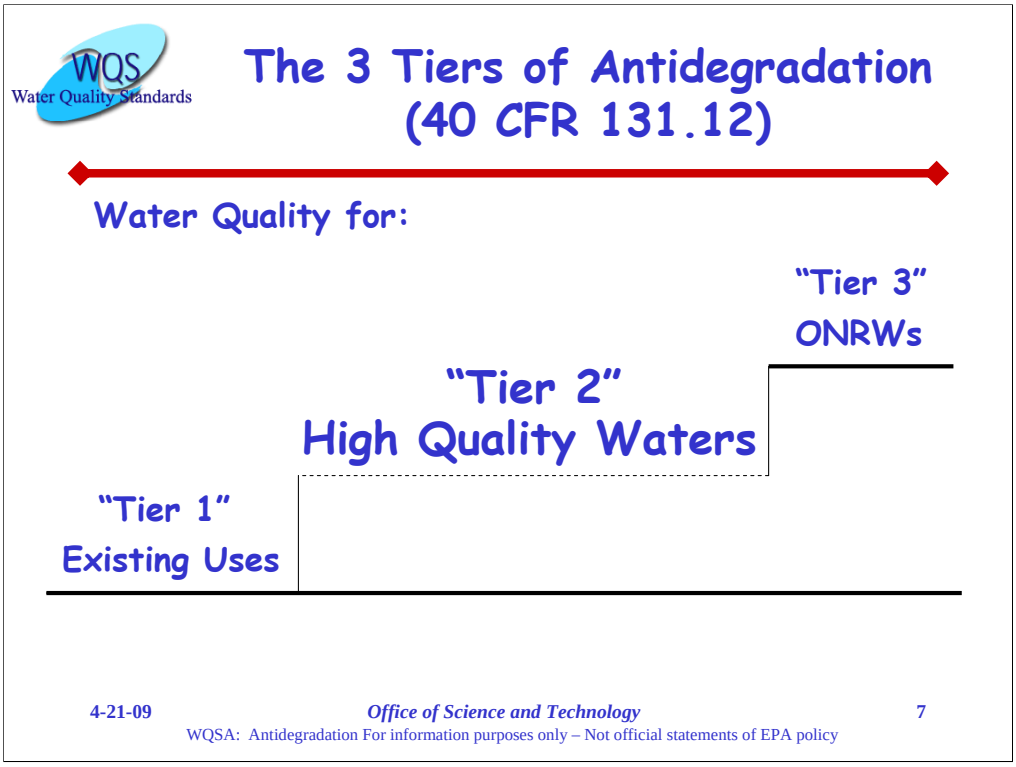
• Some of EPA's Regional Offices have developed guidance on their expectations for state/tribal implementation methods.

Policy vs. Implementation

invented example – demonstration purposes only!

- A state's Policy might say something like this:
  "Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected."

- Their implementation methods could then say something like:
  - HQWs in the State are identified in section 1234 of this document.
  - An applicant for any new or increased discharge to HQWs shall submit State X form 5678 documenting how they considered the following alternatives to the proposed discharge, and why each one was determined to be viable or not viable: Land Application, Recycling, etc.
  - Applicant shall respond in writing to the following questions regarding the importance of the economic or social development the proposed activity would allow, and provide supporting information.
    - 1. What public service to the community will the discharger be providing? …etc.
  - …and a description of how the state will determine whether to allow a discharge to the High Quality Waters based on the application



The three tiers can be thought of as levels of protection.

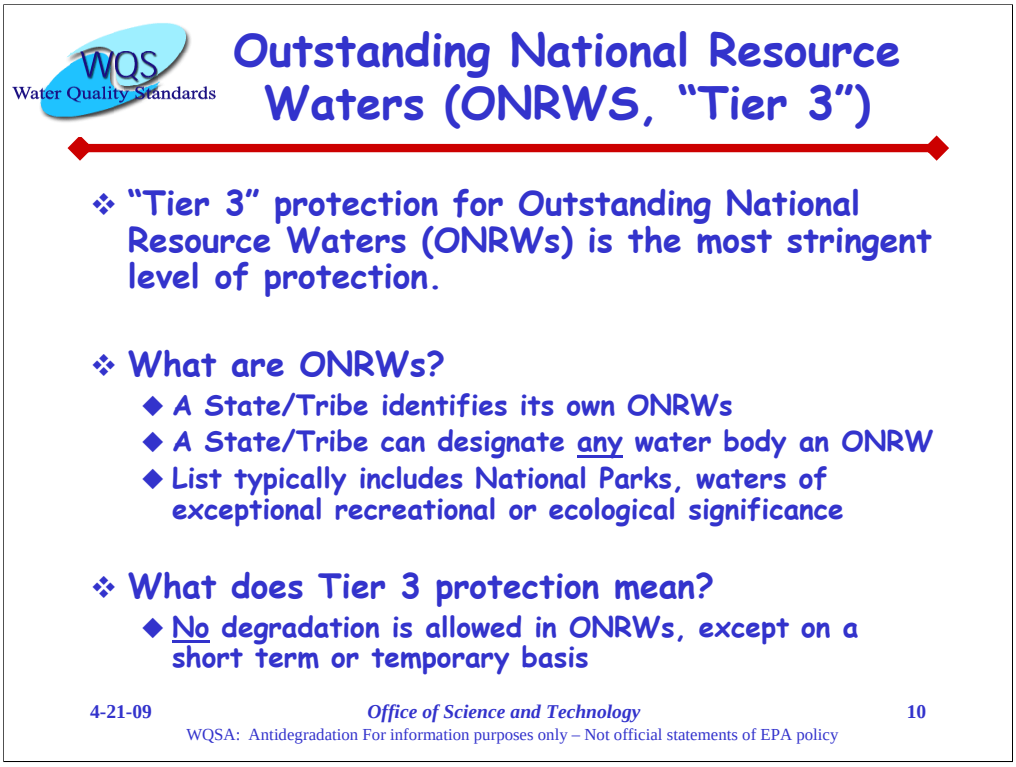
Tiers 1 and 3 are relatively straightforward. Tier 2 is less so.

Two Ways to Identify High Quality Waters

- "Waterbody-by-Waterbody"
  - State/Tribe Tiers all its water bodies upfront
  - Tiering is based on characteristics observed using biological, chemical and/or aesthetic quality information
  - Each water body is classified as one Tier only
- "Parameter-by-Parameter"
  - State/Tribe determines Tier on a case-by-case basis
  - Determination of whether water quality is better than the criterion for specific parameters of concern using chemical or biological data.
  - A water body can be Tiered differently for parameters

Existing Uses ("Tier 1")

- "Tier 1" protection is the baseline of protection for all waters of the U.S.
  - For waters in Tier 1: Existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected.
  - For waters in Tiers 2, 3: Existing uses generally reflect CWA 101(a) goals already achieved. These waters also have additional protections; protection of existing uses is the baseline of protection.

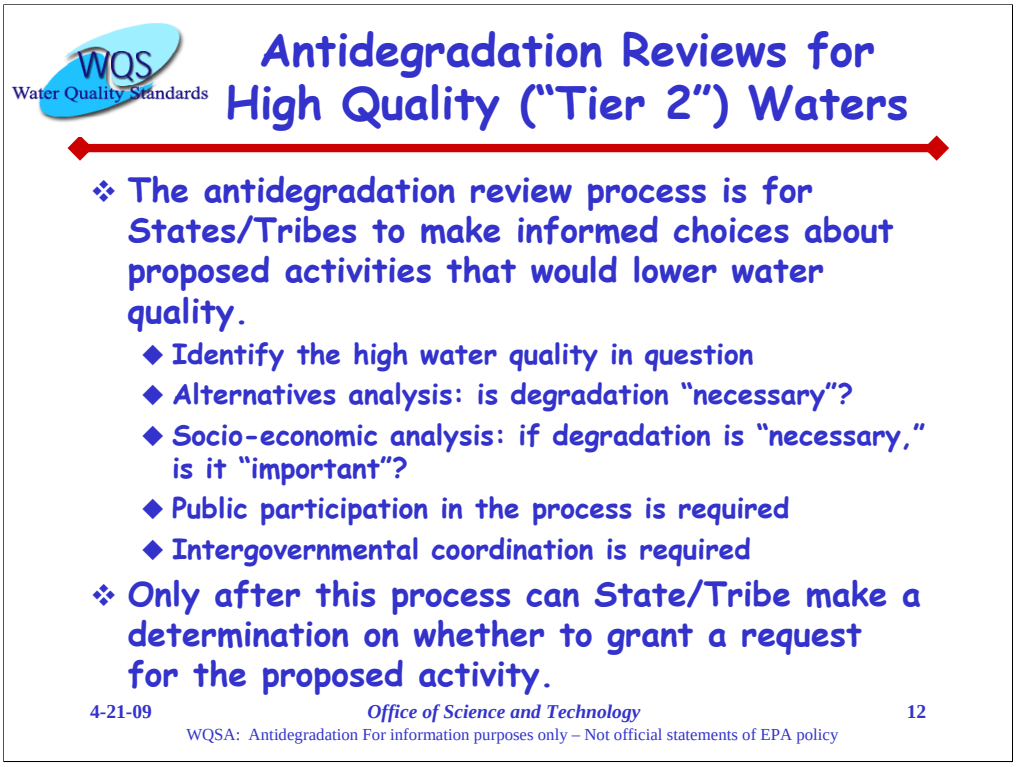


Tier 3

** also a Tier 2.5- completely discretionary- if don't want to be as stringent as Tier 3 (NO degradation) but want to provide higher protection than Tier 2

High Quality Waters ("Tier 2")

- For water bodies where water quality exceeds the CWA 101(a) goals, State/Tribe must assure:
  - Existing uses are always protected (Tier 1),
  - Highest statutory/regulatory requirements for point sources are achieved, and
  - Cost-effective and reasonable BMPs for non-point sources are achieved, where required by State/Tribe
- High water quality may be lowered only if State/Tribe finds lowering to be "necessary to accommodate important economic or social development."

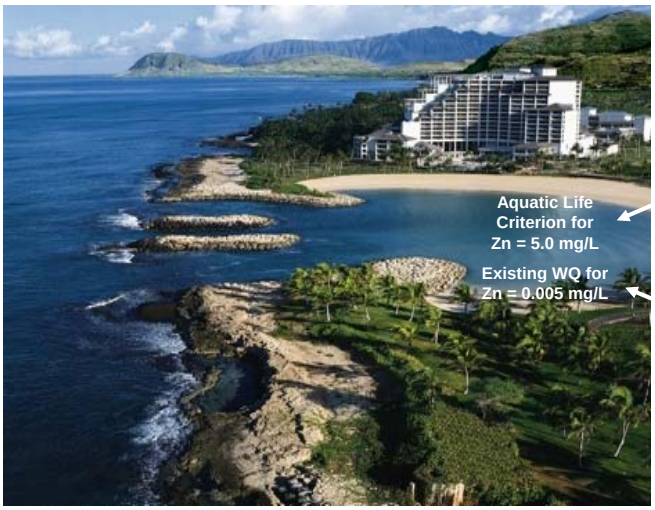


Alternatives--e.g., cost effective pollution prevention alternatives that are available to the entity that would eliminate or significantly reduce the extent to which the increased loading results in a lowering of water quality;

Socio economic analysis can look at benefits forgone– what would be the if the lowering of water quality is not allowed.

Antidegradation Review

invented example



Identify the high water quality in question:

Heather's Beautiful Estuary

Tom's Widget Factory proposed discharge would degrade the estuary in terms of one parameter: Zinc

Antidegradation Review

invented example

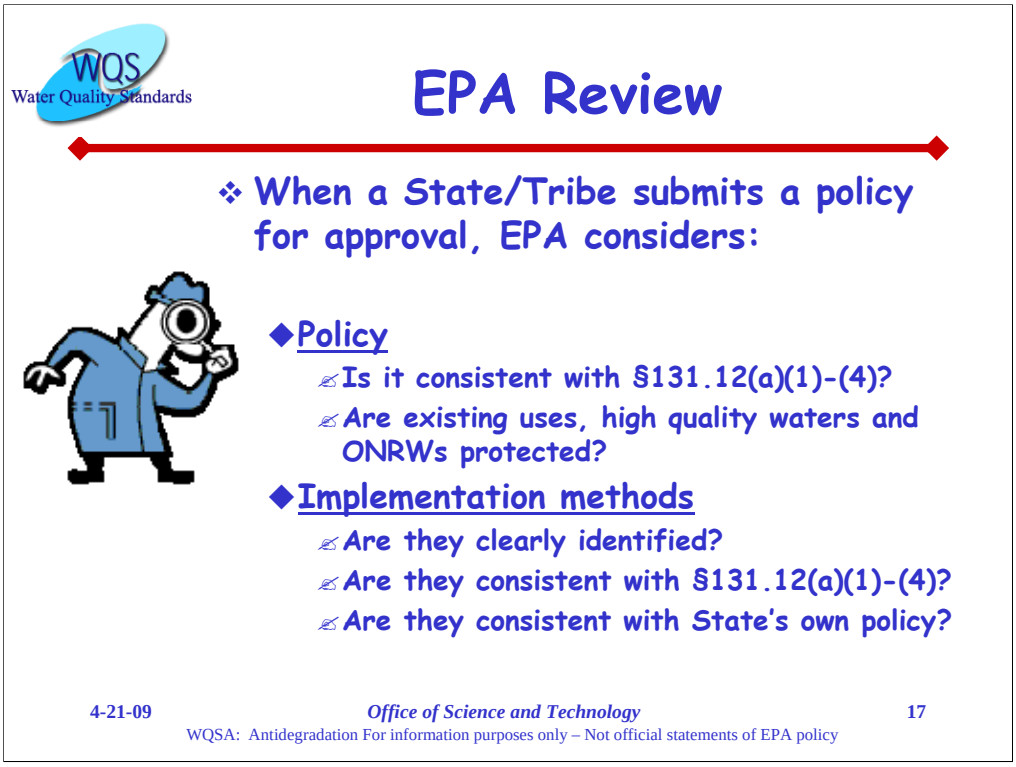
Identify the high WQ
Alternatives analysis
Socio-economic analysis
Public participation
(Intergovernmental coord.)
then…
State determination

State example: Alabama

- POLICY includes: Three-tiered system parallel to 131.12
  - Tier 1- automatically applies to impaired waters on 303 (d) list and waters less than "fishable/swimmable"
  - Tier 2- by default, all waters not Tier 1 or 3
  - Tier 3- ONRWs specifically designated
- IMPLEMENTATION METHODS include:
  - Description of the how antidegradation reviews should occur concurrently with permitting process
  - Forms (alternatives analysis and social and economic impacts) to be submitted with application for permit

State example: Ohio

- POLICY includes: Many-tiered system different from 131.12
  - Limited Quality Waters (Tier 1)
  - High Quality Waters (Tier 2)
    - General High Quality Waters (default)
    - Superior High Quality Waters
    - Lake Erie
    - Outstanding State Waters
  - ONRWs (Tier 3)
- IMPLEMENTATION METHODS include:
  - Detailed public involvement process – notice, factsheet, hearing
  - Detailed worksheets on alternatives analysis for applicant to demonstrate the non-degradation, minimal degradation and mitigative technique alternatives considered



• EPA Regional Offices review and take action on a new or revised antidegradation provisions just as they do for any other revisions for State/Tribal WQS.

• Some of the questions evaluated in the review are:

– Does the policy include provisions to protect existing uses, high quality waters, and ONRWs?

– Are there implementation methods (either as part of the state/tribal water quality standards regulation or as guidance)?

– Do the protections for high quality waters apply to a broad spectrum of waters or to a narrow subset?

- For example, some states have tried to apply the high quality waters protections only to waters which display some unique characteristics rather than broadly to all waters that support the propagation of fish, shellfish and wildlife and recreation in an on the water.

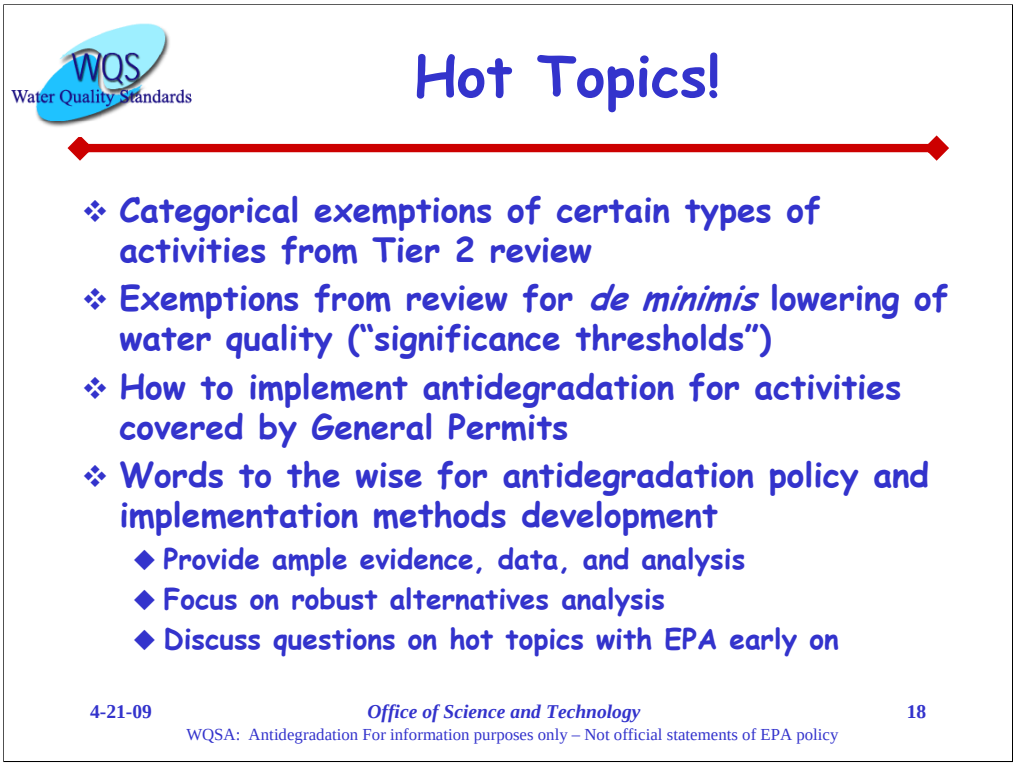
- If the state can only identify a few waters, for example, from 305(b) reports, that meet its criteria for the high quality water protections, the antidegradation policy may not be consistent with the regulations.

• If the wording in the new or revised antidegradation policy or in the antidegradation methods is inconsistent with §131.12(a)(1)-(4), EPA has disapproved the water quality standard and, promulgated a federal replacement antidegradation policy, where necessary.

• The federal replacement wording generally just repeats the language in §131.12 (a)

• See 61 FR 64816 Water Quality Standards for Pennsylvania (December 9, 1996)

• See 67 FR 68971 Water Quality Standards for Kentucky (Proposed) (November 14., 2002)



Reference: 2005 memorandum on significance thresholds (KING memo).