WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Wyoming Surface Water Quality Standards

Implementation Policies

Triennial Review Stakeholder Group
May 19, 2021

Outline

- Wyoming's Implementation Policies and Issues
- Turbidity
- Federal Regulations on Implementation
- Mixing Zones
- Use Attainability Analyses
- Antidegradation

Outline

- Wyoming's Implementation Policies and Issues
- Turbidity
- Federal Regulations on Implementation
- Mixing Zones
- Use Attainability Analyses
- Antidegradation

- Federal Requirements and Guidance
- Wyoming's Rules and Policies
- Examples From Other States
- Potential Ideas for Changes to Wyoming's Standards and Policies

References to Implementation Policies

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Implementation Policies

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Wyoming
Surface Water Quality Standards

Implementation Policies
for

Antidegradation
Mixing Zones and Dilution Allowances
Turbidity
Use Attainability Analysis

Effective September 24, 2013

Implementation Policies

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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Interim Policy on Establishing Effluent Limits for Permitted Point Source Discharges to Class 1 Water Tributaries

August 2, 2007

Point Source Discharges to Class 1 Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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Implementation "Policy" Issues

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1. Are referenced, but are not formally "incorporated by reference"

Section 9. Mixing Zones. Except for acute whole effluent toxicity (WET) values and Sections 14, 15, 16, 17, 28 and 29(b) of these regulations, compliance with water quality standards shall be determined after allowing reasonable time for mixing. Except for the zone of initial dilution, which is the initial 10% of the mixing zone, the mixing zone shall not contain pollutant concentrations that exceed the aquatic life acute values (see Appendix B). In addition, there shall be a zone of passage around the mixing zone which shall not contain pollutant concentrations that exceed the aquatic life chronic values (see Appendix B). Under no circumstance may a mixing zone be established which would allow human health criteria (see Appendix B) to be exceeded within 500 yards of a drinking water supply intake or result in acute lethality to aquatic life. The procedures used to implement this section are described in the *Mixing Zones and Dilution Allowances Implementation Policy*.

Implementation “Policy” Issues

- If the policies are intended to have the force and effect of rule, then they should be incorporated into the rule or “incorporated by reference” following the guidelines identified in the Wyoming Administrative Procedures Act

Wyoming Administrative Procedures Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

‹ Previous Next ›

Wyo. Stat. § 16-3-103

Copy Citation

Current through 2020 Budget Session and First Special Session of the Wyoming Legislature. Subject to revisions by LSO.

Wyoming Statutes Ann

§ 16-3-103. Ado
proceedings to c

(a) Prior to an agency's a
shall:

(h) An agency may incorporate, by reference in its rules and without publishing the incorporated matter in full, all or any part of a code, standard, rule or regulation that has been adopted by an agency of the United States or of this state, another state or by a nationally recognized organization or association, provided:

(i) The agency determines that incorporation of the full text in agency rules would be cumbersome or inefficient given the length or nature of the rules;

(ii) The reference in the rules of the incorporating agency fully identifies the incorporated matter by location, date and otherwise, and states that the rule does not include any later amendments or editions of the incorporated matter;

(iii) The agency, organization or association originally issuing the incorporated matter makes copies of it readily available to the public;

(iv) The incorporating agency maintains and makes available for public inspection a copy of the incorporated matter at cost from the agency and the rules of the incorporating agency state where the incorporated matter is available on the internet as defined in W.S. 9-2-1035(a)(iii); and

(v) The incorporating agency otherwise complies with all procedural requirements under this act and the rules of the registrar of state agency rules governing the promulgation and filing of agency rules.

Implementation "Policy" Issues

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

2. Some aspects of the policies are not intended to have the force and effect of rule (i.e., guidance)
    - Some aspects of the policies are redundant (exact language and restatements)

3. Some aspects of the policies are intended to have the force and effect of rule (i.e., rule)

Implementation “Policy” Issues

4. Federal regulations use the term “policy” to refer to elements in rule and “implementation methods” to refer to elements that are outside of rules

Implementation Policy Issues

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

5. Have not been substantively updated since 2007

6. “Interim Policy” on Developing Permits to Tributaries to Class 1 Waters

Implementation "Policy" Considerations

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- What aspects of the "policies" should be in the rules or incorporated by reference in the rules?
- What aspects of implementation should be outside of the rules?
    - If outside the rule (i.e., guidance), what should the public involvement process be and does this be captured in the rules?

Turbidity Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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Surface Water Quality Standards

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Antidegradation
Mixing Zones and Dilution Allowances
Turbidity
Use Attainability Analysis

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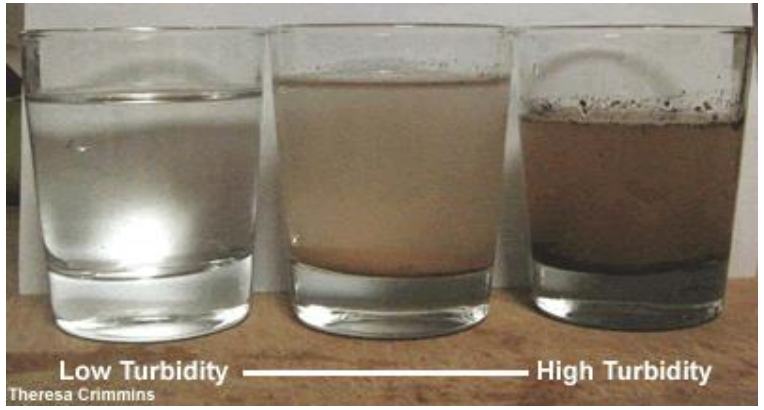


Turbidity Criteria

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 23. Turbidity.

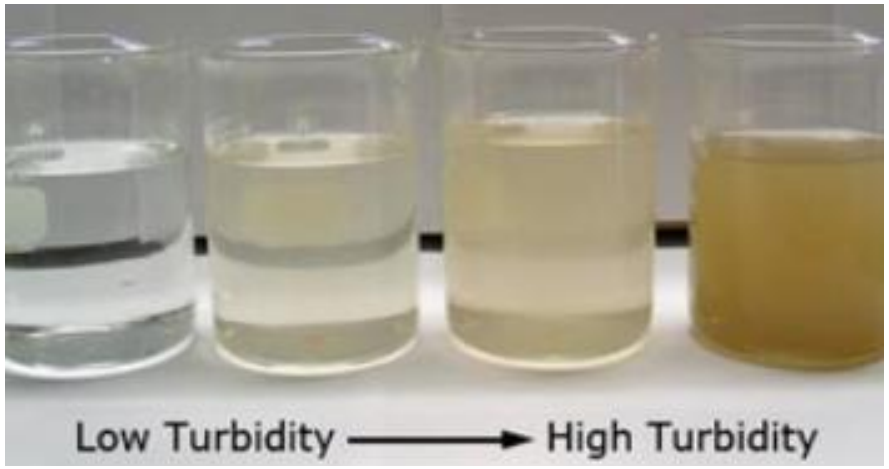
(a) In all cold water fisheries and/or drinking water supplies (Classes 1, 2AB, 2A and 2B), the discharge of substances attributable to or influenced by the activities of man shall not be present in quantities which would result in a turbidity increase of more than ten (10) nephelometric turbidity units (NTUs).

(b) In all warm water or nongame fisheries (Classes 1, 2AB, 2B and 2C), the discharge of substances attributable to or influenced by the activities of man shall not be present in quantities which would result in a turbidity increase of more than 15 NTUs.

(c) An exception to paragraphs (a) and (b) of this section shall apply to:

(i) The North Platte River from Guernsey Dam to the Nebraska line during the annual "silt run" from Guernsey Dam; and

(ii) Short-term increases of turbidity that have been determined by the administrator to have only a minimal effect on water uses. Such determinations shall be made on a case-by-case basis and shall be subject to whatever controls, monitoring and best management practices are necessary to fully maintain and protect all water uses. The procedures used to implement this section are described in the *Turbidity Implementation Policy*.



Turbidity Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

TURBIDITY IMPLEMENTATION POLICY
(Chapter 1, Section 23)

Section 1. Purpose. Section 23 of the Wyoming Surface Water Quality Standards (Water Quality Rules and Regulations, Chapter 1) places the following limits on increases of turbidity in waters of the state:

(a) In all cold water fisheries and/or drinking water supplies (Classes 1, 2AB, 2A and 2B), the discharge of substances attributable to or influenced by the activities of man shall not be present in quantities which would result in a turbidity increase of more than ten (10) nephelometric turbidity units (NTUs).

(b) In all warm water or nongame fisheries (Classes 1, 2AB, 2B and 2C), the discharge of substances attributable to or influenced by the activities of man shall not be present in quantities which would result in a turbidity increase of more than 15 NTUs.

(c) An exception to paragraphs (a) and (b) of this section shall apply to:

(i) The North Platte River from Guernsey Dam to the Nebraska line during the annual "silt run" from Guernsey Dam; and

(ii) Short-term increases of turbidity that have been determined by the administrator to have only a minimal effect on water uses. Such determinations shall be made on a case-by-case basis and shall be subject to whatever controls, monitoring and best management practices are necessary to fully maintain and protect all water uses. The procedures used to implement this section are described in the Turbidity Implementation Policy.

When the department is considering the regulation of any point source (through the WYPDES or 401 certification processes), compliance with the numeric turbidity criteria for the various classes of waters has always been required and will continue to be required. The department also recognizes that short-term, construction-related exceedances of these standards are often unavoidable and do not necessarily result in significant degradation of water quality or loss of existing or designated uses. In fact, there are many construction activities in streams and rivers that have long-term beneficial effects or provide important economic or social benefits that may temporarily increase turbidity during the construction period.

Section 2. Policy. In accordance with Section 23(c)(ii), the administrator may authorize temporary increases in turbidity above the numeric criteria in Section 23(a) and 23(b) in response to an individual application for a specific activity. It is intended that temporary increases in turbidity will be limited to construction-related activities rather than effluent or storm water discharges. Such authorization may be issued independently or included in a WYPDES permit or 401 water quality certification, provided that the applicant can demonstrate and accept the following conditions:

(a) The activities causing the increased turbidity will be limited in time and duration;

(b) All existing and designated uses will be fully maintained and protected throughout the duration of the activity;

(c) Best available technology and/or best management practices will be employed to maintain turbidity and sedimentation at the lowest practical level;

(d) The authorization for increased turbidity will specify the limits of the authorization and may include a monitoring and reporting schedule to demonstrate compliance with those limits;

(e) Mitigation or stream restoration requirements may be included as conditions in conjunction with any authorization for a temporary increase in turbidity;

(f) An authorization issued under this section does not relieve the applicant of any liability for damages to aquatic life, habitat, or other existing or designated uses that may result from an increase in turbidity;

(g) An authorization issued under this section does not exempt the applicant from any other federal, state or local laws or regulations, nor does it provide exemption from legal action by private citizens for damage to property that the activity may cause.

(h) The administrator shall publish a notice of intent to authorize a temporary increase of turbidity in a paper of local circulation for a minimum of fourteen days prior to authorizing the increase. Interested persons may request a public hearing on the proposed authorization. In circumstances where the activity is necessary to address unforeseen acts of nature and cannot be delayed, the administrator may authorize a temporary increase without publishing a notice of intent.

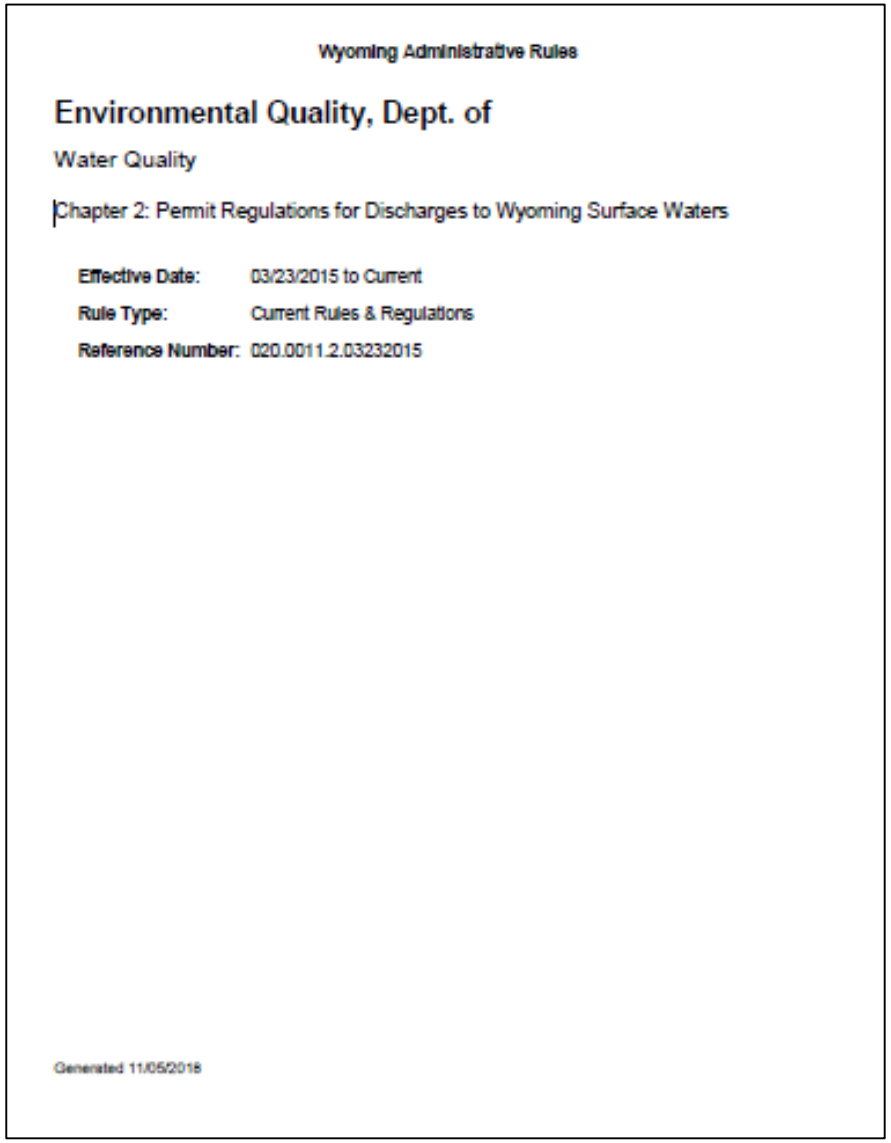
Chapter 1, Sediment and Turbidity Criteria

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Section X. Narrative Criteria

Ideas for Potential Changes to Standards



Wyoming Administrative Rules

Environmental Quality, Dept. of

Water Quality

Chapter 2: Permit Regulations for Discharges to Wyoming Surface Waters

Effective Date: 03/23/2015 to Current
Rule Type: Current Rules & Regulations
Reference Number: 020.0011.2.03232015

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- Establish permit by rule for short-term construction activities in Permitting Regulations that includes requirements from policy
  - Existing and designated uses shall be fully maintained and protected
  - Best available technology and management practices shall be used to maintain turbidity and sedimentation at the lowest practical level
  - Public water supplies shall be notified in advance

Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

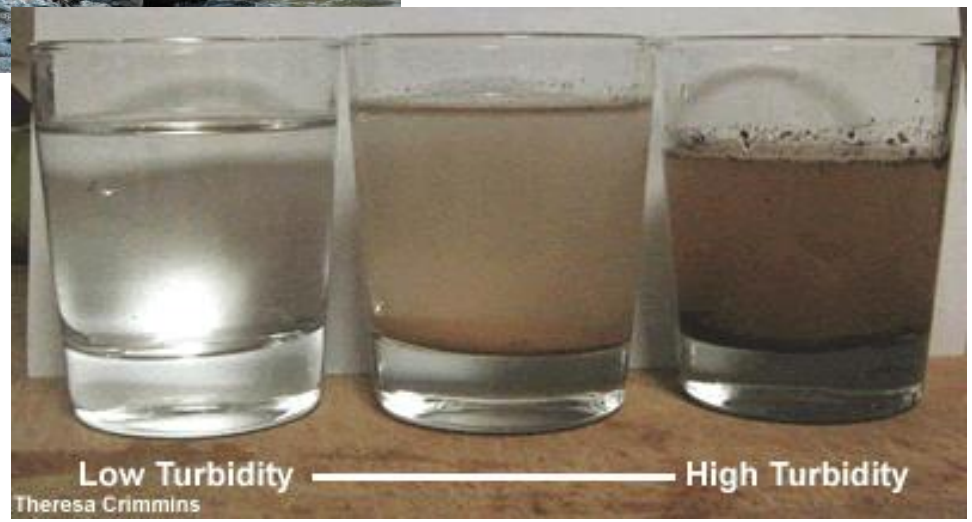
Wyoming
Surface Water Quality Standards

Implementation Policies
for

Antidegradation
Mixing Zones and Dilution Allowances
~~**Turbidity**~~
Use Attainability Analysis

Effective September 24, 2013

Eliminate Turbidity Implementation Policy



Implementation Policies

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Wyoming
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Implementation Policies
for

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Surface Water Quality Standards

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Designated Uses

Implementation

Water Quality Criteria

Antidegradation

Implementation

- Provisions that affect the enforcement, application, and execution of surface water quality standards

Implementation: Clean Water Act

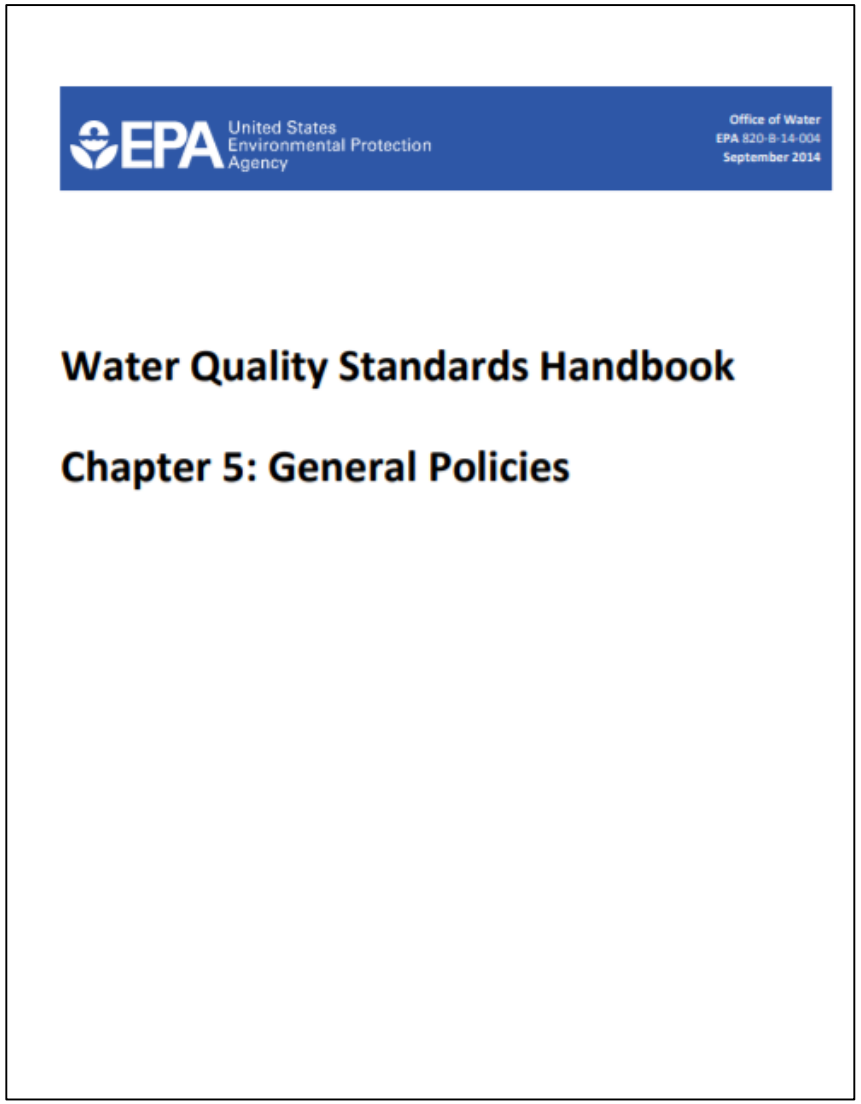
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

40 CFR 131.13

- States may adopt general policies [rules] into water quality standards that affect how the standards are applied and implemented
  - Mixing zones, low flows, variances (40 CFR 131.14)

Implementation: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



Implementation: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Water Quality Standards Handbook

Chapter 5: General Policies

Water Quality Standards Handbook
Chapter 5: General Policies

(40 CFR 131.13)

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Limited area where initial dilution of discharge takes place where numeric criteria may be exceeded

EPA United States Environmental Protection Agency

Office of Water
EPA 820-B-14-004
September 2014

Water Quality Standards Handbook

Chapter 5: General Policies

5.1 Mixing Zones

A mixing zone is a limited area or volume of water where initial dilution of a discharge takes place and where certain numeric water quality criteria may be exceeded. The CWA does not require that all criteria be met at the exact point where pollutants are discharged into a receiving water prior to the mixing of such pollutants with the receiving water. Sometimes it is possible to expose aquatic organisms to a pollutant concentration above a criterion for a short duration within a limited, clearly defined area of a waterbody while still maintaining the designated use of the waterbody as a whole. Where this is the case, a state or authorized tribe may find it appropriate to allow ambient concentrations of a pollutant above the criterion in small areas near point-source outfalls (i.e., mixing zones).

Mixing zones d
tribe-adopted a
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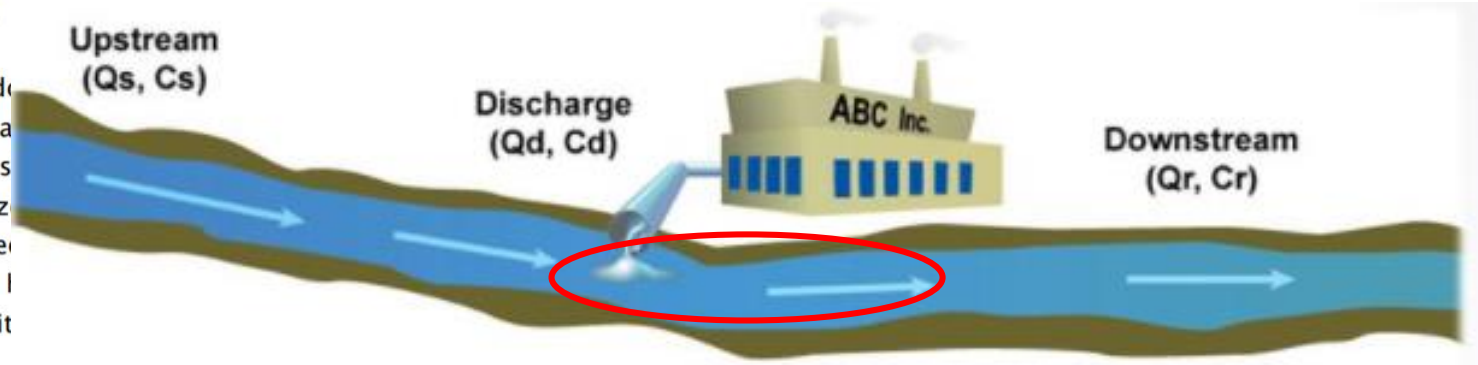

Mixing Zones: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Mixing zone "policy" is a new or revised water quality standard that must be adopted into state or tribal law and approved by the EPA before it is effective for Clean Water Act purposes

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September 2014

Water Quality Standards Handbook

Chapter 5: General Policies

While mixing zones serve to dilute concentrations of pollutants in effluent discharges, they also allow increases in the mass loading of the pollutant to the waterbody (more so than would occur if no mixing zone were allowed). Therefore, if not applied appropriately, a mixing zone could adversely affect mobile species passing through the mixing zone as well as less mobile species (e.g., benthic communities) in the immediate vicinity of the discharge. Because of these and other factors, mixing zones should be applied carefully so that they do not result in impairment of the designated use of the waterbody as a whole or impede progress toward the CWA goals of restoring and maintaining the physical, chemical, and biological integrity of the Nation's waters. Keeping this in mind, a state or tribe has the discretion to choose whether to authorize mixing zones and adopt a mixing zone policy. However, as described below, if a state or tribe chooses to adopt a mixing zone policy, such a policy is generally considered a new or revised WQS that must be adopted into state or tribal law and approved by the EPA before it is effective for CWA purposes.

Mixing Zones: Clean Water Act

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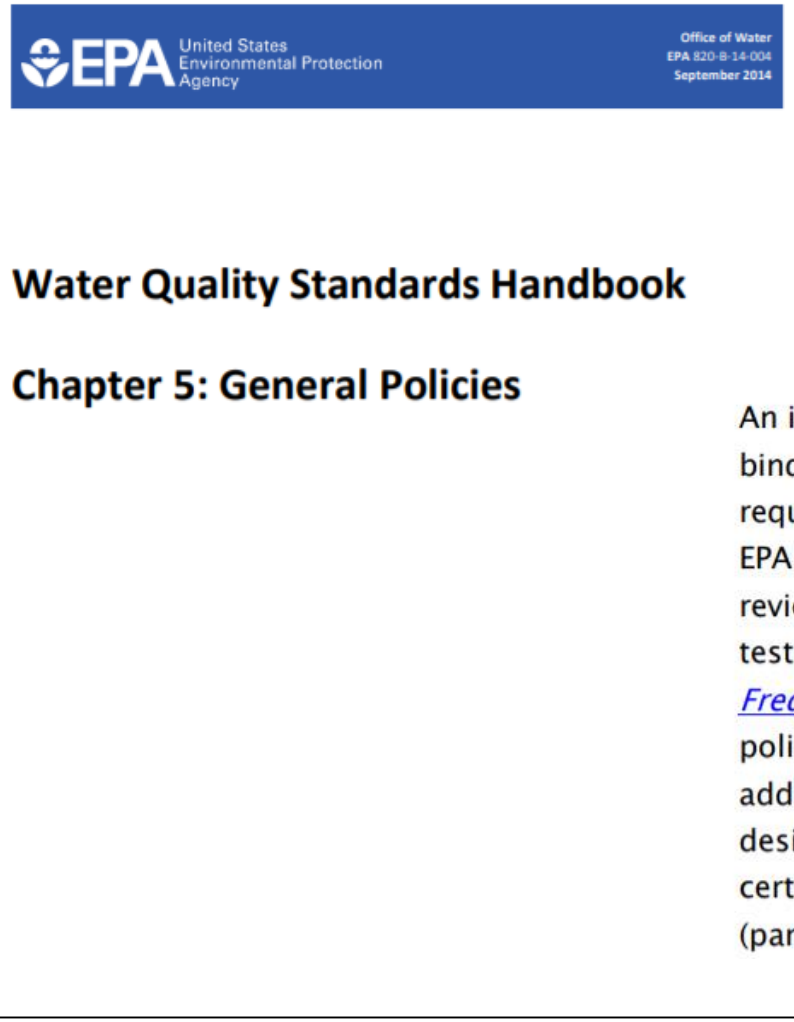

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Water Quality Standards Handbook

Chapter 5: General Policies

- Mixing zone policy describes general characteristics of and requirements for mixing zones
- Does not take into account site-specific information

An important note is that "mixing zone" is used in multiple ways. A *mixing zone policy* is a legally binding state or tribal policy that is adopted into WQS and describes the general characteristics of and requirements associated with mixing zones without taking into account site-specific information. The EPA generally views such mixing zone polices as constituting new or revised WQS that require EPA review and approval or disapproval under Section 303(c) of the CWA. Consistent with the four-part test described in *What is a New or Revised Water Quality Standard Under CWA Section 303(c)? Frequently Asked Questions* (2012) and Chapter 1 of this Handbook, a state or tribal mixing zone policy is a legally binding provision that is adopted into state or tribal law (part one), and it addresses the criteria component of WQS (part two). Additionally, a mixing zone policy expresses a desired condition in the waterbody to allow flexibility in meeting the applicable criteria within certain areas of the waterbody (part three), and if it is a new provision or revises an existing policy (part four), it clearly meets the requirements to be a new or revised WQS.

Mixing Zones: Clean Water Act

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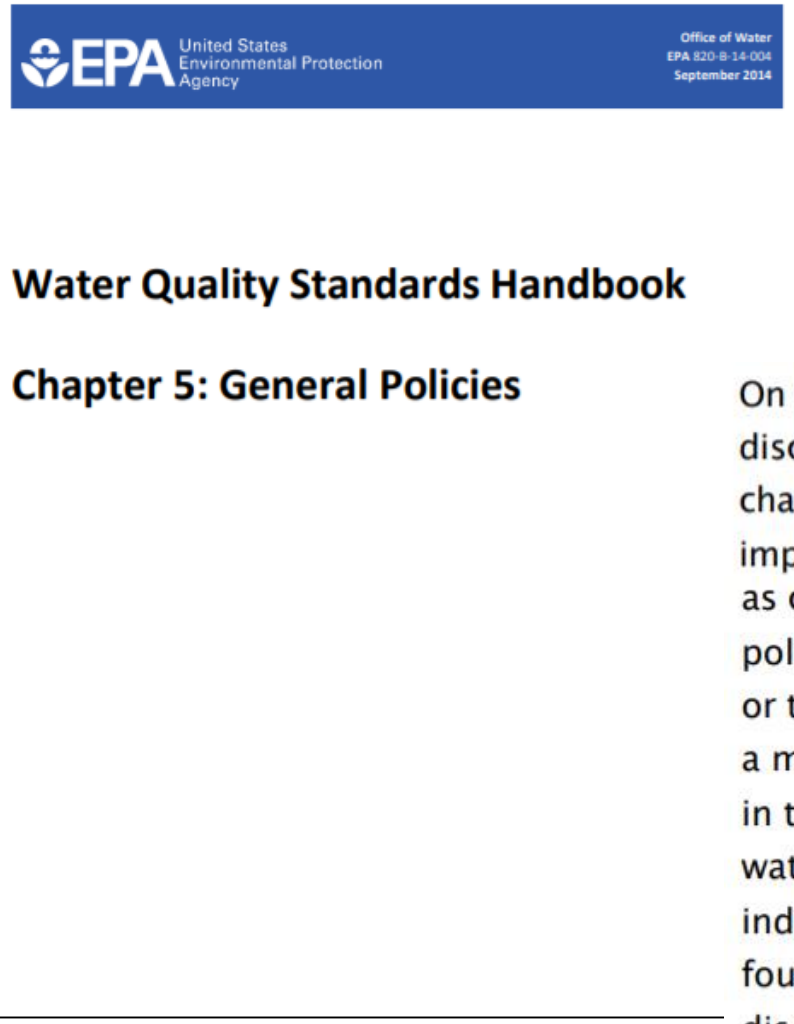

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September 2014

Water Quality Standards Handbook

Chapter 5: General Policies

- Individual mixing zones are defined and implemented through NPDES permitting process and are not water quality standards

On the other hand, an *individual, site-specific mixing zone* is authorized for a particular point-source discharge in accordance with a state or tribal mixing zone policy and accounts for the site-specific characteristics of a particular discharge and receiving water. An individual mixing zone is defined and implemented through the NPDES permitting process. The EPA does not view individual mixing zones as constituting new or revised WQS requiring EPA review under Section 303(c). Like a mixing zone policy, an individual mixing zone is a legally binding provision that is established pursuant to state or tribal law (part one), and it addresses the criteria component of WQS (part two). However, unlike a mixing zone policy, an individual mixing zone does not express or establish a desired condition in the waterbody (part three). Instead, the individual mixing zone is used to establish appropriate water quality-based effluent limits (WQBELs) for a specific discharger's NPDES permit. An individual mixing zone also does not establish a new provision or revise an existing provision (part four). Rather, it implements a WQS (i.e., the state or tribal mixing zone policy) for a specific discharger using site-specific information.

Mixing Zones: Clean Water Act

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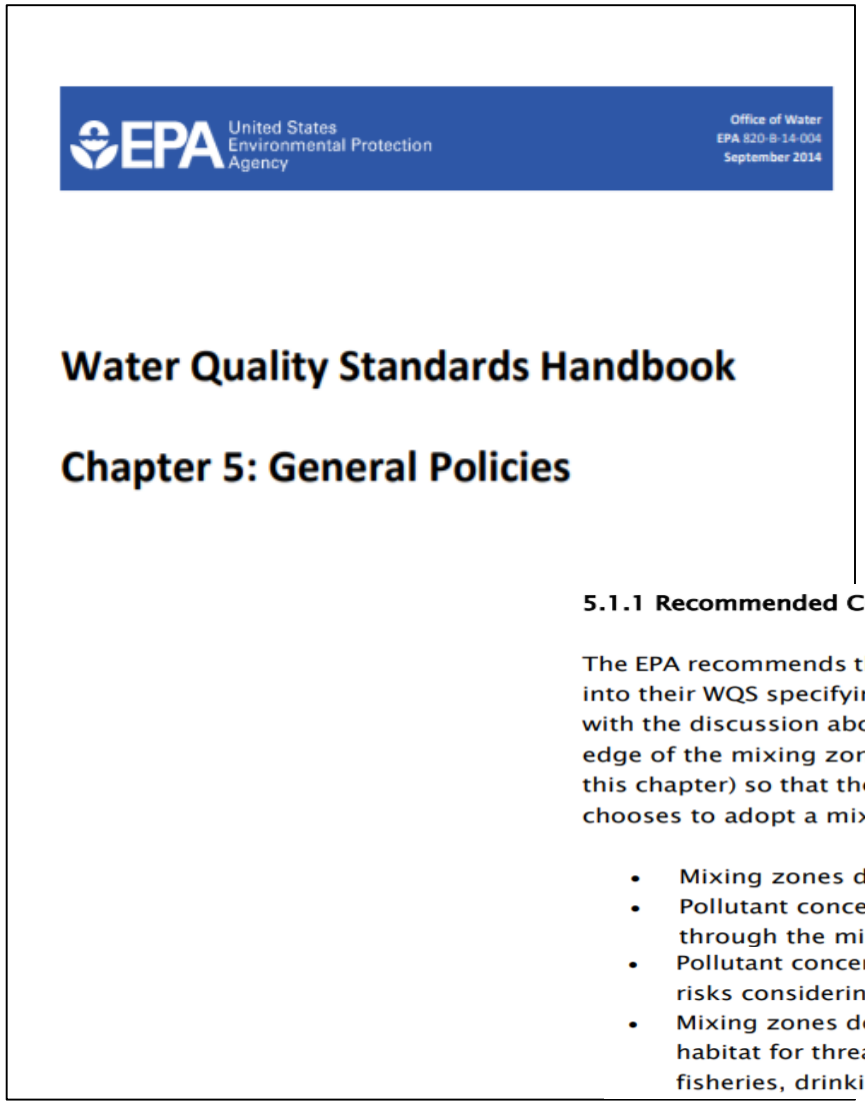

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Water Quality Standards Handbook

Chapter 5: General Policies

- Must not impair designated uses
- Cannot be lethal to organisms
- Should not cause significant human health risks
- Not endanger critical areas (e.g., breeding or spawning grounds, habitat for endangered species, recreation areas, drinking water intakes, etc.)

5.1.1 Recommended Contents of State and Tribal Mixing Zone Policies

The EPA recommends that states and authorized tribes adopt, at a minimum, a definitive statement into their WQS specifying whether the state or tribe intends to authorize mixing zones. Consistent with the discussion above, where a mixing zone is authorized, water quality criteria are met at the edge of the mixing zone during critical low-flow conditions (which are described in Section 5.2 of this chapter) so that the designated use of the waterbody as a whole is protected. If a state or tribe chooses to adopt a mixing zone policy, such a policy should ensure the following:

- Mixing zones do not impair the designated use of the waterbody as a whole.
- Pollutant concentrations within the mixing zone are not lethal to organisms passing through the mixing zone.[2]
- Pollutant concentrations within the mixing zone do not cause significant human health risks considering likely pathways of exposure.
- Mixing zones do not endanger critical areas such as breeding or spawning grounds, habitat for threatened or endangered species, areas with sensitive biota, shellfish beds, fisheries, drinking water intakes and sources, or recreational areas.

Mixing Zones: Clean Water Act

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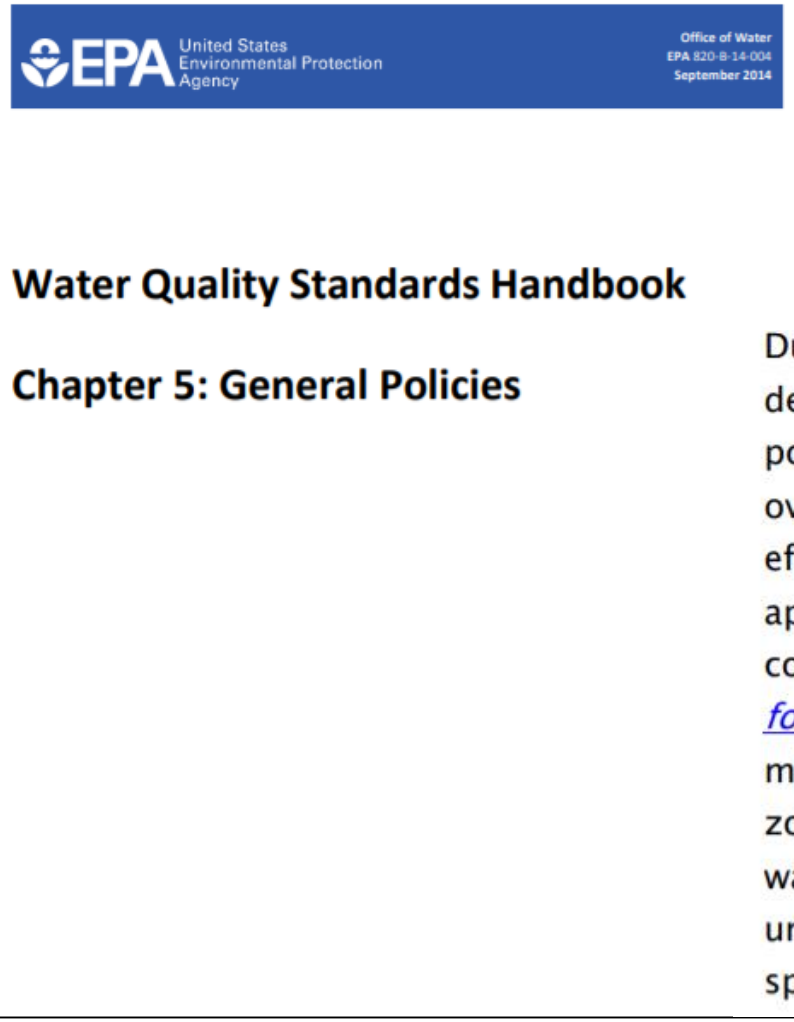

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September 2014

Water Quality Standards Handbook

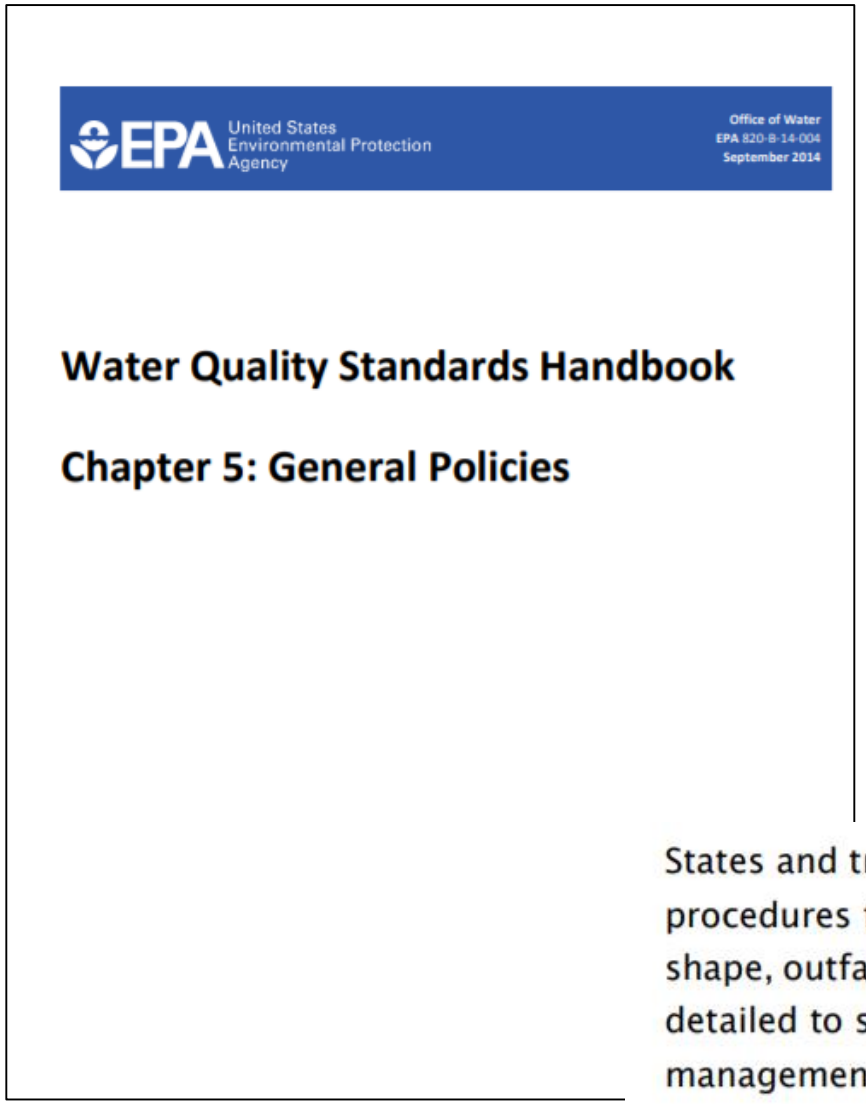
Chapter 5: General Policies

- Mixing zones should not overlap
- Evaluate cumulative effects

Due to potential additive or synergistic effects of certain pollutants that could result in the designated use of the waterbody as a whole not being protected, state and tribal mixing zone policies should specify, and permitting authorities should ensure, that mixing zones do not overlap. Additionally, the EPA recommends that permitting authorities evaluate the cumulative effects of multiple mixing zones within the same waterbody. The EPA has developed a holistic approach to determine whether a mixing zone is appropriate based on such cumulative effects considering all of the impacts to the designated uses of the waterbody (see *Allocated Impact Zones for Areas of Non-Compliance* (1995)). If the total area affected by elevated concentrations within all mixing zones combined is small compared to the total area of the waterbody in which the mixing zones are located, then mixing zones are likely to have little effect on the designated use of the waterbody as a whole, provided that they do not impinge on unique or critical habitats. As understanding of pollutant impacts on ecological systems evolves, states and tribes may find specific cases in which no mixing zone is appropriate.

Mixing Zones: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



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September 2014

Water Quality Standards Handbook

Chapter 5: General Policies

- Describe general procedures for defining and implementing mixing zones
  - Location
  - Maximum size
  - Shape
  - Outfall design
  - In-zone water quality
- Detailed enough to support regulatory actions, issuance of permits, determination of best management practices for nonpoint sources

States and tribes that choose to adopt mixing zone policies should describe the general procedures for defining and implementing mixing zones in terms of location, maximum size, shape, outfall design, and in-zone water quality, at a minimum. Such policies should be sufficiently detailed to support regulatory actions, issuance of permits, and determination of best management practices for nonpoint sources.

Wyoming Water Quality Standards

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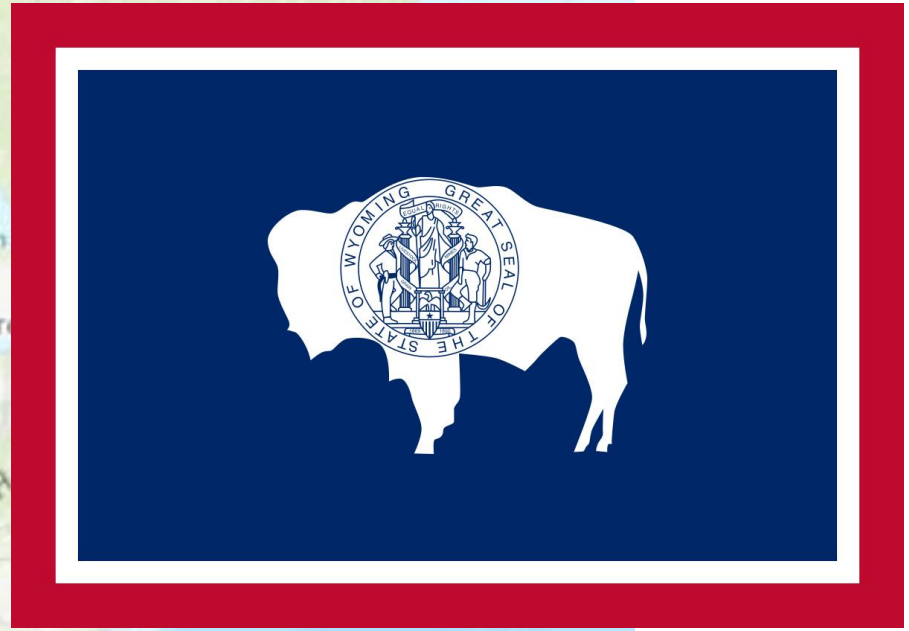

Chapter 1, Section 9. Mixing Zones

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Chapter 1, Section 2. Definitions

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Chapter 1, Section 2. Definitions

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

(xxxii) "Mixing zone" means limited area or volume of a surface water body within which an effluent becomes thoroughly mixed with the water body.

(lix) "Zone of passage" means a continuous water route which joins segments of a surface water body above and below a mixing zone.

Chapter 1, Section 9, Mixing Zones

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 9. Mixing Zones. Except for acute whole effluent toxicity (WET) values and Sections 14, 15, 16, 17, 28 and 29(b) of these regulations, compliance with water quality standards shall be determined after allowing reasonable time for mixing. Except for the zone of initial dilution, which is the initial 10% of the mixing zone, the mixing zone shall not contain pollutant concentrations that exceed the aquatic life acute values (see Appendix B). In addition, there shall be a zone of passage around the mixing zone which shall not contain pollutant concentrations that exceed the aquatic life chronic values (see Appendix B). Under no circumstance may a mixing zone be established which would allow human health criteria (see Appendix B) to be exceeded within 500 yards of a drinking water supply intake or result in acute lethality to aquatic life. The procedures used to implement this section are described in the *Mixing Zones and Dilution Allowances Implementation Policy*.

- Must have a zone of passage where pollutant concentrations cannot exceed aquatic life chronic values
- Drinking water intakes must be protected

- Compliance with standards determined after allowing reasonable time for mixing
  - except for some narrative criteria and WET effluent limitations
- Outside of the initial 10% of the mixing zone, cannot exceed aquatic life acute values
- Cannot be lethal to aquatic life

Mixing Zone Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

6 pages

Combines concepts of how much dilution is available for developing effluent limitations and requirements for establishing mixing zones

Mixing Zone Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

MIXING ZONES AND DILUTION ALLOWANCES IMPLEMENTATION POLICY
(Chapter 1, Section 9)

Section 1. Purpose . Section 9 of the Wyoming Surface Water Quality Standards (Water Quality Rules and Regulations, Chapter 1) provides for the establishment of a zone of dilution in the vicinity of point source discharges where acute and chronic aquatic life criteria and human health criteria may be exceeded. Section 9 provides:

Except for acute whole effluent toxicity (WET) values and Sections 14, 15, 16, 17, 28 and 29(b) of these regulations, compliance with water quality standards shall be determined after allowing reasonable time for mixing. Except for the zone of initial dilution, which is the initial 10% of the mixing zone, the mixing zone shall not contain pollutant concentrations that exceed the aquatic life acute values (see Appendix B). In addition, there shall be a zone of passage around the mixing zone which shall not contain pollutant concentrations that exceed the aquatic life chronic values (see Appendix B). Under no circumstance may a mixing zone be established which would allow human health criteria (see Appendix B) to be exceeded within 500 yards of a drinking water supply intake or result in acute lethality to aquatic life. The procedures used to implement this section are described in the Mixing Zones and Dilution Allowances Implementation Policy.

This policy addresses how mixing and dilution of point source discharges in receiving waters will be addressed in developing chemical-specific and whole effluent toxicity discharge limitations for point sources. In all cases, mixing zone and dilution allowances shall be limited as necessary to protect the integrity and designated uses of the receiving water.

- Restatement of Chapter 1, Section 9
- Develop effluent limitations for point source discharges

Mixing Zone Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 2. Concepts. A mixing zone is a limited area within the receiving water body where initial dilution of a point source discharge of pollution takes place. The establishment of a mixing zone is not appropriate in all circumstances. For example, in non-perennial or low flow streams, there may not be any dilution available to mix with the discharge. Also, there may be instances where background concentrations of specific pollutants in the receiving stream provide no assimilative capacity. In circumstances like these, acute and chronic criteria would have to be met in the discharge itself.

Where the establishment of a mixing zone is appropriate and possible, the design needs to be based on the following 3 concepts:

(a) The size and configuration of the mixing zone shall not impair the integrity of the water body as a whole;

(b) There shall be no lethality to aquatic organisms through the mixing zone; and

(c) There shall be no significant health risks to human populations associated with the mixing zone *(e.g. proximity to recreation areas or drinking water intakes)*.

The size, configuration and other relevant design considerations shall be based on critical flow conditions for both the receiving water and the effluent. Effluent critical conditions include effluent flow and pollutant concentrations; receiving water critical conditions include receiving water flow, background pollutant concentrations and other characteristics of the receiving water that affect pollutant concentrations (e.g. temperature, pH, reaction rates, etc.) This policy addresses mixing zones and dilution allowances where mixing is complete and near instantaneous at the point of discharge (Section 3) and mixing is incomplete at the point of discharge (Section 4).

- No dilution or mixing zone when there is no dilution available
  - Non-perennial or low flow streams
  - Background concentrations provide no assimilative capacity

Mixing Zone Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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Mixing Zones shall:

- Not impair integrity of the waterbody as a whole
- Not cause lethality to aquatic organisms
- Not cause significant health risks to human populations (recreation areas, drinking water intakes)

Mixing Zone Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 3. Complete Mixing.

(a) Where the discharge is to a river or stream and available information is sufficient to conclude that there is near instantaneous and complete mixing of the discharge with the receiving water at critical conditions, an appropriate dilution allowance may be provided in calculating chemical-specific discharge limitations. An assumption of complete mixing may be based on any of the following:

(i) Mean daily flow of the discharge exceeds the critical in-stream flow;

(ii) An effluent diffuser covers the entire stream width at critical flow;

(iii) Demonstration by the permittee, based on in-stream studies. that shows no more than a 10% difference in bank to bank concentrations within a longitudinal distance not greater than 2 stream/river widths; or

(iv) Other defensible discharge outlet designs and configurations provided by the permittee.

(b) The basis for concluding that complete mixing occurs will be documented in the rationale for the discharge permit.

(c) The dilution allowance for continuous discharges shall be based on the critical low flow of the receiving stream. Critical low flow can be determined using the methods provided in Chapter 1, Section 11.

(d) For controlled discharges, such as lagoon facilities that discharge only during high ambient flows, the stream flow to be used in determining a dilution allowance shall be the lowest flow expected to occur during the period of discharge.

(e) Where a discharger has installed a diffuser in the receiving stream, that portion of the stream flow affected by the diffuser may be used to calculate a dilution allowance. For example, 50% of the 7Q10 low flow may be used for a diffuser extending halfway across the stream bottom.

Complete Mixing – No mixing zones

- Can potentially take advantage of full dilution available at low flow
  - Discharge flow exceeds in-stream flow
  - Diffuser covers then entire stream at critical low flow
  - Demonstration that there is no more than a 10% difference in bank to bank pollutant concentrations within longitudinal distance not greater than 2 stream/river widths
  - Other defensible outlet designs

Mixing Zone Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 4. Incomplete Mixing.

(a) Where dilution is available at critical co
a near instantaneous and complete rate, an appropriate
purposes of implementing aquatic life and human healt
a mixing zone is allowed, its size and shape will be det
follows:

(i) Mixing zones for streams and riv
sectional area or a length 10 times the stream width at
limiting; and

(ii) Mixing zones in lakes shall not e
feet in radius, whichever is more limiting.

(b) The above limits are intended to establis
zones; however, individual mixing zones may be furthe
designated and existing uses or the following in the are

(i) Bioaccumulation in fish tissues o

(ii) Biologically important areas suc

(iii) Low acute to chronic ratio;

(iv) Potential human exposure to poll
recreational activities;

(v) Attraction of aquatic life to the e

(vi) Toxicity/persistence of the subst

(vii) Zone of passage for migrating fis
tributaries; and

(viii) Cumulative effects of multiple di

(c) Within the mixing zone designated for a
quality criteria contained in Chapter1, Appendix B may
shall be free from materials that:

(i) Settle to form objectionable depo

(ii) Float as debris, scum, oil or othe

(iii) Produce objectionable color, odor or tast

(iv) Are acutely lethal (Chapter 1, Section 9)

(v) Produce undesirable aquatic life (Chapte

(vi) Form visible sheens or deposits or damag
function or reproduction of human, animal, plant or aquatic life

(d) In incomplete mixing situations, permit limitatio
effluent toxicity (WET) criteria shall be based on meeting such
without an allowance for dilution). For chemical-specific acute
limitations will be based upon meeting such criteria at the edge
(Chapter 1, Section 9).

(e) The dilution allowance for continuous discharge
low flow of the receiving stream. Critical low flow can be dete
provided in Chapter 1, Section 11.

(f) For controlled discharges, such as lagoon facilit
ambient flows, the stream flow to be used in determining a dilu
flow expected to occur during the period of discharge.

(g) The requirements and concerns identified in Sec
be considered in deciding the portion, if any, of the critical low
environmental concerns listed in Section 4(b) are not intended
which to make risk determinations. Rather, such decisions sho
designated and existing uses and relevant site-specific condition
further explained as follows:

(i) Bioaccumulation in fish tissues or wildli
bioaccumulation concerns should be evaluated. As a general g
bioconcentration factors (BCF) greater than 300 indicate a pote
bioaccumulation;

(ii) Biologically important areas such as fish
Information on either the existence of spawning areas within th
"shore hugging" effluent plume in an aquatic life segment coul
allowing dilution or a mixing zone would pose significant risk
Presence of a threatened or endangered species downstream sh
the duration and magnitude of potential exposure of the particu

(iii) Low acute to chronic ratio. For substanc
ratios, indicating that acute affects may occur at concentrations
demonstrated to result in chronic effects, restricting or denying
allowance may be appropriate in order to avoid acutely toxic concentrations outside of th
of initial dilution;

(iv) Potential human exposure to pollutants resulting from drinking wat
recreational activities. Existence of a drinking water intake or a recreational area within
the proposed zone of influence would strongly suggest that an allowance for dilution is n
appropriate for substances with established human health criteria;

(v) Attraction of aquatic life to the effluent plume. Where available da
support a conclusion that fish or other aquatic life are attracted to the effluent plume, it m
appropriate to set discharge limitations at the end-of-pipe;

(vi) Toxicity/persistence of the substance discharged. It may be appropriate to
deny dilution or a mixing zone for particularly toxic or persistent substances. This factor should
be given added weight where the discharge is to an isolated aquatic system where the substance
is expected to remain biologically available;

(vii) Zone of passage for migrating fish or other species, including access to
tributaries. Where available data suggest that allowing dilution or a mixing zone would inhibit
migration of fish or other species, it may be appropriate to set discharge limitations at the end-of-
pipe. This factor includes consideration of whether the effluent plume will block migration into
tributary segments;

(viii) Cumulative effects of multiple discharges and mixing zones. In some
cases, existence of overlapping effluent plumes may necessitate denying dilution or mixing
zones for discharging facilities. Any allowances for dilution should be restricted as necessary to
protect the integrity of the receiving water ecosystem and designated water uses.

(h) The mixing zone size limits shall be implemented by calculating allowable
dilution consistent with one of the following methods:

(i) Default Method. In general, the default method provides a conservative
level of allowable dilution and can be used where available data on potential environmental
impacts suggest that a full mixing zone should not be allowed, or available data on the receiving
stream or downstream uses are insufficient to determine the appropriate mixing zone dimensions.

(A) Stream/River Discharges. As a general guideline, dilution
calculations which use up 10% of the critical low flow may be used to develop effluent limits for
aquatic life chronic criteria and human health consumption criteria. For numeric aquatic life
acute criteria, 1% of the critical low flow may be used.

(B) Lake/Reservoir Discharges. As a general guideline, dilution up to
4:1 (20% effluent) may be provided for developing effluent limitations for aquatic life chronic
criteria and human health consumption criteria. For numeric aquatic life acute criteria, a 0.4:1
dilution ratio may be used.

(ii) Modeling Method. Mixing zones should not exceed one-half the cross-
sectional area of the receiving stream or a length 10 times the stream width, whichever is less.
These restrictions apply to the stream at critical low flow.

A calculation must first be performed to determine if the discharge mixes within
one-half area before or after the length limit. This calculation as well as other mixing zone
calculations can be performed using any number of appropriate models including, but not limited
to, STREAMIX I, CORMIX, PLUMES, etc.

(iii) Field Study Method. Field studies which document the actual field
characteristics in the receiving water can be used to determine the dilution allowance at critical
low flows.

Mixing Zone Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Incomplete Mixing – Mixing Zones

- Maximum sizes for streams and lakes
  - Streams: Cannot exceed 50% of cross-sectional area or length that is 10x stream width at critical low flow, whichever is more limiting
  - Lakes: Cannot exceed 5% of the lake area or 200 feet in radius, whichever is more limiting

- Further limitations
  - Bioaccumulation in fish tissues or wildlife
  - Biologically important areas
  - Low acute to chronic ratio
  - Potential human exposures to drinking water or recreational activities
  - Attraction of aquatic life to effluent
  - Toxicity/persistence of substance
  - Zone of passage for migrating fish or other species
  - Cumulative effects of multiple discharges and mixing zones

Mixing Zone Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Incomplete Mixing – Mixing Zones

- Narratives free from
  - Objectional deposits
  - Float as debris, scum, oil or other matter
  - Produce objectionable color, odor, or taste
  - Are acutely lethal
  - Produce undesirable aquatic life
  - Visible sheens or deposits or impair normal growth and function….
- Whole Effluent Toxicity (WET) must be met at the end of pipe
- For continuous discharges, based on critical low flow of receiving stream, unless only discharge during high flows
  - Based on lowest flow expected to occur

Mixing Zone Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Incomplete Mixing – Dilution Allowance Methods for Determining Mixing Zone Size

1. Default Method
    - Streams
        - 10% of critical low flow for aquatic life chronic and human health consumption
        - 1% of critical low flow for acute aquatic life criteria
    - Lakes
        - Up to 4:1 (20% effluent) may be provided for aquatic life chronic and human health consumption criteria
        - 0.4:1 ratio for aquatic life chronic criteria
2. Modeling
3. Field Study Method

Mixing Zones and Dilution Allowances Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 5. Other Considerations.

(a) Where dilution flow is not available at critical flow conditions, neither a mixing zone or an allowance for dilution will be provided.

(b) All mixing zone and dilution assumptions are subject to review and revision as information on the nature and impacts of the discharge becomes available. Mixing zone and dilution decisions are subject to review and revision along with all other aspects of the discharge permit upon expiration of the permit.

(c) For certain pollutants (e.g. ammonia, dissolved oxygen, metals) that may exhibit increased toxicity after dilution and complete mixing within the receiving water, the wasteload allocation shall address such toxicity as necessary to fully protect designated and existing uses.

- Mixing zones and dilution allowance not allowed where no dilution is available at critical low flow
- Subject to review upon permit renewal
- Must fully protect designated and existing uses, including for pollutants that may increase in toxicity

Examples from Other States

- Colorado
- Idaho
- Ohio

Colorado Water Quality Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Colorado
- Idaho
- Ohio

Colorado Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Surface water quality classifications and standards:

- Regulation 31: The Basic Standards and Methodologies for Surface Water
- Regulation 32: Classifications and Numeric Standards for Arkansas River Basin
- Regulation 33: Classifications and Numeric Standards for Upper Colorado River Basin and North Platte River (Planning Region 12)
- Regulation 34: Classifications and Numeric Standards for San Juan River and Dolores River Basins
- Regulation 35: Classifications and Numeric Standards for Gunnison and Lower Dolores River Basins
- Regulation 36: Classifications and Numeric Standards for Rio Grande Basin
- Regulation 37: Classifications and Numeric Standards for Lower Colorado River Basin
- Regulation 38: Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin
- Regulation 39: Colorado River Salinity Standards.

- Basic Standards
- Classifications and Numeric Standards for 7 Basins

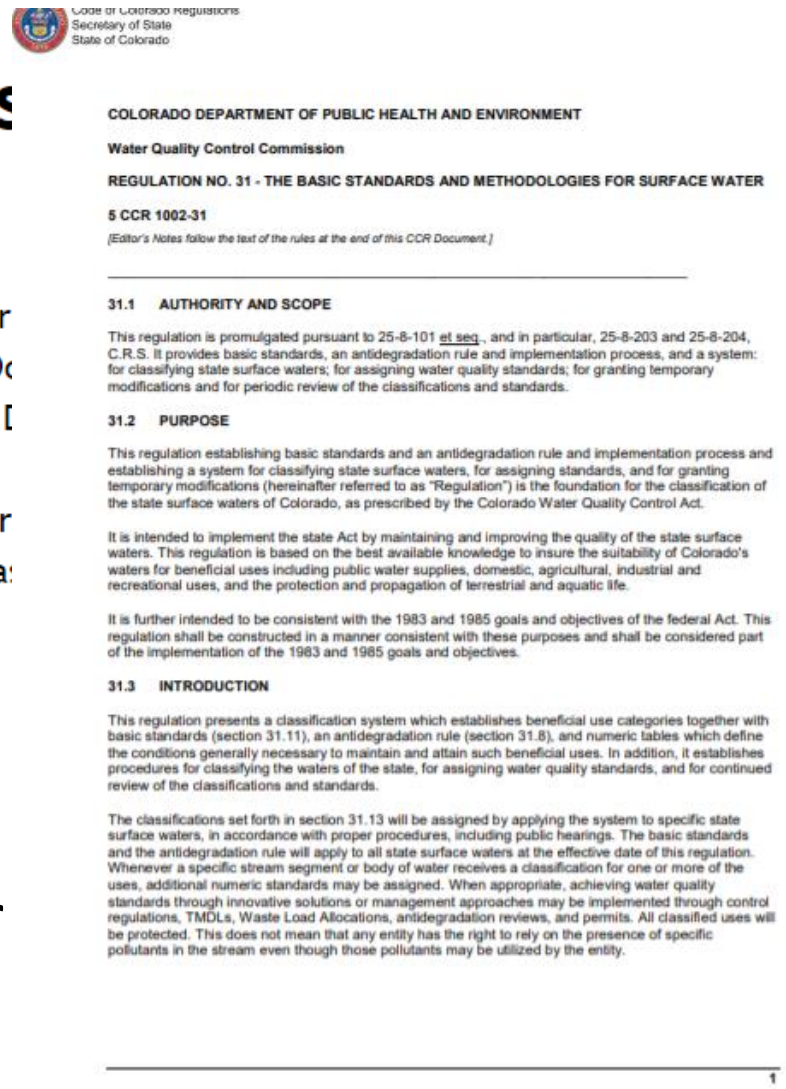
Colorado Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Surface water quality classifications

- Regulation 31: The Basic Standards and Methodologies for Surface Water
- Regulation 32: Classifications and Numeric Standards for Arkansas River Basin
- Regulation 33: Classifications and Numeric Standards for Upper Colorado River
- Regulation 34: Classifications and Numeric Standards for San Juan River and Dc
- Regulation 35: Classifications and Numeric Standards for Gunnison and Lower D
- Regulation 36: Classifications and Numeric Standards for Rio Grande Basin
- Regulation 37: Classifications and Numeric Standards for Lower Colorado River
- Regulation 38: Classifications and Numeric Standards for South Platte River Ba
  River Basin
- Regulation 39: Colorado River Salinity Standards.

- Basic Standards
- Classifications and Numeric Standards for



Code of Colorado Regulations
Secretary of State
State of Colorado

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Water Quality Control Commission

REGULATION NO. 31 - THE BASIC STANDARDS AND METHODOLOGIES FOR SURFACE WATER

5 CCR 1002-31

[Editor's Notes follow the text of the rules at the end of this CCR Document.]

31.1 AUTHORITY AND SCOPE

This regulation is promulgated pursuant to 25-8-101 et seq., and in particular, 25-8-203 and 25-8-204, C.R.S. It provides basic standards, an antidegradation rule and implementation process, and a system: for classifying state surface waters; for assigning water quality standards; for granting temporary modifications and for periodic review of the classifications and standards.

31.2 PURPOSE

This regulation establishing basic standards and an antidegradation rule and implementation process and establishing a system for classifying state surface waters, for assigning standards, and for granting temporary modifications (hereinafter referred to as "Regulation") is the foundation for the classification of the state surface waters of Colorado, as prescribed by the Colorado Water Quality Control Act.

It is intended to implement the state Act by maintaining and improving the quality of the state surface waters. This regulation is based on the best available knowledge to insure the suitability of Colorado's waters for beneficial uses including public water supplies, domestic, agricultural, industrial and recreational uses, and the protection and propagation of terrestrial and aquatic life.

It is further intended to be consistent with the 1983 and 1985 goals and objectives of the federal Act. This regulation shall be constructed in a manner consistent with these purposes and shall be considered part of the implementation of the 1983 and 1985 goals and objectives.

31.3 INTRODUCTION

This regulation presents a classification system which establishes beneficial use categories together with basic standards (section 31.11), an antidegradation rule (section 31.8), and numeric tables which define the conditions generally necessary to maintain and attain such beneficial uses. In addition, it establishes procedures for classifying the waters of the state, for assigning water quality standards, and for continued review of the classifications and standards.

The classifications set forth in section 31.13 will be assigned by applying the system to specific state surface waters, in accordance with proper procedures, including public hearings. The basic standards and the antidegradation rule will apply to all state surface waters at the effective date of this regulation. Whenever a specific stream segment or body of water receives a classification for one or more of the uses, additional numeric standards may be assigned. When appropriate, achieving water quality standards through innovative solutions or management approaches may be implemented through control regulations, TMDLs, Waste Load Allocations, antidegradation reviews, and permits. All classified uses will be protected. This does not mean that any entity has the right to rely on the presence of specific pollutants in the stream even though those pollutants may be utilized by the entity.

1

ıoky Hill

Colorado Mixing Zone Rules

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

31.10 MIXING ZONES

(1) Definitions

(a) Physical Mixing Zone

That portion of a water body, surrounding or downstream from a point source of discharge, wherein constituents of the discharge are not uniformly dispersed into the receiving waters. The physical mixing zone also can be referred to simply as the "mixing zone," except where there is possible confusion with the regulatory mixing zone, as it is defined below, which differs from the physical mixing zone

(b) Exceedence Zone

That portion of a physical mixing zone within which a numeric water quality standard for a given water quality parameter is not met during critical conditions. The size of an exceedence zone may differ from one numeric standard to another at a given location.

(c) Regulatory Mixing Zone

The maximum size allowable for an exceedence zone at a given location. An acute regulatory mixing zone limits the size of exceedence zones for acute standards, and a chronic regulatory mixing zone limits the size of exceedence zones for chronic standards. The sizes of the acute and chronic regulatory mixing zones are related to the size of the receiving water, as explained in 31.10 (3).

(d) Stream Channel Width at Bankfull Stage

The width of a stream under flow conditions when the stream just begins to enter the lowest level of the floodplain.

(e) Average Water Body Surface Area

The average surface area for a lake shall be determined from historic data (five years or more if possible), and must be computed monthly or seasonally, as appropriate, to reflect significant monthly or seasonal changes in area.

ters of the State that flow, regardless of
not flowing, including reservoirs. Wetlands

ing Zone Regulations

t limits (permit limits) for discharges to
e (1E3) low flow of the stream for dilution
ision to be necessary to protect
ors identified in subsection 31.10(5).

ved by the Division, or site-specific data
than the physical mixing zone;

ater than twice the chronic low flow

permitted or other appropriate effluent
designated by the Division as a "minor."

mining the sizes of the regulatory mixing

or any point source of discharge to a
a equal to six times the square of the

eeds the size of the chronic regulatory
ing zone for a water quality parameter
the area of the chronic regulatory mixing
size of the acute regulatory mixing zone
presumption that:

n 31.8 to be "reviewable," the default
% as large as the chronic regulatory

(B) For waters determined under subsection 31.8 to be "use protected," the default acute regulatory mixing zone will be 25% as large as the chronic regulatory mixing zone.

An acute mixing zone may also be further reduced below default limits for reasons given in subsection 31.10(5). The permittee may request that the size of the acute regulatory mixing zone be higher than recommended by the Division, but no higher than 25% of the chronic regulatory mixing zone, on the basis of arguments related to cost/benefit analysis, economic reasonableness, ecological risks, use classification, or designation. The burden is on the permittee to bring appropriate information to the Division.

areas of all chronic regulatory mixing zones for point
each of stream for a specified water quality parameter
percent 10% of the total plan view area of such reach of
t bankfull stage. The length (approximately 10 miles) and
er reach for these purposes shall be determined by the
c regulatory mixing zones used to determine permit limits
rom the cumulative impacts of multiple point sources of
shall be shared equitably among permittees and any other
ibution of the allowable loads for the pollutant of concern
ions applicable to total maximum daily loads and/or upon
permittees.

g factors in determining the size of the regulatory mixing

rge, the size of the chronic regulatory mixing zone shall
verage inter-annual seasonal or monthly surface area.
it to an entire lake or to a smaller, geographically
portion of a lake.

e exceeds the chronic regulatory mixing zone, the area of
e for lakes, for any water quality parameter, shall be
25% of the area of the chronic regulatory mixing zone for
ter. The size of the acute mixing zone will be determined
esumption that:

under subsection 31.8 to be "reviewable" the default
g zone will be 10% as large as the chronic regulatory

under subsection 31.8 to be "use protected" the default
g zone will be 25% as large as the chronic regulatory

be further reduced below default limits for reasons given
rmittee may request that the size of the acute regulatory
ommended by the Division, but no higher than 25% of the
on the basis of arguments related to cost/benefit
ness, ecological risks, use classification, or designation.
to bring appropriate information to the Division.

areas of all chronic regulatory mixing zones for point
for a specified water quality parameter shall not occupy
the total plan view area of such lake, or a geographically
at any seasonally average area. Constraints on chronic
o determine limits in discharge permits resulting from the
point sources of discharge into lakes shall be shared
d any other sources of discharge. The distribution of the
t of concern shall be consistent with regulations applicable
nd/or upon mutual agreement amongst the permittees.

le water, mixing zones larger than those
of CDPS permits. Appropriate mixing
ion on a case-by-case basis, consistent
10(5). Such mixing zones shall be kept as
ter basis, and shall provide for protection
y as a whole.

nits

urce discharges to streams shall be as

bsection 31.10(2), the permit limit for any
dard shall be that resulting in acute and
an the respective acute and chronic

ceiving stream is zero, no dilution will be
e the chronic low flow (30E3) of the
be provided in calculating chronic permit

urce discharges to lakes shall be as

e is a water quality standard shall be that
equal to or smaller than the respective
own by site-specific analysis for each

rge shall not overlap to such an extent as

basic standards included in subsection
the protection of any sessile organisms
s.

subsection 31.10(3) are not attained, the
ieve compliance with subsection

n a site-specific basis for specific
sider the following:

tic life;

h or wildlife;

awning or nursery areas or

ing water or recreation;

luent plume;

uirements

whole effluent toxicity-based

4 pages

Colorado Definitions

(28) "MIXING ZONE" means that area of a water body designated on a case-by-case basis by the Division which is contiguous to a point source and in which certain standards may not apply.

Colorado Mixing Zone Rules

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Definitions
  - Physical Mixing Zone
  - Exceedance Zone
  - Regulatory Mixing Zone
  - Stream Channel Width at Bankfull Stage
  - Average Water Body Surface Area
  - Stream, Lake, Wetland
- Exemptions from Restrictions of Permit Limits (Mixing Zones Not Appropriate)
- Regulatory Mixing Zone Sizes
  - Streams
  - Lakes
- Use of Mixing Zones Regulations in Setting Permit Limits
  - Streams
  - Lakes
- Additional Constraints on Mixing Zones
- Mixing Zones and Whole Effluent Toxicity-based Permit Requirements

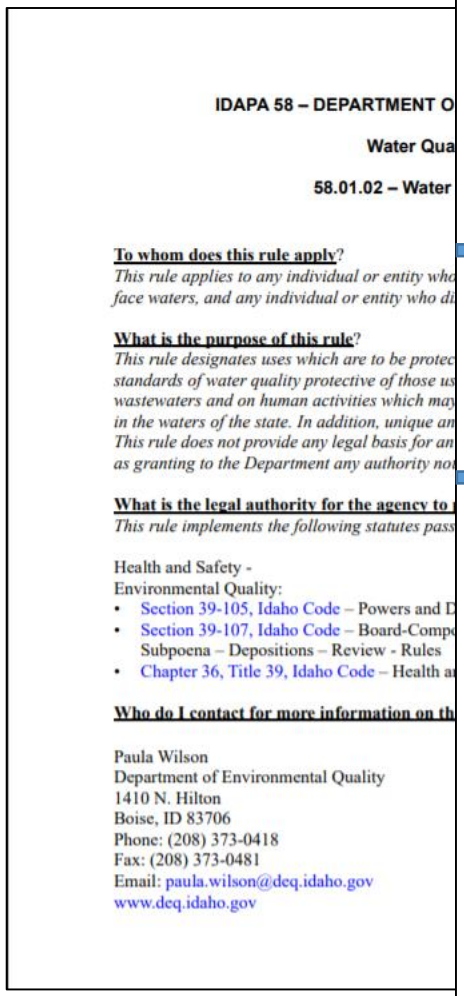
Examples from Other States

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Colorado
- Idaho
- Ohio

Idaho Mixing Zone Rules

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



IDAPA 58 – DEPARTMENT O

Water Qua

58.01.02 – Water

To whom does this rule apply?
This rule applies to any individual or entity wh
face waters, and any individual or entity who di

What is the purpose of this rule?
This rule designates uses which are to be protec
standards of water quality protective of those us
wastewaters and on human activities which may
in the waters of the state. In addition, unique an
This rule does not provide any legal basis for an
as granting to the Department any authority no

What is the legal authority for the agency to
This rule implements the following statutes pass

Health and Safety -
Environmental Quality:
- Section 39-105, Idaho Code – Powers and D
- Section 39-107, Idaho Code – Board-Compo
  Subpoena – Depositions – Review - Rules
- Chapter 36, Title 39, Idaho Code – Health a

Who do I contact for more information on th

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www.deq.idaho.gov

58.01.02 – Water Quality Standards

Idaho Mixing Zone Rules

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Definitions

61. Mixing Zone. A defined area or volume of the receiving water surrounding or adjacent to a wastewater discharge where the receiving water, as a result of the discharge, may not meet all applicable water quality criteria or standards. It is considered a place where wastewater mixes with receiving water and not as a place where effluents are treated. (7-1-93)

117. Zone of Initial Dilution (ZID). An area within a Department authorized mixing zone where acute criteria may be exceeded. This area shall be no larger than necessary and be sized to prevent lethality to swimming or drifting organisms by ensuring that organisms are not exposed to concentrations exceeding acute criteria for more than one (1) hour more than once in three (3) years. The actual size of the ZID will be determined by the Department for a discharge on a case-by-case basis, taking into consideration mixing zone modeling and associated size recommendations and any other pertinent chemical, physical, and biological data available. (4-11-15)

Idaho Mixing Zone Rules

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

060. MIXING ZONE POLICY.

01. Mixing Zones for Point Source Discharges. Whether a mixing zone is authorized, and its size, configuration and location, is determined by the Department on a case-by-case basis. This determination is made in accordance with the provisions of Section 060 at the time a permit is issued, renewed, or materially modified and is in effect as long as the permit remains in effect. Such an authorization is required before a mixing zone can be used to determine the need for, or level of, effluent limits for a particular pollutant. (4-11-15)

a. Mixing zones shall not be authorized for a given pollutant when the receiving water does not meet water quality criteria for that pollutant; provided, however, the Department may authorize a mixing zone when the permitted discharge is consistent with an approved TMDL allocation or other applicable plans or analyses (such as 4b implementation plans, watershed loading analyses, or facility-specific water quality pollutant management plans) that demonstrate that there is available assimilative capacity and authorizing a mixing zone is consistent with achieving compliance with water quality standards in the receiving water. (4-11-15)

b. Water quality within an authorized mixing zone is allowed to exceed chronic water quality criteria for those parameters approved by the Department. If approved by the Department, acute water quality criteria for one (1) or more parameters may be exceeded within the zone of initial dilution inside the mixing zone. Narrative criteria

in Subsections 200.03 and 200.05 apply within the mixing zone. All water quality criteria must be met at the boundary of any mixing zone under its design conditions. (4-11-15)

c. The size of mixing zone(s) and the concentration of pollutant(s) present shall be evaluated based on the permitted design flow. The Department shall not authorize a mixing zone that is determined to be larger than is necessary considering siting, technological, and managerial options available to the discharger. (4-11-15)

d. Mixing zones, individually or in combination with other mixing zones, shall not cause unreasonable interference with, or danger to, beneficial uses. Unreasonable interference with, or danger to, beneficial uses includes, but is not limited to, the following: (4-11-15)

i. Impairment to the integrity of the aquatic community, including interfering with successful spawning, egg incubation, rearing, or passage of aquatic life. (4-11-15)

ii. Heat in the discharge that causes thermal shock, lethality, or loss of cold water refugia. (4-11-15)

iii. Bioaccumulation of pollutants (as defined in Section 010) resulting in tissue levels in aquatic organisms that exceed levels protective of human health or aquatic life. (4-11-15)

iv. Lethality to aquatic life passing through the mixing zone. (4-11-15)

v. Concentrations of pollutants that exceed Maximum Contaminant Levels at drinking water intake structures. (4-11-15)

vi. Conditions which impede or prohibit recreation in or on the water body. Mixing zones shall not be authorized for *E. coli*. (4-11-15)

e. Multiple nested mixing zones may be established for a single point of discharge, each being specific for one (1) or more pollutants contained within the discharge. (4-11-15)

f. Multiple mixing zones may be established for a single activity with multiple points of discharge. When these individual mixing zones overlap or merge, their combined area and volume shall not exceed that which would be allowed if there was a single point of discharge. When these individual mixing zones do not overlap or merge, they may be authorized as individual mixing zones. (4-11-15)

g. Adjacent mixing zones of independent activities shall not overlap. (4-11-15)

h. Mixing zones shall meet the following restrictions; provided, however, that the Department may authorize mixing zones that vary from the restrictions under the circumstances set forth in Subsection 060.01.i. below: (4-11-15)

i. For flowing waters: (4-11-15)

(1) The width of a mixing zone is not to exceed twenty-five percent (25%) of the stream width; and (4-11-15)

(2) The mixing zone shall not include more than twenty-five percent (25%) of the low flow design discharge conditions as set forth in Subsection 210.03.b. of these rules. (4-11-15)

ii. For all new discharges to nonflowing waters authorized after July 1, 2015: (4-11-15)

(1) The size of the mixing zone is not to exceed five percent (5%) of the total open surface area of the water body or one hundred (100) meters from the point of discharge, whichever is smaller; (4-11-15)

(2) Shore-hugging plumes are not allowed; and (4-11-15)

(3) Diffusers shall be used. (4-11-15)

iii. For all existing discharges to nonflowing waters authorized prior to July 1, 2015, the total horizontal area allocated to the mixing zone is not to exceed ten percent (10%) of the surface area of the lake. (4-11-15)

iv. Lakes and reservoirs with a mean detention time of fifteen (15) days or greater shall be considered nonflowing waters for this purpose. Detention time will be calculated as the mean annual storage volume divided by the mean annual flow rate out of the reservoir for the same time period. (4-11-15)

i. The Department may authorize a mixing zone that varies from the limits in Subsection 060.01.h. if it is established that: (4-11-15)

i. A smaller mixing zone is needed to avoid an unreasonable interference with, or danger to, beneficial uses as described in Subsection 060.01.d., and the mixing zone meets the other requirements set forth in Section 060; or (4-11-15)

ii. A larger mixing zone is needed by the discharger and does not cause an unreasonable interference with, or danger to, beneficial uses as described in Subsection 060.01.d., and the mixing zone meets the other requirements set forth in Section 060. The discharger shall provide to the Department an analysis that demonstrates a larger mixing zone is needed given siting, technological, and managerial options. (4-11-15)

j. The following elements shall be considered when designing an outfall: (4-11-15)

i. Encourage rapid mixing to the extent possible. This may be done through careful location and design of the outfall; and (4-11-15)

ii. Avoid shore-hugging plumes in those water bodies where the littoral zone is a major supply of food and cover for migrating fish and other aquatic life or where recreational activities are impacted by the plume. (4-11-15)

02. Points of Compliance as Alternatives to Mixing Zones. Specification of mixing zones for some 404 dredge and fill activities, stormwater, and nonpoint source discharges may not be practicable due to the generally intermittent and diffuse nature of these discharges. Rather, the Department may allow limited dilution of the discharge by establishing points for monitoring compliance with ambient water quality criteria. These alternatives to a mixing zone are still subject to requirements outlined in Subsections 060.01.a., 060.01.d., 200.03, and 200.05. (4-11-15)

2 pages

Idaho Mixing Zone Rules

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- When cannot be authorized
- Acute criteria may be exceeded within the zone of initial dilution
- Narrative criteria are applicable
- Limitations
  - Thermal discharges, bioaccumulation, lethality to aquatic life, drinking water intakes, recreation
- Restrictions on size
- Outfall design considerations
- 404 dredge and fill, stormwater, nonpoint sources

Examples from Other States

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Colorado
- Idaho
- Ohio

Ohio Mixing Zone Rules

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

STATE OF OHIO

WATER QUALITY STANDARDS

Chapter 3745-1 of the ADMINISTRATIVE CO

Most Recent Revision:

January 21, 2021
Effective April 21, 2021

Ohio Environmental Protection Agency
Division of Surface Water
Standards & Technical Support Section

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continued

Ohio Mixing Zone Rules

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

(62) "Mixing zone" means an area of a water body contiguous to a treated or untreated wastewater discharge. This discharge is in transit and progressively diluted from the source concentration to the receiving system concentration. The mixing zone shall be considered a place where wastewater and receiving water mix, not a place where wastes are treated.

(9) "Area of initial mixing" or "AIM" means the limited zone where discharge-induced mixing causes the effluent to rapidly mix with the receiving water such that the area may not be physically inhabitable to aquatic life. The inside mixing zone maximum criteria may be exceeded within the AIM but shall be met on the perimeter of the AIM.

(5) "Acute mixing zone" means the mixture of receiving water and effluent adjacent to a treated or untreated discharge within which the acute aquatic life criteria may be exceeded but the inside mixing zone maximum criteria may not be exceeded. The acute aquatic life criteria shall be met on the downstream perimeter of the acute mixing zone.

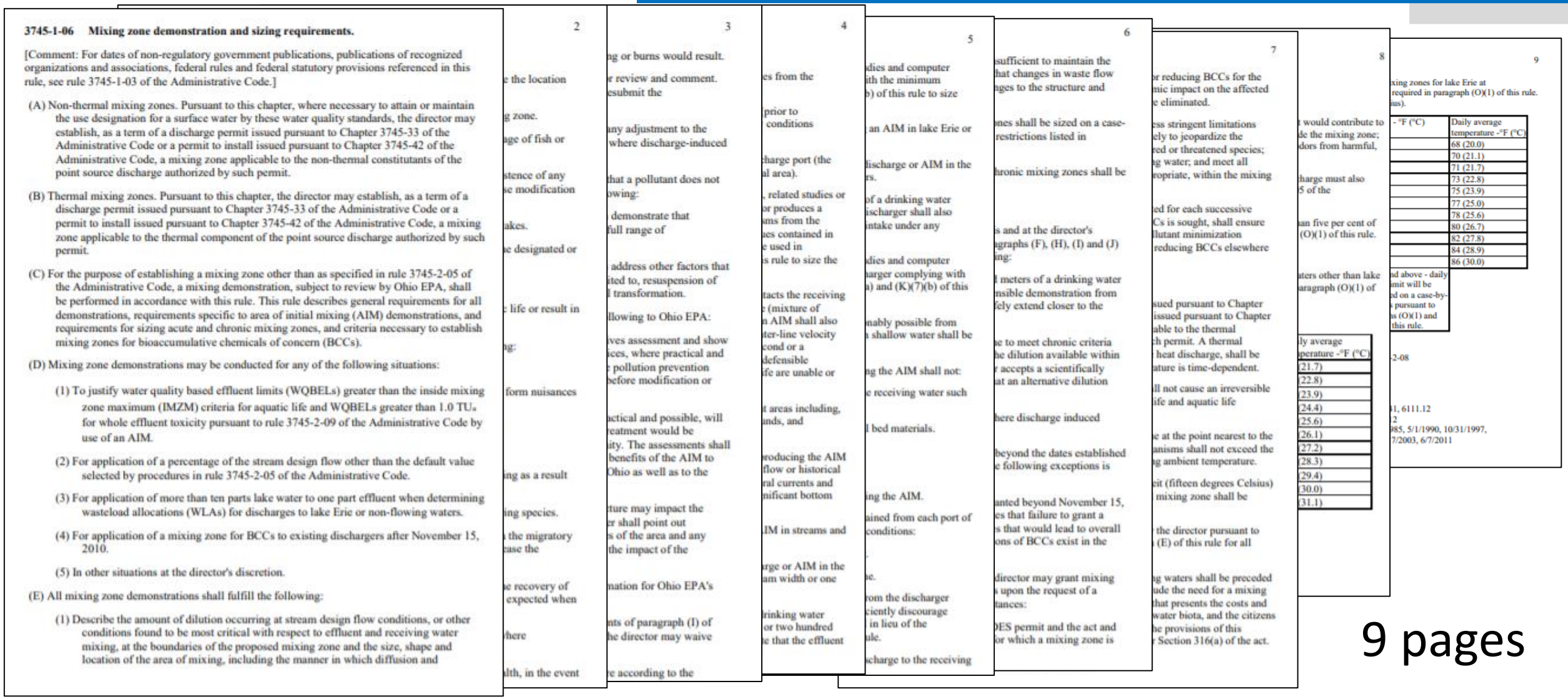
(22) "Chronic mixing zone" means the misture of receiving water and effluent adjacent to a treated or untreated discharge within which the chronic aquatic life, human health, wildlife and agricultural water supply criteria may be exceeded. The chronic aquatic life, human health, wildlife and agricultural water supply criteria shall be met on the downstream perimeter of the chronic mixing zone.

(35) "Discharge induced mixing" means the state of mixing between the receiving water and effluent where the processes causing the mixing are induced primarily by the momentum of the effluent as it enters the receiving water.

(84) "Thermal mixing zone" means that portion of a water body into which waste heat is discharged and assimilated, and within which the average and maximum daily average temperatures do not apply, except as prescribed by this chapter.

Ohio Mixing Zone Rules

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



3745-1-06 Mixing zone demonstration and sizing requirements.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules and federal statutory provisions referenced in this rule, see rule 3745-1-03 of the Administrative Code.]

(A) Non-thermal mixing zones. Pursuant to this chapter, where necessary to attain or maintain the use designation for a surface water by these water quality standards, the director may establish, as a term of a discharge permit issued pursuant to Chapter 3745-33 of the Administrative Code or a permit to install issued pursuant to Chapter 3745-42 of the Administrative Code, a mixing zone applicable to the non-thermal constitutants of the point source discharge authorized by such permit.

(B) Thermal mixing zones. Pursuant to this chapter, the director may establish, as a term of a discharge permit issued pursuant to Chapter 3745-33 of the Administrative Code or a permit to install issued pursuant to Chapter 3745-42 of the Administrative Code, a mixing zone applicable to the thermal component of the point source discharge authorized by such permit.

(C) For the purpose of establishing a mixing zone other than as specified in rule 3745-2-05 of the Administrative Code, a mixing demonstration, subject to review by Ohio EPA, shall be performed in accordance with this rule. This rule describes general requirements for all demonstrations, requirements specific to area of initial mixing (AIM) demonstrations, and requirements for sizing acute and chronic mixing zones, and criteria necessary to establish mixing zones for bioaccumulative chemicals of concern (BCCs).

(D) Mixing zone demonstrations may be conducted for any of the following situations:

(1) To justify water quality based effluent limits (WQBELs) greater than the inside mixing zone maximum (IMZM) criteria for aquatic life and WQBELs greater than 1.0 TU_a for whole effluent toxicity pursuant to rule 3745-2-09 of the Administrative Code by use of an AIM.

(2) For application of a percentage of the stream design flow other than the default value selected by procedures in rule 3745-2-05 of the Administrative Code.

(3) For application of more than ten parts lake water to one part effluent when determining wasteload allocations (WLAs) for discharges to lake Erie or non-flowing waters.

(4) For application of a mixing zone for BCCs to existing dischargers after November 15, 2010.

(5) In other situations at the director's discretion.

(E) All mixing zone demonstrations shall fulfill the following:

(1) Describe the amount of dilution occurring at stream design flow conditions, or other conditions found to be most critical with respect to effluent and receiving water mixing, at the boundaries of the proposed mixing zone and the size, shape and location of the area of mixing, including the manner in which diffusion and

9 pages

Ohio Mixing Zone Rules

- When to authorize mixing zones
- Minimum requirements of demonstration
- Establishment
  - Size limitations
  - Field studies, modeling
- Limitations
  - Narrative criteria are applicable
  - Drinking water
- Lakes, Streams
- Thermal

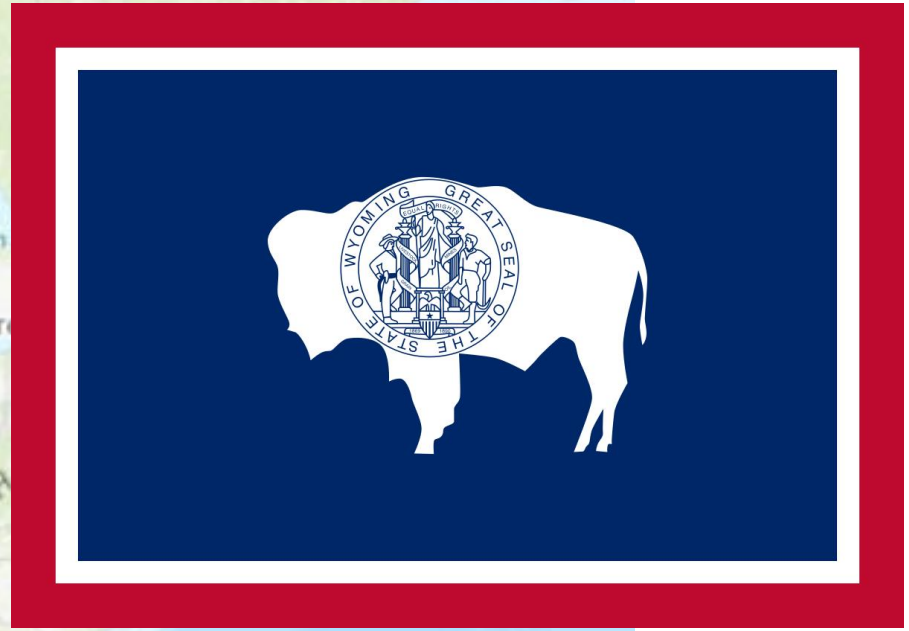
Summary of Mixing Zone Rules

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Mixing zone requirements contained in surface water quality standards
  - No separate implementation methods or policies
- Describe when mixing zones can and cannot be authorized
- Size limitations
- Differentiate between lakes and streams
- Additional limitations
  - Narrative criteria
  - Whole Effluent Toxicity testing requirements

Wyoming Water Quality Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



Ideas for Wyoming's Standards

- Conceptual and Chapter 1
- Implementation Policies
- Potential Implications

Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Implementation Policies

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Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section X. Mixing Zones.

- Shall not be authorized when…
- May be authorized when…
- Limitations
  - Narrative criteria
  - Other conditions
  - WET Testing
- Streams..
- Lakes….

Potential Implications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- May increase length of rules/standards
- May improve clarity for mixing zone requirements and determinations
- Eliminates need to incorporate by reference
- Consolidates important information into the rules

Implementation Policies

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Wyoming
Surface Water Quality Standards

Implementation Policies
for

Antidegradation
~~**Mixing Zones and Dilution Allowances**~~
~~**Turbidity**~~
Use Attainability Analysis

Effective September 24, 2013

Use Attainability Analysis Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Wyoming
Surface Water Quality Standards

Implementation Policies
for

Antidegradation
~~**Mixing Zones and Dilution Allowances**~~
~~**Turbidity**~~
Use Attainability Analysis

Effective September 24, 2013

Designated Uses: Clean Water Act

40 CFR 131.2 and 131.10

- May remove or modify fishable and swimmable uses
  - Must complete a use attainability analysis (UAA) to demonstrate that the use is not attainable based on one of six factors
  - Cannot remove an existing use
  - Must designate the *highest attainable use

*Highest attainable use is the use that can be achieved after imposing technology based effluent limits for point sources and cost-effective and reasonable best management practices for nonpoint source

Designated Uses: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Water Quality Standards Handbook

CHAPTER 2: DESIGNATION OF USES

The WQS Handbook does not impose legally binding requirements on the EPA, states, tribes or the regulated community, nor does it confer legal rights or impose legal obligations upon any member of the public. The Clean Water Act (CWA) provisions and the EPA regulations described in this document contain legally binding requirements. This document does not constitute a regulation, nor does it change or substitute for any CWA provision or the EPA regulations.

Designated Uses: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

United States Environmental Protection Agency

Office of Water
EPA-823-8-12-002
2012

Water Quality Standards Handbook

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Water Quality Standards Handbook
CHAPTER 2: DESIGNATION OF USES

(40 CFR 131.10)

Use Attainability Analyses

Designated Uses: Clean Water Act

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Water Quality Standards Handbook
CHAPTER 2: DESIGNATION OF USES

(40 CFR 131.10)

Removal of Designated Uses

Use Attainability Analyses

Designated Uses: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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Water Quality Standards Handbook
CHAPTER 2: DESIGNATION OF USES

(40 CFR 131.10)

Consideration of Downstream Uses

Attainability of Uses

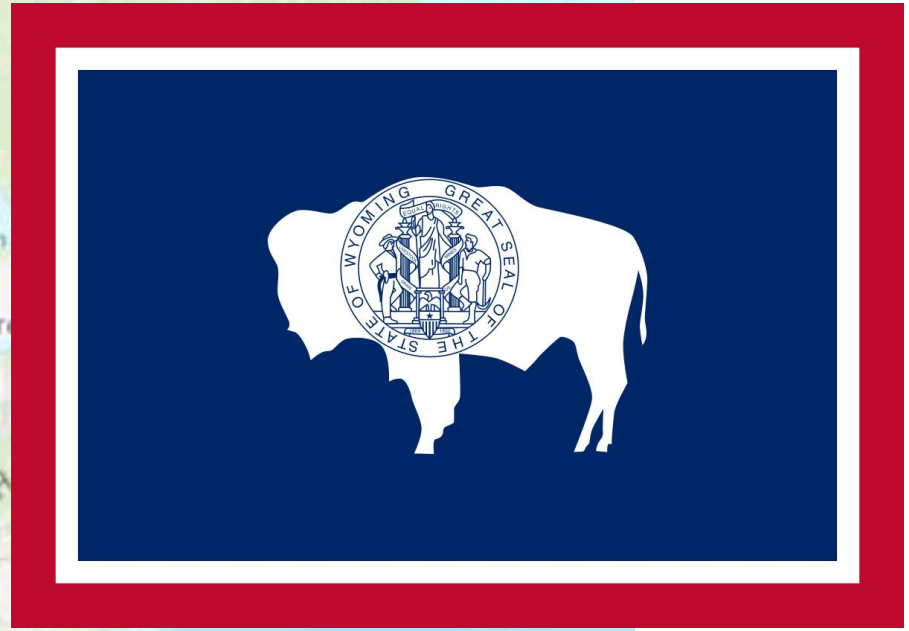
Public Hearing for Changing Uses

Removal of Designated Uses

Use Attainability Analyses

Wyoming Water Quality Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



Chapter 1, Section 34, Use Attainability Analyses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Chapter 1, Section 2, Definitions

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Chapter 1, Section 2, Definitions

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

(liv) "Use attainability analysis (UAA)" means a structured scientific assessment of the factors affecting the attainment of the use. The factors may include physical, chemical, biological and economic factors as described in Section 33 of these regulations.

Chapter 1, Section 34, Use Attainability Analysis

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 34. Use Attainability Analysis. The administrator shall review all petitions submitted under Section 33 of these regulations and make a determination based upon the technical merits of the use attainability analysis. Public notice and opportunity for comment shall be provided prior to making this determination.

(a) Any changes in water classifications or use designations resulting from the administrator's determination shall be submitted to EPA for approval as revised water quality standards for Clean Water Act purposes and shall become effective either upon EPA approval or 90 days after submittal, whichever comes first. If within 90 days of submittal, the EPA determines that any such revised or new standard is not consistent with the applicable requirements of the Clean Water Act and specifies the changes needed to meet such requirements, the administrator may consider EPA's recommendations and publish a revised final determination. All determinations made under this subsection are considered final actions of the administrator and may be appealed pursuant to Chapter 1, Section 16 of the Rules of Practice and Procedure.

(b) Except for ambient-based criteria on effluent dependent waters, proposed changes in water quality criteria that result from the administrator's findings shall be recommended to the council for adoption as revised rules. Ambient-based criteria for effluent dependent waters shall be established according to the provisions of Section 36 of these rules. If adopted by the council, the revised rules shall be filed with the secretary of state and shall become effective 90 days after filing. The revised rules shall also be concurrently submitted to EPA for approval as revised water quality standards for Clean Water Act purposes. If within 90 days of submittal, the EPA determines that any such revised or new standard is not consistent with the applicable requirements of the Clean Water Act and specifies the changes needed to meet such requirements, the department may recommend a new standard incorporating EPA's specifications to the council for adoption.

Outlines administrative processes

- Designated Use Changes
  - Made Through Administrator's Determination
  - Submitted to EPA pursuant to Clean Water Act
- Site-specific Criteria
  - Non effluent dependent: Incorporated into Chapter 1 through formal rulemaking process
  - Effluent dependent: See Section 36 process
- No reference to UAA Policy

Use Attainability Analyses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Chapter 1, Section 33, Reclassifications and Site-Specific Criteria

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 33. Reclassifications and Site-Specific Criteria.

(a) Any person at any time may petition the department or the council to change the classification, add or remove a designated use or establish site-specific criteria on any surface water.

(b) The administrator may lower a classification, remove a designated use which is not an existing nor attainable use, establish ambient-based criteria on effluent dependent waters, make a recommendation to the council to establish sub-categories of a use or establish site-specific criteria if it can be demonstrated through a use attainability analysis (UAA) that the original classification, designated use or water quality criteria are not feasible because:

(i) Naturally occurring pollutant concentrations prevent the attainment of the classification or use; or

(ii) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable uses to be met; or

(iii) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

(iv) Dams, diversions or other types of hydrologic modifications preclude the attainment of the classification or use, and it is not feasible to restore the water body to its original condition or to operate such modification in such a way that would result in the attainment of the classification or use; or

(v) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of an aquatic life use; or

(vi) Controls more stringent than those required by Sections 301(b) and 306 of the Clean Water Act would result in substantial and widespread economic and social impact. This subsection shall not apply to the derivation of site-specific criteria.

(c) The administrator may raise a classification, add a designated use or make a recommendation to the council to establish sub-categories of a use or site-specific criteria, if it can be demonstrated through a use attainability analysis (UAA) that such uses are existing uses or may be attained with the imposition of more stringent controls or management practices.

(d) The procedures used to implement this section are described in the *Use Attainability Analysis Implementation Policy*.

(e) The provisions of subsections (b) and (c) above are not applicable to Class 1 designations. Class 1 designations may be added or removed in accordance with the provisions of the Environmental Quality Act, the Wyoming Administrative Procedures Act and Section 4(a) of these regulations.

- Outlines requirements for modifying designated uses/classifications and establishing site-specific criteria
  - If lowering, requires a use attainability analysis
- Administrative process
  - Modifying designated uses or establishing ambient-based criteria for effluent-dependent waters (Section 36)
  - Non-effluent dependent site-specific criteria
- Six attainability factors from federal regulations that must be used to demonstrate that a use or water quality criteria is not attainable and can be lowered

Attainability Factors (Chapter 1, Section 33)

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

(b) The administrator may lower a classification, remove a designated use which is not an existing nor attainable use, establish ambient-based criteria on effluent dependent waters, make a recommendation to the council to establish sub-categories of a use or establish site-specific criteria if it can be demonstrated through a use attainability analysis (UAA) that the original classification, designated use or water quality criteria are not feasible because:

(i) Naturally occurring pollutant concentrations prevent the attainment of the classification or use; or

(ii) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable uses to be met; or

(iii) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

(iv) Dams, diversions or other types of hydrologic modifications preclude the attainment of the classification or use, and it is not feasible to restore the water body to its original condition or to operate such modification in such a way that would result in the attainment of the classification or use; or

(v) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of an aquatic life use; or

(vi) Controls more stringent than those required by Sections 301(b) and 306 of the Clean Water Act would result in substantial and widespread economic and social impact. This subsection shall not apply to the derivation of site-specific criteria.

Naturally occurring pollutants

Natural low flow conditions

Human caused conditions that cannot be remedied or would cause more damage to correct

Hydrologic modifications

Physical conditions (aquatic life uses)

Economic and social impacts

Chapter 1, Section 33, Reclassifications and Site-Specific Criteria

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 33. Reclassifications and Site-Specific Criteria.

(a) Any person at any time may petition the department or the council to change the classification, add or remove a designated use or establish site-specific criteria on any surface water.

(b) The administrator may lower a classification, remove a designated use which is not an existing nor attainable use, establish ambient-based criteria on effluent dependent waters, make a recommendation to the council to establish sub-categories of a use or establish site-specific criteria if it can be demonstrated through a use attainability analysis (UAA) that the original classification, designated use or water quality criteria are not feasible because:

(i) Naturally occurring pollutant concentrations prevent the attainment of the classification or use; or

(ii) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable uses to be met; or

(iii) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

(iv) Dams, diversions or other types of hydrologic modifications preclude the attainment of the classification or use, and it is not feasible to restore the water body to its original condition or to operate such modification in such a way that would result in the attainment of the classification or use; or

(v) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of an aquatic life use; or

(vi) Controls more stringent than those required by Sections 301(b) and 306 of the Clean Water Act would result in substantial and widespread economic and social impact. This subsection shall not apply to the derivation of site-specific criteria.

(c) The administrator may raise a classification, add a designated use or make a recommendation to the council to establish sub-categories of a use or site-specific criteria, if it can be demonstrated through a use attainability analysis (UAA) that such uses are existing uses or may be attained with the imposition of more stringent controls or management practices.

(d) The procedures used to implement this section are described in the *Use Attainability Analysis Implementation Policy*.

(e) The provisions of subsections (b) and (c) above are not applicable to Class 1 designations. Class 1 designations may be added or removed in accordance with the provisions of the Environmental Quality Act, the Wyoming Administrative Procedures Act and Section 4(a) of these regulations.

- Administrator may raise a classification, add a designated use or make recommendations to council to add sub-categories of a use, if it can be demonstrated through a UAA that
  - Uses are existing uses; or
  - May be attained by the imposition of more stringent controls or management practices
- Procedures to implement are in the UAA Policy

Use Attainability Analyses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Chapter 1, Section 36, Effluent Dependent Criteria

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 36. Effluent Dependent Criteria. In addition to the provisions of Section 33 of these regulations, the administrator may make modifications to the numeric criteria for pollutants listed in Appendix B on Class 2D and 3D waters. These modifications may be made on a categorical or site-specific basis by application of the following process:

(a) The adopted statewide numeric criteria may be modified on Class 2D and 3D waters to reflect ambient conditions by developing a UAA demonstrating that the water body is effluent dependent and that continued discharge of a permitted effluent to the water body has been shown to create a net environmental benefit. Criteria modification based on a finding of net environmental benefit is authorized where:

(i) The water body is effluent dependent;

(ii) The discharge has been shown to create an environmental benefit and removal of the discharge would cause more environmental harm than leaving it in place;

(iii) There is a credible threat to remove the discharge; and

(iv) Appropriate safeguards are in place, ensuring that downstream uses will be protected and the discharge will pose no health risk or hazard to humans, livestock or wildlife.

(b) Where the above factors have been satisfied, site-specific criteria may be set equal to the background concentration plus a margin of error for each parameter where the highest background concentration exceeds the statewide numeric criteria. Such site-specific criteria will be implemented as instantaneous maximum values.

(i) The background concentration shall be the highest concentration recorded over the course of a one year period where samples have been taken at least once in each month.

(ii) The margin of error shall be one standard deviation calculated from the same data set used to establish background.

(iii) In addition to water column values, aquatic life tissue criteria shall also be established for all parameters known to be bioaccumulating and where recommended criteria have been developed by EPA. Such criteria shall be at least equal to the nationally recommended tissue criteria published by EPA under Section 304(a) of the Clean Water Act.

(c) The procedures used to implement this section are described in the *Use Attainability Analysis Implementation Policy*.

- Outlines methods for Administrator to modify water quality criteria applicable to an effluent-dependent water (Class 2D and 3D)
- Prior to modifying criteria, waterbody must be designated as 2D or 3D through completion of a UAA
- Procedures are in the UAA Policy

Implementation Policies

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Wyoming
Surface Water Quality Standards

Implementation Policies
for

Antidegradation
Mixing Zones and Dilution Allowances
Turbidity
Use Attainability Analysis

Effective September 24, 2013

Use Attainability Analysis Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Use Attainability Analysis Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

USE ATTAINABILITY ANALYSIS (UAA) IMPLEMENTATION POLICY
(Chapter 1, Sections 33 and 34)

Section 1. Purpose. The purpose of this document is to describe the process and provide guidance relative to the development of use attainability analyses (UAA) where they are required under various sections of the Wyoming Surface Water Quality Standards (Water Quality Rules and Regulations, Chapter 1). A use attainability analysis is defined in Chapter 1, Section 2(b)(li) as:

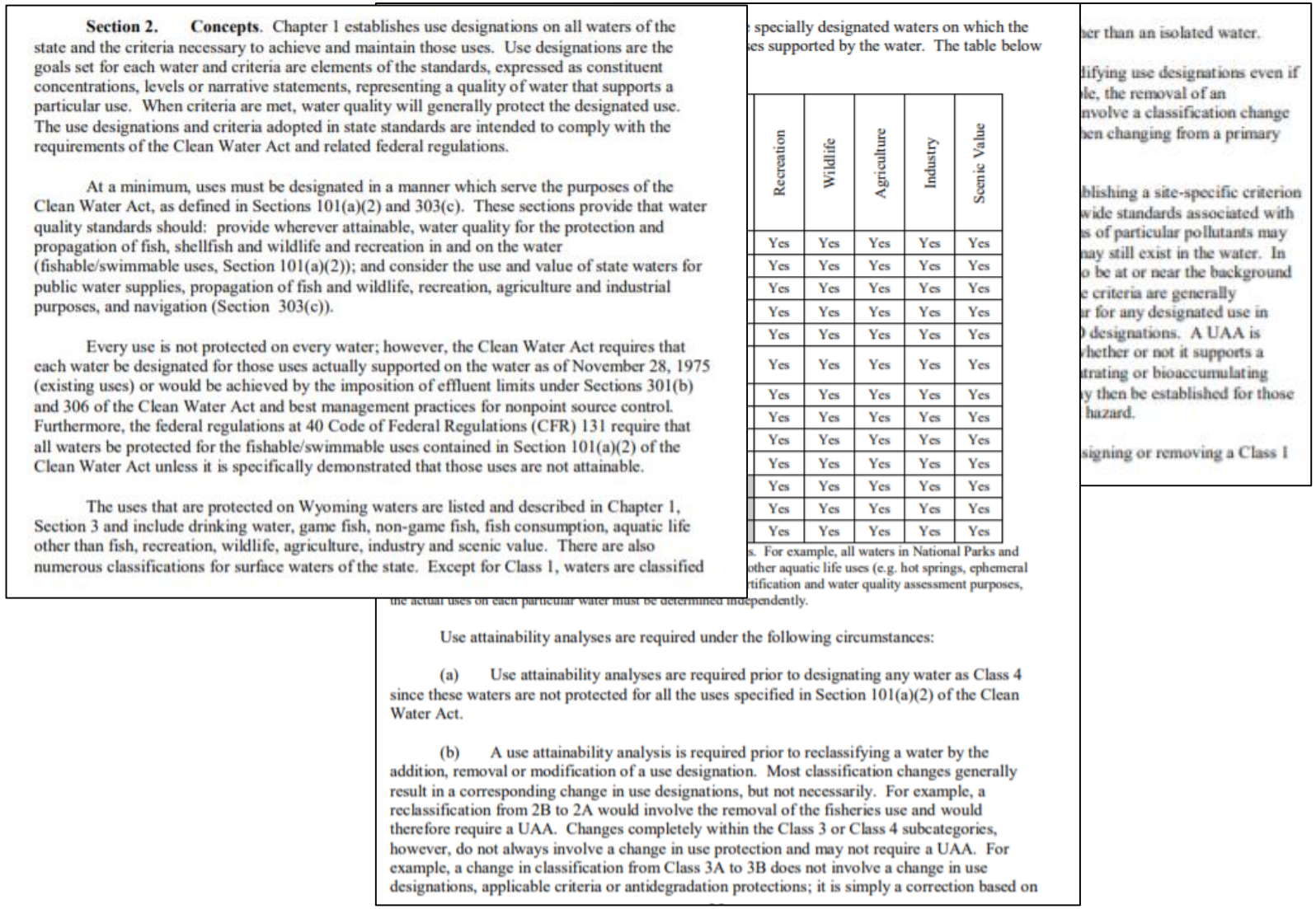
"Use attainability analysis (UAA)" means a structured scientific assessment of the factors affecting the attainment of the use. The factors may include physical, chemical, biological and economic factors as described in Section 33 of these regulations.

A use attainability analysis is generally required prior to changing a water classification or designated use or establishing site-specific criteria that is different than the adopted statewide criteria for any pollutant.

- Describes process
- Provides guidance
- Says UAAs are generally required for changing classifications, designated uses, or establishing site-specific criteria

Use Attainability Analysis Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



Section 2. Concepts. Chapter 1 establishes use designations on all waters of the state and the criteria necessary to achieve and maintain those uses. Use designations are the goals set for each water and criteria are elements of the standards, expressed as constituent concentrations, levels or narrative statements, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use. The use designations and criteria adopted in state standards are intended to comply with the requirements of the Clean Water Act and related federal regulations.

At a minimum, uses must be designated in a manner which serve the purposes of the Clean Water Act, as defined in Sections 101(a)(2) and 303(c). These sections provide that water quality standards should: provide wherever attainable, water quality for the protection and propagation of fish, shellfish and wildlife and recreation in and on the water (fishable/swimmable uses, Section 101(a)(2)); and consider the use and value of state waters for public water supplies, propagation of fish and wildlife, recreation, agriculture and industrial purposes, and navigation (Section 303(c)).

Every use is not protected on every water; however, the Clean Water Act requires that each water be designated for those uses actually supported on the water as of November 28, 1975 (existing uses) or would be achieved by the imposition of effluent limits under Sections 301(b) and 306 of the Clean Water Act and best management practices for nonpoint source control. Furthermore, the federal regulations at 40 Code of Federal Regulations (CFR) 131 require that all waters be protected for the fishable/swimmable uses contained in Section 101(a)(2) of the Clean Water Act unless it is specifically demonstrated that those uses are not attainable.

The uses that are protected on Wyoming waters are listed and described in Chapter 1, Section 3 and include drinking water, game fish, non-game fish, fish consumption, aquatic life other than fish, recreation, wildlife, agriculture, industry and scenic value. There are also numerous classifications for surface waters of the state. Except for Class 1, waters are classified

specially designated waters on which the
ses supported by the water. The table below

	Recreation	Wildlife	Agriculture	Industry	Scenic Value
	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes	Yes

s. For example, all waters in National Parks and
other aquatic life uses (e.g. hot springs, ephemeral
rtification and water quality assessment purposes,
the actual uses on each particular water must be determined independently.

Use attainability analyses are required under the following circumstances:

(a) Use attainability analyses are required prior to designating any water as Class 4 since these waters are not protected for all the uses specified in Section 101(a)(2) of the Clean Water Act.

(b) A use attainability analysis is required prior to reclassifying a water by the addition, removal or modification of a use designation. Most classification changes generally result in a corresponding change in use designations, but not necessarily. For example, a reclassification from 2B to 2A would involve the removal of the fisheries use and would therefore require a UAA. Changes completely within the Class 3 or Class 4 subcategories, however, do not always involve a change in use protection and may not require a UAA. For example, a change in classification from Class 3A to 3B does not involve a change in use designations, applicable criteria or antidegradation protections; it is simply a correction based on

ser than an isolated water.

lifying use designations even if
le, the removal of an
nvolve a classification change
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ay still exist in the water. In
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e criteria are generally
r for any designated use in
) designations. A UAA is
hether or not it supports a
trating or bioaccumulating
y then be established for those
hazard.

signing or removing a Class 1

Description of:

- Water quality standards
- Requirements for fishable/swimmable uses, other uses
- Existing uses
- Attainable uses
- Classification system
- When UAAs are required

Use Attainability Analysis Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 3. Process. Each use attainability analysis involves a site-specific or categorical evaluation with varying information requirements. Depending upon individual circumstances and public interest, one may involve an exhaustive study while another may only require simple and cursory information. For example, Class 4A waters are man-made canals and ditches, yet a UAA is required prior to classification because these waters are not protected for aquatic life uses. This type of classification change would normally involve a minimal amount of information, often as little as a demonstration that a waterway is an artificially constructed conveyance for agricultural or industrial uses. On the other hand, a use may be removed because natural levels of pollution or human caused pollution that cannot be remedied prevent the attainment of the use. In either of those cases, showing that pollution levels are natural or cannot be remedied may involve a detailed assessment and evaluation of watershed conditions and an economic analysis. In all circumstances the following general administrative procedures will apply:

(a) A petition is made for a change in classification, designated use or criteria. The petition may be made by a person, entity or may originate with Water Quality Division based on information available to the administrator. If the proposal would result in a removal of a designated use, the petition must address one or more of the factors listed in Chapter 1, Section 33(b)(i) through Section 33(b)(vi).

(b) The Water Quality Division reviews the petition for completeness and provides feedback to the petitioner on the status of the petition and may make requests for additional information or studies if necessary. Petitioners are encouraged to contact the Water Quality Division early in the process to ensure the UAA, study design, data collection, etc. are appropriate and consistent with Chapter 1 and this policy.

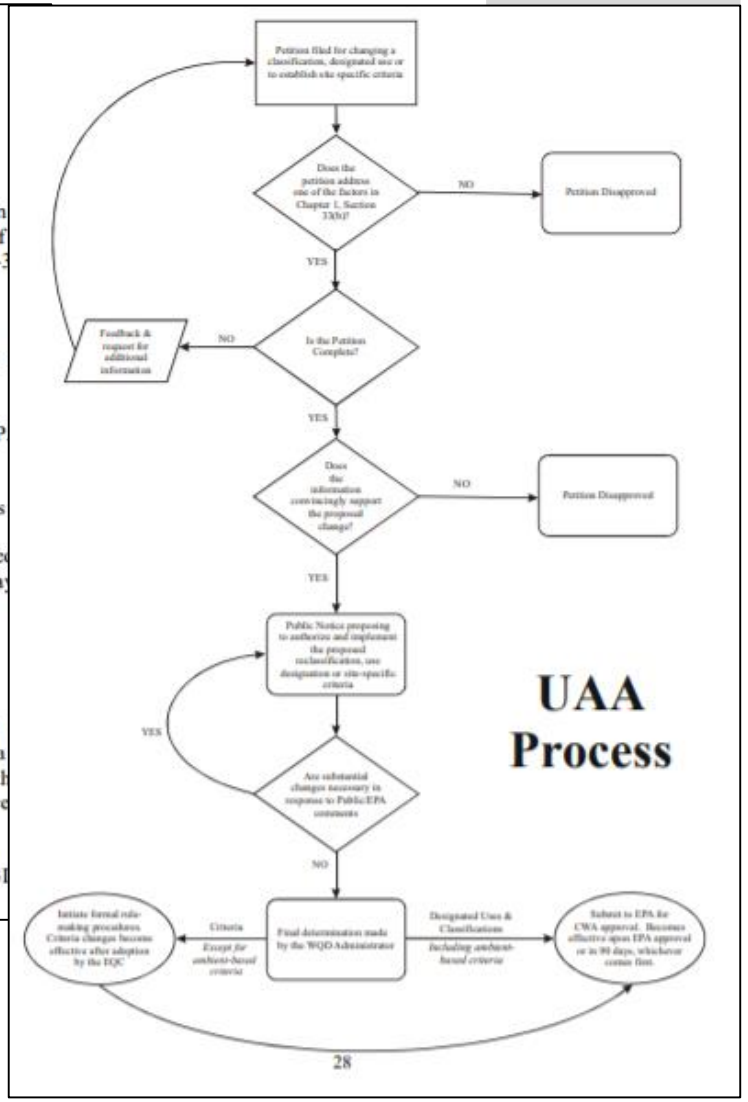
(c) Once a petition has been accepted as complete, the Water Quality Division evaluates the petition and approves or disapproves the proposed change in use designation, classification or site-specific criteria. In instances where a petition is disapproved, the decision may be appealed to the Wyoming Environmental Quality Council pursuant to the provisions of the Wyoming Administrative Procedures Act, Wyoming Statutes (W.S.) 16-3-101 through 16-3-115.

(d) In instances where a petition for a revised classification or use is approved, the administrator shall prepare a public notice proposing to authorize and implement the proposed change. The public notice shall provide a 45-day public review period, contain the rationale supporting the decision and be submitted to EPA for comment and recommendations. The Water Quality Division may modify its initial determination based on public comments and EP recommendations and issue a final administrative decision.

(e) If the final administrative decision is substantially changed from that which was proposed, the administrator shall prepare a second 45-day public notice. Otherwise, the administrative decision shall be considered final and submitted to EPA for approval as a revise standard for Clean Water Act purposes as provided in Chapter 1, Section 34. This decision ma be appealed to the Wyoming Environmental Quality Council pursuant to the provisions of the Wyoming Administrative Procedures Act, (W.S. 16-3-101 through 16-3-115) and Rules of Practice and Procedure, Chapter 1, Section 16.

(f) In instances where a petition for revised water quality criteria is approved, the department may initiate formal rule making procedures to amend the appropriate section(s) of Chapter 1, include the revised criteria in an ongoing rule revision or include the revised criteria in a subsequent rule revision. Changes in criteria shall not become effective until adopted by th Environmental Quality Council and filed with the Secretary of State. This administrative proce does not apply to the establishment of site-specific criteria on Class 2D and 3D waters.

(g) Site-specific criteria may be established by the administrator on Class 2D and 3 waters without additional rule making procedures, as provided in Chapter 1, Section 36.



- Petition
- WQD Review and Feedback
- WQD Approval or Disapproval
- Public notice and comment review
- Final Determination
- Submission to EPA or Incorporation Into Chapter 1

Use Attainability Analysis Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 4. Petitions. Except for Class 1 designations, all petitions for water reclassifications must be made in accordance with the provisions of Chapter 1, Section 33.

(a) Lowering Protections. Those petitions that involve lowering a classification, removing a use designation or establishing site-specific criteria that are less stringent than the adopted statewide standards must contain a use attainability analysis (UAA) addressing one or more of the factors listed in Section 33(b) (i) through (vi), which states:

(b) The administrator may lower a classification, remove a designated use which is not an existing use nor attainable use, establish ambient-based criteria on effluent dependent waters, make a recommendation to the council to establish sub-categories of a use or establish site-specific criteria if it can be demonstrated through a use attainability analysis (UAA) that the original classification, designated use or water quality criteria are not feasible because:

(i) Naturally occurring pollutant concentrations prevent the attainment of the classification or use; or

(ii) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable uses to be met; or

(iii) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

(iv) Dams, diversions or other types of hydrologic modifications preclude the attainment of the classification or use, and it is not feasible to restore the water body to its original condition or to operate such modification in such a way that would result in the attainment of the classification or use; or

(v) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of an aquatic life use; or

(vi) Controls more stringent than those required by Sections 301(b) and 306 of the Clean Water Act would result in substantial and widespread economic and social impact. This subsection shall not apply to the derivation of site-specific criteria.

(b) Increasing Protections. Those petitions that involve adding a use designation or establishing site-specific criteria that are more stringent than the established standards are not subject to the Section 33(b) factors listed above. Instead, the UAA must demonstrate that the proposed new designated uses are existing uses or may be attained with the imposition of more stringent controls or management practices. In order to establish more stringent site-specific criteria, a petition should demonstrate that the approved statewide criteria are not sufficiently

- Lowering protections (Section 33 language)
  - Demonstrate use or criteria is not attainable using six factors
- Increasing protections (Section 33 language)
  - Demonstrate that use is an existing use or an attainable use

Use Attainability Analysis Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 5. Completeness. Prior to evaluating a petition on its merits, the Water Quality Division must conclude that a petition is complete and contains the necessary water quality data and other information to make a valid determination. As mentioned in Section 3 above, the degree of information necessary will depend upon the nature of the petition and if necessary, the associated Section 33(b) factor. In most cases, petitions should contain the following general information to be considered complete.

(a) General Requirements.

(i) A narrative explaining the nature and purpose of the petition. As mentioned in Section 4 above, if the proposal would result in the lowering of protections, the narrative must address one of the factors listed in Chapter 1, Section 33(b). The petition should explain the reasons for the requested use removal, classification change or site-specific criteria and include any adverse effects that would occur if the petition is denied. Adverse effects could include any harm to business operations, commerce, private property rights, development opportunities, the environment, or any other public or private interest. Adverse effects should be tangible rather than speculative. For example, an unattainable water quality criterion that obstructs a proposed private or public action or causes unnecessary delay or expense is a tangible adverse effect. Speculative adverse effects would be activities that are neither proposed nor have a reasonable potential to be proposed in the foreseeable future.

This step is necessary to help prioritize the department's actions and resources. Wyoming's water quality standards designate aquatic life uses on all waters by default. It is possible to modify or remove these uses as appropriate following completion of the required use attainability analyses. Though it is not necessary to have a "tangible adverse effect" in order to make an appropriate designation, those with tangible effects will be addressed with more urgency.

(ii) The name and general description of the water body(s). This may be a single stream segment or a collection of stream segments making up a watershed or sub-watershed, lake, pond, or other still water body, or isolated water.

(iii) The specific location of the subject water body(s). Legal descriptions should be provided for the beginning and end of stream segments. Stream segments may also be described from tributary confluence to tributary confluence. Generally, the Water Quality Division will not approve criteria or use designation changes on small segments of main stem streams.

(iv) Maps of the subject water body containing the necessary features and adequate detail to support the proposal. For example, if the intent of the petition is to show that normal stream flows are not sufficient to support aquatic life, National Wetlands Inventory, 7.5 minute quad maps depicting wetland occurrences along the entire water body should be used. However, if the intent of the petition is to remove a fisheries use, a more general map depicting

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etc. in a sufficient number to
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Use Attainability Analysis Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Completeness

(a) General Requirements

(i) Nature, purpose, adverse effects if denied

(ii) Name and description of waterbody

(iii) Location

(iv) Maps

(v) Photos

(b) Specific Requirements

(i) Common classification and use designation changes

(ii) Section 33(b) factors

Use Attainability Analysis Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 6. UAA Procedures for Effluent Dependent Waters (Classes 2D and 3D).

The justification for classifying a water as either 2D or 3D and assigning ambient-based criteria is based on the Section 33(b)(iii) factor described above in Section 5(b)(ii)(C). The specific rationale is that effluent dependent waters create environmental benefits that would be lost if the discharge is discontinued. Since there is no natural source of water, there would be no pre-existing aquatic life that could be damaged by the quality of the discharge. As a result, any aquatic life that develops because of the effluent discharge is tolerant of the ambient conditions.

Though the habitats that are created in effluent dependent circumstances pose no real threat to the species of aquatic life that colonize them, there is a potential that they may pose a hazard to terrestrial and semi-aquatic wildlife species that may be attracted to them. The greatest concern is the possibility of bioconcentrating or bioaccumulating chemicals moving through the food chain at levels that create a risk to livestock, wildlife or humans. Therefore, part of the process of classifying a water body as 2D or 3D involves assessing a discharge for the presence of those types of pollutants and establishing appropriate criteria.

Therefore, the complete process for designating a water as either 2D or 3D contains three parts. The first is completing a use attainability analysis (UAA) that demonstrates that the water body is in fact effluent dependent and eligible for site-specific, ambient-based criteria. This part includes a demonstration that there is an environmental benefit associated with the discharge and a credible threat to remove the discharge. The second part is a hazard analysis that includes a specific screening of the discharge for the presence of bioaccumulating and bioconcentrating pollutants and a more general analysis to identify the pollutants for which ambient-based criteria will be established. The final part is to calculate and establish site-specific ambient-based

adopted statewide criteria (Chapter 1,

is to show convincingly, through a weight
of essentially 100% permitted effluent and
aquatic resource. There is no one best
nation will be most convincing if multiple
asurements, vegetation and wetland
recipitation information, paired watershed

onmental benefit. It shall be presumed that
fit for the aquatic life that colonizes it and
ies provide to semi-aquatic and terrestrial
stock watering, irrigation and industrial
mptive recreational and scenic values.
ry that the UAA exhaustively identifies
d with the water body but should make an
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threat to remove the discharge. The basis
ntal benefit (NEB) that weighs the
nefits of instream flow. NEB infers there
nued.

The demonstration of a credible threat to remove the discharge from oil and gas production operations is presumed to be satisfied based on consideration that alternatives to surface discharge is the norm for the industry with an exemption applicable only west of the 98th meridian and an economic analysis done by EPA Headquarters showing that available treatment options for this industry are, as a general matter, more expensive than available non-discharge options.

For other types of discharges, the credible threat demonstration would have to be made either on a case-by-case basis or on a categorical basis as with the oil and gas industry.

(b) Hazard Analysis and Chemical Screening. In order to be certain that there are in fact net environmental benefits associated with the creation or continued existence of an effluent dependent water body, the UAA must evaluate actual or probable hazards to wildlife, livestock and human health. This evaluation shall address the potential that the pollutants contained in the effluent may accumulate to levels considered hazardous in the environment or hazardous to wildlife, livestock or humans by means of bioaccumulation through the food chain.

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03(d) list and a TMDL developed to

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nd in some areas contain up to 30
um is believed to be non-toxic to cattle.
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tain up to 10,000 µg/L of selenium with

onmental hazards associated with
sed on an evaluation of impacts to birds.
o birds, the water is safe for all other

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ing water supplies. The identification of
ds to consider the following:

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ndwater aquifers to levels above 2 µg/L;

ury in sediments to levels above the

the effluent concentration of mercury
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e required. If whole body tissue
rcury/kg fish, the water shall not be

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41

trion of 0.3 mg
ith an ambient-based
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Appendix B chronic
0.3 mg
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03(d) list and a TMDL

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alysis shall comply with WYPDES
n-stream sampling and analysis shall
Procedures for Sample Collection and

onsible for the discharge shall be

Use Attainability Analysis Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

UAA Procedures for Effluent Dependent Waters

(a) Demonstrate effluent-dependency
(b) Hazard analysis and chemical screening
    (i) Selenium
    (ii) Mercury
    (iii) Other pollutants
(c) Establish ambient-based criteria

Use Attainability Analysis Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 7. UAA Procedures for Recreation Designations.

(a) Purpose. Chapter 1, Section 27 identifies two recreational use categories for all bodies of surface water in the state. Primary contact recreation is intended to apply to those waters where there is a reasonable potential for people to engage in full body contact with the water and/or a potential to ingest small quantities. Secondary contact recreation is intended to apply to all other waters where those circumstances do not occur.

The purpose of this policy is to provide guidance on how to appropriately designate specific waters as either primary or secondary contact waters.

(b) Concepts. The basic concept of recreational use protection is to ensure that surface waters of the state are maintained at a quality that does not pose a significant risk of disease to human populations that may be exposed to them. The factors contributing to human health risk include the concentration of disease causing organisms in the water and the relative level of human exposure to that water.

Along with the use classification categories, Section 27 also provides the criteria that apply to each. The criteria are based on concentrations of *E.coli* bacteria which serve as an indicator of the probability that the water may also contain populations of other waterborne disease causing bacteria and viruses. These criteria are used as the basis for effluent limits on permitted discharges (WYPDES permits) and Section 303(d) listings and subsequent TMDL or watershed planning targets.

All surface waters are designated for primary contact recreation during the summer recreation season (May 1 through September 30) unless the water has been designated for secondary contact recreation through a use attainability analysis. Recreational use designations are identified in the *Wyoming Surface Water Classification List*.

The decision as to whether a water body is most appropriately designated for primary or secondary recreation protection is not intended to be a difficult one. There are only a few factors relating to water availability, access and recreational opportunity that need to be considered. The entire UAA process will in most cases be very simple and will not require any special expertise to complete.

It is important to note that a recreational use designation is not intended to imply that the owner of property adjacent to any water body would allow access for any kind of recreational use. The application of recreation classifications does not create any rights of access on or across private property for purposes of recreation on such waters. The classification is intended only to affect the water quality criteria that will be used in the implementation of the pollution control programs required under the Clean Water Act and the Wyoming Environmental Quality Act.

(c) Factors Affecting Recreational Use Designations.

(i) All waters, regardless of flow regime, located within federal, state or local rks and recreation areas will be designated for primary contact recreation. Federal, state or cal parks should not be construed to mean all public lands, but rather specifically developed d/or designated recreational use areas such as campgrounds, picnic grounds, trailheads, eenways, etc.

(ii) Waters known to be used for primary contact activities such as swimming, fting, floating, canoeing or kayaking shall be designated as primary contact waters.

(iii) All lakes and reservoirs located in the state already used or have the tential to be used for primary recreation will be designated as such.

(iv) Waters located within or flow through municipalities or high density using areas will generally be designated as primary contact waters.

(v) Larger perennial streams and game fisheries will generally be designated r primary contact because of their potential to attract sportsmen and other recreationists.

(vi) Except for waters located in or flowing through parks, recreation areas or ban areas, intermittent and ephemeral waters will generally be designated for secondary ntact uses.

(vii) Segmentation of streams into multiple primary and secondary designations possible but will only be approved where the benefits of more specific segmentation outweigh e drawbacks of an increasingly segmented system.

- (a) Purpose
- (b) Concepts
- (c) Factors Affecting Recreational Use Designations

Use Attainability Analysis Policy

Section 8. Implementation.

(a) Classifications and Use Designations. Upon final approval by the administrator for changes in classifications or use designations, the results of a use attainability analysis will be submitted to EPA for approval as a revised water quality standard for Clean Water Act purposes. The revised standard will become effective upon EPA approval or 90 days after submittal, whichever comes first. The final determination by the administrator is an action that may be appealed to the Environmental Quality Council pursuant to Chapter 1, Section 16 of the Rules of Practice and Procedure.

(b) Criteria. Site-specific changes in water quality criteria can only be implemented administratively by the Water Quality Division on effluent dependent waters. On all other waters where an approved use attainability analysis results in the establishment of site-specific criteria for a pollutant, the department shall recommend such revised criteria to the Wyoming Environmental Quality Council for adoption pursuant to formal rule-making procedures. The revised criteria shall not become effective until adopted by the council and filed with the Secretary of State as revised rules.

Section 34

(a) Classifications and Use Designations

(b) Site-Specific Criteria

  (a) Effluent dependent waters

  (b) Non-effluent dependent waters

Examples From Other States

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Colorado
- Idaho
- Ohio

Colorado Water Quality Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

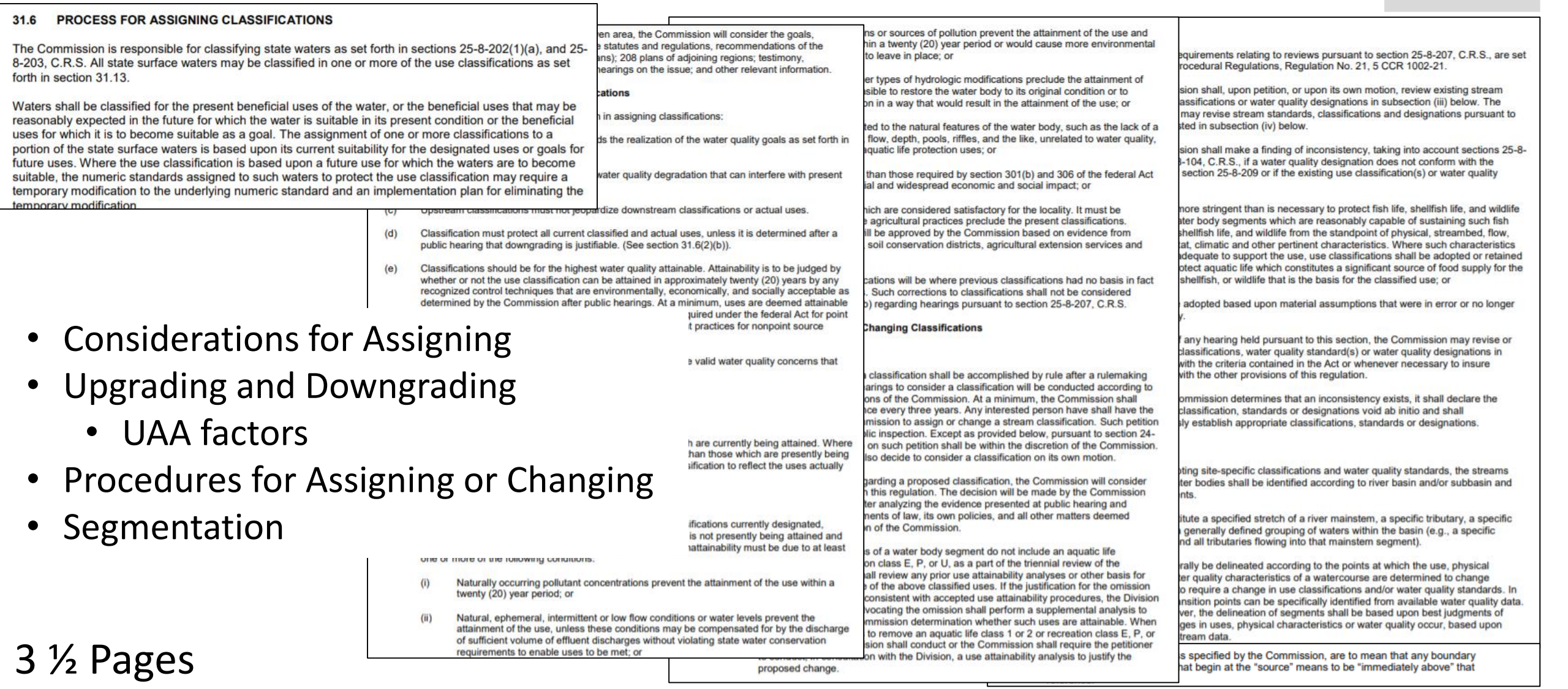
- Colorado
- Idaho
- Ohio

Colorado Definitions

(44) "USE ATTAINABILITY ANALYSIS" means an assessment of the factors affecting the attainment of aquatic life uses or other beneficial uses, which may include physical, chemical, biological, and economic factors.

Colorado Process for Assigning Classifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



31.6 PROCESS FOR ASSIGNING CLASSIFICATIONS

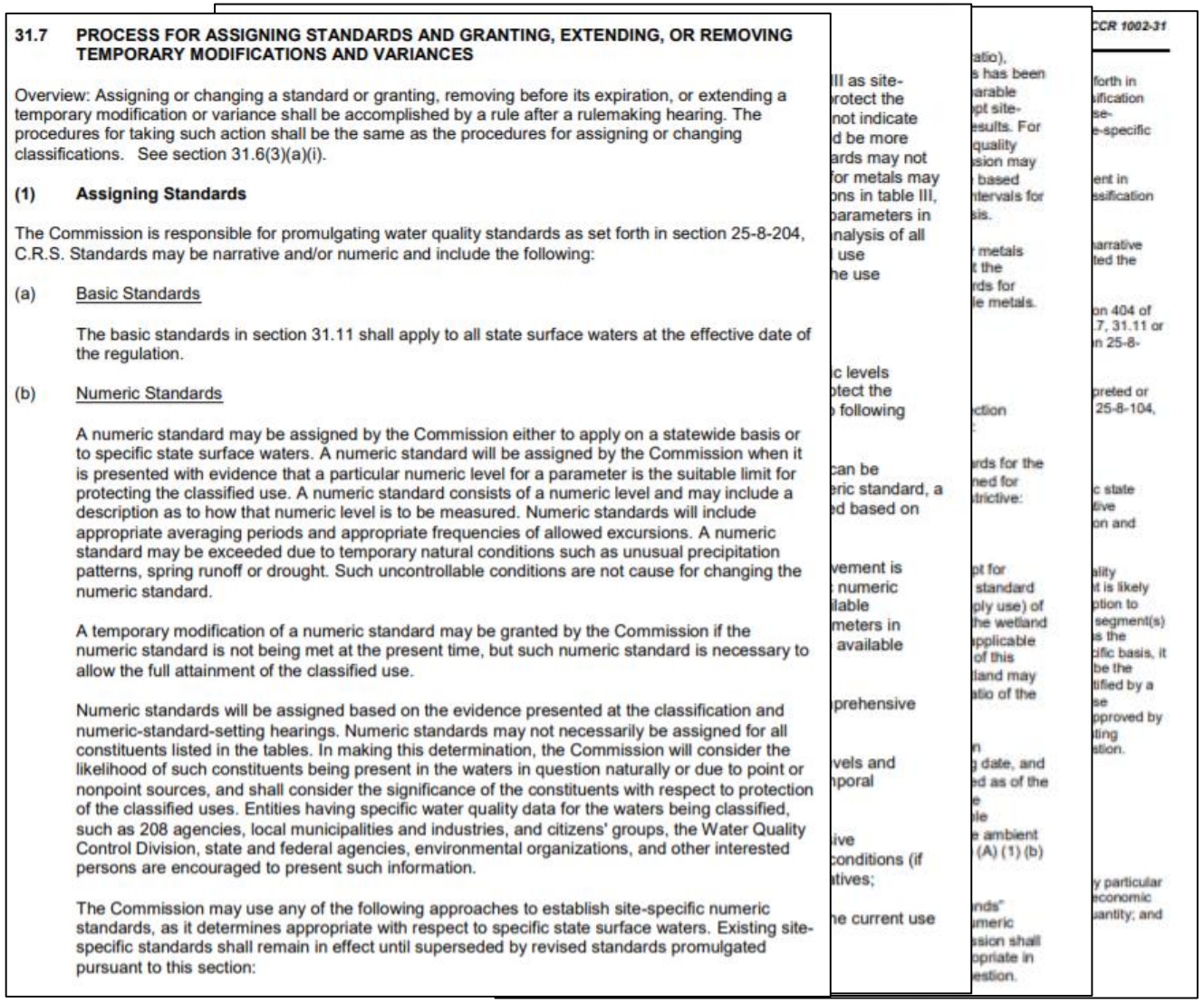
The Commission is responsible for classifying state waters as set forth in sections 25-8-202(1)(a), and 25-8-203, C.R.S. All state surface waters may be classified in one or more of the use classifications as set forth in section 31.13.

Waters shall be classified for the present beneficial uses of the water, or the beneficial uses that may be reasonably expected in the future for which the water is suitable in its present condition or the beneficial uses for which it is to become suitable as a goal. The assignment of one or more classifications to a portion of the state surface waters is based upon its current suitability for the designated uses or goals for future uses. Where the use classification is based upon a future use for which the waters are to become suitable, the numeric standards assigned to such waters to protect the use classification may require a temporary modification to the underlying numeric standard and an implementation plan for eliminating the temporary modification.

- Considerations for Assigning
- Upgrading and Downgrading
  - UAA factors
- Procedures for Assigning or Changing
- Segmentation

3 ½ Pages

Colorado Process for Assigning Standards (Criteria)



31.7 PROCESS FOR ASSIGNING STANDARDS AND GRANTING, EXTENDING, OR REMOVING TEMPORARY MODIFICATIONS AND VARIANCES

Overview: Assigning or changing a standard or granting, removing before its expiration, or extending a temporary modification or variance shall be accomplished by a rule after a rulemaking hearing. The procedures for taking such action shall be the same as the procedures for assigning or changing classifications. See section 31.6(3)(a)(i).

(1) Assigning Standards

The Commission is responsible for promulgating water quality standards as set forth in section 25-8-204, C.R.S. Standards may be narrative and/or numeric and include the following:

(a) Basic Standards

The basic standards in section 31.11 shall apply to all state surface waters at the effective date of the regulation.

(b) Numeric Standards

A numeric standard may be assigned by the Commission either to apply on a statewide basis or to specific state surface waters. A numeric standard will be assigned by the Commission when it is presented with evidence that a particular numeric level for a parameter is the suitable limit for protecting the classified use. A numeric standard consists of a numeric level and may include a description as to how that numeric level is to be measured. Numeric standards will include appropriate averaging periods and appropriate frequencies of allowed excursions. A numeric standard may be exceeded due to temporary natural conditions such as unusual precipitation patterns, spring runoff or drought. Such uncontrollable conditions are not cause for changing the numeric standard.

A temporary modification of a numeric standard may be granted by the Commission if the numeric standard is not being met at the present time, but such numeric standard is necessary to allow the full attainment of the classified use.

Numeric standards will be assigned based on the evidence presented at the classification and numeric-standard-setting hearings. Numeric standards may not necessarily be assigned for all constituents listed in the tables. In making this determination, the Commission will consider the likelihood of such constituents being present in the waters in question naturally or due to point or nonpoint sources, and shall consider the significance of the constituents with respect to protection of the classified uses. Entities having specific water quality data for the waters being classified, such as 208 agencies, local municipalities and industries, and citizens' groups, the Water Quality Control Division, state and federal agencies, environmental organizations, and other interested persons are encouraged to present such information.

The Commission may use any of the following approaches to establish site-specific numeric standards, as it determines appropriate with respect to specific state surface waters. Existing site-specific standards shall remain in effect until superseded by revised standards promulgated pursuant to this section:

- Basic Standards (Narrative Criteria)
- Numeric Standards
  - Table Values
  - Ambient Quality Based Standards
  - Site-Specific-Criteria-Based
  - Standards for Wetlands
- Site-specific Narrative Standards
- Temporary Modifications
- Granting, Extending, and Removing Variances to Numeric Standards

Examples from Other States

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Colorado
- Idaho
- Ohio

Idaho Revision of Beneficial Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

IDAPA 58 – DEPARTMENT OF ENVIRONMENTAL QUAL

Water Quality Division

58.01.02 – Water Quality Standards

To whom does this rule apply?
This rule applies to any individual or entity who recreates in, drinks from, or f face waters, and any individual or entity who discharges pollutants to those sa

What is the purpose of this rule?
This rule designates uses which are to be protected in and of the waters of the standards of water quality protective of those uses. Restrictions are placed on wastewaters and on human activities which may adversely affect public health in the waters of the state. In addition, unique and outstanding waters of the sta This rule does not provide any legal basis for an additional permit system, nor as granting to the Department any authority not identified in the Idaho Code.

What is the legal authority for the agency to promulgate this rule?
This rule implements the following statutes passed by the Idaho Legislature:

Health and Safety -
Environmental Quality:
- Section 39-105, Idaho Code – Powers and Duties of the Director
- Section 39-107, Idaho Code – Board-Composition – Officers – Compensat Subpoena – Depositions – Review - Rules
- Chapter 36, Title 39, Idaho Code – Health and Safety, Water Quality

Who do I contact for more information on this rule?

Paula Wilson
Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706
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Fax: (208) 373-0481
Email: paula.wilson@deq.idaho.gov
www.deq.idaho.gov

58.01.02 – Water Quality Standards

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Idaho Definitions

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

106. Use Attainability Analysis. A structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors as described in Subsection 102.02.a. (3-25-16)

Idaho Designation and Revision of Beneficial Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

102. DESIGNATION AND REVISION OF BENEFICIAL USES.
When designating or revising beneficial uses for a water body, the Department shall consult with the basin advisory group and the watershed advisory group with the responsibilities for the water body described in Chapter 36, Title 39, Idaho Code. After consultation, the Director shall identify the designated beneficial uses of each water body in these rules pursuant to the rulemaking and public participation provisions of Chapter 52, Title 67, Idaho Code. (3-25-16)

01. Designation of Beneficial Uses. Beneficial uses shall be designated in accordance with Section 39-3604, Idaho Code, taking into consideration the uses set forth in Section 100, and such physical, geological, chemical, and biological measures as may affect the surface water. Beneficial uses are designated according to water body unit unless designated otherwise. Use designations are made for each water body or segment whether or not they are being attained or are fully supported at the time of designation. (3-25-16)

a. In designating beneficial uses, which a water body can reasonably be expected to attain, the Department shall consider: (3-25-16)

i. Existing uses of the water body; (3-25-16)

ii. The physical, geological, hydrological, atmospheric, chemical and biological measures that affect the water body; (3-25-16)

iii. The beneficial use attainability measures identified in Section 39-3607, Idaho Code; (3-25-16)

iv. The economic impact of the designation and the economic costs required to fully support the

- Designation of Beneficial Uses
- Revision of Beneficial Uses
  - UAA factors

beneficial uses; (3-25-16)

v. The attainment and maintenance of the water quality standards of downstream waters, including the waters of downstream states; (3-25-16)

vi. Adopting subcategories of a beneficial use and setting the appropriate criteria to reflect varying needs of such subcategories of beneficial uses, for instance, to differentiate between cold water and warm water fisheries; (3-25-16)

vii. At a minimum, that beneficial uses are deemed attainable if they can be achieved by the imposition of effluent limits required under sections 301(b) and 306 of the federal Clean Water Act and cost-effective and reasonable best management practices for nonpoint source control; and (3-25-16)

viii. Designating seasonal beneficial uses as an alternative to reclassifying a water body or segment thereof to uses requiring less stringent water quality criteria. If seasonal beneficial uses are adopted, water quality criteria may be adjusted to reflect the timing of the beneficial use, e.g., salmonid spawning. However, seasonal beneficial uses and their criteria shall not preclude the attainment and maintenance of a more protective beneficial use at other times. (3-25-16)

b. In no case shall waste transport or waste assimilation be a designated beneficial use for a water body. (3-25-16)

02. Revision of Beneficial Uses. (3-25-16)

a. Designated beneficial uses shall be reviewed and revised when such physical, geological, hydrological, atmospheric, chemical or biological measures indicate the need to do so. Designated beneficial uses may be revised or removed if the designated beneficial use is not an existing use, and it is demonstrated that attaining the designated beneficial use is not feasible due to one of the following factors: (3-25-16)

i. Naturally occurring pollutant concentrations prevent the attainment of the use; (3-25-16)

ii. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable uses to be met; (3-25-16)

iii. Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; (3-25-16)

iv. Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; (3-25-16)

v. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or (3-25-16)

vi. Controls more stringent than those required by sections 301(b) and 306 of the federal Clean Water Act would result in substantial and widespread economic and social impact. (3-25-16)

b. Designated beneficial uses may not be removed if: (3-25-16)

i. They are existing uses unless a use requiring more stringent criteria is added; or (3-25-16)

ii. Such uses can be attained by implementing effluent limits required under sections 301(b) and 306 of the federal Clean Water Act and by implementing cost-effective and reasonable best management practices for nonpoint source control. (3-25-16)

c. Where existing water quality standards specify designated uses less than those which are presently being attained, the Department shall revise its standards to reflect the uses actually being attained. (3-25-16)

d. A use attainability analysis is a structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors as described in Subsection 102.02.a. A use attainability analysis must be conducted whenever: (3-25-16)

i. The Department designates uses for a water body that do not include the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water; or (3-25-16)

ii. The Department acts to remove a designated use which provides for protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water; to remove a subcategory of such uses; or to designate subcategories of such uses which require less stringent criteria than previously applicable. (3-25-16)

e. A use attainability analysis is not required under this rule whenever: (3-25-16)

i. The Department designates beneficial uses which include protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water; or (3-25-16)

ii. The Department removes a beneficial use that does not include the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water. (3-25-16)

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Idaho Designation and Revision of Beneficial Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

STATE OF IDAHO
DEPARTMENT OF ENVIRONMENTAL QUALITY

Use Attainability Analysis

A designated use of a water body that is shown to not be an existing use may be changed if it is not attainable. A use attainability analysis (UAA) is a structured scientific assessment of the beneficial uses a water body could support, given application of required effluent limits and implementation of cost-effective and reasonable best management practices.

A UAA is required anytime a state or tribe designates a use that does not include the "fishable/swimmable" goals of the Clean Water Act or changes a use to one that would apply less stringent criteria than the current use. If a use is designated that does not include the "fishable/swimmable" goals, that use designation and the rationale behind it need to be revisited every three years to see if circumstances have changed.

Waters must be protected for the most sensitive of their uses. Most streams have overlapping or competing uses. When this is the case, the most sensitive use is that which requires better water quality (the use with the most stringent criteria). If an existing use is "better" than the designated use, the existing use must be protected and that use must become the designated use. Uses that currently exist, or have existed since November 25, 1975, cannot be removed or downgraded through a UAA.

Process for Changing a Use Designation

The process for changing a use designation requires rulemaking by DEQ. Therefore, parties interested in changing designated uses should involve the agency early in the process. Simply put, the first part of the process is to determine what the existing uses for the water body segment are. If the existing uses have associated criteria that are less stringent than the designated uses, then the next step is determining if the designated uses are attainable if all cost-effective and reasonable best management practices are in place and effective and that all effluent limits are being met. If the designated use is shown to be unattainable, the final step is to determine what the highest attainable use would be if all those practices and effluent limits were in place. This process constitutes the body of the UAA and is followed by the agency's rulemaking process to change the designated use(s).

According to federal regulations, only six allowable reasons exist for changing a current use designation:

1. Naturally occurring pollutant levels prevent attainment of the use.
2. Natural ephemeral, intermittent, or low flow prevents attainment of the use.
3. Human-caused pollution prevents attainment and cannot be remedied without causing worse environmental harm.
4. Dams, diversions, and other hydrologic modifications prevent attainment and it is not feasible to restore the water or operate the modification in a way that would result in attainment.
5. Natural physical features prevent attainment.
6. Controls more stringent than required effluent limitations or new source performance standards would be necessary to attain the use and would result in substantial and widespread social and economic hardship.

In Idaho, rulemaking is, at a minimum, a several-month process that requires public comment and response, Board of Environmental Quality approval, and legislative approval. Use changes are subject to EPA review and approval before becoming effective for Clean Water Act purposes (e.g., discharge permits, total maximum daily loads, §303(d) listing decisions). The entire process—developing the UAA and undergoing rulemaking—could take at least two years and possibly more to craft a structured scientific assessment to change a designated use.

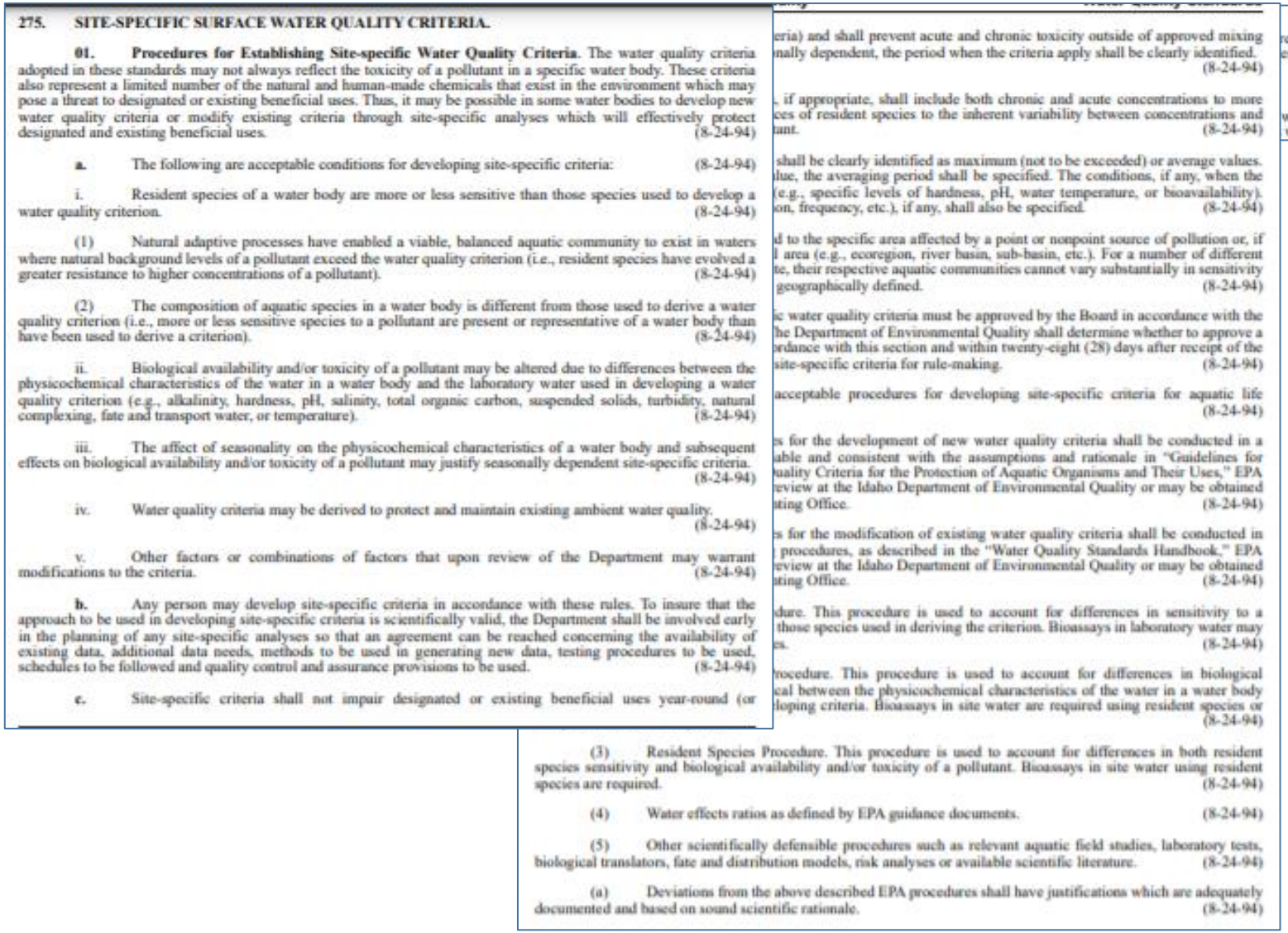
In some instances, the criteria for determining if a designated use is fully supported are not appropriate for a particular water body. A state may reduce the stringency of the criteria for use attainment assigned to a water body by revising its water quality criteria (site-specific or statewide). This action can only occur where scientific understanding supports the position that a less stringent criterion is still fully protective of the designated uses. This can occur in instances where natural background conditions that support designated uses exceed the water quality criteria.

UAA "Flyer"

2 Pages

Idaho Site-Specific Water Quality Criteria

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



275. SITE-SPECIFIC SURFACE WATER QUALITY CRITERIA.

01. **Procedures for Establishing Site-specific Water Quality Criteria**. The water quality criteria adopted in these standards may not always reflect the toxicity of a pollutant in a specific water body. These criteria also represent a limited number of the natural and human-made chemicals that exist in the environment which may pose a threat to designated or existing beneficial uses. Thus, it may be possible in some water bodies to develop new water quality criteria or modify existing criteria through site-specific analyses which will effectively protect designated and existing beneficial uses. (8-24-94)

a. The following are acceptable conditions for developing site-specific criteria: (8-24-94)

i. Resident species of a water body are more or less sensitive than those species used to develop a water quality criterion. (8-24-94)

(1) Natural adaptive processes have enabled a viable, balanced aquatic community to exist in waters where natural background levels of a pollutant exceed the water quality criterion (i.e., resident species have evolved a greater resistance to higher concentrations of a pollutant). (8-24-94)

(2) The composition of aquatic species in a water body is different from those used to derive a water quality criterion (i.e., more or less sensitive species to a pollutant are present or representative of a water body than have been used to derive a criterion). (8-24-94)

ii. Biological availability and/or toxicity of a pollutant may be altered due to differences between the physicochemical characteristics of the water in a water body and the laboratory water used in developing a water quality criterion (e.g., alkalinity, hardness, pH, salinity, total organic carbon, suspended solids, turbidity, natural complexing, fate and transport water, or temperature). (8-24-94)

iii. The affect of seasonality on the physicochemical characteristics of a water body and subsequent effects on biological availability and/or toxicity of a pollutant may justify seasonally dependent site-specific criteria. (8-24-94)

iv. Water quality criteria may be derived to protect and maintain existing ambient water quality. (8-24-94)

v. Other factors or combinations of factors that upon review of the Department may warrant modifications to the criteria. (8-24-94)

b. Any person may develop site-specific criteria in accordance with these rules. To insure that the approach to be used in developing site-specific criteria is scientifically valid, the Department shall be involved early in the planning of any site-specific analyses so that an agreement can be reached concerning the availability of existing data, additional data needs, methods to be used in generating new data, testing procedures to be used, schedules to be followed and quality control and assurance provisions to be used. (8-24-94)

c. Site-specific criteria shall not impair designated or existing beneficial uses year-round (or

eria) and shall prevent acute and chronic toxicity outside of approved mixing nally dependent, the period when the criteria apply shall be clearly identified. (8-24-94)

, if appropriate, shall include both chronic and acute concentrations to more ces of resident species to the inherent variability between concentrations and tant. (8-24-94)

shall be clearly identified as maximum (not to be exceeded) or average values. lue, the averaging period shall be specified. The conditions, if any, when the (e.g., specific levels of hardness, pH, water temperature, or bioavailability). on, frequency, etc.), if any, shall also be specified. (8-24-94)

d to the specific area affected by a point or nonpoint source of pollution or, if l area (e.g., ecoregion, river basin, sub-basin, etc.). For a number of different te, their respective aquatic communities cannot vary substantially in sensitivity geographically defined. (8-24-94)

c water quality criteria must be approved by the Board in accordance with the he Department of Environmental Quality shall determine whether to approve a rdance with this section and within twenty-eight (28) days after receipt of the site-specific criteria for rule-making. (8-24-94)

acceptable procedures for developing site-specific criteria for aquatic life (8-24-94)

s for the development of new water quality criteria shall be conducted in a able and consistent with the assumptions and rationale in "Guidelines for uality Criteria for the Protection of Aquatic Organisms and Their Uses," EPA eview at the Idaho Department of Environmental Quality or may be obtained ting Office. (8-24-94)

s for the modification of existing water quality criteria shall be conducted in procedures, as described in the "Water Quality Standards Handbook," EPA eview at the Idaho Department of Environmental Quality or may be obtained ting Office. (8-24-94)

dure. This procedure is used to account for differences in sensitivity to a those species used in deriving the criterion. Bioassays in laboratory water may es. (8-24-94)

rocedure. This procedure is used to account for differences in biological cal between the physicochemical characteristics of the water in a water body loping criteria. Bioassays in site water are required using resident species or (8-24-94)

(3) Resident Species Procedure. This procedure is used to account for differences in both resident species sensitivity and biological availability and/or toxicity of a pollutant. Bioassays in site water using resident species are required. (8-24-94)

(4) Water effects ratios as defined by EPA guidance documents. (8-24-94)

(5) Other scientifically defensible procedures such as relevant aquatic field studies, laboratory tests, biological translators, fate and distribution models, risk analyses or available scientific literature. (8-24-94)

(a) Deviations from the above described EPA procedures shall have justifications which are adequately documented and based on sound scientific rationale. (8-24-94)

The data, testing procedures and application factors used to develop site-specific criteria shall re of the pollutant (e.g., persistency, bioaccumulation potential, avoidance or attraction responses in esignated and existing beneficial uses, and the most sensitive resident species of a water body. (8-24-94)

Water Quality Criteria for Specific Waters. Standards provided in Sections 276 through 298 for will supersede Sections 210, 250, 251, 252, and 253 when the application of the standards contained would present a conflict. (5-3-03)

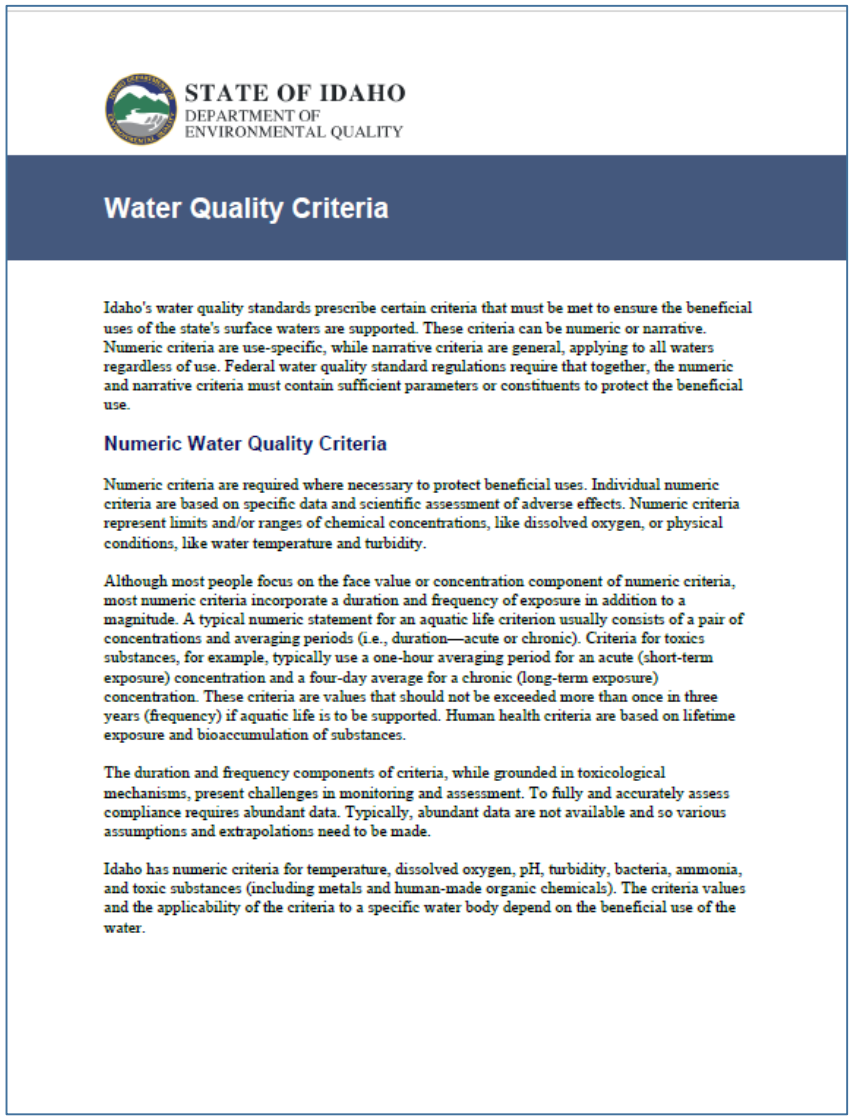
Procedures

(a) Acceptable conditions
(b) Filing petitions
(c) Protection of uses
(d) Chronic and acute
(e) Max or average
(f) Segmentation
(g) Approval process
(h) Aquatic life derivation methods

2 Pages

Idaho Site-Specific Water Quality Criteria

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



STATE OF IDAHO
DEPARTMENT OF ENVIRONMENTAL QUALITY

Water Quality Criteria

Idaho's water quality standards prescribe certain criteria that must be met to ensure the beneficial uses of the state's surface waters are supported. These criteria can be numeric or narrative. Numeric criteria are use-specific, while narrative criteria are general, applying to all waters regardless of use. Federal water quality standard regulations require that together, the numeric and narrative criteria must contain sufficient parameters or constituents to protect the beneficial use.

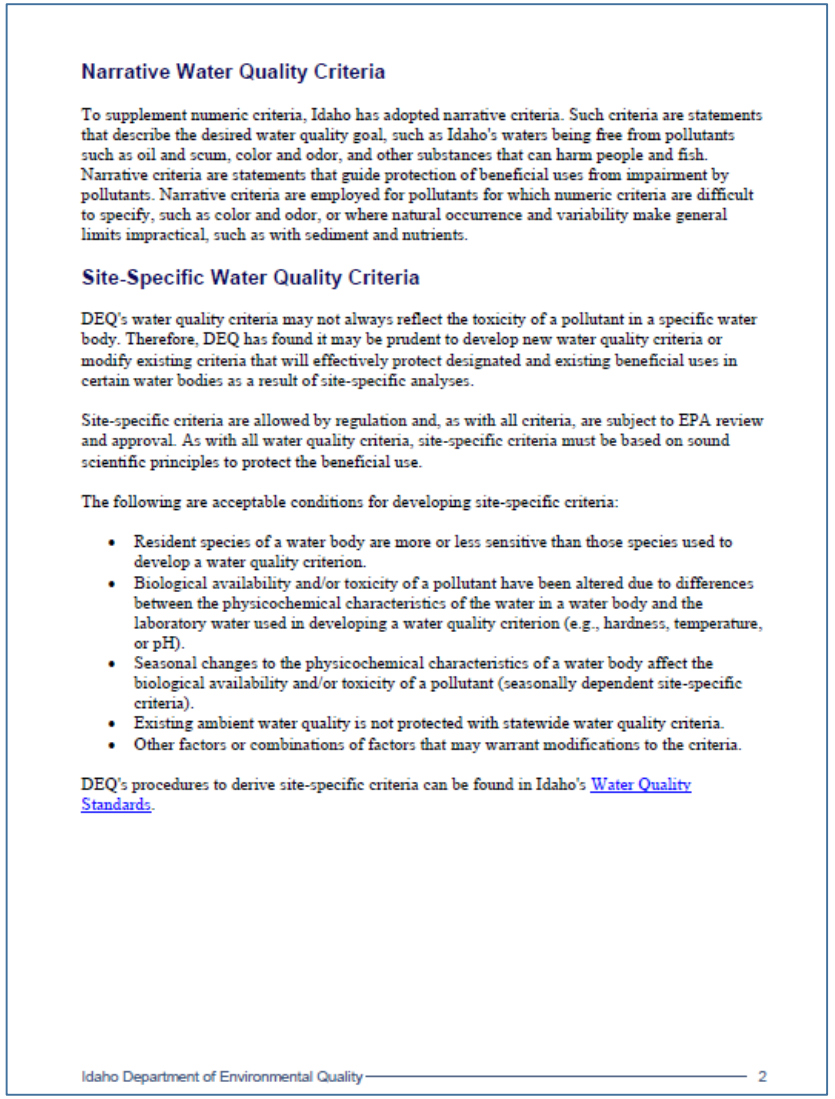
Numeric Water Quality Criteria

Numeric criteria are required where necessary to protect beneficial uses. Individual numeric criteria are based on specific data and scientific assessment of adverse effects. Numeric criteria represent limits and/or ranges of chemical concentrations, like dissolved oxygen, or physical conditions, like water temperature and turbidity.

Although most people focus on the face value or concentration component of numeric criteria, most numeric criteria incorporate a duration and frequency of exposure in addition to a magnitude. A typical numeric statement for an aquatic life criterion usually consists of a pair of concentrations and averaging periods (i.e., duration—acute or chronic). Criteria for toxics substances, for example, typically use a one-hour averaging period for an acute (short-term exposure) concentration and a four-day average for a chronic (long-term exposure) concentration. These criteria are values that should not be exceeded more than once in three years (frequency) if aquatic life is to be supported. Human health criteria are based on lifetime exposure and bioaccumulation of substances.

The duration and frequency components of criteria, while grounded in toxicological mechanisms, present challenges in monitoring and assessment. To fully and accurately assess compliance requires abundant data. Typically, abundant data are not available and so various assumptions and extrapolations need to be made.

Idaho has numeric criteria for temperature, dissolved oxygen, pH, turbidity, bacteria, ammonia, and toxic substances (including metals and human-made organic chemicals). The criteria values and the applicability of the criteria to a specific water body depend on the beneficial use of the water.



Narrative Water Quality Criteria

To supplement numeric criteria, Idaho has adopted narrative criteria. Such criteria are statements that describe the desired water quality goal, such as Idaho's waters being free from pollutants such as oil and scum, color and odor, and other substances that can harm people and fish. Narrative criteria are statements that guide protection of beneficial uses from impairment by pollutants. Narrative criteria are employed for pollutants for which numeric criteria are difficult to specify, such as color and odor, or where natural occurrence and variability make general limits impractical, such as with sediment and nutrients.

Site-Specific Water Quality Criteria

DEQ's water quality criteria may not always reflect the toxicity of a pollutant in a specific water body. Therefore, DEQ has found it may be prudent to develop new water quality criteria or modify existing criteria that will effectively protect designated and existing beneficial uses in certain water bodies as a result of site-specific analyses.

Site-specific criteria are allowed by regulation and, as with all criteria, are subject to EPA review and approval. As with all water quality criteria, site-specific criteria must be based on sound scientific principles to protect the beneficial use.

The following are acceptable conditions for developing site-specific criteria:

- Resident species of a water body are more or less sensitive than those species used to develop a water quality criterion.
- Biological availability and/or toxicity of a pollutant have been altered due to differences between the physicochemical characteristics of the water in a water body and the laboratory water used in developing a water quality criterion (e.g., hardness, temperature, or pH).
- Seasonal changes to the physicochemical characteristics of a water body affect the biological availability and/or toxicity of a pollutant (seasonally dependent site-specific criteria).
- Existing ambient water quality is not protected with statewide water quality criteria.
- Other factors or combinations of factors that may warrant modifications to the criteria.

DEQ's procedures to derive site-specific criteria can be found in Idaho's Water Quality Standards.

Criteria "Flyer"

Procedures are included in standards

2 Pages

Examples from Other States

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Colorado
- Idaho
- Ohio

Ohio Designated Uses and Site-Specific Criteria

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

STATE OF OHIO

WATER QUALITY STANDARDS

Chapter 3745-1 of the ADMINISTRATIVE CO

Most Recent Revision:

January 21, 2021
Effective April 21, 2021

Ohio Environmental Protection Agency
Division of Surface Water
Standards & Technical Support Section

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Ohio Designated Uses

(93) "Use attainability analysis" means a structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors.

Ohio Designated Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

(b) "Limited warmwater" - these are waters that were temporarily designated in the 1978 water quality standards as not meeting specific warmwater habitat criteria. Criteria for the support of this use designation are the same as the criteria for the support of the use designation warmwater habitat. However, individual criteria are varied on a case-by-case basis and supersede the criteria for warmwater habitat where applicable. Any exceptions from warmwater habitat criteria apply only to specific criteria during specified time periods or flow conditions. The adjusted criteria and conditions for specified stream segments are denoted as comments in rules 3745-1-08 to 3745-1-30 of the Administrative Code. Stream segments currently designated limited warmwater habitats will undergo use attainability analyses and will be redesignated other aquatic life habitats. No additional stream segments will be designated limited warmwater habitats.

(c) "Exceptional warmwater" - these are waters capable of supporting and maintaining an exceptional or unusual community of warmwater aquatic organisms having a species composition, diversity, and functional organization comparable to the seventy-fifth percentile of the identified reference sites on a statewide basis. The attributes of species composition, diversity and functional organization will be measured using the index of biotic integrity, the modified index of well-being and the invertebrate community index as defined in "Biological Criteria for the Protection of Aquatic Life: Volume II, Users Manual for Biological Field Assessment of Ohio Surface Waters," as cited in paragraph (B) of rule 3745-1-03 of the Administrative Code. In addition to those water body segments designated in rules 3745-1-08 to 3745-1-32 of the Administrative Code, all lakes and reservoirs, except upground storage reservoirs, are designated exceptional warmwater habitats. Attainment of this use designation (except for lakes and reservoirs) is based on the criteria in table 7-1 of this rule. A temporary variance to the criteria associated with this use designation may be granted as described in paragraph (F) of rule 3745-1-01 of the Administrative Code.

(d) "Modified warmwater" - these are waters that have been the subject of a use attainability analysis and have been found to be incapable of supporting and maintaining a balanced, integrated, adaptive community of warmwater organisms due to irretrievable modifications of the physical habitat. Such modifications are of a long lasting duration (i.e., twenty years or longer) and may include the following examples: extensive stream channel modification activities permitted under sections 401 and 404 of the act or Chapter 6131. of the Revised Code, extensive sedimentation resulting from abandoned mine land runoff, and extensive permanent impoundment of free flowing water bodies. The attributes of species composition, diversity and functional organization will be measured using the index of biotic integrity, the modified index of well-being and the invertebrate community index as defined in "Biological Criteria for the Protection of Aquatic Life: Volume II, Users Manual for Biological Field Assessment of Ohio Surface Waters," as cited in paragraph (B) of rule 3745-1-03 of the Administrative Code. Attainment of this use designation is based on the criteria in table 7-1 of this rule. Each water body designated modified warmwater habitat will be listed in the appropriate use designation rule (rules 3745-1-08 to 3745-1-32 of the Administrative Code) and will be identified by ecoregion and type of physical habitat modification as listed in table 7-1 of this rule. The modified warmwater habitat designation can be applied only to those waters that do not attain the warmwater habitat biological criteria in table 7-1 of this rule because of irretrievable modifications of the physical habitat. All water body segments designated modified warmwater habitat will be reviewed on a triennial basis (or sooner) to determine whether the use designation should be changed. A temporary variance to the criteria associated with this use designation may be granted as described in paragraph (F) of rule 3745-1-01 of the Administrative Code.

Ohio Designated Uses

(e) "Seasonal salmonid" - these are rivers, streams and embayments capable of supporting the passage of salmonids from October to May and are water bodies large enough to support recreational fishing. This use will be in effect the months of October to May. Another aquatic life habitat use designation will be enforced the remainder of the year (June to September). A temporary variance to the criteria associated with this use designation may be granted as described in paragraph (F) of rule 3745-1-01 of the Administrative Code.

(f) "Coldwater" - these are waters that meet one or both of the characteristics described in paragraphs (B)(1)(f)(i) and (B)(1)(f)(ii) of this rule. A temporary variance to the criteria associated with this use designation may be granted as described in paragraph (F) of rule 3745-1-01 of the Administrative Code.

(i) "Coldwater habitat, inland trout streams" - these are waters which support trout stocking and management under the auspices of the Ohio department of natural resources, division of wildlife, excluding waters in lake run stocking programs, lake or reservoir stocking programs, experimental or trial stocking programs, and put and take programs on waters without, or without the potential restoration of, natural coldwater attributes of temperature and flow. The director shall designate these waters in consultation with the director of the Ohio department of natural resources.

(ii) "Coldwater habitat, native fauna" - these are waters capable of supporting populations of native coldwater fish and associated vertebrate and invertebrate organisms and plants on an annual basis. The director shall designate these waters based upon results of use attainability analyses.

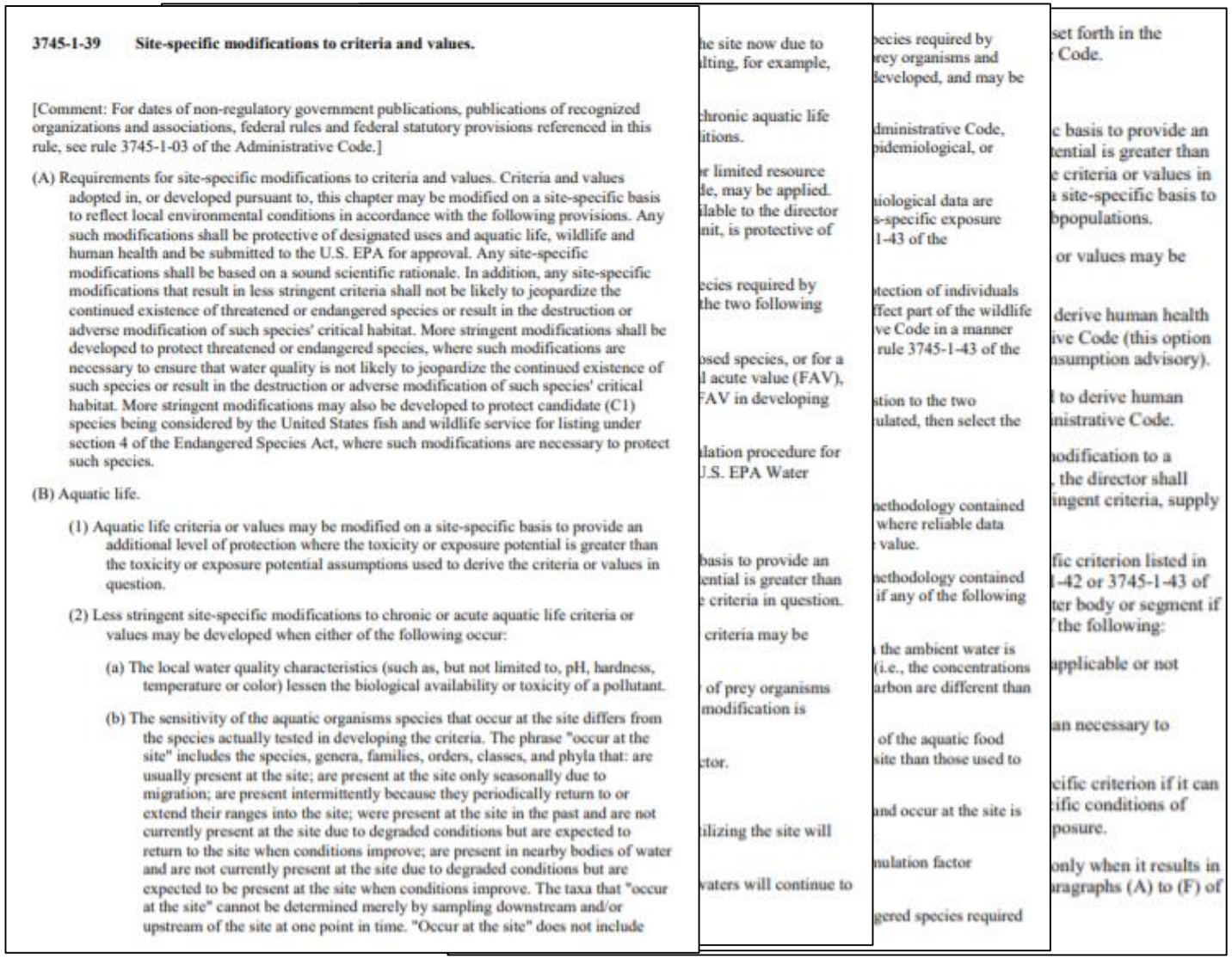
(g) "Limited resource water" - these are waters that have been the subject of a use attainability analysis and have been found to lack the potential for any resemblance of any other aquatic life habitat as determined by the biological criteria in table 7-1 of this rule. The use attainability analysis must demonstrate that the extant fauna is substantially degraded and that the potential for recovery of the fauna to the level characteristic of any other aquatic life habitat is realistically precluded due to natural background conditions or irretrievable human induced conditions. For water bodies in the lake Erie drainage basin, the designation of water bodies as limited resource waters shall include demonstrations that the "Outside Mixing Zone Average" water quality criteria and values and chronic whole effluent toxicity levels are not necessary to protect the designated uses and aquatic life pursuant to rule 3745-1-39 of the Administrative Code. All water body segments designated limited resource water will be reviewed on a triennial basis (or sooner) to determine whether the use designation should be changed. Limited resource waters are also termed nuisance prevention for some water bodies designated in rules 3745-1-08 to 3745-1-30 of the Administrative Code. A temporary variance to the criteria associated with this use designation may be granted as described in paragraph (F) of rule 3745-1-01 of the Administrative Code. Waters designated limited resource water will be assigned one or more of the following causative factors. These causative factors will be listed as comments in rules 3745-1-08 to 3745-1-30 of the Administrative Code.

(i) "Acid mine drainage" - these are surface waters with sustained pH values below 4.1 s.u. or with intermittently acidic conditions combined with severe streambed siltation, and have a demonstrated biological performance below that of the modified warmwater habitat biological criteria.

(ii) "Small drainageway maintenance" - these are highly modified surface water drainageways (usually less than three square miles in drainage area) that do not possess the stream morphology and habitat characteristics necessary to support any other aquatic life habitat use. The potential for habitat improvements must be precluded due to regular stream channel maintenance required for drainage purposes.

(iii) Other specified conditions.

Ohio Site-Specific Modifications to Criteria



3745-1-39 Site-specific modifications to criteria and values.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules and federal statutory provisions referenced in this rule, see rule 3745-1-03 of the Administrative Code.]

(A) Requirements for site-specific modifications to criteria and values. Criteria and values adopted in, or developed pursuant to, this chapter may be modified on a site-specific basis to reflect local environmental conditions in accordance with the following provisions. Any such modifications shall be protective of designated uses and aquatic life, wildlife and human health and be submitted to the U.S. EPA for approval. Any site-specific modifications shall be based on a sound scientific rationale. In addition, any site-specific modifications that result in less stringent criteria shall not be likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of such species' critical habitat. More stringent modifications shall be developed to protect threatened or endangered species, where such modifications are necessary to ensure that water quality is not likely to jeopardize the continued existence of such species or result in the destruction or adverse modification of such species' critical habitat. More stringent modifications may also be developed to protect candidate (C1) species being considered by the United States fish and wildlife service for listing under section 4 of the Endangered Species Act, where such modifications are necessary to protect such species.

(B) Aquatic life.

(1) Aquatic life criteria or values may be modified on a site-specific basis to provide an additional level of protection where the toxicity or exposure potential is greater than the toxicity or exposure potential assumptions used to derive the criteria or values in question.

(2) Less stringent site-specific modifications to chronic or acute aquatic life criteria or values may be developed when either of the following occur:

(a) The local water quality characteristics (such as, but not limited to, pH, hardness, temperature or color) lessen the biological availability or toxicity of a pollutant.

(b) The sensitivity of the aquatic organisms species that occur at the site differs from the species actually tested in developing the criteria. The phrase "occur at the site" includes the species, genera, families, orders, classes, and phyla that: are usually present at the site; are present at the site only seasonally due to migration; are present intermittently because they periodically return to or extend their ranges into the site; were present at the site in the past and are not currently present at the site due to degraded conditions but are expected to return to the site when conditions improve; are present in nearby bodies of water and are not currently present at the site due to degraded conditions but are expected to be present at the site when conditions improve. The taxa that "occur at the site" cannot be determined merely by sampling downstream and/or upstream of the site at one point in time. "Occur at the site" does not include

- Requirements
- Aquatic Life
- Wildlife
- Bioaccumulation Factors
- Human Health

Summary of Modifying Uses

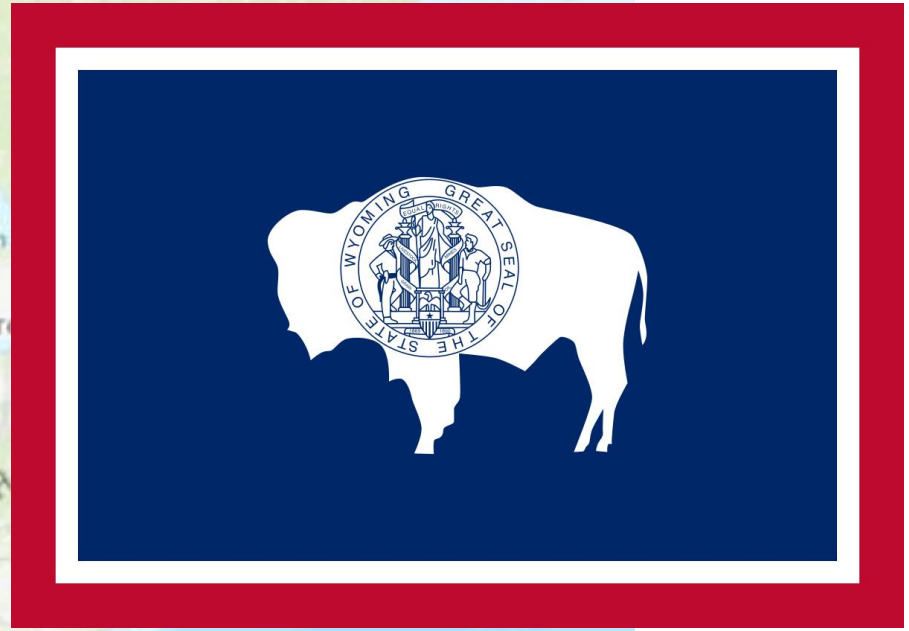
- CO, ID, UT each include a definition of UAA in standards, similar to Wyoming
- CO and ID describe process for modifying uses in their water quality standards within broader use designation section
  - OH describes need to conduct a UAA for certain designated uses, with no other details
- CO and ID includes attainability factors within rules, similar to Wyoming
- CO, ID, OH do not have a separate policy or implementation document for modifying designated uses

Summary of Modifying Criteria

- ID, CO, and OH describe process for modifying water quality criteria within standards
  - CO describes within broader water quality criteria section
  - ID and OH have separate sections for site-specific criteria
- No separate implementation methods or policies

Wyoming Water Quality Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



Ideas for Potential Changes to Standards

- Conceptual and Chapter 1
- Implementation Methods
- Potential Implications

Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

- Consolidate all rules regarding designated uses and modifications to designated uses

Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section X. Designated Uses

- Existing and attainable uses and description of Wyoming's uses
- Modifications to designated uses
  - Administrative process
  - Increasing protections
  - Decreasing protections/removing or replacing uses
    - UAA requirements

Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Implementation Policies

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WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

- Consolidate all rules regarding water quality criteria and modifications to water quality criteria

Ideas for Potential Changes to Standards

Section X. Water Quality Criteria

- Narratives, Aquatic Life, Human Consumption of Drinking Water and Aquatic Organisms, Recreation
- Modifications to water quality criteria
  - Administrative process
    - More stringent criteria
    - Less stringent criteria
      - UAA requirements
  - Effluent dependent waters

Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Implementation Policies

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Guidance

Potential Implications

- May increase length of rules/standards
- May improve clarity for changes to designated uses
- Eliminates need to incorporate by reference
- Consolidates important information into the rules

Implementation Policies

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Wyoming
Surface Water Quality Standards

Implementation Policies
for

Antidegradation
~~**Mixing Zones and Dilution Allowances**~~
~~**Turbidity**~~
~~**Use Attainability Analysis**~~

Effective September 24, 2013

Surface Water Quality Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Designated Uses

Implementation

Water Quality Criteria

Antidegradation

Antidegradation

- Provisions to maintain and protect water uses and water quality
- Provide for lowering of water quality in certain circumstances

Clean Water Act

Restore and Maintain Water Quality

Antidegradation: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

40 CFR 131.12

- Develop an antidegradation policy [rules]
- Three tiers of protections

Antidegradation: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

40 CFR 131.12

- Existing Use Protection: Existing uses and level of water quality necessary to protect existing uses shall be maintained and protected

Tier 1

Antidegradation: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

40 CFR 131.12

- High Quality Waters: Where water quality exceeds levels necessary to support fishable and swimmable uses, the water quality shall be maintained and protected, unless…..

…the State finds, after intergovernmental coordination and public participation, that allowing lower water quality is necessary to accommodate important economic or social development in the area

Tier 2

Antidegradation: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

40 CFR 131.12

- High Quality Waters: Before allowing lowering of water quality, must complete an alternatives analysis

…to evaluate range of practicable alternatives that would prevent or lessen degradation associated with the proposed activity

Tier 2

Antidegradation: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

40 CFR 131.12

- High Quality Waters: Can be identified waterbody by waterbody or parameter by parameter

- If waterbody by waterbody, State shall provide public involvement
- Cannot exclude waterbody from protections if water quality does not support all the fishable swimmable uses **Tier 2**

Antidegradation: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

40 CFR 131.12

- Outstanding National Resource Waters: Water quality shall be maintained and protected

- Waters of exceptional recreational or ecological significance

Tier 3

Antidegradation: Clean Water Act

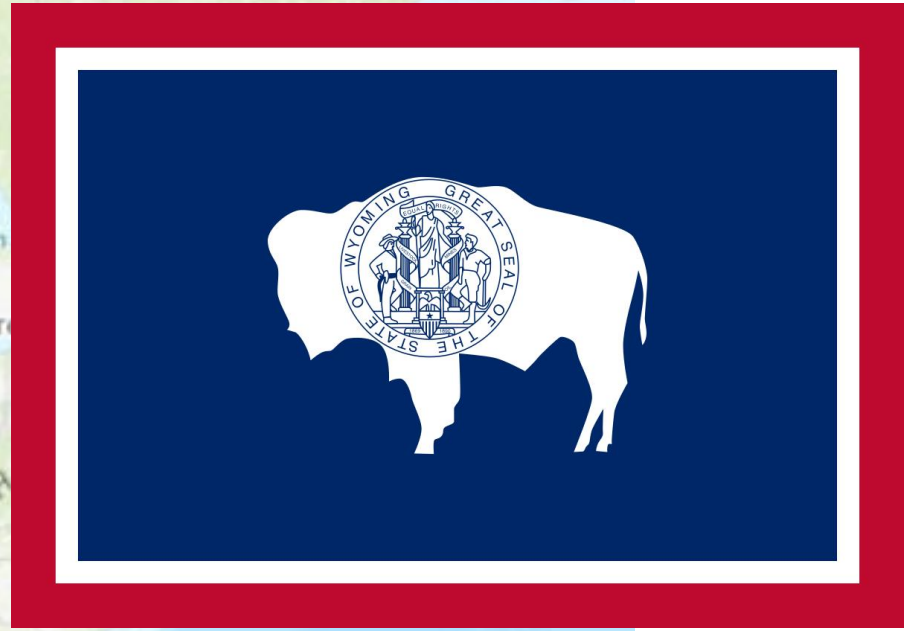
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- States can develop implementation methods that are consistent with the State's policy [rule] and federal regulations

- Provide an opportunity for public involvement during development and revision of the methods
- Make the methods available to the public

Wyoming Water Quality Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



Antidegradation: Wyoming

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1, Section 8, Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 8. Antidegradation.

(a) Water uses in existence on or after November 28, 1975 and the level of water quality necessary to protect those uses shall be maintained and protected. Those surface waters not designated as Class 1, but whose quality is better than the standards contained in these regulations, shall be maintained at that higher quality. However, after full intergovernmental coordination and public participation, the department may issue a permit for or allow any project or development which would constitute a new source of pollution, or an increased source of pollution, to these waters as long as the following conditions are met:

(i) The quality is not lowered below these standards;

(ii) All existing water uses are fully maintained and protected;

(iii) The highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved; and

(iv) The lowered water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(b) The Water Quality Administrator (administrator) may require an applicant to submit additional information, including, but not limited to, an analysis of alternatives to any proposed discharge and relevant economic information before making a determination under this section.

(c) The procedures used to implement this section are described in the *Antidegradation Implementation Policy*.

Chapter 1, Section 8, Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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Existing use protection

Chapter 1, Section 8, Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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(iii) The highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved; and

(iv) The lowered water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(b) The Water Quality Administrator (administrator) may require an applicant to submit additional information, including, but not limited to, an analysis of alternatives to any proposed discharge and relevant economic information before making a determination under this section.

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High Quality Waters (Tier 2) Protections (Non-Class 1)

Chapter 1, Section 8, Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 8. Antidegradation.

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(iii) The highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved; and

(iv) The lowered water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(b) The Water Quality Administrator (administrator) may require an applicant to submit additional information, including, but not limited to, an analysis of alternatives to any proposed discharge and relevant economic information before making a determination under this section.

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Antidegradation Implementation Policies

Chapter 1, Section 8, Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 8. Antidegradation.

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(i) The quality is not lowered below these standards;

(ii) All existing water uses are fully maintained and protected;

(iii) The highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved; and

(iv) The lowered water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(b) The Water Quality Administrator (administrator) may require an applicant to submit additional information, including, but not limited to, an analysis of alternatives to any proposed discharge and relevant economic information before making a determination under this section.

(c) The procedures used to implement this section are described in the *Antidegradation Implementation Policy*.

Existing use protection

Water uses in existence on or after November 28, 1975…

…and the level of water quality necessary for those uses…

…shall be maintained and protected.

Chapter 1, Section 8, Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 8. Antidegradation.

(a) Water uses in existence on or after November 28, 1975 and the level of water quality necessary to protect those uses shall be maintained and protected. Those surface waters not designated as Class 1, but whose quality is better than the standards contained in these regulations, shall be maintained at that higher quality. However, after full intergovernmental coordination and public participation, the department may issue a permit for or allow any project or development which would constitute a new source of pollution, or an increased source of pollution, to these waters as long as the following conditions are met:

(i) The quality is not lowered below these standards;

(ii) All existing water uses are fully maintained and protected;

(iii) The highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved; and

(iv) The lowered water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(b) The Water Quality Administrator (administrator) may require an applicant to submit additional information, including, but not limited to, an analysis of alternatives to any proposed discharge and relevant economic information before making a determination under this section.

(c) The procedures used to implement this section are described in the *Antidegradation Implementation Policy*.

High Quality Waters Protections (Non-Class 1)

Waters with quality better than the standards shall be maintained at that higher quality…..

Chapter 1, Section 8, Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 8. Antidegradation.

(a) Water uses in existence on or after November 28, 1975 and the level of water quality necessary to protect those uses shall be maintained and protected. Those surface waters not designated as Class 1, but whose quality is better than the standards contained in these regulations, shall be maintained at that higher quality. However, after full intergovernmental coordination and public participation, the department may issue a permit for or allow any project or development which would constitute a new source of pollution, or an increased source of pollution, to these waters as long as the following conditions are met:

(i) The quality is not lowered below these standards;

(ii) All existing water uses are fully maintained and protected;

(iii) The highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved; and

(iv) The lowered water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(b) The Water Quality Administrator (administrator) may require an applicant to submit additional information, including, but not limited to, an analysis of alternatives to any proposed discharge and relevant economic information before making a determination under this section.

(c) The procedures used to implement this section are described in the *Antidegradation Implementation Policy*.

High Quality Waters Protections (Non-Class 1)

….however, after intergovernmental coordination and public participation…

…the department may issue a permit or allow a new or increased source of pollution, provided that….

Chapter 1, Section 8, Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 8. Antidegradation.

(a) Water uses in existence on or after November 28, 1975 and the level of water quality necessary to protect those uses shall be maintained and protected. Those surface waters not designated as Class 1, but whose quality is better than the standards contained in these regulations, shall be maintained at that higher quality. However, after full intergovernmental coordination and public participation, the department may issue a permit for or allow any project or development which would constitute a new source of pollution, or an increased source of pollution, to these waters as long as the following conditions are met:

(i) The quality is not lowered below these standards;

(ii) All existing water uses are fully maintained and protected;

(iii) The highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved; and

(iv) The lowered water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(b) The Water Quality Administrator (administrator) may require an applicant to submit additional information, including, but not limited to, an analysis of alternatives to any proposed discharge and relevant economic information before making a determination under this section.

(c) The procedures used to implement this section are described in the *Antidegradation Implementation Policy*.

High Quality Waters Protections (Non-Class 1)

1. The quality is not lowered below the standards

1. All existing uses are fully maintained and protected

Chapter 1, Section 8, Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 8. Antidegradation.

(a) Water uses in existence on or after November 28, 1975 and the level of water quality necessary to protect those uses shall be maintained and protected. Those surface waters not designated as Class 1, but whose quality is better than the standards contained in these regulations, shall be maintained at that higher quality. However, after full intergovernmental coordination and public participation, the department may issue a permit for or allow any project or development which would constitute a new source of pollution, or an increased source of pollution, to these waters as long as the following conditions are met:

(i) The quality is not lowered below these standards;

(ii) All existing water uses are fully maintained and protected;

(iii) The highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved; and

(iv) The lowered water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(b) The Water Quality Administrator (administrator) may require an applicant to submit additional information, including, but not limited to, an analysis of alternatives to any proposed discharge and relevant economic information before making a determination under this section.

(c) The procedures used to implement this section are described in the *Antidegradation Implementation Policy*.

High Quality Waters Protections (Non-Class 1)

3. Highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved

4. Lowered water quality is necessary to accommodate important economic or social development in the area where the waters are located

Chapter 1, Section 8, Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 8. Antidegradation.

(a) Water uses in existence on or after November 28, 1975 and the level of water quality necessary to protect those uses shall be maintained and protected. Those surface waters not designated as Class 1, but whose quality is better than the standards contained in these regulations, shall be maintained at that higher quality. However, after full intergovernmental coordination and public participation, the department may issue a permit for or allow any project or development which would constitute a new source of pollution, or an increased source of pollution, to these waters as long as the following conditions are met:

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(iv) The lowered water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(b) The Water Quality Administrator (administrator) may require an applicant to submit additional information, including, but not limited to, an analysis of alternatives to any proposed discharge and relevant economic information before making a determination under this section.

(c) The procedures used to implement this section are described in the *Antidegradation Implementation Policy*.

High Quality Waters Protections (Non-Class 1)

Administrator may require an applicant to submit additional information…

..such as an analysis of alternatives to any proposed discharge and relevant economic information before making a determination…

Antidegradation: Class 1 Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Antidegradation: Class 1 Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Chapter 1, Appendix A, Classifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Appendix A

Wyoming Surface Water Classifications

All surface waters in Wyoming are classified as follows:

(a) Class 1 Waters. The following waters are designated Class 1:

(i) All surface waters located within the boundaries of national parks and congressionally designated wilderness areas as of January 1, 1999;

(ii) The main stem of the Snake River through its entire length above the U.S. Highway 22 Bridge (Wilson Bridge);

(iii) The main stem of the Green River, including the Green River Lakes from the mouth of the New Fork River upstream to the wilderness boundary;

(iv) The main stem of the Wind River from the Wedding of the Waters upstream to Boysen Dam;

(v) The main stem of the North Platte River from the mouth of Sage Creek (approximately 15 stream miles downstream of Saratoga, Wyoming) upstream to the Colorado state line;

(vi) The main stem of the North Platte River from the headwaters of Pathfinder Reservoir upstream to Kortes Dam (Miracle Mile segment);

(vii) The main stem of the North Platte River from the Natrona County Road 309 bridge (Goose Egg bridge) upstream to Alcova Reservoir;

(viii) The main stem of Sand Creek above the U.S. Highway 14 bridge;

(ix) The main stem of the Middle Fork of the Powder River through its entire length above the mouth of Buffalo Creek;

(x) The main stem of the North Fork of the Tongue River, the main stem of the South Fork of the Tongue River and the main stem of the Tongue River above the U.S. Forest Service boundary;

(xi) The main stem of the Sweetwater River above the mouth of Alkali Creek;

(xii) The main stem of the Encampment River from the northern U.S. Forest Service boundary upstream to the Colorado state line;

(xiii) The main stem of the Clarks Fork River from the U.S. Forest Service boundary upstream to the Montana state line;

(xiv) All waters within the Fish Creek (near Wilson, Wyoming) drainage;

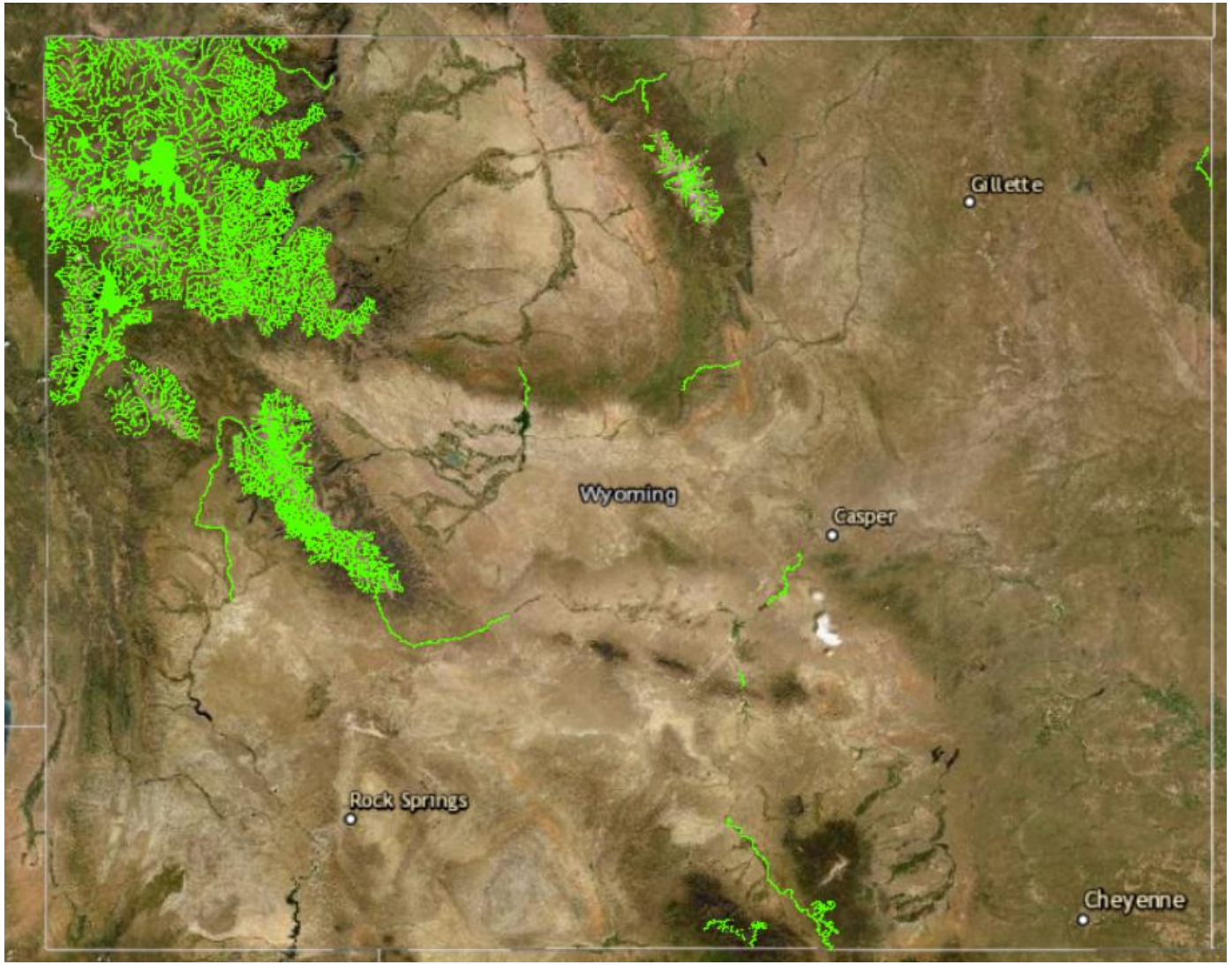
(xv) The main stem of Granite Creek (tributary of the Hoback River) through its entire length;

(xvi) Fremont Lake;

(xvii) Wetlands adjacent to the above listed Class 1 waters.

Chapter 1, Appendix A: Class 1 Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



- National Parks
- Wilderness Areas
- Snake River Upstream of HGWY 22
- Wind River Boysen to Wedding of Waters
- North Platte near Saratoga
- North Platte Miracle Mile
- North Platte Near Alcova Reservoir
- Sand Creek above US 14
- Middle Fork Powder River Above Buffalo Creek
- Mainstem of North Fork Tongue River, mainstem of South Fork Tongue River, mainstem of Tongue River upstream USFS boundary
- Sweetwater River above Alkali Creek
- Encampment River from USFS boundary to Colorado line
- Clarks For River from USFS boundary upstream to Montana state line
- All waters in Fish Creek Watershed
- Granite Creek
- Fremont Lake
- Wetlands adjacent to Class 1 waters

Chapter 1, Section 4, Class 1 Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 4. Surface Water Classes and Uses. The following water classes are a hierarchical categorization of waters according to existing and designated uses. Except for Class 1 waters, each classification is protected for its specified uses plus all the uses contained in each lower classification. Class 1 designations are based on value determinations rather than use support and are protected for all uses in existence at the time or after designation. There are four major classes of surface water in Wyoming with various subcategories within each class (see *Wyoming Surface Water Classification List* for current classifications).

(a) Class 1, Outstanding Waters. Class 1 waters are those surface waters in which no further water quality degradation by point source discharges other than from dams will be allowed. Nonpoint sources of pollution shall be controlled through implementation of appropriate best management practices. Pursuant to Section 7 of these regulations, the water quality and physical and biological integrity which existed on the water at the time of designation will be maintained and protected. In designating Class 1 waters, the Environmental Quality Council (council) shall consider water quality, aesthetic, scenic, recreational, ecological, agricultural, botanical, zoological, municipal, industrial, historical, geological, cultural, archaeological, fish and wildlife, the presence of significant quantities of developable water and other values of present and future benefit to the people.

Based on value determinations

All uses protected at the time or after designation

Chapter 1, Section 4, Class 1 Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 4. Surface Water Classes and Uses. The following water classes are a hierarchical categorization of waters according to existing and designated uses. Except for Class 1 waters, each classification is protected for its specified uses plus all the uses contained in each lower classification. Class 1 designations are based on value determinations rather than use support and are protected for all uses in existence at the time or after designation. There are four major classes of surface water in Wyoming with various subcategories within each class (see *Wyoming Surface Water Classification List* for current classifications).

(a) Class 1, Outstanding Waters. Class 1 waters are those surface waters in which no further water quality degradation by point source discharges other than from dams will be allowed. Nonpoint sources of pollution shall be controlled through implementation of appropriate best management practices. Pursuant to Section 7 of these regulations, the water quality and physical and biological integrity which existed on the water at the time of designation will be maintained and protected. In designating Class 1 waters, the Environmental Quality Council (council) shall consider water quality, aesthetic, scenic, recreational, ecological, agricultural, botanical, zoological, municipal, industrial, historical, geological, cultural, archaeological, fish and wildlife, the presence of significant quantities of developable water and other values of present and future benefit to the people.

No further water quality degradation by point sources other than dams allowed

Nonpoint source controlled through BMPs

Chapter 1, Section 4, Class 1 Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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EQC consider:

Water quality
Aesthetic
Scenic
Recreational
Ecological
Agricultural
Botanical
Zoological
Municipal
Industrial
Historical
Geological
Cultural
Fish and Wildlife
Developable Waters

Chapter 1, Section 7, Class 1 Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 7. Class 1 Waters.

(a) Except as authorized in Section 7(b) of these regulations, no new point sources other than dams may discharge, and no existing point sources, other than dams, may increase their quantity of pollution discharge, to any water designated as Class 1.

(b) Storm water and construction-related discharges of pollution to Class 1 waters may be authorized and shall be controlled through applicable water quality permits, Section 401 certifications and/or by the application of best management practices. Such discharges shall not degrade the quality of any Class 1 water below its existing quality or adversely affect any existing use of the water. Temporary increases in turbidity that are within the limits established in Section 23 of these regulations and that do not negatively affect existing uses can be permitted. For purposes of this section, temporary increases in turbidity shall not exceed the actual construction period. The department shall impose whatever controls and monitoring are necessary on point source discharges to Class 1 waters and their tributaries to ensure that the existing quality and uses of the Class 1 water are protected and maintained.

(c) Nonpoint source discharges of pollution to Class 1 waters or tributaries of Class 1 waters shall be controlled by application of best management practices adopted in accordance with the Wyoming Continuing Planning Process. For Class 1 waters, best management practices will maintain existing quality and water uses.

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No new point sources other than dams

No existing point sources may increase quantity of pollution discharge to Class 1

Chapter 1, Section 7, Class 1 Waters

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(c) Nonpoint source discharges of pollution to Class 1 waters or tributaries of Class 1 waters shall be controlled by application of best management practices adopted in accordance with the Wyoming Continuing Planning Process. For Class 1 waters, best management practices will maintain existing quality and water uses.

Stormwater and construction related discharges of pollution may be authorized

And shall be controlled through water quality permits, Clean Water Act Section 401 Certifications or best management practices

Chapter 1, Section 7, Class 1 Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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Discharges shall not degrade the quality of any Class 1 water below existing quality or adversely affect any existing use of the water

Chapter 1, Section 2, Existing Quality

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(xviii) "Existing quality" as used in these regulations refers only to Class 1 waters and means the established chemical, physical and biological water quality as of the date the specific water segment was designated Class 1 with recognition that water quality will fluctuate on a seasonal and year-to-year basis depending upon natural variations in water quantity.

with the Wyoming Continuing Planning Process. For Class 1 waters, best management practices will maintain existing quality and water uses.

Existing quality

Chapter 1, Section 2, Existing Use

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Existing use

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(xix) "Existing use" means those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.

existing quality and uses of the Class 1 water are protected and maintained.

(c) Nonpoint source discharges of pollution to Class 1 waters or tributaries of Class 1 waters shall be controlled by application of best management practices adopted in accordance with the Wyoming Continuing Planning Process. For Class 1 waters, best management practices will maintain existing quality and water uses.

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Temporary increases of turbidity allowed…

..provided they do not negatively affect existing uses….

..nor exceed the construction period.

Chapter 1, Section 7, Class 1 Waters

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Department shall impose whatever controls and monitoring are necessary…

…on point source discharges to Class 1 waters and tributaries …

..to ensure existing quality and uses are protected and maintained

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Nonpoint source discharges of pollution….

…to Class 1 waters or tributaries …

..controlled through best management practices…

…to maintain existing quality and water uses….

Antidegradation Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Wyoming
Surface Water Quality Standards

Implementation Policies
for

Antidegradation
Mixing Zones and Dilution Allowances
Turbidity
Use Attainability Analysis

Effective September 24, 2013

Antidegradation Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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Antidegradation Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

ANTIDEGRADATION IMPLEMENTATION POLICY
(Chapter 1, Section 8)

Section 1. Purpose. Section 8 of the Wyoming Surface Water Quality Standards (Water Quality Rules and Regulations, Chapter 1) establishes a regulatory policy concerning antidegradation. Section 8 provides:

(a) Water uses in existence on or after November 28, 1975 and the level of water quality necessary to protect those uses shall be maintained and protected. Those surface waters not designated as Class 1, but whose quality is better than the standards contained in these regulations, shall be maintained at that higher quality. However, after full intergovernmental coordination and public participation, the department may issue a permit for or allow any project or development which would constitute a new source of pollution, or an increased source of pollution, to these waters as long as the following conditions are met:

(i) The quality is not lowered below these standards;

(ii) All existing water uses are fully maintained and protected;

(iii) The highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved; and

(iv) The lowered water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(b) The Water Quality Administrator (administrator) may require an applicant to submit additional information, including, but not limited to, an analysis of alternatives to any proposed discharge and relevant economic information before making a determination under this section.

(c) The procedures used to implement this section are described in the Antidegradation Implementation Policy.

Antidegradation protection is one of the essential elements of state surface water quality standards programs and is required under Section 303(d)(4)(B) of the Clean Water Act. The purpose of this implementation procedure is to disclose the decision-making and public participation processes that will be employed by the Water Quality Division in order to ensure compliance with Section 8.

A secondary purpose of this implementation policy is to ensure federal approval of Wyoming's surface water quality standards. Although Wyoming has primary authority to establish standards, the EPA has a responsibility to determine whether such standards meet the goals and requirements of the Clean Water Act. To a large extent, approval of the standards relies on approval of an antidegradation implementation procedure.

Purpose

Chapter 1, Section 8

Describe the decision making and public participation processes that will be used by the Water Quality Division to ensure compliance with Section 8

Ensure federal approval of Wyoming's surface water quality standards

Antidegradation Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 2. Concepts. Water quality standards designate the uses which are protected on waters of the state and establish criteria that describe the maximum pollutant concentrations and other water quality conditions necessary to maintain those uses. Many waters in the state have an existing level of water quality that is better than the criteria established to support designated uses. The antidegradation requirements are designed to maintain water quality at the higher levels unless there are good reasons for lowering the water quality.

Federal regulations (40 CFR 131.12) require state standards programs to address 3 levels or "tiers" of antidegradation protection. "Tier 1" is the basic level of protection which applies to all waters. Waters which are afforded tier 1 protection are waters not generally considered to be high quality, are not currently supporting designated uses, or where assimilative capacity does not exist for parameters that would be affected by a proposed activity.

"Tier 2" protections apply to high quality waters. These are waters which have an existing quality that is better than the established use-support criteria and where an assimilative capacity exists for parameters that would be affected by a proposed activity. Under tier 2, a lowering of water quality may be allowed if it is determined that the amount of degradation is insignificant or if the lowered water quality is necessary to accommodate important economic or social development in the area. Under no circumstances, however, may water quality be lowered below the criteria established in the standards or below a level that would impair an existing use.

"Tier 3" protections apply to waters that constitute "outstanding national resource waters" (ONRWs)[1]. Tier 3 requires maintenance of existing quality with no consideration of assimilative capacity or economic or social development. In certain circumstances, temporary lowering of water quality is allowable; however, the general rule is that no new point sources or increased pollutant loading from existing point sources is allowed.

The antidegradation implementation procedures that follow shall apply to the review of regulated activities involving new or increased discharges of pollution. Regulated activities include individual Wyoming Pollution Discharge Elimination System (WYPDES) effluent discharge permits, WYPDES storm water permits for industrial and construction activities and Section 401 water quality certifications. The procedure is organized starting with the highest level of protection applied to Class 1 waters to the basic minimum level applicable to all waters.

Concepts

- Antidegradation is intended to maintain water quality at higher levels unless there is a good reason for lowering water quality
- Federal regulations require standards to address 3 levels of protections
    - Description of 3 Tiers

Antidegradation Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 3. Outstanding Aquatic Resources (Class 1). The qualification requirements for Class 1 waters are listed in Chapter 1, Section 4(a). In addition, the general categories of waters (e.g. waters in national parks, etc.) and specific waters designated as Class 1 are listed in Chapter 1, Appendix A.

Class 1 waters are designated by the Environmental Quality Council in rulemaking hearings. Both the Wyoming Administrative Procedures Act and the department's continuing planning process (CPP) provide for public input during regulatory and planning processes. Any interested person may nominate a water for Class 1 designation through the procedures outlined in those documents.

(a) Point Source Discharges. The Wyoming surface water quality standards prohibit new or increased "end-of-the-pipe" effluent discharges of pollution to Class 1 waters but allow limited discharges associated with storm water runoff and temporary discharges associated with construction activities. Permits issued by the department for storm water or construction-related discharges will contain the following safeguards: changes in water quality will be limited to temporary increases in turbidity; turbidity increases will be limited to those allowed in Chapter 1, Section 23, unless a temporary turbidity waiver has been granted by the administrator; and necessary controls and monitoring will be required to ensure existing water quality and uses are maintained and protected.

Furthermore, the department will impose whatever controls are necessary on regulated point source discharges to tributaries of Class 1 waters to the extent that the existing quality and uses of the downstream Class 1 segment will be protected and maintained. It is the department's interpretation that "tributary" means any waters feeding the mainstem and any upstream mainstem segments.

The following procedures and decision-making processes will be used for each of the Water Quality Division's discharge permitting authorizations on Class 1 waters:

(i) WYPDES End Of The Pipe Permits. Permits for new or increased effluent discharges to Class 1 waters will not be issued. This prohibition is not intended to include temporary construction-related discharges or industrial storm water permits for which effluent limits have been established where there is no reasonable potential for a discharge of the associated effluent limitations.

(ii) WYPDES Storm Water Permits *(Industrial Activities)*.

(A) Storm water permits for industrial activities may be issued with appropriate conditions and monitoring requirements on a case-by-case basis on Class 1 waters. An application for an industrial storm water permit must contain:

(I) A list of all pollutants which can reasonably be expected to occur on-site and be exposed to runoff events; and

(II) A map showing the location of the industrial facility in relation to the Class 1 receiving water and/or tributaries; and

(III) Water quality data that characterizes the existing quality of the receiving Class 1 water and/or its tributaries in relation to the potential on-site pollutants; and

Class 1 Waters

- Anyone can nominate a water for Class 1 designation
- No new or increased "end of the pipe" discharges of pollution
- Limited and temporary discharges
  - Stormwater Permits (Industrial Activities)
  - Stormwater Permits (Construction Activities)
  - Clean Water Act Section 401 Water Quality Certifications

Antidegradation Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 4. High Quality Waters (Class 2AB, 2A, 2B and 2C). Waters classified as 2AB, 2A, 2B or 2C are known to support populations of fish and/or drinking water supplies and are considered to be high quality waters. The Water Quality Division may issue a permit or certification for new or increased discharges to these waters upon making a finding that the amount of resultant degradation is insignificant or that the discharge is necessary to accommodate important economic or social development in the area where the waters are located. The department must also ensure that the highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved. For purposes of antidegradation implementation these may be referred to as "reviewable waters".

Where there are existing regulated point or nonpoint sources located in the area, the Water Quality Division will ensure that compliance with the required controls has been or will be achieved prior to authorizing the proposed regulated activity. This requirement is primarily intended to ensure that proposed activities that will result in water quality degradation for a particular parameter will not be authorized where there are existing unresolved compliance problems involving the same parameter in the zone of influence of the proposed activity. The "zone of influence" is determined as appropriate for the parameter of concern, the characteristics of the receiving water (e.g. lake versus river, etc.) and other relevant factors. Where available, a Total Maximum Daily Load (TMDL) analysis or other watershed-scale plan will be the basis for

High Quality Waters (2AB, 2A, 2B, 2C) Drinking Water or Fish

- Department may issue a permit or certification for new or increased discharges if degradation is insignificant or discharge is necessary to accommodate important economic or social development
  - WYPDES Permits
  - Clean Water Act Section 401 Certifications

Antidegradation Implementation Policy

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High Quality Waters (2AB, 2A, 2B, 2C) Drinking Water or Fish

WYPDES Permits

Step 1. Determine whether degradation is significant

Step 2. Demonstrate economic benefit

Step 3. Evaluation of alternatives

Antidegradation Implementation Policy

identifying the appropriate zone of influence. The Water Quality Division may conclude that such compliance has not been assured where existing sources are violating their WYPDES permit requirements. However, the existence of schedules of compliance for purposes of WYPDES permit requirements may be taken into consideration in such cases. In other words, required controls on existing regulated sources need not be finally achieved prior to authorizing a proposed activity provided there is reasonable assurance of future compliance.

(a) WYPDES Effluent Permits and Storm Water Permits (Industrial and Construction Activities). The antidegradation review under this part consists of three sequential evaluations: determination of significance; economic evaluation; and examination of alternatives.

(i) Determination of Significance.

(A) Based on information submitted in an application for a water quality permit, the administrator shall make a determination of whether the proposed discharge will result in a significant lowering of water quality with respect to adopted numeric water quality criteria. The significance determination will be based on the chronic numeric standard and flow for the pollutant of concern except for those pollutants which have only acute numeric standards in which case the acute standard and flow will be used. Significance determination shall be made with respect to the net effect of the new or increased water quality impacts of the proposed activity, taking into account any environmental benefits resulting from the activity and any water quality-enhancing mitigation measures impacting the segment or segments under review, if such measures are incorporated with the proposed activity. The activity shall be considered not to result in significant degradation if:

(I) The activity may be permitted under a general permit established by the state for discharges regulated under section 402; or

(II) The new or increased loading from the source under review is less than 10 percent of the existing total load to that segment for critical constituents (e.g. those for which there are stream standards and which are present in the discharge), provided that the cumulative impact of increased loadings from all sources does not exceed 10 percent of the baseline total load established for the segment (the baseline total load shall be determined at the time of the first proposed new or increased water quality impacts to the reviewable waters); or

(III) The new or increased loading from the source under review will consume, after mixing, less than 20 percent of the available increment between low flow pollutant concentrations and the relevant standards (assimilative capacity), for critical constituents; or

(IV) The activity will result in only temporary or short term changes in water quality.

(B) If an activity is considered not to result in significant degradation, no further review will be conducted. General WYPDES permits will be issued at this point. In

High Quality Waters (2AB, 2A, 2B, 2C) Drinking Water or Fish

Step 1. Significance Determination. Not significant if:

- Activity may be permitted under general permit
- The activity will result in only temporary or short-term changes to water quality
- New or increased loading from the source is less than 10% of the existing load to that segment
- New or increased loading from the source under review is < 20% of the available increment between low flow and the standard
  - Use chronic numeric criteria and flow if available, otherwise use acute criteria and flow

Antidegradation Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

the case of individual WYPDES permits, the Water Quality Division shall prepare a draft permit and provide opportunity for public comment before the permit is issued. Such public notices shall contain a statement describing the rationale for the determination of non-significance. If the permit is issued, the determination may be appealed to the Environmental Quality Council under the provisions of the Wyoming Administrative Procedures Act.

(C) If a determination is made that a proposed activity is likely to result in significant degradation of reviewable waters, an evaluation shall be made as to whether the degradation is necessary to accommodate important economic or social development in the area in which the waters are located.

(ii) Economic Evaluation.

(A) The "area in which the waters are located" shall be determined from the facts on a case-by-case basis. The area shall include all areas directly impacted by the proposed activity.

(B) A determination shall be made on the facts on a case-by-case basis whether the proposed activity is important economic or social development. If the applicant submits evidence that the activity is an important development, it shall be presumed important unless information to the contrary is submitted in the public review process. The determination shall take into account information received during the public comment period and shall give substantial weight to any applicable determinations by local governments or land use planning authorities.

(C) If the proposed activity is determined not to be important for economic or social development, authorization for the associated discharge(s) will be denied.

(D) If the proposed activity is determined to be important economic or social development, a determination shall be made whether the degradation that would result from such activity is necessary to accommodate that development.

(iii) Examination of Alternatives. The degradation shall be considered acceptable if there are no other water quality control alternatives available that:

(A) Would result in no degradation or less degradation of state waters; and

(B) Are determined to be economically, environmentally and technologically reasonable.

(C) Determination of whether such alternatives are available shall be based upon a reasonable level of analysis by the project proponent, consistent with accepted engineering practices, and information submitted by the public or otherwise available to the administrator. The assessment shall, at a minimum, address practical water quality control

High Quality Waters (2AB, 2A, 2B, 2C) Drinking Water or Fish

Step 2. Economic and Social Impact Evaluation

- Area determined on a case by case basis
- Presumed important based on information submitted by the applicant unless evidence submitted to the contrary during public comment period
- If determined to not be important, authorization will be denied

Antidegradation Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

the case of individual WYPDES permits, the Water Quality Division shall prepare a draft permit and provide opportunity for public comment before the permit is issued. Such public notices shall contain a statement describing the rationale for the determination of non-significance. If the permit is issued, the determination may be appealed to the Environmental Quality Council under the provisions of the Wyoming Administrative Procedures Act.

(C) If a determination is made that a proposed activity is likely to result in significant degradation of reviewable waters, an evaluation shall be made as to whether the degradation is necessary to accommodate important economic or social development in the area in which the waters are located.

(ii) Economic Evaluation.

(A) The "area in which the waters are located" shall be determined from the facts on a case-by-case basis. The area shall include all areas directly impacted by the proposed activity.

(B) A determination shall be made on the facts on a case-by-case basis whether the proposed activity is important economic or social development. If the applicant submits evidence that the activity is an important development, it shall be presumed important unless information to the contrary is submitted in the public review process. The determination shall take into account information received during the public comment period and shall give substantial weight to any applicable determinations by local governments or land use planning authorities.

(C) If the proposed activity is determined not to be important for economic or social development, authorization for the associated discharge(s) will be denied.

(D) If the proposed activity is determined to be important economic or social development, a determination shall be made whether the degradation that would result from such activity is necessary to accommodate that development.

(iii) Examination of Alternatives. The degradation shall be considered acceptable if there are no other water quality control alternatives available that:

(A) Would result in no degradation or less degradation of state waters; and

(B) Are determined to be economically, environmentally and technologically reasonable.

(C) Determination of whether such alternatives are available shall be based upon a reasonable level of analysis by the project proponent, consistent with accepted engineering practices, and information submitted by the public or otherwise available to the administrator. The assessment shall, at a minimum, address practical water quality control

High Quality Waters (2AB, 2A, 2B, 2C) Drinking Water or Fish

Step 3. Examination of Alternatives – Is degradation necessary?

- If no other alternatives are available that
  - Would result in no degradation or less degradation
  - Are economically, environmentally, or technologically feasible
  - Based on reasonable level of analysis by the project proponent, consistent with engineering practices

Antidegradation Implementation Policy

technologies, the feasibility and availability of which has been demonstrated under field conditions similar to those of the activity under review. The scope of alternatives considered shall be limited to those that would accomplish the proposed activity's purpose.

(D) In determining the economic reasonableness of water quality control alternatives, the administrator may use some of the following factors to weigh the reasonableness of the various alternatives.

(I) Whether the costs of the alternative significantly exceed the costs of the proposal;

(II) For publicly owned treatment works (POTWs), whether user charges resulting from the alternative would significantly exceed user charges for similarly situated POTWs or public water supply projects;

(III) For any discharger into waters of the state, whether the treatment alternative represents costs that significantly exceed costs for other similar dischargers to similar stream classes, or standard industry practices.

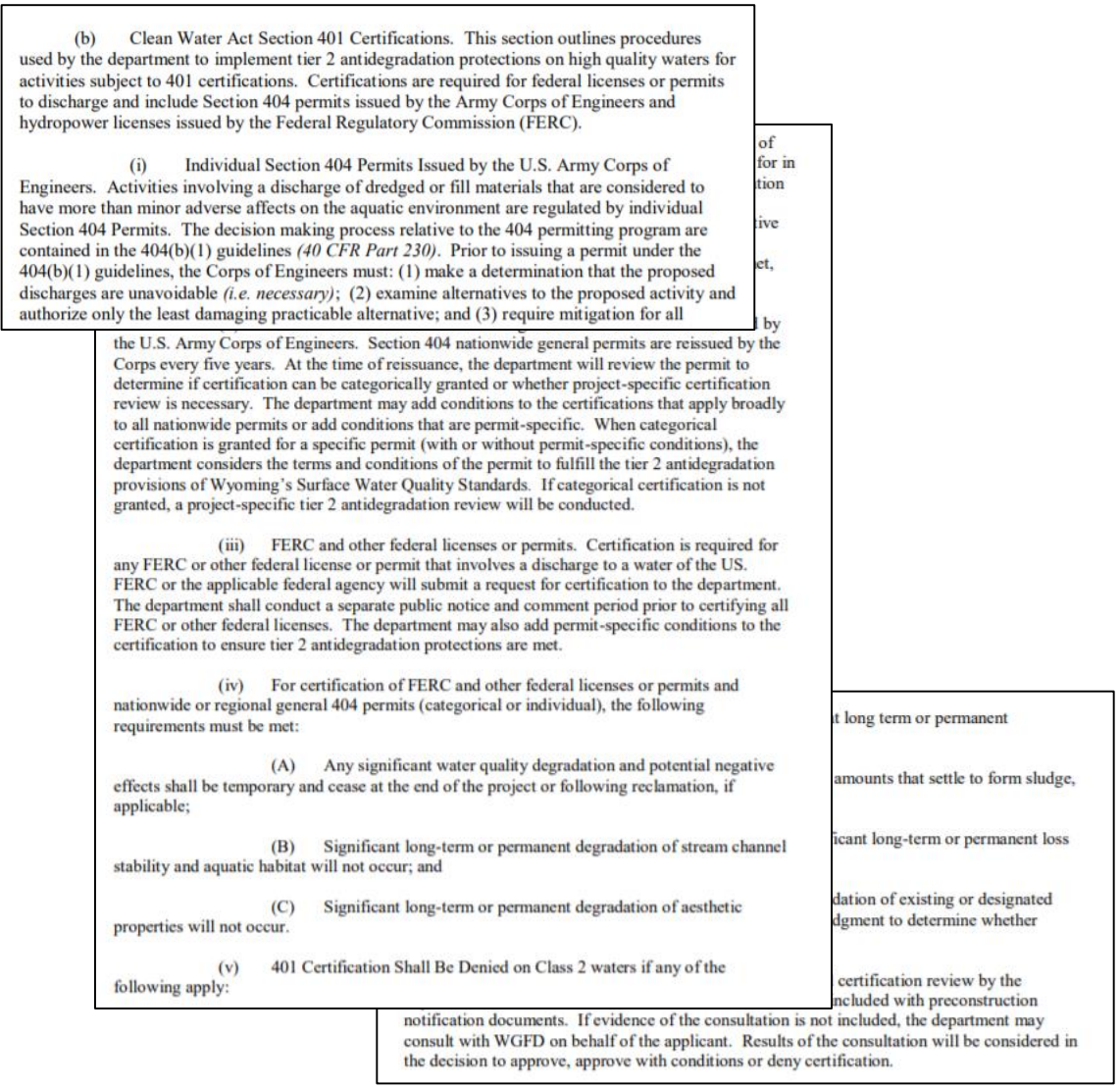
(IV) Any other environmental benefits, unrelated to water quality which may result from each of the alternatives examined.

High Quality Waters (2AB, 2A, 2B, 2C) Drinking Water or Fish

Step 3. Examination of Alternatives – Is degradation necessary?

- Costs of alternatives
- User fees for publicly owned treatment works (POTWs)
- Compare costs for similar dischargers
- Potential environmental benefits

Antidegradation Implementation Policy



(b) Clean Water Act Section 401 Certifications. This section outlines procedures used by the department to implement tier 2 antidegradation protections on high quality waters for activities subject to 401 certifications. Certifications are required for federal licenses or permits to discharge and include Section 404 permits issued by the Army Corps of Engineers and hydropower licenses issued by the Federal Regulatory Commission (FERC).

(i) Individual Section 404 Permits Issued by the U.S. Army Corps of Engineers. Activities involving a discharge of dredged or fill materials that are considered to have more than minor adverse affects on the aquatic environment are regulated by individual Section 404 Permits. The decision making process relative to the 404 permitting program are contained in the 404(b)(1) guidelines *(40 CFR Part 230)*. Prior to issuing a permit under the 404(b)(1) guidelines, the Corps of Engineers must: (1) make a determination that the proposed discharges are unavoidable *(i.e. necessary)*; (2) examine alternatives to the proposed activity and authorize only the least damaging practicable alternative; and (3) require mitigation for all

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the U.S. Army Corps of Engineers. Section 404 nationwide general permits are reissued by the Corps every five years. At the time of reissuance, the department will review the permit to determine if certification can be categorically granted or whether project-specific certification review is necessary. The department may add conditions to the certifications that apply broadly to all nationwide permits or add conditions that are permit-specific. When categorical certification is granted for a specific permit (with or without permit-specific conditions), the department considers the terms and conditions of the permit to fulfill the tier 2 antidegradation provisions of Wyoming's Surface Water Quality Standards. If categorical certification is not granted, a project-specific tier 2 antidegradation review will be conducted.

(iii) FERC and other federal licenses or permits. Certification is required for any FERC or other federal license or permit that involves a discharge to a water of the US. FERC or the applicable federal agency will submit a request for certification to the department. The department shall conduct a separate public notice and comment period prior to certifying all FERC or other federal licenses. The department may also add permit-specific conditions to the certification to ensure tier 2 antidegradation protections are met.

(iv) For certification of FERC and other federal licenses or permits and nationwide or regional general 404 permits (categorical or individual), the following requirements must be met:

(A) Any significant water quality degradation and potential negative effects shall be temporary and cease at the end of the project or following reclamation, if applicable;

(B) Significant long-term or permanent degradation of stream channel stability and aquatic habitat will not occur; and

(C) Significant long-term or permanent degradation of aesthetic properties will not occur.

(v) 401 Certification Shall Be Denied on Class 2 waters if any of the following apply:

t long term or permanent
amounts that settle to form sludge,
icant long-term or permanent loss
dation of existing or designated
dgment to determine whether
certification review by the
ncluded with preconstruction
notification documents. If evidence of the consultation is not included, the department may consult with WGFD on behalf of the applicant. Results of the consultation will be considered in the decision to approve, approve with conditions or deny certification.

High Quality Waters (2AB, 2A, 2B, 2C) Drinking Water or Fish

Requirements for Conducting Clean Water Act Section 401 Water Quality Certification

- No significant long-term or permanent degradation
- Certification denied if violates standards
- Coordination with Game and Fish Department
- Public notice requirements

Antidegradation Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 5. Use Protected Waters (Classes 2D, 3 and 4). In general, Class 2D, 3 and 4 waters do not warrant the special protection provided to high quality waters and shall be afforded a basic level of antidegradation protection (EPA tier 1 equivalent). This level of protection is focused on maintaining existing uses and may allow lowering water quality as long as the established criterion for any parameter is not exceeded. The issuance of water quality permits and certifications shall not normally involve an examination of economic necessity or alternatives to the proposed activity; however, the administrator may determine on a case-by-case basis that special circumstances exist and a High Quality Water (See Section 4, above) review of the proposed discharge may be conducted prior to authorizing the activity. Special circumstances may include, but are not limited to, exceptional recreational or ecological significance (e.g. location in a park or urban greenway, presence of rare or sensitive plant and animal species, contains unique aquatic features such as wetland fens or geothermal springs, etc.).

Use Protected Waters (2D, 3, 4)

- Must protect existing uses
- May allow lowering of water quality to standards
- Administrator may require a Tier 2 antidegradation review

Antidegradation Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 6. Existing Use Protection (All Wyoming Surface Waters). Except for the special considerations provided in Chapter 1 and regulations regarding Class 2D, 3D and 4C waters, existing in-stream water uses shall be maintained and protected in all Wyoming surface waters. For Class 1 waters, existing uses will be protected by implementing the requirements described in Section 3 of this implementation policy. For high quality and use protected waters, this implementation policy assumes that attainment of the criteria assigned to protect the current water body classification will serve to maintain and protect all existing uses. In some cases, however, water quality may have improved in the segment since the classifications were assigned, resulting in an existing use that is higher than the current classification. In other cases, the classifications may have been assigned based on inadequate information, resulting in classifications that do not fully encompass the existing uses of the segment. Where the antidegradation review results in the identification of an existing use that has protection requirements that are clearly defined, but are not addressed in the current classification and criteria, the division will ensure that such existing uses are fully protected based on implementation of appropriate numeric or narrative water quality criteria or criteria guidance. For example, where a proposed activity will result in the discharge of a substance for which sufficient data to derive appropriate criteria are available (e.g. Clean Water Act Section 304(a) criteria), but numeric criteria have not been adopted in the Chapter 1, the division will develop effluent limitations that will protect the existing use. In cases where there is a proposed discharge where federally-listed threatened or endangered species are present (i.e. aquatic species), the division will work with the U.S. Fish and Wildlife Service and EPA to gather available information and evaluate whether special existing use protection requirements are necessary to protect the listed species. Where there is a question regarding the appropriate classification of a segment, the applicant may be required to provide information regarding existing uses.

Existing Use Protection (All Surface Waters)

- Existing uses must be protected
- Attainment of water quality to protect designated uses will maintain existing uses
- If water quality has improved from time designate uses were assigned, existing uses must be protected
- May require additional conditions if water quality criteria are not sufficient to protect existing uses

Interim Policy to Establish Effluent Limits for Tributaries to Class 1 Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

DEPARTMENT OF ENVIRONMENTAL QUALITY
WYOMING

Interim Policy on Establishing Effluent Limits for Permitted Point Source Discharges to Class 1 Water Tributaries

August 2, 2007

Point Source Discharges to Class 1 Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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- Regulation 33: Classifications and Numeric Standards for Upper Colorado River
- Regulation 34: Classifications and Numeric Standards for San Juan River and Dc
- Regulation 35: Classifications and Numeric Standards for Gunnison and Lower D
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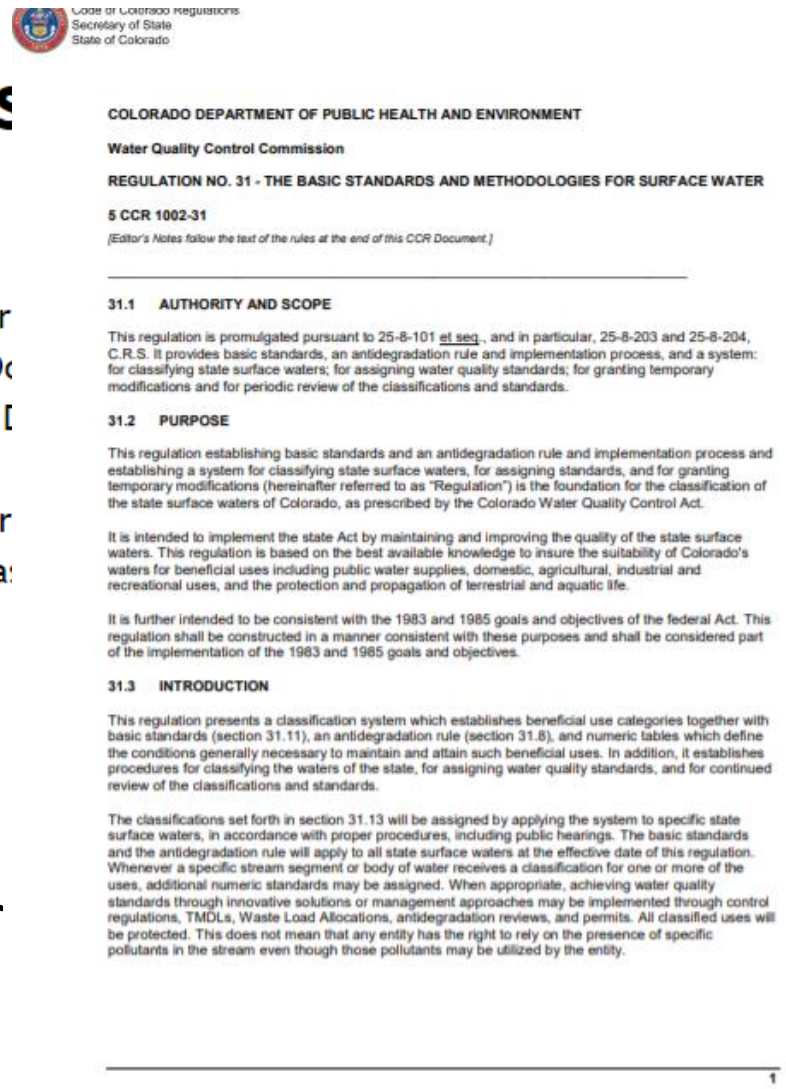

Code of Colorado Regulations
Secretary of State
State of Colorado

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Water Quality Control Commission

REGULATION NO. 31 - THE BASIC STANDARDS AND METHODOLOGIES FOR SURFACE WATER

5 CCR 1002-31

[Editor's Notes follow the text of the rules at the end of this CCR Document.]

31.1 AUTHORITY AND SCOPE

This regulation is promulgated pursuant to 25-8-101 et seq., and in particular, 25-8-203 and 25-8-204, C.R.S. It provides basic standards, an antidegradation rule and implementation process, and a system: for classifying state surface waters; for assigning water quality standards; for granting temporary modifications and for periodic review of the classifications and standards.

31.2 PURPOSE

This regulation establishing basic standards and an antidegradation rule and implementation process and establishing a system for classifying state surface waters, for assigning standards, and for granting temporary modifications (hereinafter referred to as "Regulation") is the foundation for the classification of the state surface waters of Colorado, as prescribed by the Colorado Water Quality Control Act.

It is intended to implement the state Act by maintaining and improving the quality of the state surface waters. This regulation is based on the best available knowledge to insure the suitability of Colorado's waters for beneficial uses including public water supplies, domestic, agricultural, industrial and recreational uses, and the protection and propagation of terrestrial and aquatic life.

It is further intended to be consistent with the 1983 and 1985 goals and objectives of the federal Act. This regulation shall be constructed in a manner consistent with these purposes and shall be considered part of the implementation of the 1983 and 1985 goals and objectives.

31.3 INTRODUCTION

This regulation presents a classification system which establishes beneficial use categories together with basic standards (section 31.11), an antidegradation rule (section 31.8), and numeric tables which define the conditions generally necessary to maintain and attain such beneficial uses. In addition, it establishes procedures for classifying the waters of the state, for assigning water quality standards, and for continued review of the classifications and standards.

The classifications set forth in section 31.13 will be assigned by applying the system to specific state surface waters, in accordance with proper procedures, including public hearings. The basic standards and the antidegradation rule will apply to all state surface waters at the effective date of this regulation. Whenever a specific stream segment or body of water receives a classification for one or more of the uses, additional numeric standards may be assigned. When appropriate, achieving water quality standards through innovative solutions or management approaches may be implemented through control regulations, TMDLs, Waste Load Allocations, antidegradation reviews, and permits. All classified uses will be protected. This does not mean that any entity has the right to rely on the presence of specific pollutants in the stream even though those pollutants may be utilized by the entity.

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Colorado Antidegradation Rules

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

31.8 ANTIDEGRADATION

(1) Antidegradation Rule

(a) The highest level of water quality protection applies to certain waters that constitute an outstanding state or national resource. These waters, which are those designated outstanding waters pursuant to section 31.8(2)(a), shall be maintained and protected at their existing quality. Short-term degradation of existing quality is allowed for activities that result in long-term ecological or water quality benefit or clear public interest.

→ Outstanding State or National Resource (Tier 3 Waters)

(b) An intermediate level of water quality protection applies to waters that have not been designated outstanding waters or use-protected waters. These waters shall be maintained and protected at their existing quality unless it is determined that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. For these waters, no degradation is allowed unless deemed appropriate following an antidegradation review in accordance with section 31.8(3), except as specified in (i) and (ii) below. Further, all applicable statutory and regulatory requirements for point sources and, if applicable control regulations have been adopted, all cost-effective and reasonable best management practices for nonpoint sources shall be met.

→ Intermediate (Tier 2 Waters)

(i) For dissolved iron, dissolved manganese, and sulfate, concentrations may reach the applicable water supply standard without an antidegradation review provided degradation for Aquatic Life based standards is not significant.

(ii) For all other pollutants, no degradation is allowed, unless deemed appropriate following an antidegradation review in accordance with section 31.8(3).

(c) At a minimum, for all state surface waters existing classified uses and the level of water quality necessary to protect such uses shall be maintained and protected. No further water quality degradation is allowable which would interfere with or become injurious to these uses. The classified uses shall be deemed protected if the narrative and numerical standards are not exceeded.

→ Use Protection Waters (Tier 1 Waters)

The antidegradation review requirements in section 31.8(3) are not applicable to waters designated use-protected pursuant to section 31.8(2)(b). For these waters, only the protection specified in this subparagraph applies.

(d) Water quality designations and reviewable water provisions shall not be utilized in a manner that is contrary to the provisions of sections 25-8-102 and 25-8-104, C.R.S.

Colorado Outstanding Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

31.8 ANTIDEGRADATION

(1) Antidegradation Rule

(a) The highest level of water quality protection applies to certain waters that constitute an outstanding state or national resource. These waters, which are those designated outstanding waters pursuant to section 31.8(2)(a), shall be maintained and protected at their existing quality. Short-term degradation of existing quality is allowed for activities that result in long-term ecological or water quality benefit or clear public interest.

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(i) For dissolved iron, dissolved manganese, and sulfate, concentrations may reach the applicable water supply standard without an antidegradation review provided degradation for Aquatic Life based standards is not significant.

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The antidegradation review requirements in section 31.8(3) are not applicable to waters designated use-protected pursuant to section 31.8(2)(b). For these waters, only the protection specified in this subparagraph applies.

(d) Water quality designations and reviewable water provisions shall not be utilized in a manner that is contrary to the provisions of sections 25-8-102 and 25-8-104, C.R.S.

Tier 3 Waters

- Highest level of water quality protection
- Existing water quality shall be maintained and protected
- Short-term degradation of existing quality allowed for activities that result in long-term ecological or water quality benefit or clear public interest

Colorado Intermediate Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

31.8 ANTIDEGRADATION

(1) Antidegradation Rule

(a) The highest level of water quality protection applies to certain waters that constitute an outstanding state or national resource. These waters, which are those designated outstanding waters pursuant to section 31.8(2)(a), shall be maintained and protected at their existing quality. Short-term degradation of existing quality is allowed for activities that result in long-term ecological or water quality benefit or clear public interest.

(b) An intermediate level of water quality protection applies to waters that have not been designated outstanding waters or use-protected waters. These waters shall be maintained and protected at their existing quality unless it is determined that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. For these waters, no degradation is allowed unless deemed appropriate following an antidegradation review in accordance with section 31.8(3), except as specified in (i) and (ii) below. Further, all applicable statutory and regulatory requirements for point sources and, if applicable control regulations have been adopted, all cost-effective and reasonable best management practices for nonpoint sources shall be met.

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(ii) For all other pollutants, no degradation is allowed, unless deemed appropriate following an antidegradation review in accordance with section 31.8(3).

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The antidegradation review requirements in section 31.8(3) are not applicable to waters designated use-protected pursuant to section 31.8(2)(b). For these waters, only the protection specified in this subparagraph applies.

(d) Water quality designations and reviewable water provisions shall not be utilized in a manner that is contrary to the provisions of sections 25-8-102 and 25-8-104, C.R.S.

Tier 2 Waters

- Intermediate level of water quality
- Waters shall be maintained and protected at their existing quality unless it is determined that allowing lower water quality is necessary to accommodate important economic or social development
- No degradation allowed unless deemed appropriate following an antidegradation review

Colorado Use Protected Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

31.8 ANTIDEGRADATION

(1) Antidegradation Rule

(a) The highest level of water quality protection applies to certain waters that constitute an outstanding state or national resource. These waters, which are those designated outstanding waters pursuant to section 31.8(2)(a), shall be maintained and protected at their existing quality. Short-term degradation of existing quality is allowed for activities that result in long-term ecological or water quality benefit or clear public interest.

(b) An intermediate level of water quality protection applies to waters that have not been designated outstanding waters or use-protected waters. These waters shall be maintained and protected at their existing quality unless it is determined that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. For these waters, no degradation is allowed unless deemed appropriate following an antidegradation review in accordance with section 31.8(3), except as specified in (i) and (ii) below. Further, all applicable statutory and regulatory requirements for point sources and, if applicable control regulations have been adopted, all cost-effective and reasonable best management practices for nonpoint sources shall be met.

(i) For dissolved iron, dissolved manganese, and sulfate, concentrations may reach the applicable water supply standard without an antidegradation review provided degradation for Aquatic Life based standards is not significant.

(ii) For all other pollutants, no degradation is allowed, unless deemed appropriate following an antidegradation review in accordance with section 31.8(3).

(c) At a minimum, for all state surface waters existing classified uses and the level of water quality necessary to protect such uses shall be maintained and protected. No further water quality degradation is allowable which would interfere with or become injurious to these uses. The classified uses shall be deemed protected if the narrative and numerical standards are not exceeded.

The antidegradation review requirements in section 31.8(3) are not applicable to waters designated use-protected pursuant to section 31.8(2)(b). For these waters, only the protection specified in this subparagraph applies.

(d) Water quality designations and reviewable water provisions shall not be utilized in a manner that is contrary to the provisions of sections 25-8-102 and 25-8-104, C.R.S.

Tier 1 Waters

- Minimum level of water quality protection
- Existing classified uses and the level of water quality necessary to protect such uses shall be maintained and protected
- No further water quality degradation is allowable that would interfere with uses
- Uses shall be deemed protected if the narrative and numerical standards are not exceeded

Colorado Antidegradation Designations

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

CODE OF COLORADO REGULATIONS ***5 CCR 1002-31***
Water Quality Control Commission

(2) Water Quality-Based Designations

Waters which satisfy the criteria in subparagraph (a) below may be designated by the Commission as "outstanding waters". Waters which satisfy the criteria in subparagraph (b) below may be designated "use-protected." Waters not satisfying either set of criteria will remain undesignated, and will be subject to the antidegradation review provisions set forth in section 31.8(3), below.

(a) Outstanding Waters Designation

Waters may be designated outstanding waters where the Commission makes all of the following three determinations:

(i) The existing quality for each of the following parameters is equal to or better than that specified in tables I, II, and III for the protection of aquatic life class 1, recreation class P and (for nitrate) domestic water supply uses:

Table I: dissolved oxygen, pH, *E. coli*

Table II: chronic ammonia, nitrate

Table III: chronic cadmium, chronic copper, chronic lead, chronic manganese, chronic selenium, chronic silver, and chronic zinc

The determination of existing quality shall be based on adequate representative data, from samples taken within the segment in question. Data must be available for each of the 12 parameters listed; provided, that if *E. coli* samples from within the segment are infeasible due to its location, and a sanitary survey demonstrates that there are no human sources present that are likely to impact quality in the segment in question, *E. coli* data will not be required. "Existing quality" shall be the 85th percentile of the data for ammonia, nitrate, and dissolved metals, the 50th percentile for total recoverable metals, the 15th percentile for dissolved oxygen, the geometric mean for *E. coli*, and the range between the 15th and 85th percentiles for pH.

In addition, the foregoing notwithstanding, this test shall not be considered to be met if the Commission determines that, due to the presence of substantial natural or irreversible human-induced pollution for parameters other than those listed above, the quality of the waters in question should not be considered better than necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water.

(ii) The waters constitute an outstanding natural resource, based on the following:

(A) The waters are a significant attribute of a State Gold Medal Trout Fishery, a National Park, National Monument, National Wildlife Refuge, or a designated Wilderness Area, or are part of a designated wild river under the Federal Wild and Scenic Rivers Act; or

(B) The Commission determines that the waters have exceptional recreational or ecological significance, and have not been modified by human activities in a manner that substantially detracts from their value as a natural resource.

(iii) The water requires protection in addition to that provided by the combination of water quality classifications and standards and the protection afforded reviewable water under section 31.8(3).

How to Determine Antidegradation Tier/Protections

- Outstanding Waters Requirements
- Use Protection Requirements
- Remaining Waters are Intermediate/Reviewable Waters

Colorado Antidegradation Review

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

(3) Antidegradation Review Process

(a) Applicability

These antidegradation review procedures shall apply to the review of regulated activities with new or increased water quality impacts that may degrade the quality of state surface waters that have not been designated as outstanding waters or use-protected waters, including waters previously designated as high quality class 2. These waters are referred to below as "reviewable waters." "Regulated activities" means any activities which require a discharge permit or water quality certification under federal or state law, or which are subject to state control regulations unless the Commission has specified in the control regulation that the antidegradation review process is not applicable. Where possible, the antidegradation review should be coordinated or consolidated with the review processes of other agencies concerning a proposed activity in an effort to minimize costs and delays for such activities.

(b) Division and Commission Roles

For regulated activities, the significance determination set forth in section 31.8(3)(c) and the determination whether degradation is necessary to accommodate important economic or social development in the area in which the waters are located, pursuant to section 31.8(3)(d), shall be made by the Division, subject to a de novo review by the Commission in an adjudicatory hearing, on the Commission's own motion, pursuant to a petition by any interested person who has submitted written comments during the Division review process, or on the Commission's determination pursuant to section 24-4-105(2), C.R.S.

(c) Significance Determination

The initial step in an antidegradation review shall be a determination whether the regulated activity in question is likely to result in significant degradation of reviewable waters, with respect to adopted narrative or numeric standards. The significance determination will be based on the chronic numeric standard and flow for the pollutant of concern except for those pollutants which have only acute numeric standards in which case the acute standard and flow will be used. This significance determination shall be made with respect to the net effect of the new or increased water quality impacts of the proposed regulated activity, taking into account any environmental benefits resulting from the regulated activity and any water quality enhancement or mitigation measures impacting the segment or segments under review, if such measures are incorporated with the proposed regulated activity. The regulated activity shall be considered not to result in significant degradation, as measured in the reviewable waters segment, if:

Tier 2 Waters

Reviewable Waters – Applicable Activities

- Review process applies to regulated activities with new or increased water quality impacts that may degrade the quality of surface waters
- Regulated activities are any activities that require a discharge permit or water quality certification under federal or state law, or which are subject to state control regulations

Colorado Antidegradation Review

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

(3) Antidegradation Review Process

(a) Applicability

These antidegradation review procedures shall apply to the review of regulated activities with new or increased water quality impacts that may degrade the quality of state surface waters that have not been designated as outstanding waters or use-protected waters, including waters previously designated as high quality class 2. These waters are referred to below as "reviewable waters." "Regulated activities" means any activities which require a discharge permit or water quality certification under federal or state law, or which are subject to state control regulations unless the Commission has specified in the control regulation that the antidegradation review process is not applicable. Where possible, the antidegradation review should be coordinated or consolidated with the review processes of other agencies concerning a proposed activity in an effort to minimize costs and delays for such activities.

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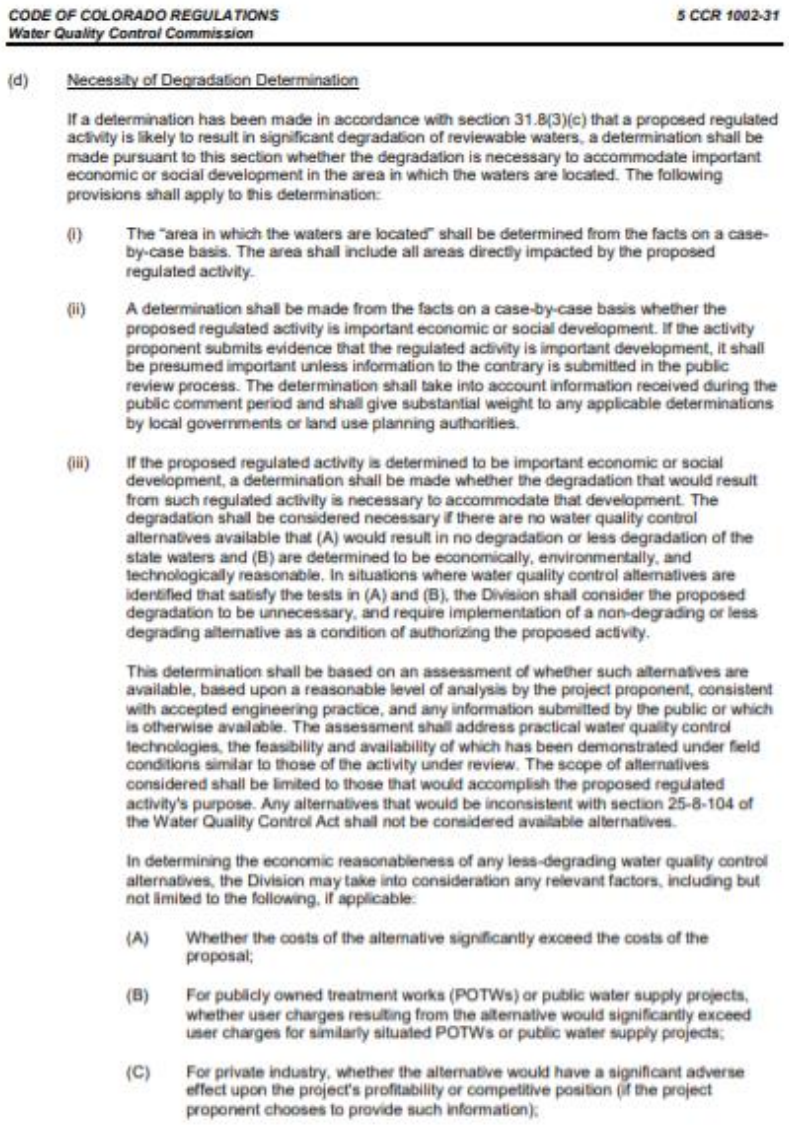
Tier 2 Waters

Reviewable Waters Significance Determination

- Determine whether the activity is likely to result in significant degradation

Colorado Antidegradation Review

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



CODE OF COLORADO REGULATIONS 5 CCR 1002-31
Water Quality Control Commission

(d) Necessity of Degradation Determination

If a determination has been made in accordance with section 31.8(3)(c) that a proposed regulated activity is likely to result in significant degradation of reviewable waters, a determination shall be made pursuant to this section whether the degradation is necessary to accommodate important economic or social development in the area in which the waters are located. The following provisions shall apply to this determination:

(i) The "area in which the waters are located" shall be determined from the facts on a case-by-case basis. The area shall include all areas directly impacted by the proposed regulated activity.

(ii) A determination shall be made from the facts on a case-by-case basis whether the proposed regulated activity is important economic or social development. If the activity proponent submits evidence that the regulated activity is important development, it shall be presumed important unless information to the contrary is submitted in the public review process. The determination shall take into account information received during the public comment period and shall give substantial weight to any applicable determinations by local governments or land use planning authorities.

(iii) If the proposed regulated activity is determined to be important economic or social development, a determination shall be made whether the degradation that would result from such regulated activity is necessary to accommodate that development. The degradation shall be considered necessary if there are no water quality control alternatives available that (A) would result in no degradation or less degradation of the state waters and (B) are determined to be economically, environmentally, and technologically reasonable. In situations where water quality control alternatives are identified that satisfy the tests in (A) and (B), the Division shall consider the proposed degradation to be unnecessary, and require implementation of a non-degrading or less degrading alternative as a condition of authorizing the proposed activity.

This determination shall be based on an assessment of whether such alternatives are available, based upon a reasonable level of analysis by the project proponent, consistent with accepted engineering practice, and any information submitted by the public or which is otherwise available. The assessment shall address practical water quality control technologies, the feasibility and availability of which has been demonstrated under field conditions similar to those of the activity under review. The scope of alternatives considered shall be limited to those that would accomplish the proposed regulated activity's purpose. Any alternatives that would be inconsistent with section 25-8-104 of the Water Quality Control Act shall not be considered available alternatives.

In determining the economic reasonableness of any less-degrading water quality control alternatives, the Division may take into consideration any relevant factors, including but not limited to the following, if applicable:

(A) Whether the costs of the alternative significantly exceed the costs of the proposal;

(B) For publicly owned treatment works (POTWs) or public water supply projects, whether user charges resulting from the alternative would significantly exceed user charges for similarly situated POTWs or public water supply projects;

(C) For private industry, whether the alternative would have a significant adverse effect upon the project's profitability or competitive position (if the project proponent chooses to provide such information);

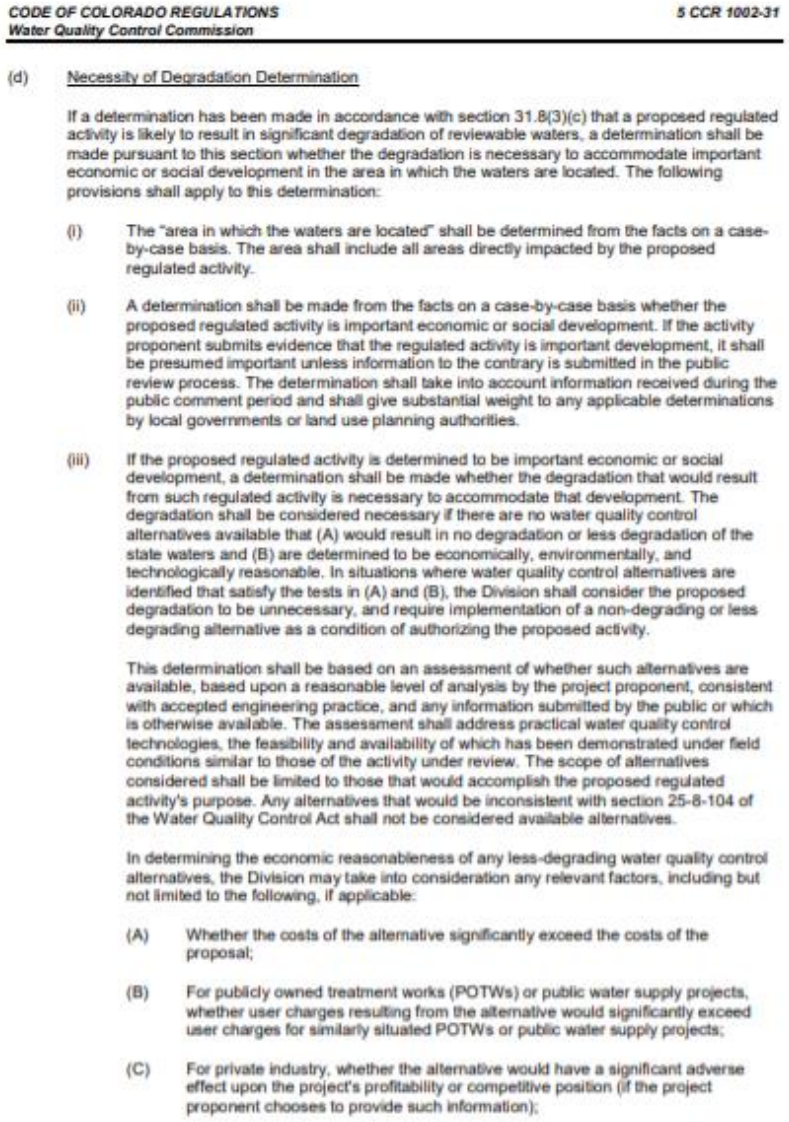
Tier 2 Waters

Necessity of Degradation Determination

- Determine whether degradation is necessary to accommodate important economic or social development
  - Activity is presumed important based on information submitted by proponent unless information to the contrary is submitted during the public review process

Colorado Antidegradation Review

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



CODE OF COLORADO REGULATIONS 5 CCR 1002-31
Water Quality Control Commission

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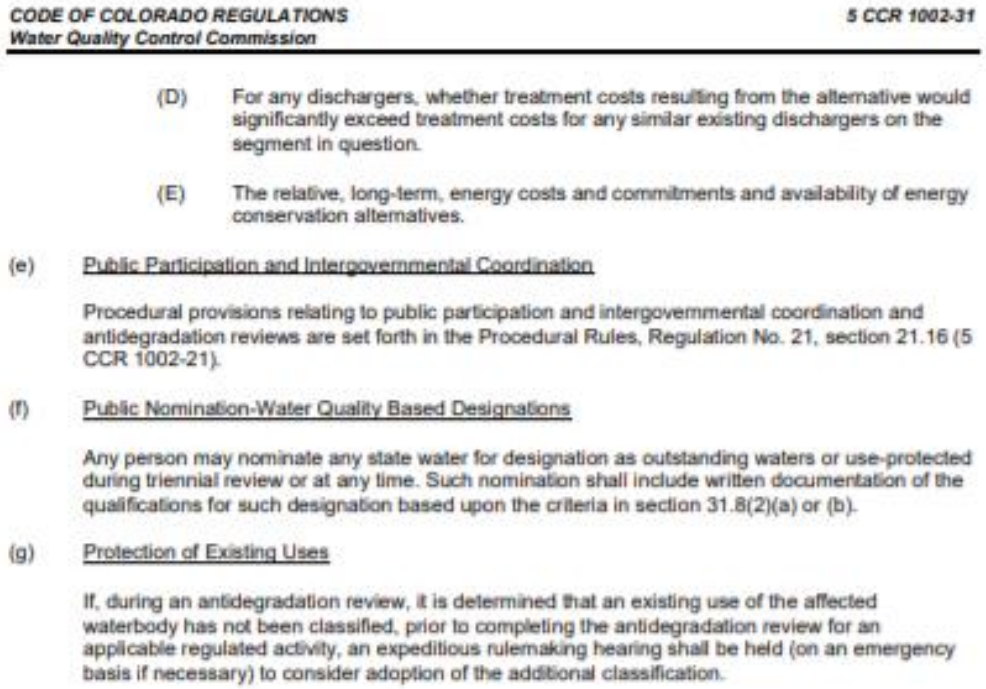
Tier 2 Waters

Necessity of Degradation Determination

- Determine whether degradation is necessary to accommodate important economic or social development
  - Demonstration that degradation is necessary to development
    - No alternatives available that would result in no degradation or less degradation of the state waters
    - Determined to be economically, environmentally, and technologically reasonable

Colorado Antidegradation Review

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



CODE OF COLORADO REGULATIONS ***5 CCR 1002-31***
Water Quality Control Commission

(D) For any dischargers, whether treatment costs resulting from the alternative would significantly exceed treatment costs for any similar existing dischargers on the segment in question.

(E) The relative, long-term, energy costs and commitments and availability of energy conservation alternatives.

(e) Public Participation and Intergovernmental Coordination

Procedural provisions relating to public participation and intergovernmental coordination and antidegradation reviews are set forth in the Procedural Rules, Regulation No. 21, section 21.16 (5 CCR 1002-21).

(f) Public Nomination-Water Quality Based Designations

Any person may nominate any state water for designation as outstanding waters or use-protected during triennial review or at any time. Such nomination shall include written documentation of the qualifications for such designation based upon the criteria in section 31.8(2)(a) or (b).

(g) Protection of Existing Uses

If, during an antidegradation review, it is determined that an existing use of the affected waterbody has not been classified, prior to completing the antidegradation review for an applicable regulated activity, an expeditious rulemaking hearing shall be held (on an emergency basis if necessary) to consider adoption of the additional classification.

Public Participation

- Follows Procedural Rules and Regulations

Public Nomination

- Any person may nominate any state water as outstanding or use-protected during triennial review or at any time

Protection of Existing Uses

- If the existing use of an affected waterbody has not been classified, rulemaking should be held

Colorado Alternatives Analysis Examples

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- **Clean water regulatory guidance**
  - Anti-degradation Alternatives Analysis Examples.
  - Discharge permit, low risk and clean water authorization guidance. Includes CDPS permits, biosolids, reclaimed water and pretreatment. Refer to the appropriate sector for applicable guidance.
  - DMR guidance.
    - DMR 2021 Workbook.
    - DMR 2021 Temperature Data Workbook.
  - Information for wastewater facilities not having Site Location Approval.
  - Information for Site Location de-rating wastewater facilities below 2,000 gpd.
  - Information about domestic treatment works decommissioning.
  - Natural swimming areas compliance and sampling guidelines.
    - Regulation 5 CCR 1003-5: Swimming Pools and Mineral Baths.
    - CDPHE memo re: responsibility for regulation and oversight of swimming pools and spas (2011).
  - Alternative analysis feasibility guidance.

Examples from Other States

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Colorado
- Idaho
- Ohio

Idaho Water Quality Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

IDAPA 58 – DEPARTMENT OF ENVIRONMENTAL QUALITY

Water Quality Division

58.01.02 – Water Quality Standards

To whom does this rule apply?
This rule applies to any individual or entity who recreates in, drinks from, or fishes Idaho's surface waters, and any individual or entity who discharges pollutants to those same waters.

What is the purpose of this rule?
This rule designates uses which are to be protected in and of the waters of the state and establish standards of water quality protective of those uses. Restrictions are placed on the discharge of wastewaters and on human activities which may adversely affect public health and water quality in the waters of the state. In addition, unique and outstanding waters of the state are recognized. This rule does not provide any legal basis for an additional permit system, nor can it be construed as granting to the Department any authority not identified in the Idaho Code.

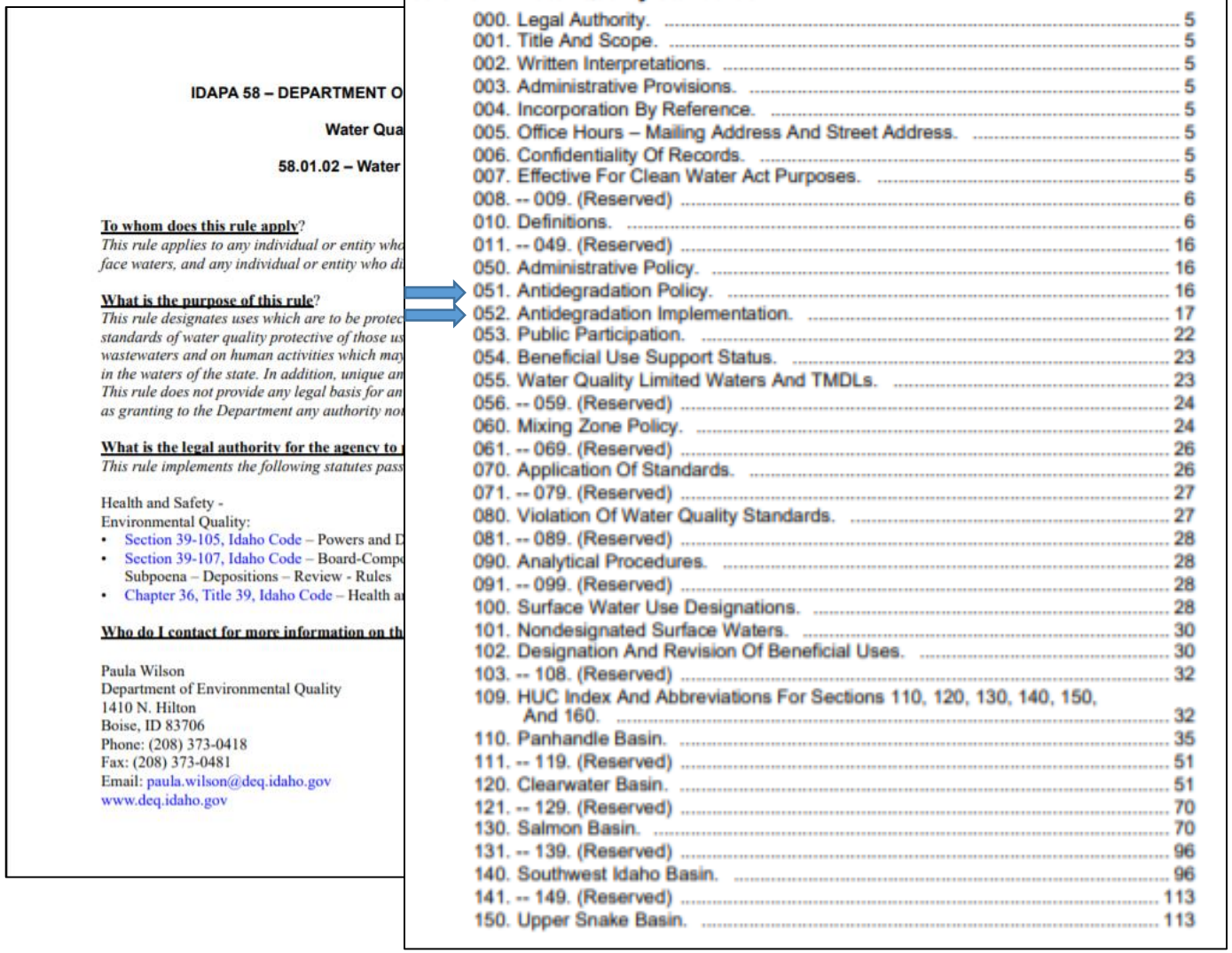
What is the legal authority for the agency to promulgate this rule?
This rule implements the following statutes passed by the Idaho Legislature:

Health and Safety -
Environmental Quality:
- Section 39-105, Idaho Code – Powers and Duties of the Director
- Section 39-107, Idaho Code – Board-Composition – Officers – Compensation – Powers – Subpoena – Depositions – Review - Rules
- Chapter 36, Title 39, Idaho Code – Health and Safety, Water Quality

Who do I contact for more information on this rule?

Paula Wilson
Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706
Phone: (208) 373-0418
Fax: (208) 373-0481
Email: paula.wilson@deq.idaho.gov
www.deq.idaho.gov

Idaho Antidegradation



IDAPA 58 – DEPARTMENT O

Water Qua

58.01.02 – Water

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58.01.02 – Water Quality Standards

Antidegradation Policy

Antidegradation Implementation

Idaho Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

051. ANTIDEGRADATION POLICY.

01. Maintenance of Existing Uses for All Waters (Tier I Protection). The existing in stream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. (3-18-11)

02. High Quality Waters (Tier II Protection). Where the quality of the waters exceeds levels necessary to support propagation of fish, shellfish and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Department finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the Department's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the Department shall assure water quality adequate to protect existing uses fully. Further, the Department shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and cost-effective and reasonable best management practices for nonpoint source control. In providing such assurance, the Department may enter together into an agreement with other state of Idaho or federal agencies in accordance with Sections 67-2326 through 67-2333, Idaho Code. (3-18-11)

03. Outstanding Resource Waters (Tier III Protection). Where an outstanding resource water has been designated by the legislature, that water quality shall be maintained and protected from the impacts of point and nonpoint source activities. (3-29-12)

04. Thermal Discharges. In those cases where potential water quality impairment associated with a thermal discharge is involved, antidegradation shall be implemented consistent with Section 316 of the Clean Water Act. (3-18-11)

05. Waters Subject to the Antidegradation Policy. Idaho's antidegradation policy only applies to waters subject to the jurisdiction of the Clean Water Act. (3-18-11)

→ Existing Use Protections (Tier 1)

→ High Quality Waters (Tier 2)

→ Outstanding Resource Waters (Tier 3)

Idaho Outstanding Resource Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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Tier 3 Waters

- Designated by the legislature
- Water quality shall be maintained and protected from point and nonpoint source activities

Idaho Outstanding Resource Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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Tier 2 Waters

- Where quality is better than necessary to protect fishable an swimmable uses, water quality shall be maintained unless…allowing lower water quality is necessary to accommodate important economic or social development in the area of the discharge
- Shall require highest statutory and regulatory requirements for new and existing point sources and cost-effective and reasonable best management practices for nonpoint sources

Idaho Antidegradation Implementation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

052. ANTIDEGRADATION IMPLEMENTATION.
The antidegradation policy shall be implemented as follows: (3-18-11)

01. Waters Protected. All waters receive Tier I protection. Waters receiving Tier II protection will be identified using a water body by water body approach during the antidegradation review. Waters given Tier III protection are designated in law. (3-18-11)

02. Restoration Projects. Changes in water quality may be allowed by the Department without an antidegradation review where determined necessary to secure long-term water quality improvement through restoration projects designed to trend toward natural characteristics and associated uses to a water body where those characteristics and uses have been lost or diminished. Restoration projects shall implement best management practices. (3-18-11)

03. General Permits. For general permits issued on or after July 1, 2011, the Department will conduct an antidegradation review, including any required Tier II analysis, at the time at which general permits are certified. For general permits that the Department determines adequately address antidegradation, review of individual applications for coverage will not be required unless it is required by the general permit. For general permits that the Department determines do not adequately address antidegradation, the Department may conclude that other conditions, such as the submittal of additional information or individual certification at the time an application is submitted for coverage under a general permit, may be necessary in the general permit to provide reasonable assurance of compliance with the antidegradation policy. If supported by the permit record, the Department may also presume that discharges authorized under a general permit are insignificant or that the pollution controls required in the general permit are the least degrading alternative as specified in Subsection 052.08.c. (3-29-12)

04. Initiation of Antidegradation Review. Review of degradation potential and application of the appropriate level of protection from degradation will be triggered by an application for a new or reissued permit or license. (3-18-11)

05. Identification of Tier II Waters. The Department will utilize a water body by water body approach in determining where Tier II protection is appropriate in addition to Tier I protection. This approach shall be based on an assessment of the chemical, physical, biological and other information regarding the water body. The most recent federally approved Integrated Report and supporting data will be used to determine the appropriate level of protection as follows: (3-29-12)

a. Water bodies identified in the Integrated Report as fully supporting assessed uses will be provided Tier II protection. (3-29-12)

b. Water bodies identified in the Integrated Report as not assessed will be provided an appropriate level of protection on a case-by-case basis using information available at the time of a proposal for a new or reissued

- Assignment of protections
- Restoration projects may not require an antidegradation review
- Antidegradation review conducted for general permits at the time permits are certified
- Initiation of antidegradation review triggered by application for new or renewed permit or license
- Identification of Tier 2 waters

Idaho Antidegradation Implementation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

achieved and maintained as a condition of their permit or license. (3-18-11)

07. Tier I Review. Tier I review will be performed for all new or reissued permits or licenses. Existing uses and the water quality necessary to protect the existing uses must always be maintained and protected. No degradation or lowering of water quality may be allowed that would cause or contribute to violation of water quality criteria as calculated after authorized mixing of the discharge with the receiving water. Identification of existing uses and the water quality necessary for their protection will be based on all available information, including any water quality related data and information submitted during the public comment period for the permit or license. (3-18-11)

08. Tier II Analysis. A Tier II analysis will only be conducted for activities or discharges, subject to a permit or a license, that cause degradation. The Department may allow significant degradation of surface water quality that is better than assigned criteria only if it is determined to be necessary to accommodate important economic or social development in the area in which the waters are located. The process and standard for this determination are set forth below. (3-18-11)

a. Insignificant Degradation. If the Department determines an activity or discharge will cause degradation, then the Department shall determine whether the degradation is insignificant. (4-11-15)

i. A cumulative decrease in assimilative capacity of more than ten percent (10%), from conditions as of July 1, 2011, shall constitute significant degradation. If the cumulative decrease in assimilative capacity from conditions as of July 1, 2011, is equal to or less than ten percent (10%), then, taking into consideration the size and character of the activity or discharge and the magnitude of its effect on the receiving stream, the Department may determine that the degradation is insignificant. (4-11-15)

ii. The Department may request additional information from the applicant as needed to determine the significance of the degradation. (4-11-15)

iii. If degradation is determined to be insignificant, then no further Tier II analysis for other source controls (Subsection 052.08.b.), alternatives analysis (Subsection 052.08.c.), or socioeconomic justification (Subsection 052.08.d.) is required. (4-11-15)

b. Other Source Controls. In allowing any degradation of high water quality, the Department must assure that there shall be achieved in the watershed the highest statutory and regulatory requirements for all new and existing point sources and cost-effective and reasonable best management practices for all nonpoint source controls. In providing such assurance, the Department may enter together into an agreement with other State of Idaho or federal agencies in accordance with Sections 67-2326 through 67-2333, Idaho Code. (3-18-11)

c. Alternatives Analysis. Degradation will be deemed necessary only if there are no reasonable alternatives to discharging at the levels proposed. The applicant seeking authorization to degrade high water quality must provide an analysis of alternatives aimed at selecting the best combination of site, structural, managerial and treatment approaches that can be reasonably implemented to avoid or minimize the degradation of water quality. To identify the least degrading alternative that is reasonable, the following principles shall be followed: (3-18-11)

i. Controls to avoid or minimize degradation should be considered at the earliest possible stage of project design. (3-18-11)

ii. Alternatives that must be evaluated as appropriate, are: (3-18-11)

(1) Relocation or configuration of outfall or diffuser; (3-18-11)

(2) Process changes/improved efficiency that reduces pollutant discharge; (3-18-11)

(3) Seasonal discharge to avoid critical time periods for water quality; (3-18-11)

(4) Non-discharge alternatives such as land application; and (3-18-11)

(5) Offsets to the activity or discharge's effect on water quality. (3-18-11)

Tier 2 Analysis

- Insignificant Degradation
- Other Source Controls
- Alternatives Analysis
- Socioeconomic Justification
- Process

Examples from Other States

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Colorado
- Idaho
- Ohio

Ohio Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

STATE OF OHIO

WATER QUALITY STANDARDS

Chapter 3745-1 of the ADMINISTRATIVE CO

Most Recent Revision:

January 21, 2021
Effective April 21, 2021

Ohio Environmental Protection Agency
Division of Surface Water
Standards & Technical Support Section

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Wetland Antidegradation

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WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

3745-1-05 Antidegradation.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules and federal statutory provisions referenced in this rule, see rule 3745-1-03 of the Administrative Code.]

(A) Definitions.

[Comment: The following definitions are in addition to the definitions contained in rule 3745-1-02 of the Administrative Code.]

(1) "Available pollutant assimilative capacity" means the water body pollutant assimilative capacity for a substance, as determined in paragraph (A)(28)(a) of this rule, minus the background pollutant load, or the quantity for a substance as calculated in paragraph (A)(28)(b) of this rule.

(2) "Background pollutant load" means the sum of all upstream pollutant loads of a regulated pollutant and has the same meaning as the background water quality as determined in accordance with paragraph (A)(3) of rule 3745-2-05 of the Administrative Code.

(3) "Best available demonstrated control technology" means a wastewater treatment capable of meeting the following effluent limitations or design criteria:

(a) For the discharge of sanitary wastewater from facilities using conventional treatment technologies, the effluent limitations in table 5-1 of this rule.

(b) For the discharge of sanitary wastewater from alternative treatment technologies such as lagoon systems, land application and controlled discharge systems, constructed wetland systems or combined sewer overflow control systems effluent limitations shall be developed on a case-by-case basis.

(c) For industrial direct discharges subject to federal effluent guidelines, the facility shall be designed to meet the most stringent of the new source performance standards, best conventional pollutant control technology, best available technology economically achievable and best practicable control technology currently available for the appropriate categorical guidelines of 40 C.F.R. 400 to 40 C.F.R. 471.

(d) For categorical industrial indirect dischargers, the facility shall be designed to meet categorical pretreatment standards for existing sources or categorical pretreatment standards for new sources as contained in Chapter 3745-3 of the Administrative Code.

(e) For non-categorical industrial direct or indirect discharges, effluent limitations will be developed based upon best engineering or professional judgment.

(f) For wastewater discharges resulting from clean-up of response action sites contaminated with volatile organic compounds, the facility shall include air-stripping, carbon columns, both, or equivalent treatment capable of achieving final thirty-day average effluent limits of five micrograms per liter or less for each individually regulated volatile organic compound.

35 Pages

Definitions
Responsibilities of Applicant
Review Requirements
Exclusions and Waivers
Categorization of Waters
Special Provisions for Bioaccumulative Chemicals

Summary of Other States' Antidegradation

- None reference another document
  - Requirements and details are entirely contained in the rule
- Essential Elements
  - Describe three tiers of protection
  - Describe how to identify which waters are in each tier and how waters can be nominated
    - CO waterbody by waterbody based on water quality, designated uses
    - ID uses a waterbody by waterbody approach

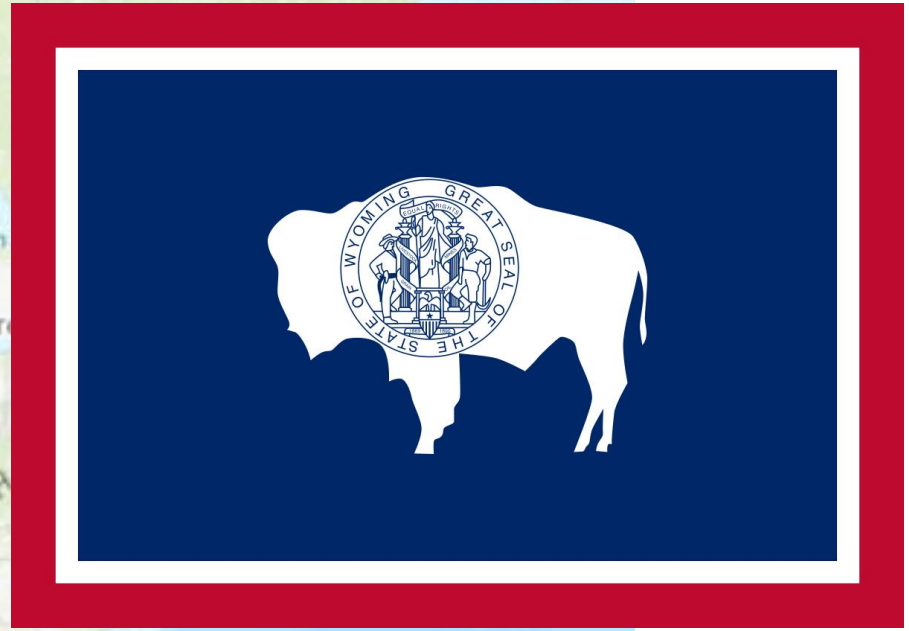
Summary of Other States' Antidegradation

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Tier 3 Outstanding National Resource Waters
  - Describe how water quality will be maintained
- Tier 2 Review Process
  - Describe when and how antidegradation review will take place
    - Determination of significance
    - Alternatives analysis
    - Demonstrate that degradation is necessary to accommodate economic and social development
- Tier 1 Protections
  - Describe requirements

Wyoming Water Quality Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



Ideas for Wyoming's Standards

- Conceptual
- Chapter 1
- Implementation Methods
- Potential Implications

Antidegradation: Wyoming

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section. Antidegradation

Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1

Implementation Policies

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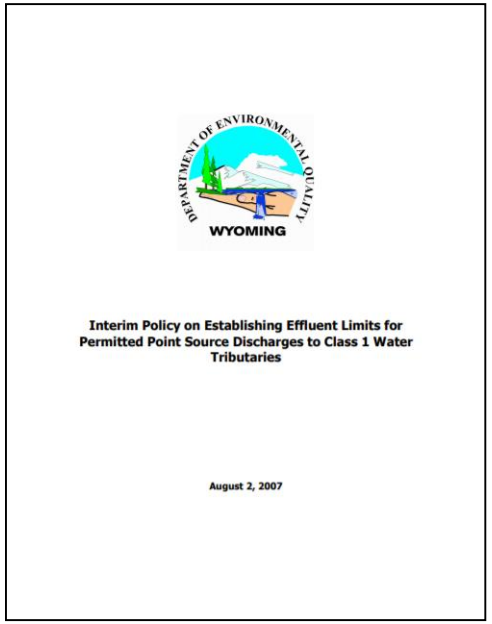
Interim Policy to Establish Effluent Limits for Tributaries to Class 1 Waters

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Guidance



DEPARTMENT OF ENVIRONMENTAL QUALITY
WYOMING

Interim Policy on Establishing Effluent Limits for Permitted Point Source Discharges to Class 1 Water Tributaries

August 2, 2007

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Antidegradation: Wyoming

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

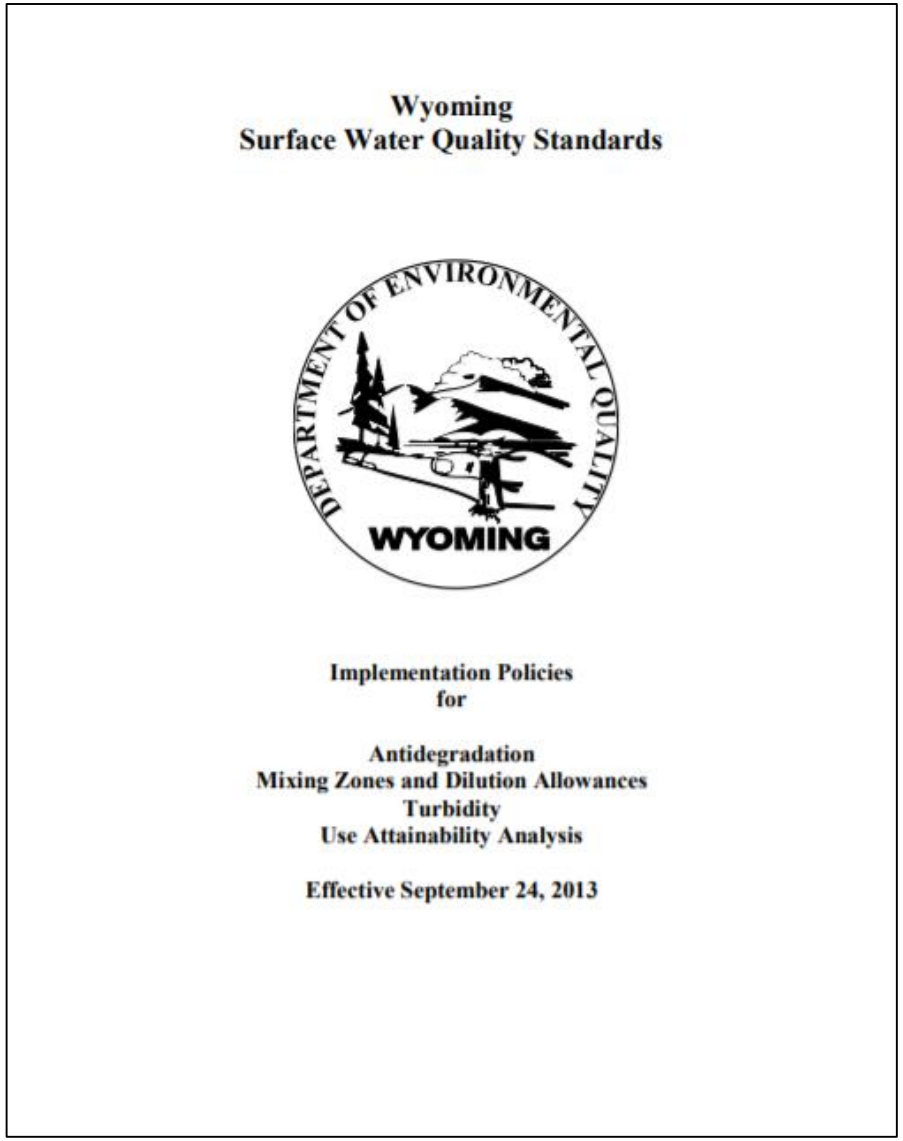
Section. Antidegradation

- Describe three antidegradation tiers
- Existing use protections (All Wyoming Surface Waters)
- High Quality/Reviewable Waters (Waters with Fisheries or Drinking Water Designated Uses)
  - Reviewable Activities
  - Determination of Significant Degradation
  - Necessity of Significant Degradation Demonstration
    - Alternatives Analysis
    - Socioeconomic Benefit
- Waters of Significance (Class 1)
  - Process for EQC designation and nomination
  - Protections and limitations associated with Waters of Significance
  - Methods for developing effluent limitations for tributaries to Waters of Significance
  - List of Waters of Significance waters and date of designation
- Implementation Methods and Public Participation Process

Potential Implications

- May increase length of rules/standards
- May improve clarity for antidegradation requirements
- Eliminates need to incorporate by reference
- Consolidates important information into the rules

Implementation Policies



Wyoming
Surface Water Quality Standards

DEPARTMENT OF ENVIRONMENTAL QUALITY
WYOMING

Implementation Policies
for

Antidegradation
Mixing Zones and Dilution Allowances
Turbidity
Use Attainability Analysis

Effective September 24, 2013

- Move Portions of Mixing Zone Policy to Chapter 1
- Move Turbidity Waiver Process to Permit By Rule in Permitting Regulations
- Create Guidance for Conducting Designated Use Changes and Modifying Water Quality Criteria
- Move Portions of Antidegradation Policy and Portions of Interim Policy to Chapter 1