WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Wyoming Surface Water Quality Standards

Recreation Designated Uses

Triennial Review Stakeholder Group
April 22, 2021

Outline

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Review of Designated Use Requirements
- Review of Nationally Recommended Water Quality Criteria for Protection of Recreational Uses
- Wyoming's Recreation Designated Uses
- Examples of Recreation Designated Use Definitions from Other States
- Ideas for Potential Changes to Wyoming's Standards

Surface Water Quality Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Designated Uses

Implementation

Water Quality Criteria

Antidegradation

Designated Uses

- Uses specified in the water quality standards, even though they may not currently be attained


South Fork Shoshone River

Scenic Value

Recreation

Aquatic Life

Drinking Water

Designated Uses: Clean Water Act

40 CFR 131.2 and 131.10

- Must designate all waters for
  - swimmable uses (i.e., primary contact recreation)
  - fishable uses (aquatic life, consumption of aquatic life)

Designated Uses: Clean Water Act

40 CFR 131.2 and 131.10

- Take into consideration the water quality standards of downstream waters
- Can adopt subcategories of designated uses to reflect varying needs (e.g., warmwater fisheries, coldwater fisheries)
- Can adopt seasonal uses (e.g., recreation)

Designated Uses: Clean Water Act

*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

40 CFR 131.2 and 131.10

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

Attainability Factors (Chapter 1, Section 33)

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(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

Hydrologic modifications

Physical conditions (aquatic life)

Economic and social impacts

Designated Uses: Clean Water Act

Swimmable uses (i.e., primary contact recreation)

Protect the public during recreational activities
Most often described as swimming or with a high degree of water contact

Surface Water Quality Standards

Designated Uses

Implementation

Water Quality Criteria

Antidegradation

Water Quality Criteria

- Concentrations of pollutants or narrative statements to protect designated uses

Water Quality Criteria: Clean Water Act

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40 CFR 131.11

- Water quality criteria must protect the designated use

Water Quality Criteria: Clean Water Act

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40 CFR 131.11

- Water quality criteria can be based on
  - Clean Water Act Section 304(a) guidance*

*criteria for water quality that reflect the latest scientific knowledge

Water Quality Criteria: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

40 CFR 131.11

- Water quality criteria can be based on
  - 304(a) guidance modified to reflect site-specific conditions

Water Quality Criteria: Clean Water Act

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

40 CFR 131.11

- Water quality criteria can be based on
  - Other scientifically defensible methods

Water Quality Criteria: Clean Water Act

40 CFR 131.11

- Water quality criteria can be
  - narrative criteria or criteria based on biomonitoring methods where numerical criteria cannot be established or to supplement numeric criteria

Nationally Recommended Water Quality Criteria

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Summary of the Clean Water Act

33 U.S.C. §1251 et seq. (1972)

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972.

Under the CWA, EPA has implemented pollution control programs such as setting wastewater standards for industry. EPA has also developed national water quality criteria recommendations for pollutants in surface waters.

The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained:

- EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges.
- Point sources are discrete conveyances such as pipes or man-made ditches.
  - Individual homes that are connected to a municipal system, use a septic system, or do not

Quick Links

- 2018 version of CWA from the U.S. Code (233 pp, 1.23 MB)

You may need a PDF reader to view some of the files on this page. See EPA's About PDF page to learn more

- The official text of the CWA continues to be available in the *United States Code* from the US Government Printing Office

§ 1314. Information and guidelines

(a) Criteria development and publication

(1) The Administrator, after consultation with appropriate Federal and State agencies and other interested persons, shall develop and publish, within one year after October 18, 1972 (and from time to time thereafter revise) criteria for water quality accurately reflecting the latest scientific knowledge (A) on the kind and extent of all identifiable effects on health and welfare including, but not limited to, plankton, fish, shellfish, wildlife, plant life, shorelines, beaches, esthetics, and recreation which may be expected from the presence of pollutants in any body of water, including ground water; (B) on the concentration and dispersal of pollutants, or their byproducts, through biological, physical, and chemical processes; and (C) on the effects of pollutants on biological community diversity, productivity, and stability, including information on the factors affecting rates of eutrophication and rates of organic and inorganic sedimentation for varying types of receiving waters.

(2) The Administrator, after consultation with appropriate Federal and State agencies and other interested persons, shall develop and publish, within one year after October 18, 1972 (and from time to time thereafter revise) information (A) on the factors necessary to restore and maintain the chemical, physical, and biological integrity of all navigable waters, ground waters, waters of the contiguous zone, and the oceans; (B) on the factors necessary for the protection and propagation of shellfish, fish, and wildlife for classes and categories of receiving waters

Recreation Criteria: *E. coli* and Enterococci

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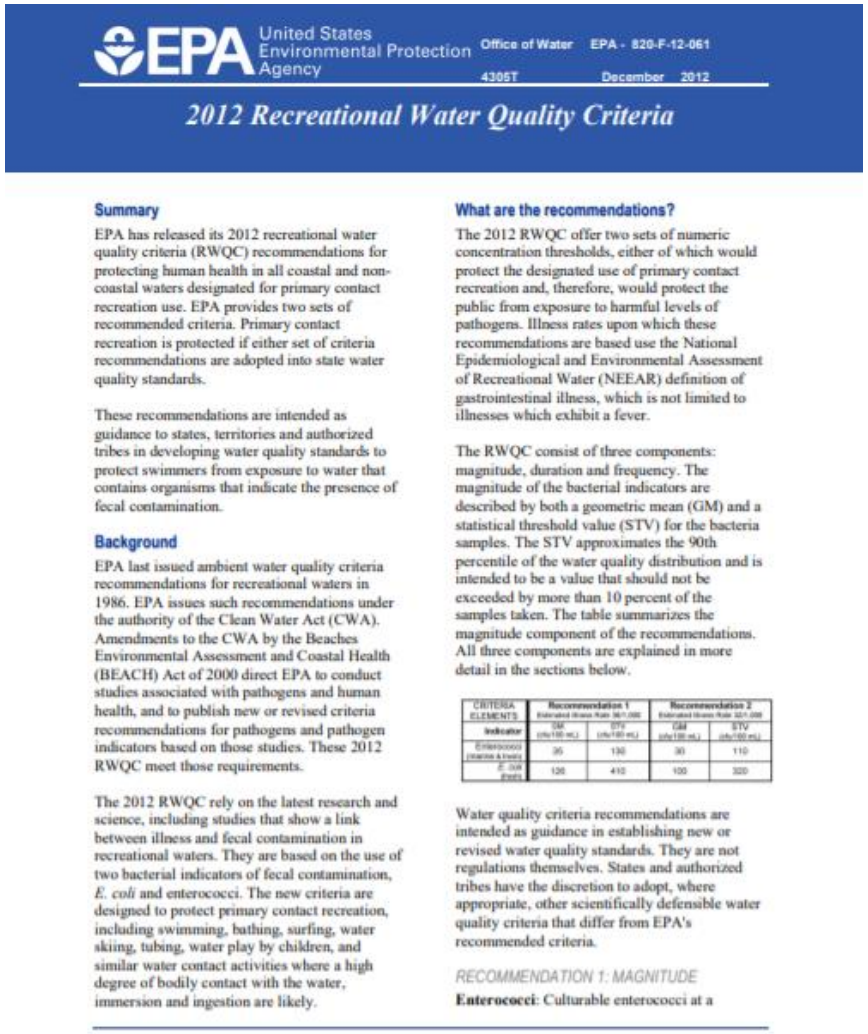


EPA United States Environmental Protection Agency | Office of Water 4305T | EPA - 820-F-12-061 | December 2012

2012 Recreational Water Quality Criteria

Summary

EPA has released its 2012 recreational water quality criteria (RWQC) recommendations for protecting human health in all coastal and non-coastal waters designated for primary contact recreation use. EPA provides two sets of recommended criteria. Primary contact recreation is protected if either set of criteria recommendations are adopted into state water quality standards.

These recommendations are intended as guidance to states, territories and authorized tribes in developing water quality standards to protect swimmers from exposure to water that contains organisms that indicate the presence of fecal contamination.

Background

EPA last issued ambient water quality criteria recommendations for recreational waters in 1986. EPA issues such recommendations under the authority of the Clean Water Act (CWA). Amendments to the CWA by the Beaches Environmental Assessment and Coastal Health (BEACH) Act of 2000 direct EPA to conduct studies associated with pathogens and human health, and to publish new or revised criteria recommendations for pathogens and pathogen indicators based on those studies. These 2012 RWQC meet those requirements.

The 2012 RWQC rely on the latest research and science, including studies that show a link between illness and fecal contamination in recreational waters. They are based on the use of two bacterial indicators of fecal contamination, *E. coli* and enterococci. The new criteria are designed to protect primary contact recreation, including swimming, bathing, surfing, water skiing, tubing, water play by children, and similar water contact activities where a high degree of bodily contact with the water, immersion and ingestion are likely.

What are the recommendations?

The 2012 RWQC offer two sets of numeric concentration thresholds, either of which would protect the designated use of primary contact recreation and, therefore, would protect the public from exposure to harmful levels of pathogens. Illness rates upon which these recommendations are based use the National Epidemiological and Environmental Assessment of Recreational Water (NEEAR) definition of gastrointestinal illness, which is not limited to illnesses which exhibit a fever.

The RWQC consist of three components: magnitude, duration and frequency. The magnitude of the bacterial indicators are described by both a geometric mean (GM) and a statistical threshold value (STV) for the bacteria samples. The STV approximates the 90th percentile of the water quality distribution and is intended to be a value that should not be exceeded by more than 10 percent of the samples taken. The table summarizes the magnitude component of the recommendations. All three components are explained in more detail in the sections below.

Water quality criteria recommendations are intended as guidance in establishing new or revised water quality standards. They are not regulations themselves. States and authorized tribes have the discretion to adopt, where appropriate, other scientifically defensible water quality criteria that differ from EPA's recommended criteria.

RECOMMENDATION 1: MAGNITUDE

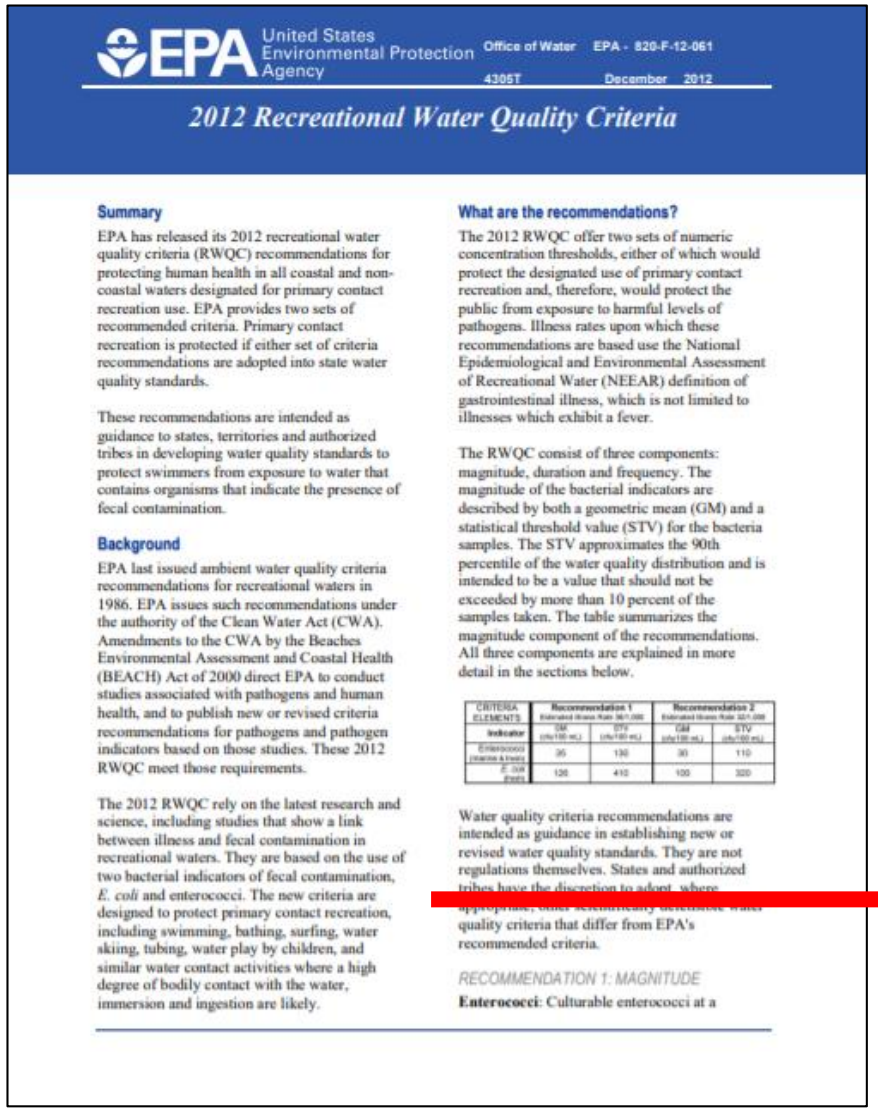
Enterococci: Culturable enterococci at a

- 2012 Nationally Recommended Criteria for *E. coli* and Enterococci

CRITERIA ELEMENTS	Recommendation 1 Estimated Illness Rate 36/1,000		Recommendation 2 Estimated Illness Rate 32/1,000	
Indicator	GM (cfu/100 mL)	STV (cfu/100 mL)	GM (cfu/100 mL)	STV (cfu/100 mL)
Enterococci (marine & fresh)	35	130	30	110
E. coli (fresh)	126	410	100	320

Recreation Criteria: *E. coli* and Enterococci

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



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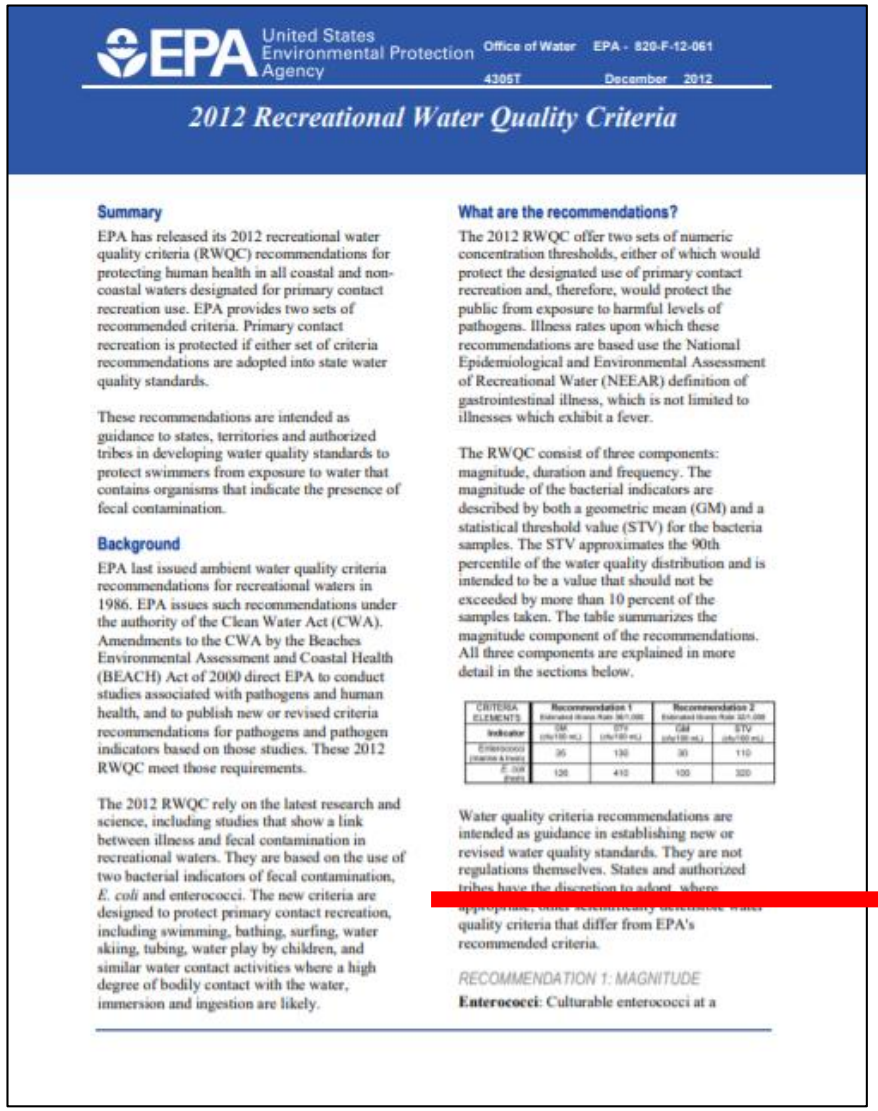

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Recreation Criteria: Cyanotoxins

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

EPA United States Environmental Protection Agency

Office of Water
EPA 822-F-19-001
May 2019

Recommended Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories for Microcystins and Cylindrospermopsin

Summary

EPA has released national recommendations for the *Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories (AWQC/SA) for Microcystins and Cylindrospermopsin*. These recommended AWQC/SA accurately reflect the latest scientific knowledge on the potential human health effects from recreational exposure to these two cyanotoxins. Primary contact recreation is protected in water bodies at or below the recommended concentrations of microcystins and cylindrospermopsin.

These recommendations are intended as guidance to states, territories and authorized tribes to consider when developing water quality standards. Alternatively, these recommendations can be used as the basis of swimming advisories for notification purposes in recreational waters to protect the public. States, territories and authorized tribes may also wish to consider using these recommendations as both water quality criteria and swimming advisory values.

Background

Cyanobacteria, commonly called blue-green algae, are naturally-occurring photosynthetic bacteria found in freshwater and marine ecosystems. Under certain environmental conditions, such as elevated levels of nutrients, warmer temperatures, still water, and plentiful sunlight, cyanobacteria can rapidly multiply to form harmful algal blooms (HABs). HABs have been reported in ambient waters in all states. As the cyanobacteria multiply, some of the cells can produce toxic compounds, known as cyanotoxins, which can be harmful to human and animal health. Microcystins and cylindrospermopsin are two types of toxins produced by cyanobacteria.

During a HAB, the toxin concentration can rapidly increase and may become elevated before a visible bloom is observed. Elevated cyanotoxin concentrations in surface waters can persist after the bloom fades, so human exposures can occur even after the visible signs of a bloom are gone or have moved downstream. Exposure to elevated-levels of microcystins can potentially lead to liver damage; the kidneys and liver appear to be the primary target organs for cylindrospermopsin toxicity.

What are EPA's recommendations?

The recommended AWQC/SA for microcystins and cylindrospermopsin consist of three components—magnitude, duration and frequency--that are considered protective of human health in recreational waters. In developing these recommendations, EPA incorporated the existing peer-reviewed and published science on the adverse human health effects of these toxins, recreation-specific exposure parameters from the peer-reviewed scientific literature and EPA's Exposure Factors Handbook using established criteria methodologies. EPA derived these recommended values based on children's recreational exposures because children can be more highly exposed compared to other age groups. The recommendations are also protective of older age groups.

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- 2019 Nationally Recommended Criteria for Cyanotoxins Microcystins and Cylindrospermopsin

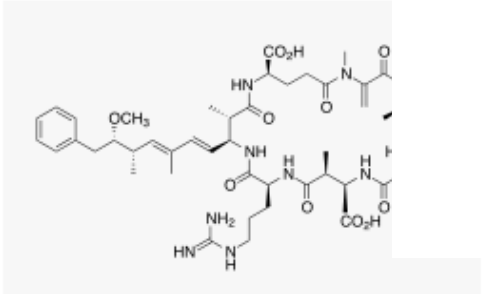
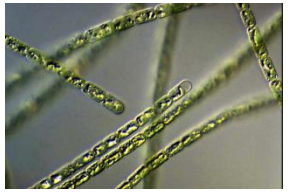
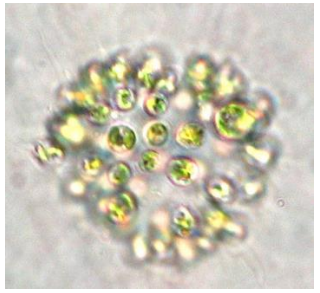


Table. Recommended magnitude for cyanotoxins.

Microcystins	Cylindrospermopsin
8 µg/L	15 µg/L





Recreation Criteria: Cyanotoxins

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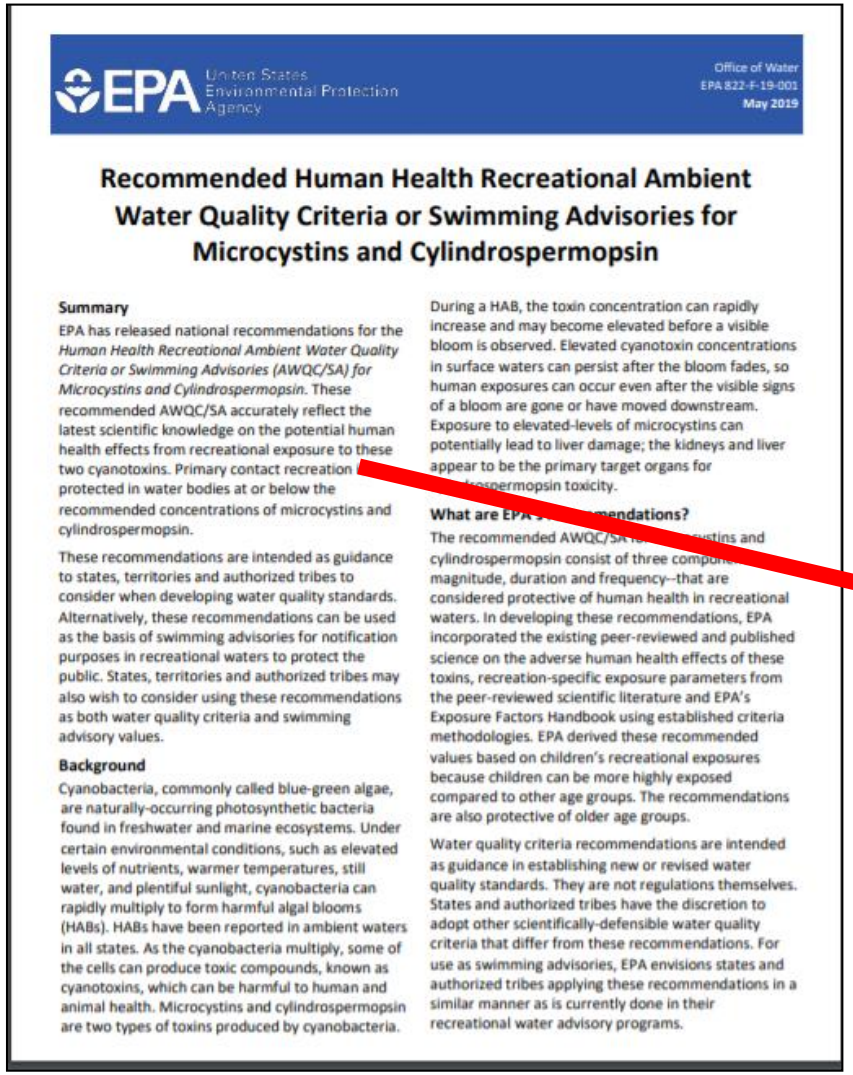

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- 2019 Nationally Recommended Criteria for Cyanotoxins Microcystins and Cylindrospermopsin

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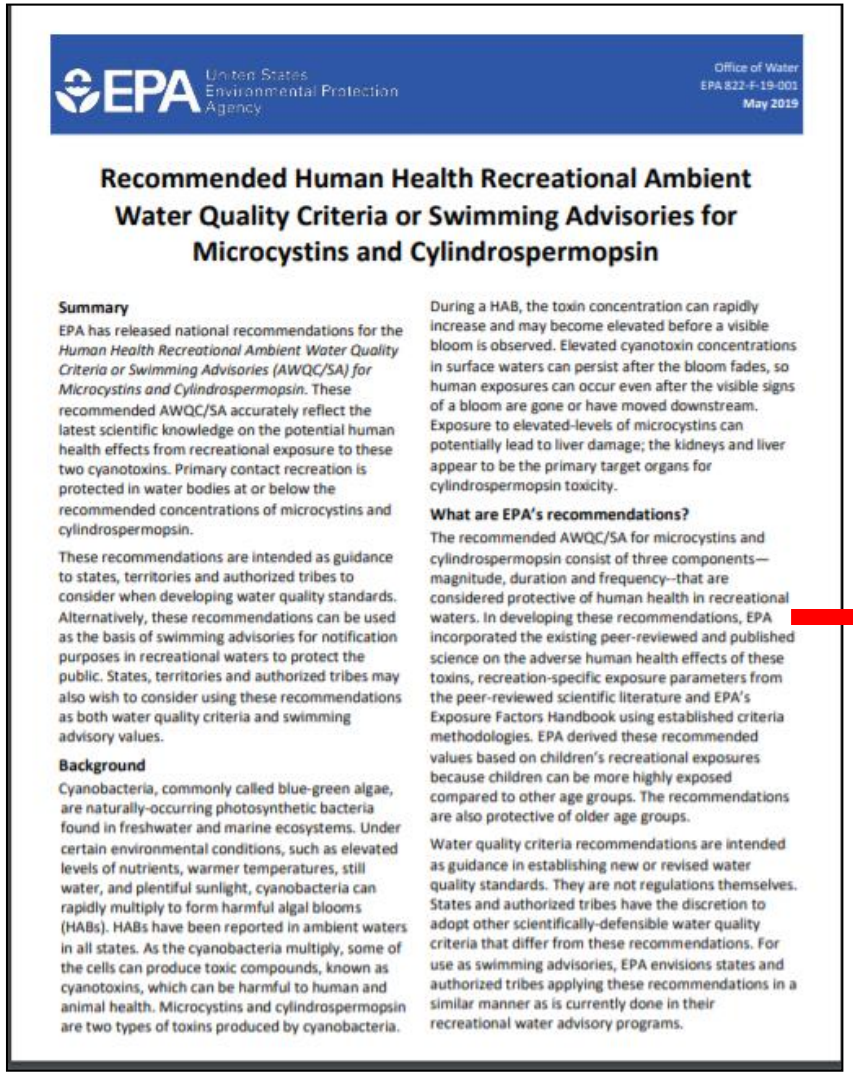

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What are EPA's recommendations?

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Nationally Recommended Water Quality Criteria

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Summary of the Clean Water Act

33 U.S.C. §1251 et seq. (1972)

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972.

Under the CWA, EPA has implemented pollution control programs such as setting wastewater standards for industry. EPA has also developed national water quality criteria recommendations for pollutants in surface waters.

The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained:

- EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges.
- Point sources are discrete conveyances such as pipes or man-made ditches.
  - Individual homes that are connected to a municipal system, use a septic system, or do not

Quick Links

- 2018 version of CWA from the U.S. Code (233 pp, 1.23 MB)

You may need a PDF reader to view some of the files on this page. See EPA's About PDF page to learn more

- The official text of the CWA continues to be available in the *United States Code* from the US Government Printing Office

§ 1314. Information and guidelines

(a) Criteria development and publication

(1) The Administrator, after consultation with appropriate Federal and State agencies and other interested persons, shall develop and publish, within one year after October 18, 1972 (and from time to time thereafter revise) criteria for water quality accurately reflecting the latest scientific knowledge (A) on the kind and extent of all identifiable effects on health and welfare including, but not limited to, plankton, fish, shellfish, wildlife, plant life, shorelines, beaches, esthetics, and recreation which may be expected from the presence of pollutants in any body of water, including ground water; (B) on the concentration and dispersal of pollutants, or their byproducts, through biological, physical, and chemical processes; and (C) on the effects of pollutants on biological community diversity, productivity, and stability, including information on the factors affecting rates of eutrophication and rates of organic and inorganic sedimentation for varying types of receiving waters.

(2) The Administrator, after consultation with appropriate Federal and State agencies and other interested persons, shall develop and publish, within one year after October 18, 1972 (and from time to time thereafter revise) information (A) on the factors necessary to restore and maintain the chemical, physical, and biological integrity of all navigable waters, ground waters, waters of the contiguous zone, and the oceans; (B) on the factors necessary for the protection and propagation of shellfish, fish, and wildlife for classes and categories of receiving waters

Water Quality Criteria for Primary Contact Recreation

2012: *E. coli* and Enterococci

2019: Microcystin and Cylindrospermopsin

Non-Primary Contact Recreational Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

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2020 study by EPA looking at non-primary contact uses

Table 1
States in the United States with specialized water quality guidelines for recreational activities presumed to be associated with a lower degree water contact than swimming or bathing.

State	Reference
Alaska	Alaska Department of Environmental Conservation (2008)
Arkansas	Arkansas Pollution Control and Ecology Commission (2018)
California	California Water Quality Control Board San Francisco Region (2017)
	California Water Quality Control Board Central Coast Region (2017)
	California Water Quality Control Board Los Angeles Region (2013)
	California Water Quality Control Board Colorado River Basin (2019)
	California Water Quality Control Board San Diego Region (2016)
Kansas	Kansas Department of Health and Environment (2018)
Delaware	Delaware Department of Resources and Environmental Control (2017)
Texas	Texas Commission on Environmental Quality (2009)
Utah	Utah Department of Environmental Quality (2018)
Idaho	Idaho Department of Environmental Quality (2000)
Iowa	Iowa Department of Natural Resources (2018)
Kentucky	Kentucky Energy and Environment Cabinet (2019)
Massachusetts	Massachusetts Department of Environmental Protection (2013)
Michigan	Michigan Department of Environment Great Lakes and Energy (2006)
Minnesota	Minnesota Pollution Control Agency (2018)
Montana	Montana Department of Environmental Quality (2014)
Missouri	Missouri Department of Natural Resources (2011)
Nevada	Nevada Division of Environmental Protection (2018)
New Jersey	New Jersey Department of Environmental Protection (2016)
New Mexico	New Mexico Water Quality Control Division (2017)
Ohio	Ohio Environmental Protection Agency (2018)
South Dakota	South Dakota Department of Environment and Natural Resources (2016)
Virginia	Virginia Department of Environmental Quality (2017)
Wyoming	Wyoming Department of Environmental Quality (2018)

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EPA 2020 detailed review of 92 studies from a total of 8,618 evaluated:

- Activities were categorized as swimming, sports-related, minimal contact, sand contact, mixed contact

Non-Primary Contact Recreational Uses

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- Swimming: immersion of any part of the body that did not involve sports equipment
- Sports-related: immersion or high probability of immersion or splashing while using specialized sports equipment (e.g., surfing, waterskiing, or canoeing, kayaking, or rafting in rough water)
- Minimal contact: floating on or being near water with low probability of immersion or splashing of water on any part of the body (e.g., fishing or canoeing, kayaking, or rafting in tranquil waters)
- Sand contact: Only contact with the sand
- Mixed contact: Any combination of uses

Non-Primary Contact Recreational Uses

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- Significant risk for gastrointestinal and respiratory illness with swimming and sports-related contact
- Nonsignificant elevation of risk with minimal contact

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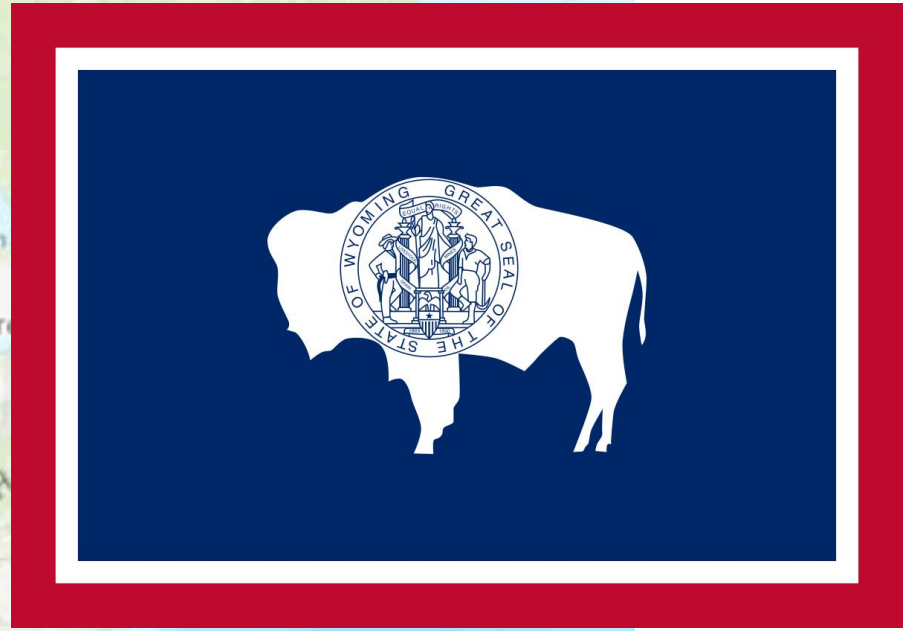
- Different recreational activities result in different levels of exposure to waterborne pathogens
- Risk of illness is related to the concentration of pathogens in the water and the degree of contact with the water

Wyoming Water Quality Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



Chapter 1, Recreation Designated Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1, Recreation Uses and Criteria

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Wyoming Recreation Use Definitions

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 2, Definitions

(xlv) "Primary contact recreation" means any recreational or other surface water use that could be expected to result in ingestion of the water or immersion (full body contact).

(xxi) "Full body contact water recreation" means any recreational or other surface water use in which there is contact with the water sufficient to pose a significant health hazard (i.e. water skiing, swimming).

Wyoming Recreation Use Definitions

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 2, Definitions

(xlviii) "Secondary contact recreation" means any recreational or other surface water use in which contact with water is either incidental or accidental and that would not be expected to result in ingestion of the water or immersion.

Recreation Use

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 3, Water Uses

(e) Recreation. Recreational use protection involves maintaining a level of water quality which is safe for human contact. It does not guarantee the availability of water for any recreational purpose. The recreation designated use includes primary contact recreation and secondary contact recreation subcategories.

Chapter 1, Section 27, *E. coli*

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Section 27. *E. coli* Bacteria.

(a) Primary Contact Recreation. In all waters designated for primary contact recreation, during the summer recreation season (May 1 through September 30), concentrations of *E. coli* bacteria shall not exceed a geometric mean of 126 organisms per 100 milliliters during any consecutive 60-day period. Primary contact waters are identified in the *Wyoming Surface Water Classification List*.

(b) Secondary Contact Recreation. In all waters designated for secondary contact recreation and in waters designated for primary contact recreation during the winter recreation season (October 1 through April 30), concentrations of *E. coli* bacteria shall not exceed a geometric mean of 630 organisms per 100 milliliters during any consecutive 60-day period. Waters will be designated for secondary contact recreation through the reclassification and use attainability analysis process outlined in Sections 33 and 34 of these regulations. Secondary contact waters are identified in the *Wyoming Surface Water Classification List*.

(c) Single-sample Maximum Concentrations. During the summer recreation season, on all waters designated for primary contact recreation, the following single-sample maximum concentrations of *E. coli* bacteria shall apply:

(i) High use swimming areas - 235 organisms per 100 milliliters

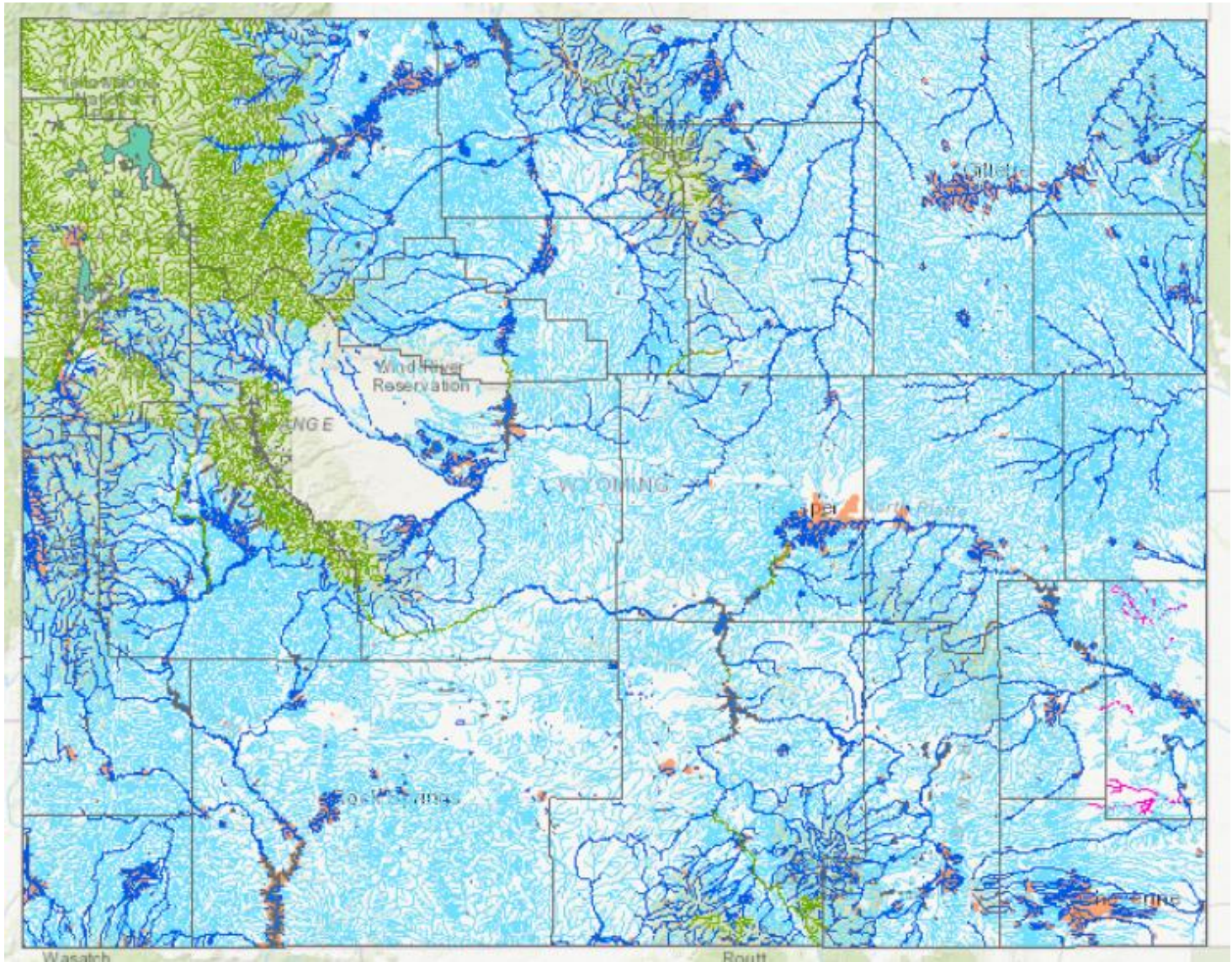
(ii) Moderate full body contact - 298 organisms per 100 milliliters

Summer recreation season:
May 1 through September 30

Winter recreation season:
October 1 through April 30

Wyoming Recreation Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



COUNTY BOUNDARY

CLASS 1 LAKE

LAKE/RESERVOIR

- Ice Mass
- Lake/Pond
- Secondary Lake/Pond
- Playa
- Swamp/Marsh

CLASS 1 FLOWLINE

PRIMARY FLOWLINE

SECONDARY FLOWLINE

SECONDARY SITE SPECIFIC UAA

PRIMARY AREA

Wyoming Recreational Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

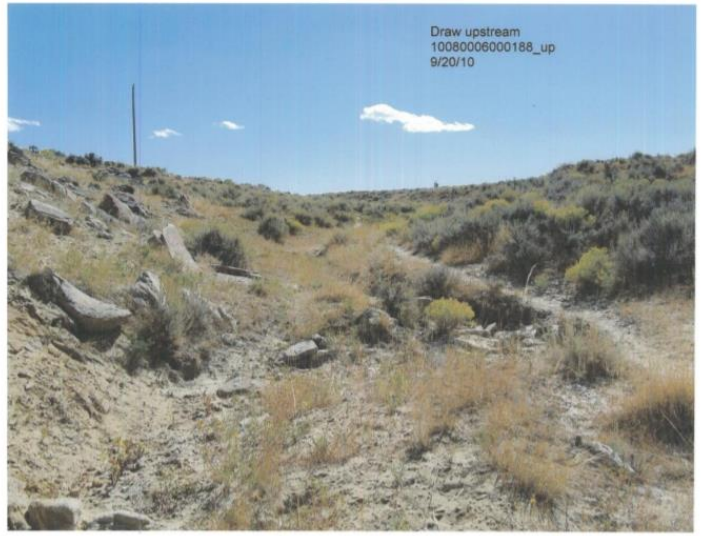


Figure 13. Lower Wind River Conservation District survey point, Unnamed Stream, September 20, 2010. EROM mean annual flow 0.1 cfs, 1st order. Mean annual precipitation 9 inches.

< 6 cfs modeled mean annual flow

Figure 15. WDEQ/WQD site survey site 17, Cottonwood Creek, July 14, 2010. EROM mean annual flow 0.1 cfs, 1st order. Mean annual precipitation 17 inches.

Figure 23. WDEQ/WQD survey site 30, Little Willow Creek, July 15, 2010. EROM mean annual flow 2.8 cfs, 1st order. Mean annual precipitation 25 inches.

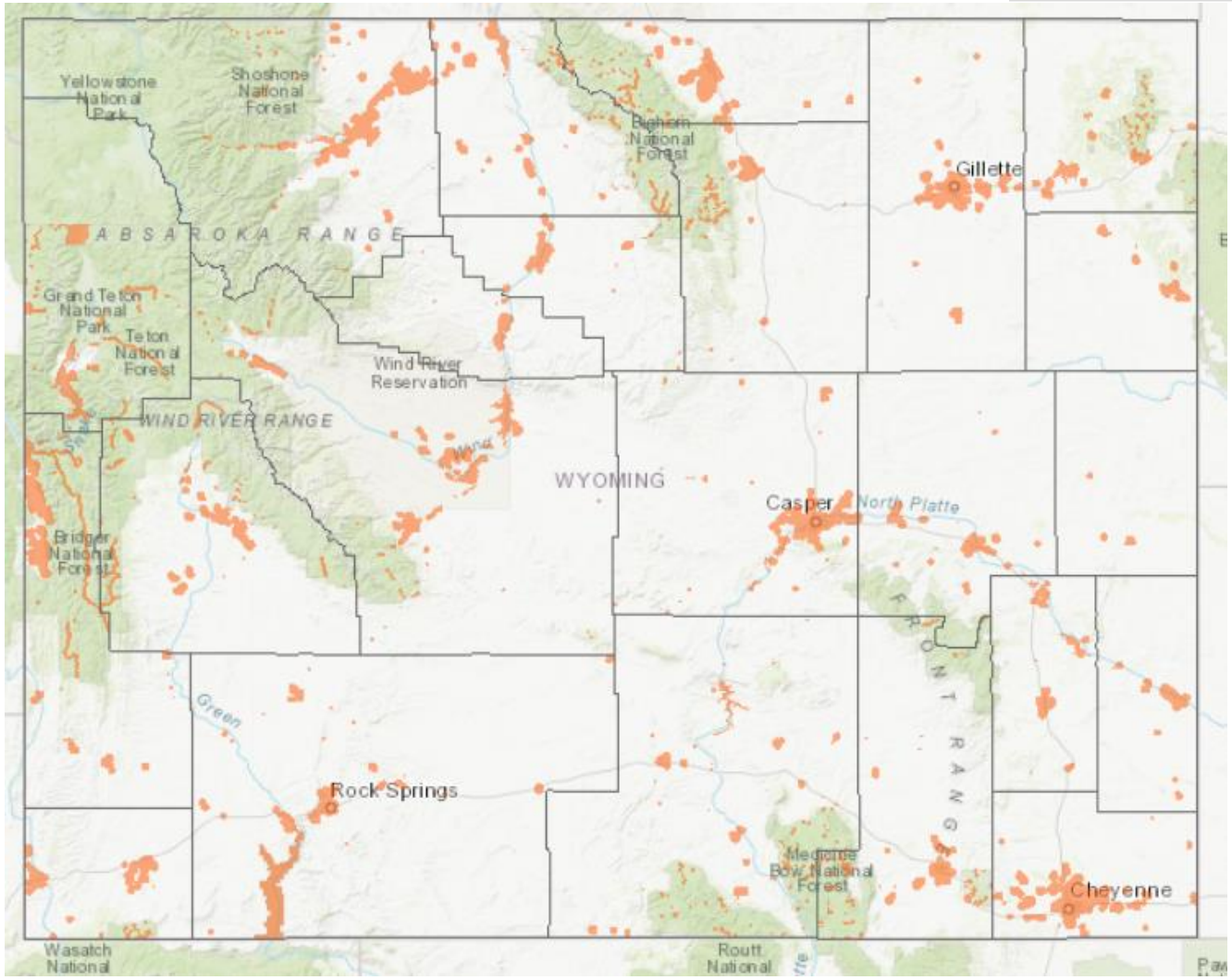
Figure 19. Lower Wind River Conservation District survey site, Dry Cheyenne, October 1, 2010. EROM mean annual flow 2.0 cfs, 3rd order. Mean annual precipitation 7 inches.

Wyoming Recreational Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

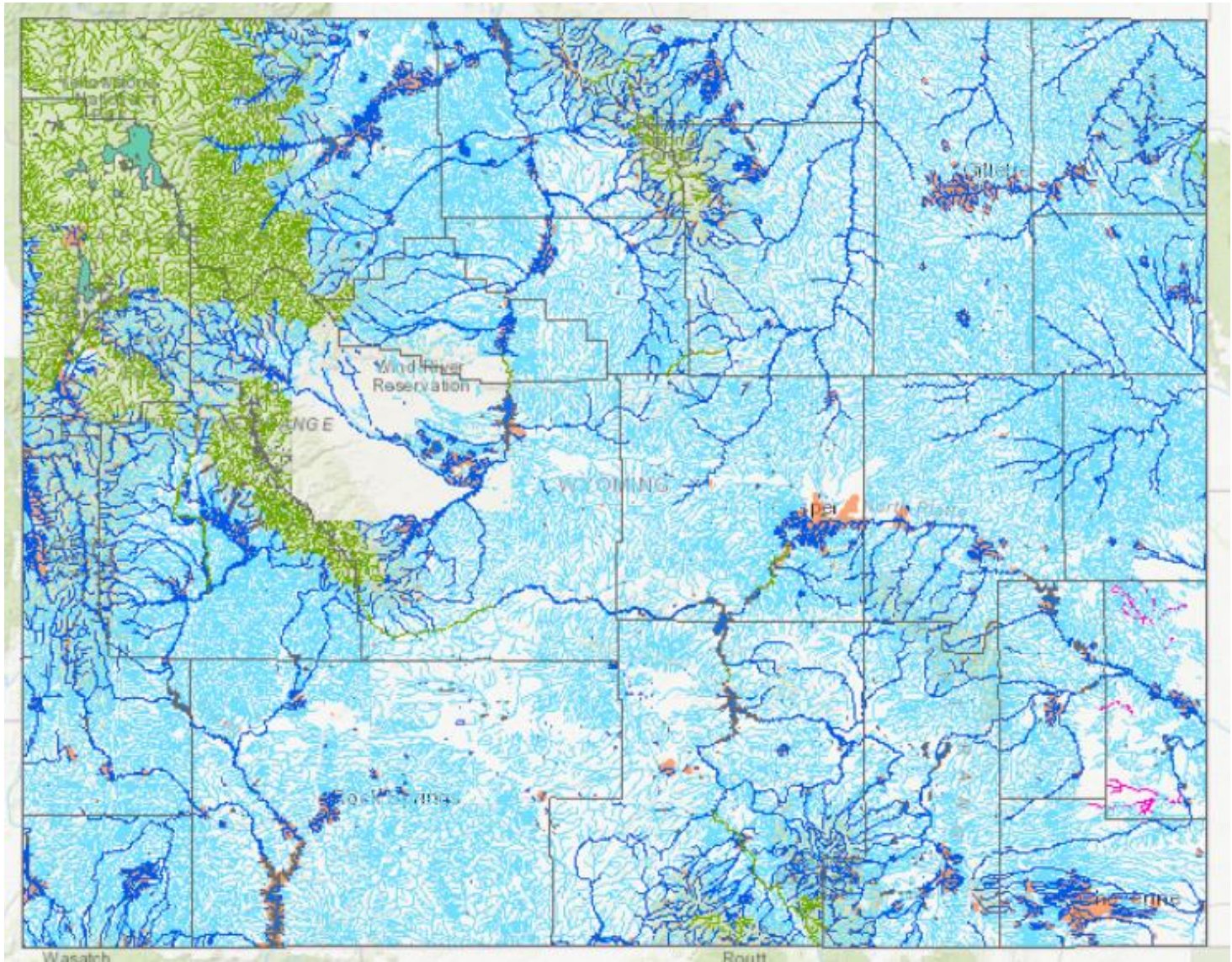
Table 2. Datasets and buffer distances used to identify flowlines with the greatest likelihood of being used for child's play in the Categorical UAA for Recreation.

Category	Dataset	Buffer Distance (mi.)
Populated Places and Schools	Census Blocks with Populations Greater than 55 Persons/square mile	1.0
	Schools	1.0
Established Recreation Areas	Campgrounds	0.5
	USFS and BLM Recreation Sites, Natural Areas, and WY DOT Rest Areas	0.5
	National Recreation Areas, Monuments, State Parks and Historic Sites	Within Boundary
Other Accessible Recreation Areas	Trailheads (on public land and within 0.25 miles of a road)	0.5
	Dispersed Campsites (on public land and within 0.25 miles of a road)	0.5



Wyoming Recreation Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



COUNTY BOUNDARY

CLASS 1 LAKE

LAKE/RESERVOIR

- Ice Mass
- Lake/Pond
- Secondary Lake/Pond
- Playa
- Swamp/Marsh

CLASS 1 FLOWLINE

PRIMARY FLOWLINE

SECONDARY FLOWLINE

SECONDARY SITE SPECIFIC UAA

PRIMARY AREA

Use Attainability Implementation Policy

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Wyoming
Surface Water Quality Standards

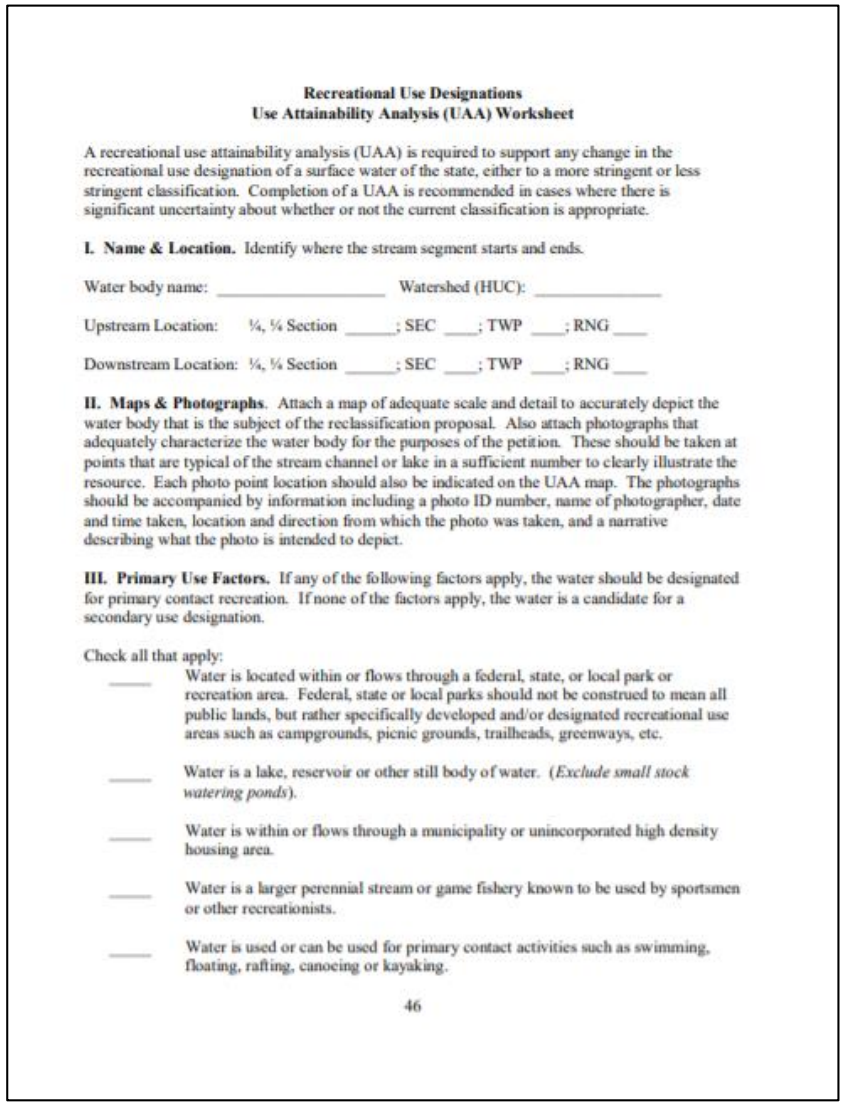
Implementation Policies
for

Antidegradation
Mixing Zones and Dilution Allowances
Turbidity
Use Attainability Analysis

Effective September 24, 2013

Wyoming Recreational Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



Recreational Use Designations
Use Attainability Analysis (UAA) Worksheet

A recreational use attainability analysis (UAA) is required to support any change in the recreational use designation of a surface water of the state, either to a more stringent or less stringent classification. Completion of a UAA is recommended in cases where there is significant uncertainty about whether or not the current classification is appropriate.

I. Name & Location. Identify where the stream segment starts and ends.

Water body name: _____ Watershed (HUC): _____

Upstream Location: ¼, ¼ Section _____; SEC ____; TWP ____; RNG ____

Downstream Location: ¼, ¼ Section _____; SEC ____; TWP ____; RNG ____

II. Maps & Photographs. Attach a map of adequate scale and detail to accurately depict the water body that is the subject of the reclassification proposal. Also attach photographs that adequately characterize the water body for the purposes of the petition. These should be taken at points that are typical of the stream channel or lake in a sufficient number to clearly illustrate the resource. Each photo point location should also be indicated on the UAA map. The photographs should be accompanied by information including a photo ID number, name of photographer, date and time taken, location and direction from which the photo was taken, and a narrative describing what the photo is intended to depict.

III. Primary Use Factors. If any of the following factors apply, the water should be designated for primary contact recreation. If none of the factors apply, the water is a candidate for a secondary use designation.

Check all that apply:

____ Water is located within or flows through a federal, state, or local park or recreation area. Federal, state or local parks should not be construed to mean all public lands, but rather specifically developed and/or designated recreational use areas such as campgrounds, picnic grounds, trailheads, greenways, etc.

____ Water is a lake, reservoir or other still body of water. (*Exclude small stock watering ponds*).

____ Water is within or flows through a municipality or unincorporated high density housing area.

____ Water is a larger perennial stream or game fishery known to be used by sportsmen or other recreationists.

____ Water is used or can be used for primary contact activities such as swimming, floating, rafting, canoeing or kayaking.

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2007 Recreation Designated Use Change Worksheet

Wyoming Recreational Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

2016 Recreation Designated Use Change Worksheet

Recreational Use Designations
Use Attainability Analysis (UAA) Worksheet

A use attainability analysis (UAA) is required to change the recreation designated use of a surface water of the state, either from primary contact recreation to secondary contact recreation or from secondary contact recreation to primary contact recreation.

Primary contact recreation waters are those where recreational activities are expected to result in full body immersion in the water (e.g., swimming, water skiing, etc.) or a level of contact with the water equivalent to swimming (i.e., activities of similar duration, intensity, and exposure to the water as swimming) during the summer recreation season (May 1 through September 30). Secondary contact recreation waters are those where recreational activities are not expected to result in full body immersion in the water or a level of contact with the water equivalent to swimming (e.g., wading, hunting, fishing, etc.). During the winter recreation season (October 1 through April 30), waters designated for primary contact recreation are protected for secondary contact recreation.

When collecting information regarding recreational uses of waters located on or accessed via private property, ensure that you have obtained permission from the property owner to both access the property and to collect information.

I. **Observer Information.** Please provide your name, organization and contact information.

Observer Name(s): _____ Date: _____

Organization (if applicable): _____

Address: _____

Email: _____ Phone: _____

II. **Waterbody Name & Location.** Identify where the stream segment starts and ends.

Waterbody Name: _____

Survey Location Description, including land ownership: _____

_____

_____County: _____

Latitude: _____ Longitude: _____

GPS Datum and Coordinate System: _____
(Datum: NAD 83 [alternate WGS 84], Coordinate: UTM [12 – west part of state, 13 – east part of state] are preferred GPS settings)

Examples From Other States

- Idaho
- Missouri
- Arizona
- Ohio
- Colorado

Examples from Other States

- Idaho
- Missouri
- Arizona
- Ohio
- Colorado

Idaho Recreational Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

02. Recreation. (7-1-93)

a. Primary contact recreation (PCR): water quality appropriate for prolonged and intimate contact by humans or for recreational activities when the ingestion of small quantities of water is likely to occur. Such activities include, but are not restricted to, those used for swimming, water skiing, or skin diving. (4-5-00)

Effective for CWA purposes until the date EPA issues written notification that the revisions in Docket No. 58-0102-1802 have been approved.

a. Primary contact recreation (PCR): water quality appropriate for prolonged and intimate contact by humans or for recreational activities when the ingestion of small quantities of water is likely to occur. Such activities include, but are not restricted to, those used for swimming, water skiing, or skin diving. PCR includes all activities associated with secondary contact recreation (SCR). (4-11-19)

Not effective for CWA purposes until the date EPA issues written notification that the revisions in Docket No. 58-0102-1802 have been approved.

b. Secondary contact recreation (SCR): water quality appropriate for recreational uses on or about the water and which are not included in the primary contact category. These activities may include fishing, boating, wading, infrequent swimming, and other activities where ingestion of raw water is not likely to occur. (4-5-00)

Idaho Recreational Uses

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Examples from Other States

- Idaho
- Missouri
- Arizona
- Ohio
- Colorado

Missouri Recreational Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

2. Recreation in and on the water. Assignment of these uses does not grant an individual the right to trespass.

A. Whole body contact recreation (WBC)—Activities involving direct human contact with waters of the state to the point of complete body submergence. The water may be ingested accidentally and certain sensitive body organs, such as the eyes, ears, and the nose, will be exposed to the water. Although the water may be ingested accidentally, it is not intended to be used as a potable supply unless acceptable treatment is applied. Waters so designated are intended to be used for swimming, water skiing, or skin diving.

B. Secondary contact recreation (SCR)—Uses include fishing, wading, commercial and recreational boating, any limited contact incidental to shoreline activities, and activities in which users do not swim or float in the water. These recreational activities may result in contact with the water that is either incidental or accidental and the probability of ingesting appreciable quantities of water is minimal;

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Examples from Other States

- Idaho
- Missouri
- Arizona
- Ohio
- Colorado

Arizona Recreational Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

21. "Full-body contact (FBC)" means the use of a surface water for swimming or other recreational activity that causes the human body to come into direct contact with the water to the point of complete submergence. The use is such that ingestion of the water is likely and sensitive body organs, such as the eyes, ears, or nose, may be exposed to direct contact with the water.

29. "Partial-body contact (PBC)" means the recreational use of a surface water that may cause the human body to come into direct contact with the water, but normally not to the point of complete submergence (for example, wading or boating). The use is such that ingestion of the water is not likely and sensitive body organs, such as the eyes, ears, or nose, will not normally be exposed to direct contact with the water.

Arizona Recreational Uses

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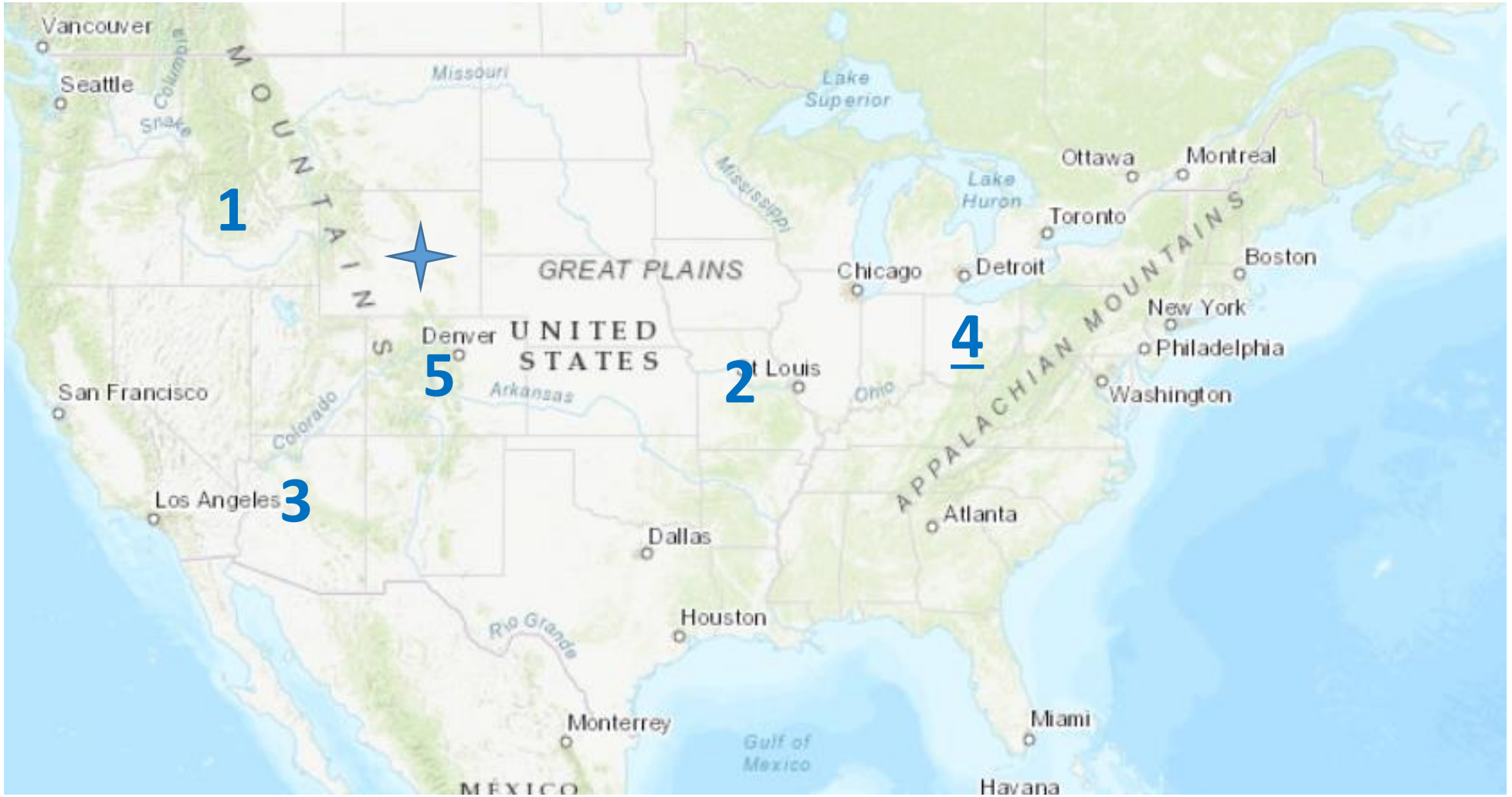

Ohio Recreation Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

(3) Recreation.

These use designations are in effect only during the recreation season, which is the period from May first to October thirty-first. The director may require effluent disinfection, as a term or condition of a national pollutant discharge elimination system (NPDES) permit, administrative findings and orders or a judicial order, during the months outside the recreation season if necessary to protect an unusually high level of water based recreation activity such as, but not limited to, canoeing, kayaking, scuba diving, or sport fishing during spawning runs and, in the normal pursuit of the recreation activity, there is a strong likelihood of exposure to water borne pathogens through ingestion of water or from dermal exposure through fresh cuts or abrasions.

(a) "Bathing waters" - these are waters that, during the recreation season, are heavily used for swimming. The bathing water use applies to all waters in areas where a lifeguard or bathhouse facilities are present, and to any additional water bodies designated bathing waters in rules 3745-1-08 to 3745-1-32 of the Administrative Code.

(b) "Primary contact" - these are waters that, during the recreation season, are suitable for one or more full body contact recreation activities such as, but not limited to, wading, swimming, boating, water skiing, canoeing, kayaking, and scuba diving. All surface waters of the state are designated as primary contact recreation unless otherwise designated as bathing waters or secondary contact recreation.

(c) "Secondary contact" - these are waters that result in minimal exposure potential to water borne pathogens because the waters are: rarely used for water based recreation such as, but not limited to, wading; situated in remote, sparsely populated areas; have restricted access points; and have insufficient depth to provide full body immersion, thereby greatly limiting the potential for water based recreation activities. Waters designated secondary contact recreation are identified in rules 3745-1-08 to 3745-1-30 of the Administrative Code.

Ohio Recreation Uses

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Examples from Other States

- Idaho
- Missouri
- Arizona
- Ohio
- Colorado

Colorado Recreation Uses

(33) "PRIMARY CONTACT RECREATION" means recreational activities where the ingestion of small quantities of water is likely to occur. Such activities include but are not limited to swimming, rafting, kayaking, tubing, windsurfing, water-skiing, and frequent water play by children.

Colorado Recreation Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

(a) Recreation

(i) Class E Existing Primary Contact Use

These surface waters are used for primary contact recreation or have been used for such activities since November 28, 1975.

(ii) Class P - Potential Primary Contact Use

These surface waters have the potential to be used for primary contact recreation. This classification shall be assigned to water segments for which no use attainability analysis has been performed demonstrating that a recreation class N classification is appropriate, if a reasonable level of inquiry has failed to identify any existing primary contact uses of the water segment, or where the conclusion of a UAA is that primary contact uses may potentially occur in the segment, but there are no existing primary contact uses.

(iii) Class N - Not Primary Contact Use

These surface waters are not suitable or intended to become suitable for primary contact recreation uses. This classification shall be applied only where a use attainability analysis demonstrates that there is not a reasonable likelihood that primary contact uses will occur in the water segment(s) in question within the next 20-year period.

(v) Class U - Undetermined Use

These are surface waters whose quality is to be protected at the same level as existing primary contact use waters, but for which there has not been a reasonable level of inquiry about existing recreational uses and no recreation use attainability analysis has been completed. This shall be the default classification until inquiry or analysis demonstrates that another classification is appropriate.

Colorado Recreation Uses

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Recreational Uses From Other States

State	Recreation Designated Uses
Idaho	Primary Contact
	Secondary Contact
Missouri	Whole Body Contact
	Secondary Contact
Arizona	Full Body Contact
	Partial Body Contact
Ohio	Bathing Waters
	Primary Contact
	Secondary Contact
Colorado	Existing Primary Contact
	Potential Primary Contact
	Not Primary Contact
	Undetermined

Summary of Other States' Recreational Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- States Use Different Terms for Recreational Uses
  - Primary contact, whole body contact, full body contact, total body contact, water contact, immersion contact
  - Secondary contact, secondary body contact, limited, limited contact, limited body contact, partial body contact, not primary contact, noncontact water, incidental contact

Summary of Other States' Recreational Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- States Include More Than Two Uses
  - Colorado has potential primary contact, undetermined
  - Ohio has bathing waters use
  - Iowa has a children use

Summary of Other States' Recreational Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Primary contact and equivalent:
  - Direct contact to the point of immersion
  - Frequently
  - Water may be ingested accidentally
  - Certain sensitive body parts, such as the eyes, ears, and the nose, will be exposed to the water
  - Seasonal use
  - Examples: Swimming, water skiing, or skin diving, frequent water play by children
  - Clarification that although water may be ingested accidentally, it is not intended to be used as a potable supply unless acceptable treatment is applied

Summary of Other States' Recreational Uses

- Secondary contact, limited water contact, or equivalent
  - Direct contact with the water, but normally not to the point of complete submergence
  - Contact with the water is incidental or accidental
  - Ingestion not likely, incidental, probability of ingesting appreciable quantities is minimal
  - Sensitive body parts, such as the eyes, ears, or nose, will not normally be exposed to direct contact with the water
  - Factors that may prevent attainment (basis of a UAA) of primary contact recreation such as low flow conditions, remoteness, sparsely populated area, etc.
  - Examples: Wading, boating, fishing, shoreline activities, activities where users do not swim or float in the water

Recreational Use Descriptions

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Describe the type of water contact (e.g., immersion, complete submergence, etc.)
- Clarify use by humans
- Describe the frequency of the contact (likely, frequent, regularly, minimal, infrequent)
- Seasonality (recreation season)
- Accidental ingestion

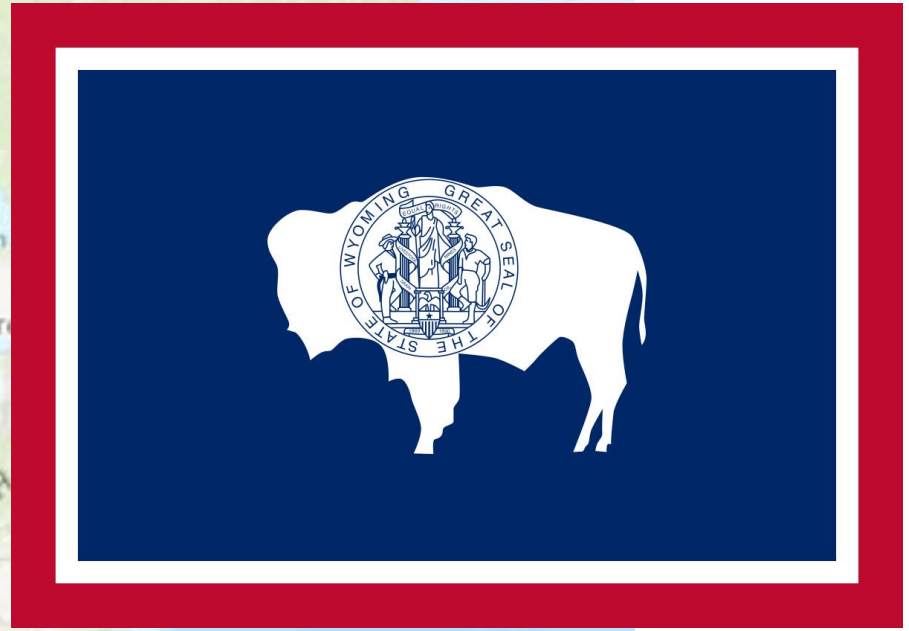
Recreational Use Descriptions

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Exposure of certain sensitive body parts (e.g., ears, eyes, nose, etc.)
- Examples of activities
- Use is defaulted or made through a use attainability analysis
    - Description of what would prevent a waterbody from supporting primary contact recreation (e.g., low flow conditions, sparsely populated area, limited access, water quality conditions, etc.)
- Not a potable water supply unless treatment is applied

Wyoming Water Quality Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY



Ideas for Wyoming's Standards

- Conceptual, Chapter 1, and and Other Documents
- Potential Implications

Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Name of Use

- Consider using term such as “full body contact recreation” rather than “primary contact recreation”
  - Full body contact is already included in Chapter 1, was used previously in Wyoming

- Consider using term such as “limited body contact recreation” rather than “secondary contact recreation”

Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Recreation Season

- Consider modifying the summer and winter recreation seasons
  - Summer recreation season through October ?

Ideas for Potential Changes to Standards

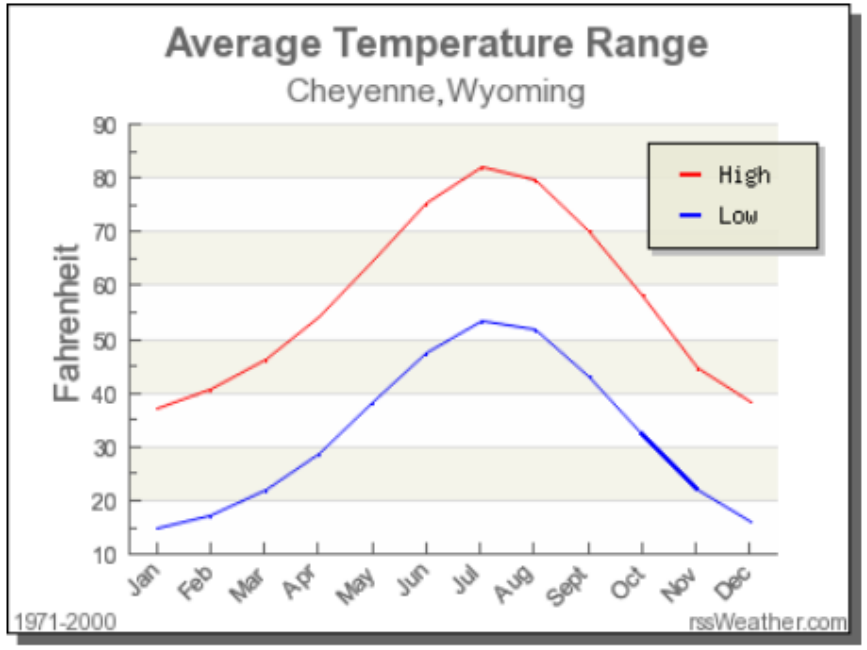
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Recreation Season

Climate for Cheyenne, Wyoming

Home : Climate Graphs: Wyoming : Cheyenne

Average Temperatures for Cheyenne



Month	Low	High
Jan	14.8°F	37.1°F
Feb	17.2°F	40.5°F
Mar	22.0°F	46.4°F
Apr	28.7°F	54.4°F
May	38.3°F	64.4°F
Jun	47.5°F	75.4°F
Jul	53.4°F	81.9°F
Aug	52.0°F	79.8°F
Sept	42.9°F	70.3°F
Oct	32.5°F	58.2°F
Nov	22.1°F	44.5°F
Dec	16.1°F	38.1°F

Ideas for Potential Changes to Standards

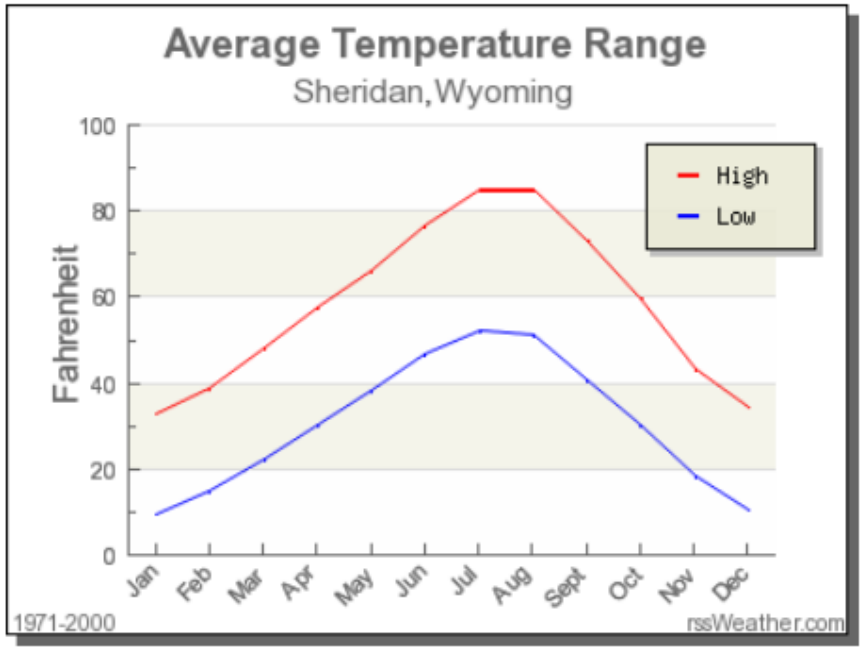
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Recreation Season

Climate for Sheridan, Wyoming

Home : Climate Graphs: Wyoming : Sheridan

Average Temperatures for Sheridan



Month	Low	High
Jan	9.7°F	33.0°F
Feb	14.9°F	39.0°F
Mar	22.5°F	48.2°F
Apr	30.4°F	57.5°F
May	38.6°F	66.4°F
Jun	46.8°F	76.4°F
Jul	52.4°F	85.2°F
Aug	51.5°F	84.9°F
Sept	41.0°F	73.1°F
Oct	30.3°F	59.8°F
Nov	18.5°F	43.4°F
Dec	10.4°F	34.4°F

Ideas for Potential Changes to Standards

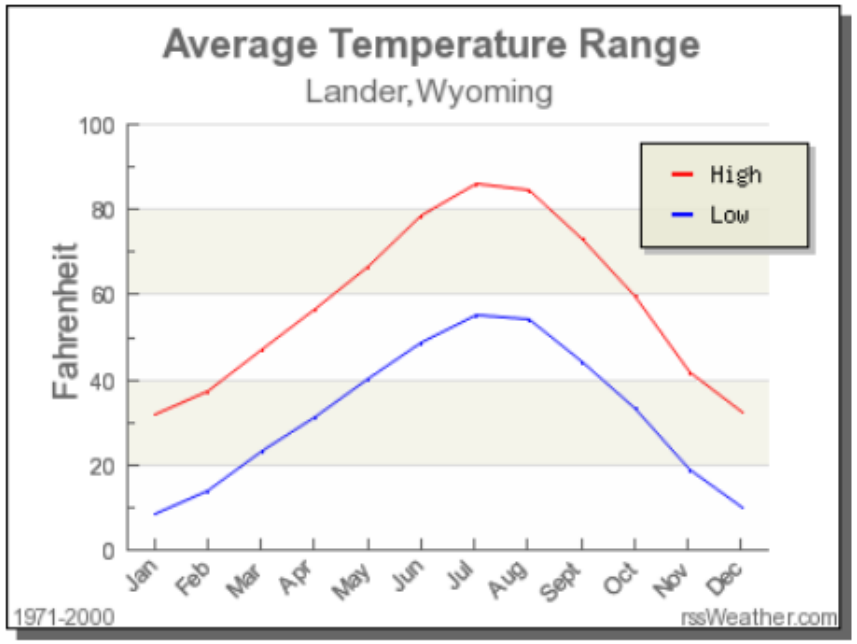
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Recreation Season

Climate for Lander, Wyoming

Home : Climate Graphs: Wyoming : Lander

Average Temperatures for Lander



Month	Low	High
Jan	8.7°F	31.9°F
Feb	13.9°F	37.4°F
Mar	23.5°F	47.5°F
Apr	31.3°F	56.5°F
May	40.3°F	66.5°F
Jun	48.9°F	78.5°F
Jul	55.4°F	86.3°F
Aug	54.1°F	84.8°F
Sept	44.4°F	73.0°F
Oct	33.2°F	59.5°F
Nov	18.9°F	41.8°F
Dec	9.9°F	32.6°F

Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Full Body Contact

- Frequent direct human contact to the point of submergence or immersion
- High likelihood of frequent accidental ingestion and exposure of sensitive body parts such as eyes, ears, and nose
- During the full body contact recreation season (May 1 through October 31st)
- All waters designated for full body contact recreation unless designated for limited body contact recreation through a use attainability analysis
- Swimming, water skiing, whitewater kayaking, frequent water play by young children
- Does not include use of water as a potable water supply

Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Limited Body Contact

- Infrequent human contact to the point of submergence or immersion
- Low likelihood and infrequently result in accidental ingestion and exposure of sensitive body parts such as eyes, ears, and nose
- During the full body contact recreation season (May 1 through October 31st)
- Designated following completion of a use attainability analysis that demonstrates that the water does not support or is not capable of supporting full body contact recreation due to factors such as insufficient depth for immersion, being in a sparsely populated area, or due to limited access
- Wading, fishing, boating
- Does not include use of water as a potable water supply

Chapter 1, Recreation Designated Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Ideas for Potential Changes to Standards

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

- Move recreation designated use description from Section 2, Definitions, to Section 3, Water Uses
- Update descriptions in Section 3, Water Uses
- Move summer recreation season to description

Potential Implications

- All waters would be designated for the same uses they are currently, so no changes to permits or assessments would be required
  - If we were to modify the summer recreation season, permits may require modified limits for October

Potential Implications

- Modify language from “primary contact” to “full body contact” and “secondary contact” to “limited body contact”
  - Discharge Permits
  - Integrated Report
  - Recreation designated uses webmap and shapefiles
  - Standards guidance documents

Potential Implications

- Update guidance on how to conduct a use attainability analysis for recreational uses
  - Clarified use description
  - What information is necessary to demonstrate that full body contact recreation is not attainable

Chapter 1, Recreation Uses

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY