Chapter 1

WYOMING SURFACE WATER QUALITY STANDARDS

Section 1. Authority. These regulations are promulgated pursuant to the Wyoming Environmental Quality Act, as defined in Wyoming Statute (W.S.) § 35-11-103(a)(xiii), specifically §§ 302(a)(i) and (vii), 302(b), and 302(c)(i). Nothing in this Chapter shall be interpreted to grant authority to the United States Environmental Protection Agency or the United States Army Corps of Engineers beyond the authority specifically provided in the Clean Water Act.

Section 2. Definitions.

(a) The following terms are defined in W.S. §35-11-103:

(i) "Administrator;"

(ii) "Council;"

(iii) "Credible data;"

(iv) "Department;"

(v) "Director;"

(vi) "Discharge;"

(vii) "Ecological function;"

(viii) "Man-made wetlands;"

(ix) "Mitigation;"

(x) "Natural wetlands;"

(xi) "Nonpoint source;"

(xii) "Person;"

(xiii) "Point source;"

(xiv) "Pollution;"

(xv) "Treatment works;"

(xvi) "Wastes;"

(xvii) “Waters of the state;”

(xviii) “Wetlands;” and

(xix) “Wetland value.”

(b) The following definitions supplement those defined in W.S. § 35-11-103.

(i) “Acute” means a rapid effect. In aquatic toxicity tests used to derive acute criteria protective of aquatic life, effects are typically observed in 96 hours or less. Acute effects are not always measured in terms of lethality.

(ii) “Adjacent wetlands” means areas with hydrophytic vegetation, hydric soils, and wetland hydrology that are connected by a defined channel to a surface tributary system, are within the 100-year floodplain of a river or stream, or occupy the fringe of any still water body that is connected by a defined channel to a surface tributary system.

(iii) “Aquatic community” means fish, invertebrates, amphibians, aquatic-dependent wildlife, and other flora and fauna, excluding undesirable aquatic life, that inhabit Surface Waters of the State at some stage of their life cycles.

(iv) “Assimilative capacity” means the amount of a pollutant that can be added to a Surface Water of the State while still meeting applicable water quality standards in this Chapter.

(v) “Best management practices” means those methods, measures, or practices identified by the Department, after problem assessment, examination of alternatives, and in some cases public participation, to be reasonable and cost-effective for managing, preventing, or reducing nonpoint sources of pollution to Surface Waters of the State.

(vi) “Chronic” means a long-term effect relative to the life span of an organism. In aquatic toxicity tests used to derive chronic values protective of aquatic life, long-term effects are typically greater than 96 hours and can be associated with reduced growth, reduced reproduction, as well as lethality.

(vii) “Clean Water Act” means the federal Clean Water Act, 33 United States Code (U.S.C.) § 1251 et seq.

(viii) “Cold water game fish” means burbot (genus *Lota*), grayling (genus *Thymallus*), trout, salmon and char (genera *Salmo, Oncorhynchus* and *Salvelinus*) and whitefish (genus *Prosopium*).

(ix) “Construction-related discharge” means discharges of sediment or turbidity related to construction activities in or along Surface Waters of the State. Generally, these discharges include, but are not limited to, construction site dewatering, temporary diversions, runoff from construction sites, excavation or equipment operation in or along a

Surface Water of the State, the discharge of dredged or fill material, and placement of structural members such as bridge abutments, culverts, or pipelines into or across any Surface Water of the State.

(x) "Conventional drinking water treatment" means coagulation, flocculation, sedimentation, filtration, and disinfection.

(xi) "Designated uses" means those uses specified in water quality standards in this Chapter for each waterbody or waterbody segment whether or not they are being attained.

(xii) "Dissolved metal" means that which will pass through a 0.45 micrometers (µm) membrane filter.

(xiii) "Effluent-dependent" means a waterbody, waterbody segment, or designated use where the waterbody or waterbody segment has insufficient natural water to support aquatic life and the waterbody, waterbody segment, or designated uses are present due to the discharge of wastewater.

(xiv) "Effluent limitation" means any restriction established by the Department on discharges of pollution into Surface Waters of the State, including schedules of compliance.

(xv) "Ephemeral" means a waterbody or portion of a waterbody that is ordinarily dry, water is present only in direct response to precipitation or snowmelt, and the waterbody bottom is typically above the prevailing water table.

(xvi) "Eutrophic" means the condition whereby waters or environments saturated with water become nutrient enriched (especially with phosphorus or nitrogen) and consequently oxygen depleted or anaerobic.

(xvii) "Existing quality" means the chemical, physical, and biological water quality, and associated temporal variability, of an Outstanding Resource Water as of the date the specific waterbody segment was designated.

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

(xix) "Highest attainable condition" means the designated use and water quality criteria or effluent condition closest to the underlying designated use and water quality criteria or water quality-based effluent limitation that is feasible to achieve without causing substantial and widespread economic and social impacts.

(xx) "Highest attainable use" means the aquatic life, human consumption of fish, recreation, or terrestrial wildlife use that can be achieved on a Surface Waters of the State subject to the jurisdiction of the Clean Water Act that are closest to the uses specified in Section

102(a)(2) of the Clean Water Act, 33 U.S.C. § 1251(a)(2), based on an evaluation of the factors in Section 12(c) of this Chapter.

(xxi) "Historic data" means scientifically valid data that are more than five years old or qualitative information that adds some factual information on the historic conditions of a waterbody. This qualitative information may include photographs, journals, old records on water use and water conditions, or factual testimony of persons who have lived near or relied upon the waterbody.

(xxii) "Hydric soil" means a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

(xxiii) "Hydrophytic vegetation" means a community of plants where, under normal circumstances, more than 50 percent of the composition of the dominant species from all strata are obligate wetland (OBL), facultative wetland (FACW), or facultative (FAC) species; or a frequency analysis of all species within the community yields a prevalence index value less than or equal to three where OBL equals one, FACW equals two, FAC equals three, facultative upland (FACU) equals four, and upland species (UPL) equals five.

(xxiv) "Intermittent" means a waterbody or portion of a waterbody where the bottom intersects the local water table for some part of the year, but the waterbody is not perennial.

(xxv) "Mainstem" means the primary channel of a river or stream.

(xxvi) "Mixing zone" means a limited area or volume of a Surface Water of the State identified by the Department where initial dilution of a permitted point source discharge takes place and certain surface water quality criteria may not be met.

(xxvii) "Natural" means the condition that would exist without the measurable influence of human activity.

(xxviii) "Net environmental benefit" means a risk management approach to derive site-specific criteria for effluent dependent water bodies that weighs the potential for loss of a permitted effluent discharge against the benefits of augmented flow. A net environmental benefit is demonstrated where there is a credible threat to remove the permitted discharge, the discharge has been shown to create an environmental benefit, removal of the discharge would cause more environmental harm than leaving it in place, and the discharge will not pose a health risk to humans, livestock, or wildlife.

(xxix) "Nongame fish" means all fish species excluding cold water game fish, warm water game fish, and those considered undesirable aquatic life.

(xxx) "Outstanding Resource Water" means those Surface Waters of the State designated as such in this Chapter and formerly known as "Class 1" waters.

(xxxi) "Perennial" means a waterbody or portion of a waterbody that is typically present during the entire calendar year.

(xxxii) "Pollutant minimization program" means a structured set of activities intended to maintain or improve treatment processes and pollutant controls to prevent and reduce pollutant loadings.

(xxxiii) "Priority pollutant" means those substances identified at 40 CFR Part 423, Appendix A, which were derived from the list of toxic pollutants designated pursuant to Section 307(a)(1) of the Clean Water Act, 33 U.S.C. § 1317(a) and listed at 40 CFR § 401.15.

(xxxiv) "Salinity" means total dissolved solids.

(xxxv) "Stormwater" means surface runoff from construction sites or industrial activities regulated under Section 402(p) of the Clean Water Act, 33 U.S.C. § 1342(p) and Wyoming Water Quality Rules, Chapter 2. Excluded from this definition are those stormwater discharges associated with industrial activities subject to an existing federal effluent limitation guideline addressing stormwater and where the constituents listed in the federal effluent limitations have a reasonable potential to affect the receiving water.

(xxxvi) "Surface Waters of the State" means those waters of the state that are perennial, intermittent, and ephemeral defined drainages, lakes, reservoirs, and wetlands that are not part of human-made treatment works and all other bodies of surface water, either public or private that are wholly or partially within the boundaries of the state.

(xxxvii) "Toxic materials" means those materials or combinations of materials, including disease causing agents, that upon exposure, ingestion, inhalation, or assimilation, either directly from the environment or indirectly by ingestion through food chains, will cause death, disease, behavioral abnormalities, cancer, genetic malfunctions, physiological malfunctions, reproductive malfunctions, or physical deformations to organisms or their offspring.

(xxxviii) "Tributary" means those streams or stream segments that flow into or contribute water to another waterbody, stream, or stream segment, including the downstream reach of the same stream.

(xxxix) "Undesirable aquatic life" means organisms generally associated with degraded or eutrophic conditions and may include insect pests, aquatic invasive species, or other organisms that have altered the structure and function of the aquatic community.

(xl) "Use attainability analysis" means a structured scientific assessment of the factors affecting the attainment of aquatic life, recreation, terrestrial wildlife, or human consumption of fish uses. The factors may include physical, chemical, biological, or economic considerations.

(xli) "Warm water game fish" means bass (genera *Micropterus* and *Ambloplites*), catfish and bullheads (genera *Ameiurus, Ictalurus* and *Noturus*), crappie (genus

Pomoxis), yellow perch (genus *Perca*), sunfish (genus *Lepomis*), walleye and sauger (genus *Sander*), pike (genus *Esox*), sturgeon (genus *Scaphirhynchus*) and freshwater drum (genus *Aplodinotus*).

(xlii) "Wetland hydrology" means the presence of water on or near the land surface at a frequency and duration to cause the formation of hydric soils and support a prevalence of vegetation typically adapted to saturated or inundated conditions.

(xliii) "Zone of initial dilution" means an area established by the Department within a mixing zone where acute aquatic life criteria may not be met.

(xliv) "Zone of passage" means a continuous water route that joins segments of a surface waterbody above and below a mixing zone.

Section 3. Purpose.

(a) The Department shall use the water quality standards in this Chapter to:

(i) Establish effluent limitations for discharges of pollution that require permits;

(ii) Identify nonpoint sources of pollution and best management practices to address nonpoint sources of pollution; and

(iii) Administer the Environmental Quality Act.

(b) The Department may authorize compliance schedules that will, as soon as possible, lead to compliance with the water quality standards in this Chapter.

Section 4. Testing Procedures.

(a) The following test procedures shall be used in analysis of the constituents included in this Chapter:

(i) 40 C.F.R. §§ 136.1, 136.2, 136.3, 136.5, and 136.7, as incorporated by reference in Section 28 of this Chapter; or

(ii) Other scientifically defensible methods as determined, in its sole discretion, by the Department.

(b) Numeric criteria included in this Chapter represent conditions necessary to protect designated uses and do not necessarily reflect detection limits that can be achieved using standard analytical techniques. Standard analytical techniques are considered during development of effluent limitations and in the collection and evaluation of water quality data.

Section 5. Credible Data.

(a) Credible data shall be collected on each waterbody, as required in this Section, and used for the purpose of characterizing the integrity of the waterbody along with consideration of soils, geology, hydrology, geomorphology, climate, stream succession, and human influences on the environment. These data in combination with other available and applicable information, including historic data, shall be used by the Department through a multiple-lines-of-evidence approach to:

(i) As relevant, designate uses; or

(ii) Determine whether designated uses are supported.

(b) In those instances where numerical criteria contained in this Chapter are exceeded or on ephemeral and intermittent waterbodies where chemical or biological sampling may not be practical or feasible, the Department may use a less than complete set of credible data to determine attainment or modify designated uses.

(c) Scientifically valid chemical, physical, and biological monitoring data shall:

(i) Consist of data collected consistent with a sampling and analysis plan accepted by the Department that includes the laboratory methods, field methods, and quality assurance and quality control procedures used; and

(ii) Be conducted by a person who has, or works under the supervision of a person who has, received specialized training that includes a thorough knowledge of written sampling protocols, methods, and quality assurance and quality control procedures such that the data collection and interpretation are reproducible, scientifically defensible, and free from preconceived bias.

Section 6. Recommendations to the State Engineer. The Department, at the request of the Wyoming State Engineer, shall make recommendations concerning proposed new diversions that could result in violations of the water quality standards in this Chapter.

Section 7. Water Quality Standards for Salinity in the Colorado River System. In addition to the water quality standards in this Chapter, waters that are within the Colorado River basin shall also be subject to the requirements of the Water Quality Standards for Salinity Colorado River System, incorporated by reference in Section 28 of this Chapter.

Section 8. Flow and Water Level Conditions.

(a) The Department shall enforce the numeric water quality standards in this Chapter, including the magnitude, duration, and frequency provisions, at all times except in authorized mixing zones and during periods below low flow.

(b) The Department shall implement the narrative water quality criteria in Section 15 of this Chapter at all flow and water level conditions.

(c) During periods when flows or water levels may jeopardize aquatic life, the Department may, in consultation with the Wyoming Game and Fish Department and the affected permittee(s) authorized to discharge by the Department, require such permittee(s) to institute operational modifications as necessary to ensure the protection of aquatic life. This Section shall not be interpreted as requiring the maintenance of any particular flow or water level.

(d) For the purpose of developing water quality-based effluent limitations, the Department shall determine, in its sole discretion, low flow or low water level using one of the methods in Table 1 or other scientifically defensible methods. To calculate low water level using the methods in Table 1, water level will be used instead of flow.

Table 1. Methods to derive low flow for calculating water quality-based effluent limitations associated with aquatic life, drinking water, or human consumption of fish criteria.

Criteria	**Method**
Acute Aquatic Life	1Q10[(a)] or 1B3[(b)]
Chronic Aquatic Life	7Q10[(c)] or 4B3[(d)]
Drinking Water, Human Consumption of Fish	Harmonic Mean[(e)]

[(a)]The 1Q10 is the hydrologically based, lowest one-day average flow that occurs every 10 years on average.
[(b)]The 1B3 is the biologically based, lowest one-day average flow that occurs every three-years on average.
[(c)] The 7Q10 is the hydrologically based, lowest seven-day average flow that occurs every 10 years on average.
[(d)] The 4B3 is the biologically based, lowest four-day average flow that occurs every three years on average.
[(e)] The harmonic mean flow is the number of daily flow measurements divided by the sum of the reciprocals of the daily flows. For water quality-based effluent limitations for criteria based on short-term effects, including nitrate-nitrogen, nitrite-nitrogen, and nitrate+nitrite-nitrogen, calculate low flow using the 7Q10, defined above, or the 30Q5, the lowest 30-day average flow that occurs every five years on average.

Section 9. Dilution Allowances - Complete Mixing Scenarios. In developing water quality-based effluent limitations for scenarios where a permitted point source discharge mixes with a stream or river at a near instantaneous and complete rate, the Department may authorize the use of a dilution allowance on a case-by-case basis provided its rationale is documented in the permit and is consistent with the requirements of this Section.

(a) The low flow and associated dilution allowance of the receiving water are determined using the methods in Section 8 of this Chapter.

(b) For discharges that only occur periodically, low flow is the lowest flow expected to occur during the period of the discharge.

(c) Where a diffuser has been installed in a receiving water, only the portion of the receiving water influenced by the diffuser at low flow is used to calculate the dilution allowance.

(d) Assimilative capacity is available at low flow of the receiving water determined using the methods in Section 8 of this Chapter.

(e) The dilution allowance considers the potential for the toxicity of certain pollutants to increase after dilution

(f) A dilution allowance cannot be used to comply with acute whole effluent toxicity requirements.

(g) A dilution allowance of up to all of the available low flow shall only be authorized when a demonstration of near instantaneous and complete mixing has been made based on one of the following:

(i) An effluent diffuser covers the entire width of the receiving water at low flow;

(ii) The mean daily flow of the discharge exceeds the low flow of the receiving water;

(iii) In-stream studies show no more than a 10% difference in bank-to-bank concentrations of a pollutant within a longitudinal distance not greater than two wetted widths of the receiving water; or

(iv) Other defensible outlet designs and configurations.

Section 10. Mixing Zones - Incomplete Mixing Scenarios. In developing water quality-based effluent limitations for scenarios where a permitted point source discharge does not mix at a near instantaneous or complete rate, the Department may authorize the use of a mixing zone on a case-by-case basis provided its rationale is documented in the permit and is consistent with the requirements of this Section.

(a) The low flow and low water level for the mixing zone of the receiving water are determined using the methods in Section 8 of this Chapter.

(b) Assimilative capacity is available at low flow or low water level of the receiving water determined using the methods in Section 8 of this Chapter.

(c) For discharges that only occur periodically, the low flow or low water level is the lowest flow or water level expected to occur during the period of the discharge.

(d) The mixing zone and zone of initial dilution consider the site-specific characteristics of the permitted point source discharge and the receiving water and are no larger

than necessary, consistent with Paragraphs (i) through (iii) of this Subsection.

(i) The zone of initial dilution does not exceed 10% of the mixing zone and is sized to prevent lethality to resident, drifting, or swimming organisms.

(ii) For streams and rivers, the mixing zone is limited to no more than one-half of the narrowest wetted cross-sectional area at low flow or a length 10 times the narrowest wetted width at low flow, whichever is more limiting.

(iii) For lakes and reservoirs, the mixing zone is limited to no more than five percent of the lake surface area at low water levels or a 200-foot radius at low water levels, whichever is more limiting.

(e) The mixing zone considers the potential for the toxicity of certain pollutants to increase after mixing.

(f) The size and configuration of the mixing zone does not impair the existing and designated uses of the waterbody as whole.

(g) The mixing zone is protective of the aquatic community, including but not limited to Paragraphs (i) through (vi) of this Subsection.

(i) There is no lethality to the aquatic community.

(ii) Except for the zone of initial dilution, the mixing zone shall not contain pollutant concentrations that exceed acute aquatic life values.

(iii) There is a zone of passage around the mixing zone where pollutant concentrations do not exceed chronic aquatic life values.

(iv) The mixing zone does not result in unacceptable adverse impacts to important habitats or species such as fish spawning, nursery areas, or threatened or endangered species.

(v) The mixing zone considers the potential for aquatic life to be attracted to the effluent plume.

(vi) The mixing zone cannot be used to comply with acute whole effluent toxicity requirements. Effluent limitations for acute whole effluent toxicity requirements must be met end-of-pipe.

(vii) The mixing zone may be limited or denied for pollutants where acute effects may occur at concentrations similar to chronic effects.

(h) The mixing zone does not create a significant health risk to humans, including but not limited to:

(i) Potential human exposure to pollutants resulting from drinking water, recreational activities, or consumption of fish;

(ii) Drinking water values are not exceeded within 500 yards of a drinking water supply intake; and

(iii) The mixing zone does not result in the bioaccumulation of pollutants in aquatic communities or terrestrial wildlife that would exceed levels protective of aquatic life, human consumption of fish, or terrestrial wildlife.

(i) The mixing zone considers the toxicity, persistence, and effect of the constituents discharged, including as necessary to avoid acutely toxic concentrations outside the zone of initial dilution.

(j) The mixing zone considers the cumulative effects of multiple discharges and other potential mixing zones.

(k) The mixing zone is protective of the narrative criteria in Section 15 of this Chapter.

Section 11. Designated Uses.

(a) In assigning designated uses, the Department shall protect downstream surface water quality standards and assign existing uses and highest attainable uses.

(b) The Department shall maintain the designated uses assigned to specific Surface Waters of the State in its *Wyoming Surface Water Designations* and Recreation Designated Uses Web Map, incorporated by reference in Section 28 of this Chapter.

(c) The Department shall assign Surface Waters of the State with one or more of the designated uses in this Subsection.

(i) Aquatic life. Surface Waters of the State designated for aquatic life are those where surface water quality and habitat conditions shall support aquatic communities. Aquatic life designated uses are described in Subparagraphs (A) through (E) of this Paragraph.

(A) Coldwater aquatic life. Surface Waters of the State designated for coldwater aquatic life are those where surface water quality and habitat conditions shall support permanent or seasonal aquatic communities that include cold water game fish.

(B) Warmwater aquatic life. Surface water quality and habitat conditions shall support permanent or seasonal aquatic communities that include warm water game fish or nongame fish but not cold water game fish.

(C) Limited aquatic life. Surface Waters of the State designated for limited aquatic life are those where surface water quality and habitat conditions shall support permanent or seasonal aquatic communities that do not include fish.

(D) Modified aquatic life. Surface Waters of the State designated for modified aquatic life are those where surface water quality and habitat conditions shall support aquatic communities that are not effluent dependent and do not have the potential to fully support coldwater, warmwater, or limited aquatic life.

(E) Effluent-dependent aquatic life. Surface Waters of the State designated for effluent-dependent aquatic life are those where surface water quality and habitat conditions shall support aquatic communities that are present due to the discharge of wastewater.

(ii) Drinking water. Surface Waters of the State designated for drinking water are those where surface water quality shall support human consumption of the water after conventional drinking water treatment or other acceptable levels of treatment determined, in its sole discretion, by the Department.

(iii) Human consumption of fish. Surface Waters of the State designated for fish consumption are those where surface water quality shall support human consumption of fish.

(iv) Human consumption of effluent-dependent fish. Surface Waters of the State designated for human consumption of effluent-dependent fish are those where surface water quality shall support the human consumption of fish that are present due to the discharge of wastewater.

(v) Industry. Surface Waters of the State designated for industry are those where surface water quality shall support use of the water for industrial purposes.

(vi) Irrigation. Surface Waters of the State designated for irrigation are those where surface water quality shall support use of the water for irrigation.

(vii) Livestock. Surface Waters of the State designated for livestock are those where surface water quality shall support use of the water for livestock.

(viii) Recreation. Surface Waters of the State designated for recreation are those where surface water quality shall support people who come into contact with the water during water recreation activities. Recreation uses do not include potable uses. Recreation uses are described in Subparagraphs (A) and (B) of this Paragraph.

(A) Full body contact water recreation. Surface Waters of the State designated for full body contact water recreation are those where surface water quality shall support frequent use of the water for recreation activities where the entire body is immersed or the face is repeatedly wet and where there is a high likelihood that some water will be accidentally swallowed and sensitive body parts such as the eyes, ears, and nose will be exposed to the water during the summer water recreation season (May 1 through September 30).

(B) Limited body contact water recreation. Surface Waters of the State designated for limited body contact recreation are those where surface water quality shall support water recreation activities that do not include frequent full body contact water recreation during the summer water recreation season (May 1 through September 30). Surface Waters of the State designated for full body contact water recreation are protected for limited body contact water recreation during the winter water recreation season (October 1 through April 30).

(ix) Scenic value. Surface Waters of the State designated for scenic value are those where surface water quality shall support aesthetic uses of the water.

(x) Terrestrial wildlife. Surface Waters of the State designated for terrestrial wildlife are those where surface water quality shall support use of the water by wild fauna that are not part of the aquatic community.

Section 12. Modifications to Designated Uses. The Department may modify designated uses assigned to Surface Waters of the State through revision of this Chapter, either at its discretion or in response to a petition submitted in accordance with the Department's Rules of Practice and Procedure, Chapter 3, Section 3. Modifications to designated uses shall be:

(a) Consistent with the requirements in Section 5 and Section 11 of this Chapter;

(b) Supported by documentation justifying how the revised uses are protective of the uses and values associated with the Surface Water of the State, if the modification results in less stringent water quality criteria to:

(i) Surface Waters of the State not subject to the jurisdiction of the Clean Water Act; or

(ii) Drinking water, industry, irrigation, livestock, or scenic value uses assigned to Surface Waters of the State that are subject to the jurisdiction of the Clean Water Act;

(c) Supported by a use attainability analysis if the modification to aquatic life, human consumption of fish, recreation, or terrestrial wildlife uses assigned to Surface Waters of the State subject to the jurisdiction of the Clean Water Act results in less stringent water quality criteria. Modifications shall only be allowed under this Subsection if the use is not attainable because:

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

(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;

(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;

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

(v) Physical conditions related to the natural features of the waterbody, 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 technology-based effluent limitations required by Sections 301(b) and 306 of the Clean Water Act, 33 U.S.C. § 1311(b) and § 1316, would result in substantial and widespread economic and social impacts.

Section 13. Antidegradation.

The Department shall implement the antidegradation provisions in this Section to ensure Surface Waters of the State are protected from degradation.

(i) Existing use protections applicable to all Surface Waters of the State. The Department shall maintain and protect existing uses and level of water quality necessary to maintain existing uses of Surface Waters of the State.

(ii) High quality water protections applicable to Surface Waters of the State subject to the jurisdiction of the Clean Water Act that are not Outstanding Resource Waters. Where the quality is better than the criteria included in this Chapter to protect the applicable use, the Department shall maintain that quality unless the Department finds, after full opportunity for intergovernmental coordination and public participation, that the lowering of water quality is necessary to accommodate important economic or social development in the area where the water is located. Before allowing such lowering of water quality, the Department shall ensure the requirements in Subparagraphs (A) through (D) of this Paragraph are met.

(A) The quality is not lowered below the applicable water quality criteria in this Chapter;

(B) All existing uses are fully maintained and protected;

(C) The highest statutory and regulatory requirements for all new and existing point source discharges and all cost-effective and reasonable best management practices for nonpoint sources of pollution shall be achieved; and

(D) Based on an analysis of practicable alternatives that would prevent or lessen the degradation associated with the activity, the lowered water quality is necessary to accommodate important economic or social development in the area where the water is located.

(iii) Existing quality protections applicable to Outstanding Resource Waters. The Department shall maintain and protect the existing quality of Outstanding Resource Waters. To maintain and protect the existing quality and existing uses of Outstanding Resource Waters, the Department:

(A) Shall impose necessary monitoring, controls, and effluent limitations on regulated activities that may discharge to an Outstanding Resource Water or their tributaries;

(B) Shall not, except as provided in this Section, authorize new regulated activities other than dams to discharge to Outstanding Resource Waters;

(C) Shall not, except as provided in this Section, authorize regulated activities other than dams to increase the load or concentration of pollution discharged to Outstanding Resource Waters;

(D) May authorize the following new or existing regulated activities to discharge to an Outstanding Resource Water, provided the existing quality and existing uses of the Outstanding Resource Water are maintained and protected through applicable permit conditions, effluent limitations, and best management practices:

(I) Stormwater discharges;

(II) Construction-related discharges; and

(III) Short-term discharges of up to one-year that have been determined, at the sole discretion of the Water Quality Division Administrator, to be necessary to address emergency environmental, economic, or public health concerns;

(E) Shall limit, to the extent practicable, degradation from new and existing dams constructed on Outstanding Resource Waters or tributaries to Outstanding Resource Waters; and

(F) Shall identify nonpoint sources of pollution to Outstanding Resource Waters or tributaries to Outstanding Resource Waters and best management practices to address nonpoint sources of pollution.

(b) To implement the provisions in this Section, the Department shall develop, and revise as necessary, antidegradation implementation methods. In developing or revising such methods, the Department shall provide a minimum of 30 days for public review and comment. The Department shall make the implementation methods, and any revisions thereto, available to the public.

Section 14. Designation of Outstanding Resource Waters.

(a) Any person may submit a petition to the Department in accordance with the Department's Rules of Practice and Procedure, Chapter 3, Section 3, to designate a Surface Water of the State as an Outstanding Resource Water through revision of this Chapter. In evaluating a petition, the Department shall consider the 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 people and the environment.

(b) The following Surface Waters of the State have been designated as Outstanding Resource Waters:

(i) All Surface Waters of the State located within the boundaries of national parks and congressionally designated wilderness areas as of January 1, 1999, designated July 17, 1979;

(ii) The mainstem of the Snake River through its entire length above the U.S. Highway 22 Bridge (Wilson Bridge), designated July 17, 1979;

(iii) The mainstem of the Green River, including the Green River Lakes, from the confluence with the New Fork River upstream to the wilderness boundary, designated July 17, 1979;

(iv) The mainstem of the Wind River from the Wedding of the Waters upstream to Boysen Dam, designated July 17, 1979;

(v) The mainstem 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, designated July 17, 1979;

(vi) The mainstem of the North Platte River from the headwaters of Pathfinder Reservoir upstream to Kortes Dam (Miracle Mile segment), designated July 17, 1979;

(vii) The mainstem of the North Platte River from the Natrona County Road 309 bridge (Goose Egg bridge) upstream to Alcova Reservoir, designated November 29, 1990;

(viii) The mainstem of Sand Creek above the U.S. Highway 14 bridge, designated July 17, 1979;

(ix) The mainstem of the Middle Fork of the Powder River through its entire length above the mouth of Buffalo Creek, designated July 17, 1979;

(x) The mainstem 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, designated July 17, 1979;

(xi) The mainstem of the Sweetwater River above the mouth of Alkali Creek, designated July 17, 1979;

(xii) The mainstem of the Encampment River from the northern U.S. Forest Service boundary upstream to the Colorado state line, designated July 17, 1979;

(xiii) The mainstem of the Clarks Fork River from the U.S. Forest Service boundary upstream to the Montana state line, designated July 17, 1979;

(xiv) All Surface Waters of the State within the Fish Creek (near Wilson, Wyoming) drainage, designated July 17, 1979;

(xv) The mainstem of Granite Creek (tributary of the Hoback River) through its entire length, designated July 17, 1979;

(xvi) Fremont Lake, designated July 17, 1979; and

(xvii) Adjacent wetlands to the above listed Outstanding Resource Waters, designated July 16, 2001.

Section 15. Water Quality Criteria Applicable to All Surface Waters of the State. The Department shall implement the water quality criteria in this Section to ensure Surface Waters of the State, including assigned designated uses, are protected from pollution.

(a) Toxic materials. Except when authorized, toxic materials shall not be present in concentrations or combinations that constitute pollution or impair designated uses.

(b) Wastes. Except when authorized, wastes shall not be placed or allowed to remain in Surface Waters of the State. Wastes shall also not be allowed to remain in any location that would cause or threaten pollution of Surface Waters of the State. When discovered, removal shall be expeditious unless removal would likely result in more contamination than non-removal.

(c) Dead animals. Dead animals shall not be placed or allowed to remain in Surface Waters of the State. When discovered, removal shall be expeditious unless removal would likely result in more contamination than non-removal. This requirement shall not be interpreted to place a burden on any person to remove dead wildlife from Surface Waters of the State where the death of the wildlife occurs under natural or uncontrollable circumstances.

(d) Settleable solids. Substances, including excess sediment, that settle to form sludge, bank, or bottom deposits shall not be present in amounts that constitute pollution or impair designated uses.

(e) Floating, suspended, and dissolved materials. Floating, suspended, and dissolved materials, including excess sediment and turbidity, shall not be present in amounts that constitute pollution or impair designated uses.

(f) Odors and colors. Substances shall not be present in amounts that result in unacceptable adverse alterations to the odor or color of the water, skin, clothing, vessels, or structures. Substances shall not result in odors or colors that impair designated uses.

(g) Radioactive material. Radioactive material shall not be present in:

(i) Water or sediments in amounts that would constitute pollution or impair designated uses; or

(ii) Amounts that result in total radium-226 concentrations that exceed 60 picocuries per liter (pCi/L).

(h) pH. Substances, either directly or in conjunction with other chemical constituents, shall not result in pH levels that:

(i) Are less than 6.5 or more than 9.0 standard units;

(ii) Would constitute pollution; or

(iii) Impair designated uses.

(i) Undesirable aquatic life. Substances and conditions or combinations thereof shall not be present in amounts that produce undesirable aquatic life that would constitute pollution or impair designated uses.

(j) Oil and grease. Oil and grease shall not be present in amounts that:

(i) Exceed 10 milligrams per liter (mg/L);

(ii) Result in the formation of a visible sheen or visible deposits on the bottom or shoreline;

(iii) Would constitute pollution; or

(iv) Impair designated uses.

Section 16. Water Quality Criteria for Protection of Aquatic Life Uses. The Department shall implement the water quality criteria in this Section to ensure that Surface Waters of the State designated for aquatic life are protected from pollution.

(a) Narrative criteria. Pollution shall not:

(i) Impair aquatic life uses;

(ii) Result in adverse acute or chronic effects to aquatic communities; or

(iii) Result in adverse alterations to the structure and function of aquatic communities.

(b) For those pollutants without numeric criteria in this Section, effluent limitations for permitted point source discharges of pollution protective of aquatic life shall be determined, in its sole discretion by the Department, using the biological monitoring procedures outlined in the following procedures or other scientifically defensible methods:

(i) United States Environmental Protection Agency. Technical Support Document for Water Quality-based Toxics Control. EPA 440/4-85032. March, 1991;

(ii) United States Environmental Protection Agency. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October, 2002;

(iii) United States Environmental Protection Agency. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition, October 2002;

(iv) United States Environmental Protection Agency. National Pollutant Discharge Elimination System Whole Effluent Toxicity Permit Writers' Manual. EPA-833-B-24_001. July, 2024.

(c) In Surface Waters of the State designated for effluent-dependent aquatic life, the relevant water quality criteria in this Section shall be applicable unless specifically modified through the process in Section 25(b) of this Chapter.

(d) Total dissolved gases. In Surface Waters of the State designated for coldwater or warmwater aquatic life, pollution shall not result in total dissolved gases downstream of human-made dams that exceed 110 percent of the saturation at the existing atmospheric and hydrostatic pressure.

(e) pH. In all Surface Waters of the State designated for aquatic life, pollution shall not result in pH levels that are less than 6.5 or more than 9.0 standard units more than once every three years.

(f) Temperature.

(i) In Surface Waters of the State designated for coldwater aquatic life or warmwater aquatic life, pollution shall not result in water temperatures that exceed the values in Table 2 more than once every three years.

(ii) The requirements of this Section may be waived only under the provisions of Section 316(a) of the Clean Water Act, 33 U.S.C. § 1326.

Table 2. Temperatures in degrees Celsius (°C) applicable to coldwater and warmwater aquatic life designated uses.

	Coldwater Aquatic Life	Warmwater Aquatic Life
Increase When Ambient Temperatures Are Above 15.6 Degrees	Shall not increase more than 1.1 degrees	Shall not increase more than 2.2 degrees
Maximum	Two-hour average of 20 degrees	Instantaneous maximum of 30 degrees

(g) Dissolved oxygen. In Surface Waters of the State designated for coldwater aquatic life or warmwater aquatic life, pollution shall not result in dissolved oxygen concentrations less than the concentrations in Table 3 more than once every three years, except as specified for minima. In no case shall this Section be interpreted to require dissolved oxygen concentrations to be greater than 100 percent saturation at ambient temperature and elevation.

Table 3. Numeric dissolved oxygen concentrations in milligrams per liter (mg/L) applicable to coldwater and warmwater aquatic life designated uses.

	Coldwater Aquatic Life[a]		Warmwater Aquatic Life[a]	
	Early Life Stages[b][c]	Other Life Stages	Early Life Stages[c]	Other Life Stages
30-Day Mean		6.5		5.5
7-Day Mean	9.5 (6.5)		6.0	
Mean of 7-Day Minimums		5.0		4.0
Minima[d]	8.0 (5.0)	4.0	5.0	3.0

Blank cells indicate there is no value for that criteria element.
[a]In the lower portion of a lake or reservoir, dissolved oxygen may be less than the applicable value provided that, where those excursions occur, there is adequate habitat for aquatic life where both the applicable biologically-based temperature requirements and dissolved oxygen criteria are met.
[b]These are water column concentrations recommended to achieve the required inter-gravel dissolved oxygen concentrations shown in parentheses. For species that have early life stages exposed directly to the water column, the figures in parentheses apply.
[c]Includes all embryonic and larval stages and all juvenile forms to 30-days following hatching.
[d]Minima are considered instantaneous concentrations to be achieved at all times.

(h) Total ammonia nitrogen. In Surface Waters of the State designated for coldwater aquatic life or warmwater aquatic life, pollution shall not result in total ammonia nitrogen concentrations that exceed the pH-dependent one-hour average value or pH and temperature-dependent 30-day average value calculated using the formulas in Table 4 more than once every three years.

Table 4. Formulas to calculate numeric total ammonia nitrogen values in milligrams per liter (mg/L) applicable to coldwater and warmwater aquatic life designated uses.

Coldwater Aquatic Life One-Hour Average Acute Value	$\frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}}$
Warmwater Aquatic Life One-Hour Average Acute Value	$\frac{0.411}{1+10^{7.204-pH}} + \frac{58.4}{1+10^{pH-7.204}}$
Coldwater or Warmwater Aquatic Life 30-Day Average Chronic Value Early Life Stages Present[a]	$\left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) * MIN(2.85, 1.45*10^{0.028*(25-T)})$
Coldwater or Warmwater Aquatic Life 30-Day Average Chronic Value Early Life Stages Absent[a]	$\left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) * 1.45 * 10^{0.028*(25-MAX(T,7))}$
"T" represents temperature in degrees Celsius. "pH" represents pH in standard units. [a]The highest four-day average within the 30-day period is also not to exceed 2.5 times the chronic value. Early life stages will be assumed to be present unless sufficient site-specific information is provided by a discharge permit applicant to demonstrate that early life stages are not present in a waterbody.	

(i) Hardness-dependent metals. In all Surface Waters of the State designated for aquatic life, pollution shall not result in hardness-dependent dissolved metal concentrations that exceed:

(i) The one-hour average acute values calculated using the formulas in Table 5 more than once every three years.

Table 5. Formulas to calculate numeric hardness-dependent metals acute values in micrograms per liter (µg/L) applicable to aquatic life designated uses.

Parameter	Acute Value[a]
Cadmium, Dissolved[b]	$e^{(1.0166[\ln(hardness)] - 3.924)} * (1.136672 - [(\ln hardness)(0.041838)])$
Chromium (III), Dissolved	$e^{(1.0166[\ln(hardness)] + 3.7256)} * (0.316)$
Copper, Dissolved	$e^{(0.9422[\ln(hardness)] - 1.700)} * (0.960)$
Lead, Dissolved[b]	$e^{(1.273[\ln(hardness)] - 1.460)} * (1.46203 - [(\ln hardness)(0.145712)])$
Manganese, Dissolved	$e^{(0.7693[\ln(hardness)] + 4.4995)}$
Nickel, Dissolved	$e^{(0.8460[\ln(hardness)] + 2.255)}(0.998)$
Silver, Dissolved[c]	$e^{(1.72[\ln(hardness)] - 6.52)}(0.85)(0.5)$
Zinc, Dissolved	$e^{(0.8473[\ln(hardness)] + 0.884)}(0.978)$
Priority pollutants are included in ***bold italics***. [a]Hardness is milligrams per liter (mg/L) as calcium carbonate ($CaCO_3$). For hardness values greater than 400 mg/L, use 400 mg/L. [b]Use a value of 1.0 for the portion of the equation after the "*" if the calculated value of that portion of the equation exceeds 1.0. [c]Value multiplied by 0.5 to be comparable with other acute values derived using an averaging period. Value does not need to be multiplied by 0.5 if used as an instantaneous maximum or	

Parameter	Acute Value[(a)]
end of pipe value, as the original value was derived as a not to be exceeded instantaneous maximum.	

(ii) The four-day average chronic values calculated using the formulas in Table 6 more than once every three years.

Table 6. Formulas to calculate numeric hardness-dependent metals chronic values in micrograms per liter (µg/L) applicable to aquatic life designated uses.

Parameter	Chronic Value[(a)]
Cadmium, Dissolved[(b)]	$e^{(0.7409[\ln(\text{hardness})] - 4.719)} * (1.101672 - [(\ln \text{hardness})(0.041838)]$
Chromium (III), Dissolved	$e^{(0.8190[\ln(\text{hardness})] + 0.6848)} * (0.860)$
Copper, Dissolved	$e^{(0.8545[\ln(\text{hardness})] -1.702)} * (0.960)$
Lead, Dissolved[(b)]	$e^{(1.273[\ln(\text{hardness})] - 4.705)} * (1.46203 - [(\ln \text{hardness})(0.145712)])$
Manganese, Dissolved	$e^{(0.5434[\ln(\text{hardness})] + 4.7850)}$
Nickel, Dissolved	$e^{(0.8460[\ln(\text{hardness})] + 0.0584)}(0.997)$
Zinc, Dissolved	$e^{(0.8473[\ln(\text{hardness})]+0.884)}(0.986)$
Priority pollutants are included in ***bold italics***. [(a)]Hardness is milligrams per liter (mg/L) calcium carbonate ($CaCO_3$). For hardness values greater than 400 mg/L, use 400 mg/L. [(b)]Use 1 if the portion of the equation shown after the "*" exceeds 1.	

(j) In all Surface Waters of the State designated for aquatic life, pollution shall not result in the one-hour average acute or four-day average chronic values in Table 7 to be exceeded more than once every three years.

Table 7. Numeric acute and chronic values in micrograms per liter (µg/L) applicable to aquatic life designated uses.

Parameter[(a)]	CAS Number[(b)]	Acute Value	Chronic Value
4,4' - DDT	***50293***	0.55[(c)]	0.001
Acrolein	***107028***	3	3
Aldrin	***309002***	1.5[(c)]	
Alpha-Endosulfan	***959988***	0.11[(c)]	0.056
Aluminum, Dissolved (pH 6.5-9.0 only)	7429905	750	87[(d)]
Arsenic, Dissolved	***7440328***	340	150
Beta-Endosulfan	***33213659***	0.11[(c)]	0.056
Chlordane	***57749***	1.2[(c)]	0.0043
Chloride	16887006	860,000[(e)(f)]	230,000[(e)(f)]
Chlorine (Total Residual)	7782505	19	11
Chlorpyrifos	2921882	0.083	0.041
Chromium (VI)	***18540299***	16	11
Cyanide	***57125***	22	5.2
Demeton	8065483		0.1
Diazinon	333415	0.17	0.17

Parameter[a]	CAS Number[b]	Acute Value	Chronic Value
Dieldrin	***60571***	0.24	0.056
Endrin	***72208***	0.086	0.036
Gamma- BHC [Lindane]	***58899***	0.95	
Guthion	86500		0.01
Heptachlor	***76448***	0.26[c]	0.0038
Heptachlor Epoxide	***1024573***	0.26[c]	0.0038
Hydrogen Sulfide, Undissociated	7783064		2
Iron, Dissolved	7439896		1,000
Malathion	121755		0.1
Mercury	***22967926 7439976***	1.4	0.77
Methoxychlor	72435		0.03
Mirex	2385855		0.001
Nonylphenol	84852153	28	6.6
Parathion	56382	0.065	0.013
Pentachlorophenol	***87865***	9.07[g]	5.73[g]
Polychlorinated Biphenyls (PCBs)			0.014[h]
Selenium, Total	***7782492***	20[i]	5[i]
Toxaphene	8001352	0.73	0.0002
Tributyltin (TBT)		0.46	0.072

Blank cells indicate there is no value for that criteria element.

[a] Priority pollutants are shown in ***bold italics***. Total and dissolved metal fractions are noted.

[b]Chemical Abstract Service Registry Number, a unique numeric identifier designated to a particular substance.

[c]Value has been divided by two to be comparable with other acute values derived using an averaging period. Value can be multiplied by two if used as an instantaneous maximum or end of pipe value.

[d]The 87 µg/L chronic criterion applies except where the receiving water after mixing has a pH greater than or equal to seven and a hardness (as CaCO3) greater than or equal to 50 milligrams per liter (mg/L). Where the receiving stream after mixing has a pH greater than or equal to 7 and a hardness (as CaCO3) greater than or equal to 50 mg/L, the 750 µg/L acute value will apply. In situations where the 87 µg/L chronic criterion applies, a discharger may request development of and provide the basis for a site-specific chronic value based on a water-effect ratio.

[e]Value applies to waters designated for coldwater aquatic life, warmwater aquatic life, and modified aquatic life only.

[f]Site-specific chloride values that differ from these values include:

1. Cottonwood Creek near Hamilton Dome in the Bighorn River watershed has an instantaneous maximum chloride value of 860,000 µg/L not to be exceeded at any time;
2. Poison Spider Creek in the North Platte River watershed has an instantaneous maximum chloride value of 531,000 µg/L not to be exceeded at any time;
3. Salt Creek in the Powder River watershed has an instantaneous maximum chloride value of 1,600,000 µg/L not to be exceeded at any time;

Parameter[a]	CAS Number[b]	Acute Value	Chronic Value
4. Meadow Creek, a tributary to Salt Creek in the Powder River watershed has an instantaneous maximum chloride value of 1,600,000 µg/L not to be exceeded at any time; and 5. Powder River downstream of Salt Creek in the Powder River watershed has an instantaneous maximum chloride value of 984,000 µg/L not to be exceeded at any time. [g]Aquatic life values for pentachlorophenol are expressed as a function of pH. Values shown represent concentrations at pH of 7.0. Values can be calculated using the following formulas: One-hour average acute value (µg/L) = $e^{[1.005(pH) - 4.830]}$ and four-day average chronic value (µg/L) = $e^{[1.005(pH) – 5.290]}$. [h]Value applies to total PCBs (i.e. the sum of all congener or all isomer or homolog or Aroclor analyses). [i]Site-specific selenium values that differ from these values include: 1. Cottonwood Creek near Hamilton Dome in the Bighorn River watershed has an instantaneous maximum total selenium value of 43 µg/L not to be exceeded at any time.			

Section 17. Water Quality Criteria for Protection of Drinking Water Use. The Department shall implement the water quality criteria in this Section to ensure that Surface Waters of the State designated for drinking water are protected from pollution.

(a) Narrative criteria. Pollution shall not:

(i) Impair drinking water uses;

(ii) Result in an unacceptably high risk for acute, chronic, or carcinogenic effects in humans who consume water after treatment;

(iii) Result in undesirable tastes or odors in a public water supply, either directly or through interactions with chemicals used in existing treatment processes; or

(iv) Result in turbidity that:

(A) Cannot be readily removed during conventional drinking water treatment processes;

(B) Causes upsets in water treatment processes; or

(C) Causes unacceptably high treatment costs.

(b) Radioactive materials. Pollution shall not result in an exceedance of the 30-day average of the radioactive material values in Table 8.

Table 8. Radioactive material values applicable to drinking water designated use.

Parameter	Drinking Water Value
Radium-226 and Radium-228 Combined	5 picocuries per liter (pCi/L)

Gross Alpha Particle Activity (Excluding Radon and Uranium)	15 picocuries per liter (pCi/L)
Uranium	30 micrograms per liter (µg/L)
Beta Particle and Photon Radioactivity	4 millirems per year (mrem/yr)

(c) Pollution shall not result in an exceedance of the 30-day average concentration of the drinking water and human consumption of fish values in Table 9.

Table 9. Numeric values in micrograms per liter (µg/L) or fibers per liter (fibers/L) for asbestos, applicable to drinking water and human consumption of fish designated uses.

Parameter[a]	**CAS Number[b]**	**Drinking Water and Human Consumption of Fish [c]**	**Human Consumption of Fish Only[d]**
1,1,1-Trichloroethane	***71556***	200[e]	
1,1,2,2-Tetrachloroethane	***79345***	0.17[f]	4[f]
1,1,2-Trichloroethane	***79005***	0.59[f]	16[f]
1,1-Dichloroethylene	***75354***	7[e]	7,100
1,2,4,5-Tetrachlorobenzene	95943	0.97	1.1
1,2,4-Trichlorobenzene	***120821***	35	70
1,2-Dichlorobenzene	***95501***	420	1,300
1,2-Dichloroethane	***107062***	0.38[f]	37[f]
1,2-Dichloropropane	***78875***	0.50[f]	15[f]
1,2-Diphenylhydrazine	***122667***	0.036[f]	0.20[f]
1,3-Dichlorobenzene	***541731***	320	960
1,3-Dichloropropene	***542756***	0.34[f]	21[f]
1,4-Dichlorobenzene	***106467***	63	190
2,3,7,8-TCDD (Dioxin)	***1746016***	0.000000005[f]	0.000000005[f]
2,4,5-Trichlorophenol	95954	1.0[g]	3,600
2,4,6-Trichlorophenol	***88062***	1.4[f]	2.4[f]
2,4-Dichlorophenol	***120832***	0.3[g]	290
2,4-Dimethylphenol	***105679***	380	850
2,4-Dinitrophenol	***51285***	69	5,300
2,4-Dinitrotoluene	***121142***	0.11[f]	3.4[f]
2-Chloronaphthalene	***91587***	1,000	1,600
2-Chlorophenol	***95578***	0.1[g]	150
2-Methyl-4, 6-Dintrophenol	***534521***	13	280
3,3'-Dichlorobenzidine	***91941***	0.021[f]	0.028[f]
3-Methyl-4-Chlorophenol	***59507***	3,000[g]	
Acenaphthene	***83329***	20[g]	990
Acrolein	***107028***	6	9
Acrylonitrile	***107131***	0.051[f]	0.25[f]
Alachlor		2[e]	
Aldrin	***309002***	0.000049[f]	0.000050[f]
Alpha-Endosulfan	***959988***	62	89

Parameter[a]	CAS Number[b]	Drinking Water and Human Consumption of Fish [c]	Human Consumption of Fish Only[d]
Alpha-Hexachlorocyclohexane HCH	***319846***	0.0026[f]	0.0049[f]
Anthracene	***120127***	8,300	40,000
Antimony, Total	***7440360***	5.6	640
Arsenic, Total	***7440382***	10[f][e]	10[f][e]
Asbestos	***1332214***	7,000,000 fibers/L[e]	
Atrazine	1912249	3[e]	
Barium, Total	7440393	2,000[e]	
Benzene	***71432***	2.2[f]	51[f]
Benzidine	***92875***	0.000086[f]	0.00020[f]
Benzo(a)anthracene	***56553***	0.0038[f]	0.018[f]
Benzo(a)pyrene	***50328***	0.0038[f]	0.018[f]
Benzo(b)fluoranthene	***205992***	0.0038[f]	0.018[f]
Benzo(k)fluoranthene	***207089***	0.0038[f]	0.018[f]
Beryllium	***7440417***	4[e]	
Beta-Endosulfan	***33213659***	62	89
Beta Hexachlorocyclohexane HCH	***319857***	0.0091[f]	0.017[f]
Bis(2-chloroethyl) Ether	***111444***	0.030[f]	0.53[f]
Bis(2-Chloro-1-methylethyl) Ether	108601	1,400	65,000
Bis(2Ethylhexyl) Phthalate	117817	1.2[f]	2.2[f]
Bis(Chloromethyl) Ether	542881	0.00010[f]	0.00029[f]
Bromate		10[e]	
Bromoform	***75252***	4.3[f]	140[f]
Butylbenzyl phthalate	***85687***	1,500	1,900
Cadmium, Total	***7440439***	5[e]	
Carbofuran	1563662	40[e]	
Carbon Tetrachloride	***56235***	0.23[f]	1.6[f]
Chlordane	***57749***	0.00080[f]	0.00081[f]
Chlorite	14998277	1,000[e]	
Chlorobenzene	***108907***	20[g]	1,600
Chlorodibromomethane	***124481***	0.40[f]	13[f]
Chloroform	***67663***	5.7[f]	470[f]
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex]	93721	10	
Chlorophenoxy Herbicide (2,4-D)	94757	70[e]	
Chromium (III), Total	***16065831***	100[e]	
Chromium (VI), Total	***18540299***	100[e]	
Chrysene	***218019***	0.0038[f]	0.018[f]

Parameter[a]	CAS Number[b]	Drinking Water and Human Consumption of Fish [c]	Human Consumption of Fish Only[d]
Cis-1,2-Dichloroethylene		70[e]	
Copper, Total	***7440508***	1000[g,i]	
Cyanide (free)	***57125***	140[h]	140[h]
Dalapon	75990	200[e]	
Di(2-ethylhexyl) adipate	103231	400[e]	
Di-n-Butyl Phthalate	***84742***	2,000	4,500
Dibenzo(a,h)anthracene	***53703***	0.0038[f]	0.018[f]
Dibromochloropropane (DBCP)		0.2[e]	
Dichlorobromomethane	***75274***	0.55[f]	17[f]
Dieldrin	***60571***	0.000052[f]	0.000054[f]
Diethyl Phthalate	***84662***	17,000	44,000
Dimethyl Phthalate	***131113***	270,000	1,100,000
Dinitrophenols	***25550587***	69	5,300
Dinoseb		7[e]	
Diquat	2764729	20[e]	
Endosulfan Sulfate	***1031078***	62	89
Endothall	145733	100[e]	
Endrin	***72208***	0.059	0.06
Endrin Aldehyde	***7421934***	0.29	0.3
Ethylbenzene	***100414***	530	2,100
Ethylene dibromide (EDB)		0.05[e]	
Fluoranthene	***206440***	130	140
Fluorene	***86737***	1,100	5,300
Fluoride		2000[i]	
Gamma-Hexachlorocyclohexane- (HCH) [Lindane]	***58899***	0.2[g]	1.8
Glyphosate	1071836	700[e]	
Haloacetic Acids (HAA5)		60[e]	
Heptachlor	***76448***	0.000079[f]	0.000079[f]
Heptachlor Epoxide	***1024573***	0.000039[f]	0.000039[f]
Hexachlorobenzene	***118741***	0.00028[f]	0.00029[f]
Hexachlorobutadiene	***87683***	0.44[f]	18[f]
Hexachlorocyclohexane (HCH)-Technical	608731	0.0123[f]	0.0414[f]
Hexachlorocyclopentadiene	***77474***	1[g]	1,100
Hexachloroethane	***67721***	1.4[f]	3.3[f]
Indeno(1,2,3-cd)pyrene	***193395***	0.0038[f]	0.018[f]
Iron, Dissolved	7439896	300[i][k]	

Parameter[a]	CAS Number[b]	Drinking Water and Human Consumption of Fish [c]	Human Consumption of Fish Only[d]
Isophorone	***78591***	35[f]	960[f]
Lead, Total	***7439921***	15[g]	
Manganese, Dissolved	7439965	50[i][k]	
Mercury	***7439976***	0.05	0.051
Methoxychlor	72435	40[e]	
Methyl Bromide	***74839***	47	1,500
Methylene Chloride	***75092***	4.6[f]	590[f]
N-Nitrosodi-n-Propylamine	***621647***	0.005[f]	0.51[f]
N-Nitrosodimethylamine	***62759***	0.00069[f]	3[f]
N-Nitrosodiphenylamine	***86306***	3.3[f]	6[f]
Nickel, Total	***7440020***	610	4,600
Nitrates (as N)	14797558	10000[e]	
Nitrite (as N)	14797650	1000[e]	
Nitrite+Nitrate (both as N)		10000[e]	
Nitrobenzene	***98953***	17	690
Nitrosamines		0.0008	1.24
Nitrosodibutylamine	924163	0.0063[f]	0.22[f]
Nitrosodiethylamine	55185	0.0008[f]	1.24[f]
Nitrosopyrrolidine	930552	0.016[f]	34[f]
Oxamyl (Vydate)	23135220	200[e]	
p,p'-Dichlorodiphenyldichloroethane (DDD)	***72548***	0.00031[f]	0.00031[f]
p,p'-Dichlorophenyldichloroethylene (DDE)	***72559***	0.00022[f]	0.00022[f]
p,p'-Dichlorophenyltrichloroethane (DDT)	***50293***	0.00022[f]	0.00022[f]
Pentachlorobenzene	608935	1.4	1.5
Pentachlorophenol	***87865***	0.27[f]	3[f]
Phenol	***108952***	300[g]	860,000
Picloram	1918021	500[e]	
Polychlorinated Biphenyls (PCBs)		0.000064[f][j]	0.000064[f][j]
Pyrene	***129000***	830	4,000
Selenium, Total	***7782492***	50[e]	4,200
Silver, Dissolved	***7440224***	100[i]	

Parameter[a]	CAS Number[b]	Drinking Water and Human Consumption of Fish [c]	Human Consumption of Fish Only[d]
Simazine	122349	4[e]	
Styrene	100425	100[e]	
Tetrachloroethylene	***127184***	0.69[f]	3.3[f]
Thallium, Total	***7440280***	0.24	0.47
Toluene	***108883***	1,000[e]	15,000
Total Trihalomethanes (TTHM)		80[e]	
Toxaphene	***8001352***	0.00028[f]	0.00028[f]
Trans-1,2-Dichloroethylene	***156605***	100[e]	10,000
Trichloroethylene	***79016***	2.5[f]	30[f]
Vinyl Chloride	***75014***	0.025[f]	2.4[f]
Xylenes, Total	1330207	10,000[e]	
Zinc, Total	***7440666***	5,000[g]	26,000

Notes:
Blank cells indicate there is no value for that criteria element.
[a]Priority pollutants are shown in ***bold italics***. Dissolved metals are noted. For all other metals, values refer to the total recoverable amount.
[b]CAS is the Chemical Abstract Service Registry Number, a unique numeric identifier assigned to a substance.
[c]Except where otherwise indicated, these values are based on consumption of two liters of water and 17.5 grams of aquatic organisms per day.
[d]Values based on consumption of 17.5 grams of aquatic organisms per day.
[e]Value based on Safe Drinking Water Act National Primary Drinking Water Regulations.
[f]Except for arsenic, the substance is classified as a carcinogen with the value based on an incremental risk of one additional instance of cancer in one million persons. Arsenic is classified as a carcinogen, however, the value is not based on an additional 1:1,000,000 cancer risk.
[g]Value is based on National Recommended Water Quality Criteria Organoleptic (taste and odor) Effects and is more stringent than if based solely on toxic or carcinogenic effects.
[h]Value expressed as total cyanide. If a substantial fraction of the cyanide present in a waterbody is present in a complexed form (e.g. $Fe_4[Fe(CN)_6]_3$), the criterion may be overly conservative.
[i]Value is based on Safe Drinking Water Act National Primary Secondary Drinking Water Regulations and is intended to prevent undesirable cosmetic or aesthetic effects. Value represents the dissolved amount of each substance rather than the total amount.
[j]Value applies to total PCBs (i.e. the sum of all congener or all isomer or homolog or Aroclor analyses).
[k]The iron and manganese criteria shall not apply to waters designated for drinking water in:

1. The Belle Fourche River watershed above the confluence with Donkey Creek
2. The mainstem of the Belle Fourche River;
3. Tributaries to Antelope Creek in the Cheyenne River watershed;

Parameter[a]	CAS Number[b]	Drinking Water and Human Consumption of Fish [c]	Human Consumption of Fish Only[d]
4. Little Thunder Creek and all of its tributaries below the confluence with North Prong Creek in the Cheyenne river watershed; 5. The Little Powder River watershed; 6. The mainstem of Clear Creek and its tributaries upstream of Clearmont, Wyoming in the Powder River watershed; 7. The mainstem of Crazy Woman Creek and its tributaries in the Powder River watershed; 8. The North Fork of the Powder River and all its tributaries in the Powder River watershed; and 9. The Middle Fork of the Powder River and all its tributaries in the Powder River watershed.			

Section 18. Water Quality Criteria for Protection of Human Consumption of Fish Uses. The Department shall implement the water quality criteria in this Section to ensure that Surface Waters of the State designated for human consumption of fish or human consumption of effluent-dependent fish are protected from pollution.

(a) Narrative criteria. Pollution shall not:

(i) Impair human consumption of fish uses;

(ii) Result in an unacceptably high risk of acute, chronic, or carcinogenic effects to humans who consume fish; or

(iii) Result in unacceptable palatability or flavor in fish flesh.

(b) Pollution shall not result in:

(i) Exceedance of the 30-day average concentration of the human consumption of fish and drinking water values in Section 17(c) of this Chapter for waters designated for both drinking water and human consumption of fish;

(ii) Exceedance of the 30-day average concentration of the human consumption of fish only values in Section 17(c) of this Chapter for waters designated for human consumption of fish but not drinking water; or

(iii) Exceedance of the 30-day average concentration of the human consumption of fish only values in Section 17(c) of this Chapter for waters designated for human consumption of effluent-dependent fish, unless specifically modified through the process in Section 25(b) of this Chapter.

Section 19. Water Quality Criteria for Protection of Industry Use.

(a) The Department shall implement the water quality criteria in this Section to ensure that Surface Waters of the State designated for industry are protected from pollution.

(b) Narrative criteria. Pollution shall not:

(i) Impair industry use; or

(ii) Result in unacceptable adverse impacts to raw water treatment costs.

Section 20. Water Quality Criteria for Protection of Irrigation Use.

(a) The Department shall implement the water quality criteria in this Section to ensure that Surface Waters of the State designated for irrigation are protected from pollution.

(b) Narrative criteria. Pollution shall not:

(i) Impair irrigation uses; or

(ii) Result in unacceptable adverse impacts to crop production.

Section 21. Water Quality Criteria for Protection of Livestock Use.

(a) The Department shall implement the water quality criteria in this Section to ensure that Surface Waters of the State designated for livestock are protected from pollution.

(b) Narrative criteria. Pollution shall not:

(i) Impair livestock uses; or

(ii) Result in unacceptable adverse impacts to livestock production.

Section 22. Water Quality Criteria for Protection of Recreation Uses. The Department shall implement the water quality criteria in this Section to ensure that Surface Waters of the State designated for recreation are protected from pollution.

(a) Narrative criteria. Pollution shall not:

(i) Impair recreation uses; or

(ii) Result in an unacceptably high risk of acute or chronic health effects to humans that engage in recreational activities in or on Surface Waters of the State.

(b) *Escherichia coli* (*E. coli*).

(i) Pollution shall not result in a geometric mean of *E. coli* that exceed the values in Table 10 during any consecutive 60-day period.

Table 10. *E. coli* values in organisms per 100 milliliters applicable to recreation designated uses.

	Full Body Contact Water Recreation During the Summer Recreation Season (May 1 through September 30)	**Limited Body Contact Water Recreation (Year-Round) and Full Body Contact Water Recreation During the Winter Recreation Season (October 1 through April 30th)**
Geometric Mean	126	630

(ii) Single-sample maxima. During the summer recreation season (May 1 through September 30), the following single-sample maxima shall be used to derive single-sample maximum effluent limitations for permitted point source discharges of pollution. An exceedance of a single-sample maximum shall not be cause for placing a water body on Wyoming's 303(d) list of impaired waters or development of a total maximum daily load or watershed plan. The appropriate single-sample maximum shall be determined by the Administrator on a case-by-case basis as needed. In making such a determination, the Administrator may consider such site-specific circumstances as type and frequency of use, time of year, public access, proximity to populated areas, and local interests.

(A) High-use swimming areas: 235 organisms per 100 milliliters;

(B) Moderate fully body contact: 298 organisms per 100 milliliters;

(C) Lightly used full body contact: 410 organisms per 100 milliliters; or

(D) Infrequently used full body contact: 576 organisms per 100 milliliters.

Section 23. Water Quality Criteria for Protection of Scenic Value Use.

(a) The Department shall implement the water quality criteria in this Section to ensure that Surface Waters of the State designated for scenic value are protected from pollution.

(b) Narrative criteria. Pollution shall not:

(i) Impair scenic value uses; or

(ii) Result in unacceptable adverse impacts to the aesthetics of Surface Waters of the State, including but not limited to odors, colors, tastes, settleable solids, wastes, and floating, suspended, and dissolved materials.

Section 24. Water Quality Criteria for Protection of Terrestrial Wildlife Use.

(a) The Department shall implement the water quality criteria in this Section to ensure that Surface Waters of the State designated for terrestrial wildlife are protected from pollution.

(b) Narrative criteria. Pollution shall not:

(i) Impair terrestrial wildlife uses; or

(ii) Result in adverse chronic or acute impacts to terrestrial wildlife.

Section 25. Modifications to Water Quality Criteria.

(a) The Department may modify water quality criteria assigned to a Surface Water of the State through revision of this Chapter, either at its discretion or upon receipt of a petition in accordance with the Department's Rules of Practice and Procedure, Chapter 3. Modifications to water quality criteria shall protect downstream surface water quality standards and

(i) Existing uses;

(ii) Designated uses; and

(iii) The highest attainable use. To ensure protection of the highest attainable use, it may be necessary to complete a use attainability analysis, as described in Section 12(c) of this Chapter.

(b) Water quality criteria for waters designated for effluent-dependent aquatic life or human consumption of effluent-dependent fish may be modified by the Water Quality Division Administrator on a categorical or site-specific basis to reflect ambient conditions by developing a use attainability analysis demonstrating that the waterbody is effluent-dependent and that continued discharge of a permitted effluent to the waterbody has been shown to create a net environmental benefit.

(i) Criteria modification based on a finding of net environmental benefit is authorized where the requirements in Subparagraphs (A) through (D) of this Paragraph are met.

(A) The waterbody is effluent-dependent.

(B) 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.

(C) There is a credible threat to remove the discharge.

(D) Appropriate safeguards are in place, ensuring that downstream uses will be protected and the discharge will not pose a health risk or hazard to humans, livestock, or terrestrial wildlife.

(ii) 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 applicable aquatic life or human consumption of fish numeric criteria in Sections 16 and 18 of this Chapter. Such site-specific criteria will be implemented as instantaneous maximum values.

(A) 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.

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

(C) 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 the United States Environmental Protection Agency under Section 304(a) of the Clean Water Act, 33 U.S.C. § 1314(a). Such criteria shall be at least equal to the criteria published under Section 304(a) of the Clean Water Act, 33 U.S.C. § 1314(a).

Section 26. Discharger Specific Variances.

(a) The Department may adopt a time-limited designated use and water quality criteria for ammonia or nutrients (e.g., total nitrogen, total phosphorus) through revision of this Chapter, either at its discretion, or upon receipt of a petition in accordance with the Department's Rules of Practice and Procedure, Chapter 3, Section 3.

(b) Discharger specific variances may only be granted in circumstances where a comprehensive alternatives analysis demonstrates that the most cost-effective pollutant removal alternative capable of achieving the water quality-based effluent limitations would create substantial and widespread economic and social impacts.

(c) A discharger specific variance shall not be granted if:

(i) The ammonia or nutrient water quality-based effluent limitation can be achieved by implementing technology-based effluent limitations under Sections 301(b) and 306 of the Clean Water Act, 33 U.S.C. § 1311(b) and § 1316; or

(ii) The discharger specific variance will result in an increase in the discharge of the pollutant.

(d) Each discharger specific variance shall:

(i) Identify the pollutant(s), waterbody or waterbody segment(s), and the permittee(s) subject to the discharger specific variance; and

(ii) Outline the requirements that apply throughout the term of the discharger specific variance for the permittee to achieve the highest attainable condition of the receiving water. The highest attainable condition shall be identified through a comprehensive alternatives analysis or other supporting documentation at the time the discharger specific variance is granted or during any reevaluation. The highest attainable condition shall include:

(A) The interim effluent condition that represents the greatest pollutant reduction achievable; and

(B) Development and implementation of a pollutant minimization program.

(iii) Identify the term of the discharger specific variance. The term shall only be as long as necessary to achieve the highest attainable condition as specified in Sections 2(b)(xix) and 26(d)(ii) of this Chapter.

(e) Once granted, the discharger specific variance shall only apply for the purpose of developing interim effluent limitations. A discharge permit based on a discharger specific variance shall include the interim effluent limitation identified in the discharger specific variance and any limitations and requirements identified in the discharger specific variance as enforceable conditions of the permit.

(f) The Department shall reevaluate each discharger specific variance at least every five years using all existing and readily available information. The Department may also initiate a reevaluation at any time.

(i) Upon notification that the Department is initiating a reevaluation, or 180 days prior to permit expiration, the permittee shall submit:

(A) Information on how the permittee did or did not comply with the conditions of the discharger specific variance; and

(B) Information sufficient to determine whether the highest attainable condition, as specified in Sections 2(b)(xix) and 26(d)(ii) of this Chapter must be modified.

(ii) The Department shall notify the public of the reevaluation and provide a minimum of 30 days for the public to comment.

(iii) In circumstances where the reevaluation concludes that a more stringent highest attainable condition is justified, the Department shall modify the discharge permit. In circumstances where the reevaluation concludes that a more lenient highest attainable condition is justified, a new discharger specific variance must be adopted through revision of this Chapter.

(iv) If the information identified in Section 26(f)(i) of this Chapter is not timely submitted to the Department or the Department does not submit the reevaluation to EPA within 30 days of completion, the Department shall modify the discharge permit such that the

permittee must meet the water quality-based effluent limitation. In such cases, the Department shall also repeal the discharger specific variance through revision of this Chapter.

(g) Nothing shall preclude adoption of a subsequent discharger specific variance consistent with this Section.

Section 27. Mitigation Requirements for Wetlands Not Subject to the Jurisdiction of the Clean Water Act.

(a) For Surface Waters of the State that are wetlands not subject to the jurisdiction of the Clean Water Act, the Department shall ensure that point or nonpoint sources of pollution do not cause the destruction, damage, or impairment of natural wetlands, or man-made wetlands or enhancements used to mitigate the loss of natural wetlands, unless authorized or exempted by law or mitigated through an authorized mitigation process.

(b) When approving mitigation, the Department may consider both the ecological functions and the wetland value of the disturbed wetland.

(c) This Section does not apply to wetlands created by point or nonpoint sources, nor are such wetlands required to be maintained through the continuation of such discharges. Man-made wetlands or enhancements that have been credited in the state wetland banking program are not required to be maintained until the credit is used for mitigation purposes. These areas will, however, be protected from the discharge of wastes, toxic substances, or chemical pollutants, as are any other Surface Waters of the State.

Section 28. Incorporation By Reference.

(a) This Chapter incorporates by reference the following codes, standards, rules, regulations, and materials:

(i) *Wyoming Surface Water Designations*, in effect as of February 20, 2025, available at https://deq.wyoming.gov/water-quality/watershed-protection/surface-water-quality-standards/;

(ii) Wyoming Recreation Designated Uses Web Map, in effect as of February 20, 2025, available at: https://deq.wyoming.gov/water-quality/watershed-protection/surface-water-quality-standards/;

(iii) Water Quality Standards for Salinity Colorado River System, in effect as of October 24, 2023, available at: http://www.coloradoriversalinity.org;

(iv) Wyoming Game and Fish Stream and Lake Database, in effect as of June 2000;

(v) The Clean Water Act, 33 U.S.C. § 1311(b), in effect as of February 20, 2025, available at: http://www.gpo.gov/fdsys/;

(vi) The Clean Water Act, 33 U.S.C. § 1314(a), in as effect of February 20, 2025, available at: http://www.gpo.gov/fdsys/;

(vii) The Clean Water Act, 33 U.S.C. § 1316, in effect as of February 20, 2025, available at: http://www.gpo.gov/fdsys/;

(viii) The Clean Water Act, 33 U.S.C. § 1342(p), in effect as of February 20, 2025, available at http://www.gpo.gov/fdsys/; and

(ix) 40 C.F.R § 136.1, 136.2, 136.3, 136.5, and 136.7, in effect as of February 20, 2025, available at http://www.ecfr.gov.

(b) For these codes, standards, rules, regulations, and materials incorporated by reference:

(i) The Council has determined that incorporation of the full text in these rules would be cumbersome or inefficient given the length or nature of the rules.

(ii) This Chapter does not incorporate later amendments or editions of incorporated codes, standards, rules, and regulations.

(iii) All incorporated codes, standards, rules, and regulations are available for public inspection at the Department's Cheyenne office. Contact information for the Cheyenne office may be obtained at http://deq.wyoming.gov or from (307) 777-7937.