

RESOLUTION OF THE
RESOURCES AND DEVELOPMENT COMMITTEE
23rd Navajo Nation Council --- Third Year, 2017

AN ACTION

RELATING TO RESOURCES AND DEVELOPMENT COMMITTEE, APPROVING THE PROPOSED AMENDMENTS TO THE NAVAJO NATION SURFACE WATER QUALITY STANDARDS AS SUBMITTED BY THE NAVAJO NATION ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO THE NAVAJO NATION CLEAN WATER ACT 4 N.N.C. § 1304 (B)

BE IT ENACTED:

SECTION 1. AUTHORITY

A. The Resources and Development Committee has oversight over water on the Navajo Nation and the rules and regulations with respect to environmental protection. 2 N.N.C. §§ 500(C), 501(B) (1).

B. The Resources and Development Committee has the specific authority to review and approve all regulations promulgated under the Navajo Nation Clean Water Act. 4 N.N.C. §1304 (B)

SECTION 2. FINDINGS

A. The Navajo Nation Environmental Protection Agency has proposed amendments to the existing Navajo Nation Surface Water Quality Standards (NNSWQS) originally approved by Resolution RCN-191-99. See **Exhibit "A"**.

B. The Navajo Nation Environmental Protection Agency undertakes a triennial review of these NNSWQS to make any necessary changes.

C. The NNSWQS were first amended by the Resources and Development Committee in July of 2004 by Resolution RCJY-30-04. See **Exhibit "B"**.

D. The NNSWQS were amended subsequently in May 2007 by RCMY-25-07.

E. Amendment efforts with respect to the NNSWQS were initiated but not completed in 2010 and 2013.

F. The Navajo Nation Department of Environmental Protection Agency has submitted proposed amendments to the NNSWQS to the Resources and Development Committee for approval. See **Exhibit "C"**.

G. The current proposed amendments to the NNSWQS were noticed in the Navajo Times in March, 2016 and a public hearing was held on September 29, 2016. See **Exhibit "D"**.


H. The Resources and Development Committee finds it to be in the best interest of the Navajo Nation to approve the proposed amendments to the Navajo Nation Surface Water Quality Standards as found at **Exhibit "C"** and submitted by the Navajo Nation Environmental Protection Agency.

SECTION 3. APPROVAL

The Resources and Development Committee of the Navajo Nation Council hereby approves the amendments to the Navajo Nation Surface Water Quality Standards as found at **Exhibit "C"** and as submitted by the Navajo Nation Environmental Protection Agency.

CERTIFICATION

I, hereby certify that the following resolution was duly considered by the Resources and Development Committee of the 23rd Navajo Nation Council at a duly called meeting at Twin Arrows Navajo Casino Resort, Twin Arrows (Navajo Nation) Arizona, at which a quorum was present and that same was passed by a vote of 4 in favor, 0 opposed, 1 abstained on this 23rd day of May, 2017.



Alton Joe Shepherd, Chairperson
Resources and Development Committee
of the 23rd Navajo Nation Council

Motion: Benjamin Bennett
Second: Jonathan Perry



RCN-191-99

RESOLUTION
OF THE RESOURCES COMMITTEE
OF THE NAVAJO NATION COUNCIL

Approving the Navajo Nation Water Quality Standards

WHEREAS:

1. Pursuant to 2 N.N.C. § 691, the Resources Committee is established as a standing committee of the Navajo Nation Council; and
2. Pursuant to 2 N.N.C. § 1926, the Resources Committee of the Navajo Nation Council serves as legislative oversight committee for the Navajo Nation Environmental Protection Agency (hereafter referred to as "Navajo EPA"); and
3. Navajo EPA has regulatory, monitoring and enforcement authority over all natural resources relating to the quality of the environment within the Navajo Nation; and
4. Due to discharges of pollutants into waters of the Navajo Nation from point and non-point sources, introduction of pollutants by industrial users into publicly-owned treatment works, and use and disposal of sewage sludge, there is a need to adopt laws and regulations to protect and enhance the quality of the Navajo Nation's surface water resources for the benefit of the public health and welfare; and
5. The Navajo Nation Clean Water Act was adopted by the Navajo Nation Council pursuant to Resolution CJY-81-99; and
 - a. The Act establishes the basis for the promulgation of standards and criteria to protect the quality of the waters of the Navajo Nation;
 - b. The Act is administered and enforced by the Navajo NPDES and Water Quality Programs; and
6. Navajo EPA has developed proposed Navajo Nation Water Quality Standards, attached hereto as Exhibit "A", for the following purposes:
 - a. To designate uses of waters of the Navajo Nation; and
 - b. To establish standards and criteria designed to protect such designated uses and those waters of the Navajo Nation without an assigned designated use; and

7. The Navajo Nation Water Quality Standards apply to all persons, businesses, public and private corporations, federal and state agencies and the Navajo Nation including its political subdivisions who adversely impact the quality of the Navajo Nation's surface waters; and

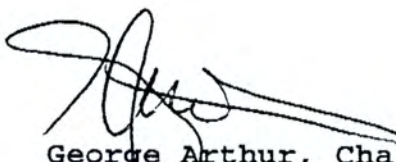
8. The Resources Committee believes that the adoption of the proposed Navajo Nation Water Quality Standards will be in the best interest of the Navajo Nation.

NOW THEREFORE BE IT RESOLVED THAT:

The Resources Committee of the Navajo Nation Council hereby approves the Navajo Nation Water Quality Standards, attached hereto as Exhibit "A".

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Resources Committee of the Navajo Nation Council at a duly called meeting at Window Rock, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 4 in favor, 0 opposed and 0 abstained, this 12th day of November, 1999.



George Arthur, Chairperson
Resources Committee

Motion: Robert B. Whitehorse
Second: Elmer L. Milford



RCJY-30-04

**RESOLUTION OF THE RESOURCES COMMITTEE
OF THE NAVAJO NATION COUNCIL**

20th NAVAJO NATION COUNCIL – Second Year, 2004

AN ACTION

**RELATING TO ENVIRONMENTAL PROTECTION AND WATER QUALITY;
AMENDING THE NAVAJO NATION WATER QUALITY STANDARDS**

BE IT ENACTED:

The Navajo Nation hereby approves the amendments to the Navajo Nation Surface Water Quality Standards, as detailed in the attached Exhibit "A" incorporated herein by this reference.

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Resources Committee of the Navajo Nation Council at a duly called meeting at Window Rock, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 6 in favor, 0 opposed and 0 abstained, this 30th day of July, 2004.

A handwritten signature in black ink, consisting of a large, stylized "G" followed by a series of loops and a horizontal stroke.

George Arthur, Chairperson
Resources Committee

Motion: LaVern Wagner
Second: Harry J. Goldtooth

EXECUTIVE SUMMARY

Navajo Nation Water Quality Standards Certification Regulations

Navajo EPA's Water Quality/Navajo Nation Pollutant Discharge Elimination System (WQ/NNPDES) Program is responsible for ensuring that the waters of the Navajo Nation attain, support, and maintain their designated uses from potential contamination from both point and non-point sources. In the Navajo Nation Surface Water Quality Standards (NNSWQS), RCN-191-99, the types of designated uses include domestic drinking water, primary and secondary human contacts, fish consumption, agricultural water supply, aquatic habitat, and livestock & wildlife watering. The Navajo Nation Clean Water Act, CJY-81-99, provides the legal basis for the development and implementation of regulations and standards to protect the quality of waters of the Navajo Nation (including dry washes).

States are empowered by Section 401 (Certification) of the federal Clean Water Act to certify that federal permits or licenses issued by federal agencies will be in compliance with State water quality standards. Under Section 518(e) of the federal Clean Water Act, Indian tribes are eligible for treatment in the same manner as States for Section 401 certification purposes. The U.S. Environmental Protection Agency is close to approving the Navajo Nation's treatment as a state application for Sections 303 (Water Quality Standards) and 401 of the federal Clean Water Act.

The proposed NNSWQS Certification Regulations will allow Navajo EPA to insure compliance with its water quality requirements and standards for projects which are subject to federal agency permits or licenses and which may result in any discharge into waters of the Navajo Nation or impact the quality of Navajo Nation waters. Permits issued by the Navajo Nation will not be subject to the NNSWQS Certification Regulations.

The WQ/NNPDES Program public noticed the proposed NNSWQS Certification Regulations in the August 7, 2003 edition of the Navajo Times. Written comments were received from the Navajo Tribal Utility Authority and Indian Health Service. WQ/NNPDES Program staff reviewed the comments and developed a "response to comments" document. In certain cases, changes were made to respond to comments.

The proposed NNWQS Certification Regulations contain five subchapters:

Subchapter 1 - Outlines the authority to develop the NNWQS Certification Regulations as well as the purpose for the regulations. This part also contains numerous definitions and a severability provision.

Subchapter 2 - Outlines when certification is required and the types of federal permits that will require certification.

Subchapter 3 - Outlines the application requirements and process for certification.

Subchapter 4 - Outlines the fee schedules for certification.

Subchapter 5 - Specifies the effective date for the certification regulations.

Executive Summary

Proposed Amendments to the Navajo Nation Water Quality Standards

The federal Clean Water Act (CWA) requires states and federally recognized Indian tribes to adopt water quality standards in order to "restore and maintain the chemical, physical, and biological integrity of the Nation's Waters" (CWA, 1988).

The Navajo Nation Water Quality Standards (NNWQS) were passed by the Navajo Nation Resources Committee on November 12, 1999. Section 202 of the Navajo Nation Clean Water Act (NNCWA) and Section 303(c)(1) of the federal Clean Water Act (CWA) both require that water quality standards be reviewed and, as appropriate, be amended from time to time. This review period is often referred to as the "triennial review period."

The Navajo Nation Environmental Protection Agency Water Quality/Navajo Pollutant Discharge Elimination System Program (WQ Program) has completed the triennial review period. The proposed amendments to the NNWQS were reviewed by the WQ Program and also made available to the public for a one-month comment period.

The Amendments made to the NNWQS include the following:

- Designated uses for additional known water bodies (such as fishing lakes and perennial waters).
- Changed the consumption of organisms only health criteria to fish consumption designated use.
- Merged the domestic water supply designated use and the consumption of water and organisms criteria into a single domestic water supply designated use.
- Adopted an *Escherichia coli* (E. Coli) human health standard based on federal criteria.
- Revised ammonia habitat standards to reflect current federal criteria.
- Adopted numeric metals and organic compound standards for primary and secondary human contact designated uses.
- Revised numeric water quality criteria to reflect current federal recommended water quality criteria.
- Corrected NNWQS errors and discrepancies including those found in multiple habitat use designations and numeric water quality standards.

The NNWQS will now be referred to as the Navajo Nation Surface Water Quality Standards (NNSWQS).

**Water Quality/Navajo Nation Pollutant Discharge Elimination System Program
Response to Public Comments on Draft NNSWQS Amendments**

The following are the recommendations of Navajo EPA to the Resources Committee of the Navajo Nation Council on responses to public comments received on the draft amendments to the Navajo Nation Surface Water Quality Standards (NNSWQS).

Written Comments - - Navajo EPA received a written comment from the Navajo Tribal Utility Authority (NTUA). The following is Navajo EPA's response to the comment received pursuant to the 30-day public notice comment period that ended on September 8, 2003. A public notice on the draft amendments to the NNSWQS was placed in the Navajo Times as required by the Uniform Regulations for Permit Review, Administrative Enforcement Orders, Hearings, and Rulemakings Under Navajo Nation Environmental Acts. (The comment listed is a summary of the nature of the individual comment.)

1. Where is the "Quality Assurance Project Plan, Assessment of Streams and Lakes of the Navajo Nation" available since all sample collection methods used to obtain surface water and effluent samples must adhere to this plan?

Response

○ The "Quality Assurance Project Plan, Assessment of Streams and Lakes of the Navajo Nation" is available at all the Water Quality/NNPDES Program offices (Window Rock main office, Shiprock suboffice, and Tuba City suboffice). This QAPP document was approved by U.S. EPA Region 9 on February 21, 1995. The Water Quality/NNPDES Program is currently in the process of updating this QAPP document.



NAVAJO NATION SURFACE WATER QUALITY STANDARDS 2015



(Colorado River near Lees Ferry on October 27, 2003)

Prepared by:

Navajo Nation Environmental Protection Agency
Water Quality Program
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PART I

SURFACE WATER QUALITY STANDARDS - GENERAL PROVISIONS

§ 101 TITLE

These regulations are cited as the Navajo Nation Surface Water Quality Standards 2015 (NNSWQS 2015).

§ 102 AUTHORITY

These regulations are adopted pursuant to §104(b) and §201 of the Navajo Nation Clean Water Act (NNCWA), C.J.Y.-81-99; they establish surface water quality standards applicable to the surface waters of the Navajo Nation pursuant to §303 and §518 of the Federal Clean Water Act.

§ 103 PURPOSE

- A. The purpose of these surface water quality standards is to protect, maintain, and improve the quality of Navajo Nation surface waters for public and private drinking water supplies; to promote the habitation, growth, and propagation of native and other desirable aquatic plant and animal life; to protect existing, and future, domestic, cultural, agricultural, recreational and industrial uses; and to protect any other existing and future beneficial uses of Navajo Nation surface waters. These standards provide the water quality goals for each body of surface water within the Navajo Nation and provide the basis for establishing treatment controls and strategies through regulation.
- B. These standards apply to all Waters of the Navajo Nation.

§ 104 DEFINITIONS

- A. "Acute Standard" means a standard that applies to any single sample; acute standards shall not be exceeded at any time.
- B. "Acute Toxicity" means toxicity involving a stimulus severe enough to induce a deleterious response (e.g., mortality, disorientation, immobilization) in 96 hours of exposure or less.
- C. "Agricultural Water Supply (AgWS)" means the use of the water for the irrigation of crops that could be used for human consumption.
- D. "Aquatic and Wildlife ~~Habitat~~ (A&WH~~bt~~)" means the use of the water by animals, plants or other organisms, including salmonids and non-salmonids, and non-domestic animals

- (including migratory birds) for habitation, growth or propagation. Water body supports or is capable of supporting either cold water fishes, including trout species or warm water fishes including bass species, catfish species, and bluegill species. Water body supports the aquatic communities upon which cold and warm water fishes depend. Cold waters are waters that typically have temperatures below 20 °C. Warm waters are waters that typically have temperatures exceeding 20 °C. Water body supports prey base for non-domestic animals (including migratory birds).
- E. "Assimilative Capacity" means the difference between the baseline water quality concentration of a pollutant and the most stringent applicable water quality criterion for that pollutant.
- F. "Best Management Practices" or "BMPs" means methods, measures or practices selected by an agency to meet its nonpoint source pollution control needs, or, in the case of the National Pollutant Discharge Elimination System, schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the pollution of waters of the Navajo Nation. BMPs include, but are not limited to, structural and non-structural controls, treatment requirements, operation and maintenance procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage, and can be applied before, during, or after pollution-producing activities to reduce or eliminate the introduction of pollutants into Waters of the Navajo Nation.
- G. "Bioaccumulation" means the process of a chemical accumulating in a biological food chain by being passed from one organism to another as the contaminated organism is preyed upon by another organism.
- H. "Bioconcentration" means the process by which there is a net accumulation of a chemical directly from water into aquatic organisms resulting from simultaneous uptake and elimination.
- I. "Chronic Standard" means a standard that applies to the geometric mean of the analytical results of the last four samples taken at least 24 hours apart~~-arithmetic mean of samples collected during four consecutive days~~; chronic standards shall not be exceeded more than once every three years.
- J. "Chronic Toxicity" means toxicity involving a stimulus that lingers or continues for a relatively long period relative to the life span of an organism before effects are observed (e.g., 28 days for small fish test species). Chronic effects include, but are not limited to, lethality, growth impairment, behavioral modifications, disease and reduced or impaired reproduction.

- K. "Clean Water Act" means the Federal Water Pollution Control Act of 1972, as amended, 33 U.S.C., § 1251 *et seq.*
- L. "Critical Flow Condition" means the lowest flow over seven consecutive days that has a probability of occurring once in 10 years (7 Q 10).
- M. "Criteria" means elements of water quality standards that are expressed as ~~pollutant~~ chemical, physical, biological, or radiological concentrations, levels, properties or narrative statements representing a water quality that supports a designated use. When criteria are met, water quality should protect the designated use.
- N. "Deep lake" means a lake or reservoir with an average depth over 6 meters.
- O. "Designated Use" means a use described in ~~§205~~ §206 and specified in Table ~~205.1~~ 206.1 of these standards for a surface water body or surface water body segment of the Navajo Nation.
- P. "Diel" means a measurement obtained during 24 hours.
- Q. "Director" means the Executive Director of the Navajo Nation Environmental Protection Agency.
- R. "Dissolved" means the concentration of a constituent in a water sample that is analytically determined following filtration ~~using~~ through a 0.45 micron filter.
- S. "Domestic Water Supply (Dom)" means the use of the water as a potable water supply.
- T. ~~"Ephemeral Surface Water" means a water that has a channel that is at all times above the water table, and that flows only in direct response to precipitation.~~ means a flowing or non-flowing surface water that has a stream bed, lake bed, or pond bed that is at all times above the water table and water above the bed is only present in direct response to precipitation.
- U. "Exceptional Waters of the Navajo Nation" means ground or surface waters that have been determined to be of exceptional cultural, ecological and/or recreational significance due to the nature of their flora, fauna, water quality, aesthetic value, or wilderness characteristics.
- V. "Fish Consumption (FC)" means the use of the water by humans for harvesting aquatic organisms for consumption. Harvestable aquatic organisms include, but are not limited to, fish, shell-fish, turtles, crayfish, and frogs.
- W. "Geometric Mean" means the nth root of the product of n items or values. A minimum of four samples shall be used to calculate the geometric mean. The geometric mean is

calculated using the following formula:

$$GM_Y = n \sqrt{(Y_1)(Y_2)(Y_3)...(Y_n)}$$

- X. "Hardness" means the sum of the calcium and magnesium concentrations, expressed as calcium carbonate (CaCO_3), in milligrams per liter (mg/L) and may be calculated using the following formula: $\text{Hardness (as } \text{CaCO}_3) = 2.5 \times \text{Ca}^{2+} \text{ (mg/L)} + 4.1 \times \text{Mg}^{2+} \text{ (mg/L)}$. Hardness analysis is done from a dissolved water sample.
- Y. "Igneous lake" means a lake or reservoir located in volcanic or basaltic geology and soils.
- Z. "Intermittent Surface Water Stream" ~~means a watercourse~~ means a flowing or non-flowing surface water with water above the stream bed, pond bed, or lake bed that flows only at certain times of the year, receiving water from springs or surface sources; also, a watercourse that does not flow continuously, when water losses from evaporation or seepage exceed available stream flow.
- AA. "Livestock Watering (LW)" means water used by livestock for consumption (ingestion).
- BB. "Micrograms per Liter ($\mu\text{g/l}$)" means micrograms of solute per liter of solution (equivalent to parts per billion when the specific gravity of the solution = 1.000).
- CC. "Milligrams per Liter (mg/l)" means milligrams of solute per liter of solution (equivalent to parts per million when the specific gravity of the solution = 1.000).
- DD. "Nonpoint Source" means any source of water pollution that is not a point source, as defined herein.
- EE. "NTU" is a nephelometric turbidity unit based on a standard method using formazin polymer or its equivalent as the standard reference suspension. Nephelometric turbidity measurements expressed in units of NTU are numerically identical to the same measurements expressed in units of FTU (formazin turbidity units).
- FF. "Oil" means oil of any kind or in any form, including but not limited to petroleum, crude oil, gasoline, fuel oil, diesel oil, lubricating oil, oil refuse, sludge, vegetable oil, animal oil, and oil mixed with wastes.
- GG. "Perennial Surface Water" means a flowing or non-flowing surface water that is present continuously throughout the year.
- HH. "Photic zone" means the lighted region of a lake where photosynthesis takes place. Extends down to a depth where plant growth and respiration are balanced by the amount of light available.

- II. "Picocurie (pCi)" is a measure of radioactivity equal to the quantity of a radioactive substance in which the rate of disintegrations is 2.22 per minute. Expressed in picocuries per liter (pCi/l).
- JJ. "Point Source" means any discernible, confined, and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, landfill leachate collection system, container, rolling stock (except to the extent excluded from the NPDES program by section 601 of the National and Community Services Act of 1990, P.L. 101-610, 104 Stat. 3185), concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged into a body of water. This term does not include agricultural storm water discharges or return flows from irrigated agriculture.
- KK. "Pollutant" means fluids, contaminants, toxic wastes, toxic pollutants, dredge spoil, solid waste, substances and chemicals, pesticides, herbicides, fungicides, rodenticides, fertilizers, and other agricultural chemicals, incinerator residue, sewage, garbage, sewage sludge, munitions, petroleum products, oils, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, dirt, and mining, industrial, municipal, and agricultural wastes or any other liquid, solid, gaseous, or hazardous substance.
- LL. "Pollution" means any ~~man~~-human-made or ~~man~~ human-induced alteration of the chemical, physical, biological, or radiological integrity of waters of the Navajo Nation.
- MM. "Primary Human Contact (PrHC)" means the use of the water that causes the human body to come into direct contact with the water, typically to the point of submergence in the water body, or probable ingestion of the water, or contact by the water with membrane material of the body. Examples include ceremonial uses, swimming and water-skiing.
- NN. "Recreational Uses" are the Primary Human Contact and Secondary Human Contact designated uses.
- OO. "Regional Administrator" means the Regional Administrator of Region 9 of the U.S. Environmental Protection Agency.
- PP. "Secondary Human Contact (ScHC) " means the use of water which may cause the water to come into direct contact with the skin of the body but normally not to the point of submergence, ingestion of the water, or contact of the water with membrane material of the body. Such contact would occur incidentally and infrequently. Examples include ceremonial and other cultural uses, boating and fishing.
- QQ. "Sedimentary lake" means a lake or reservoir in sedimentary or karst geology and soils.

- RR. "Shallow lake" means a lake or reservoir with an average depth of less than 3 meters and a maximum depth of less than 4 meters.
- SS. "TDS" means total dissolved solids, also termed "total filterable residue."
- TT. "Total Concentration" means the concentration of a constituent in a water sample which is analytically determined without filtration through a 0.45 micron filter.
- UU. "Total Nitrogen" means the sum of the concentrations of ammonia (NH₃), ammonium ion (NH₄⁺), nitrite (NO₂⁻), nitrate (NO₃⁻) and dissolved and particulate organic nitrogen in a water sample, expressed as elemental nitrogen (N).
- VV. "Total Phosphorus" means all the phosphorus species present in a water sample, regardless of form, as measured by a persulfate digestion procedure.
- WW. "Toxic Pollutant" means a pollutant, or combination of pollutants, including disease-causing agents, which, after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring. Aquatic toxicity may be determined by the "National Whole Effluent Toxicity (WET) Implementation Guidance Under the NPDES Program, Draft, U.S. Environmental Protection Agency, Office of Wastewater Management, (EPA-832-B-04-003) (November, 2004)" which is incorporated by reference.
- XX. "Turbidity" means the optical clarity of water that causes incident light to be scattered or absorbed rather than transmitted in straight lines.
- YY. ~~"Unique Waters" means ground or surface waters that have been determined to be of exceptional cultural, ecological and/or recreational significance due to the nature of their flora, fauna, water quality, aesthetic value, or wilderness characteristics.~~
- ZZ. "Wastewater Mixing Zone" means a defined and limited part of a surface water body, with defined boundaries adjacent to a point source of pollution, in which initial dilution of wastewater occurs.
- AAA. "Waters of the Navajo Nation" means all surface waters including, but not limited to, perennial, intermittent and ephemeral reaches and portions of rivers, streams (~~including perennial, intermittent and ephemeral streams and their tributaries~~), lakes, ponds, dry washes, marshes, waterways, wetlands, mudflats, sandflats, sloughs, prairie potholes, wet meadows, playa lakes, impoundments, riparian areas, springs, tributaries and all other bodies or accumulations of water, surface, natural or artificial, public or private,

including those dry during part of the year, which are within ~~or border~~ the Navajo Nation. This definition shall be interpreted as broadly as possible to include all waters which are currently used, were used in the past, or may be susceptible to use in interstate, intertribal or foreign commerce. Consistent with federal requirements, the Director may exclude from waters of the Navajo Nation certain waste treatment systems.

BBB. "Wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

CCC. "Zone of passage" means a continuous water route of volume, cross-sectional area and quality necessary to allow passage of free-swimming or drifting organisms with no toxic effect produced on the organisms.

§ 105 SEVERABILITY

If any provision of these regulations or the application thereof to any person or circumstance is held invalid, the remainder of these regulations and the application of such provision to other persons or circumstances shall remain unaffected, and to this end the provisions of these regulations are declared to be severable.

PART II SURFACE WATER QUALITY STANDARDS

§ 201 ANTIDEGRADATION POLICY

The following antidegradation policy is promulgated under § 201(a) of the Navajo Nation Clean Water Act (C.J.Y.-81-99).

- A. Existing designated uses and the level of water quality necessary to protect the existing designated uses shall be maintained and protected.
- B. Where the quality of any water body is of a higher quality than is necessary to support existing designated uses, including ~~but not limited to~~ the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water body, that quality shall be maintained and protected unless the Navajo Nation finds, after full interagency coordination and public participation, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the water body is located. In allowing such degradation or lower water quality, the Navajo Nation shall assure water quality adequate to protect existing designated uses fully.

- C. The Navajo Nation shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint source pollution control.
- D. ~~Where high quality waters or Unique Waters constitute an outstanding resource of the Navajo Nation, such as waters of National parks and monuments, Tribal parks and wildlife refuges, and other waters of exceptional recreational, cultural or ecological significance, that water quality shall be maintained and protected.~~
- E. This policy of antidegradation includes protection against water quality impairment associated with thermal discharges and shall be implemented consistent with §316 of the Federal Clean Water Act (33 U.S.C. §1326).
- F. The Director shall determine whether there is degradation of water quality in a surface water on a pollutant-by-pollutant basis.
- G. Tier 1: The level of water quality necessary to protect existing uses shall be maintained and protected. No degradation of existing water quality is permitted in a surface water where the existing water quality does not meet the applicable water quality standard.
- H. Tier 2: Where existing water quality in a surface water is better than the applicable water quality standard, the existing water quality shall be maintained and protected. The Director may allow limited degradation of existing water quality in the surface water, provided that the Department holds a public hearing on whether degradation should be allowed and the Director makes all of the following findings:
- 1 The level of water quality necessary to protect existing uses is fully protected. Water quality shall not be lowered to a level that does not comply with applicable water quality standards.
 - 2 The highest statutory and regulatory requirements for new and existing point sources are achieved.
 - 3 All cost-effective and reasonable best management practices for non-point source pollution control are implemented.
 - 4 Allowing lower water quality is necessary to accommodate important economic or social development in the area where the surface water is located.
- I. Tier 3: Existing water quality shall be maintained and protected in a surface water that is classified as a Exceptional Water of the Navajo Nation under NNSWQS 2015 Section 209 . The Director shall not allow degradation of an Exceptional Water of the Navajo Nation under

Section 209 Subsection (C).**§ 202 ANTIDEGRADATION IMPLEMENTATION PROCEDURES**

The following antidegradation policy is promulgated under § 201(a) of the Navajo Nation Clean Water Act (C.J.Y.-81-99).

- A. This section applies to a regulated discharge that may degrade the existing water quality of a surface water. "Regulated discharge" means a point source discharge regulated under a National Pollutant Discharge Elimination System (NPDES) permit, any discharge regulated by an individual, nationwide or regional §404 permit, and any discharge authorized by a federal permit or license that is subject to Navajo Nation water quality certification under §401 of the US Clean Water Act.
- B. Tier 1 antidegradation protection: The level of water quality necessary to meet applicable water quality standards shall be maintained and protected in a surface water. A regulated discharge shall not cause a violation of an applicable surface water quality standard for a surface water.
 1. Tier 1 antidegradation protection applies to the following surface waters:
 - a. A surface water listed as impaired under the US Clean Water Act §303(d) list and/or listed as effluent limited under the Navajo Nation Clean Water Act §205 and/or for the pollutant that results in a listing;
 - b. An ephemeral water;
 - c. A perennial water; and
 - d. An intermittent surface water.
 2. A regulated discharge shall not cause further degradation of existing water quality in an water listed as impaired under the US Clean Water Act §303(d) list and/or listed as effluent limited under the Navajo Nation Clean Water Act §205 for the pollutant that resulted in the listing.
 3. Tier 1 antidegradation review requirements are satisfied for a point source discharge regulated under a NPDES permit to an ephemeral water, a perennial water or an intermittent water provided water quality-based effluent limitations designed to achieve compliance with surface water quality standards are established in the permit and technology-based requirements of the Clean Water

Act for the point source discharge are met.

- C. Tier 2 antidegradation protection applies to a perennial surface water with existing water quality that is better than applicable water quality standards. Existing water quality water shall be maintained and protected in a perennial surface water. A perennial surface water that is not listed as impaired under the US Clean Water Act §303(d) list and/or listed as effluent limited under the Navajo Nation Clean Water Act §205 for the pollutant that results in a listing nor classified as an Exceptional Water of the Navajo Nation is presumed to have Tier 2 antidegradation protection for all pollutants of concern. The Department may allow degradation of existing water quality on a pollutant-by-pollutant basis in accordance with the following procedures:

- 1 A new or expanded regulated discharge resulting in significant degradation of existing water quality of a perennial surface water is subject to a comprehensive antidegradation review. For purposes of this section, "significant degradation" means the consumption of 20 percent or more of the available assimilative capacity of a surface water for a pollutant of concern at critical flow conditions.
- 2 The Department may allow significant degradation provided the Department determines, after public participation and intergovernmental coordination requirements are satisfied, that there are no reasonable, cost-effective, less-degrading or non-degrading alternatives and allowing significant degradation is necessary to accommodate important economic or social development in the area where the surface water is located.
- 3 A new or expanded regulated discharge shall not significantly degrade existing water quality to the level where the discharge causes a violation of surface water quality standards.
- 4 The Department may require a person seeking authorization for a new or expanded regulated discharge to a perennial water to provide baseline water quality data on pollutants of concern reasonably expected to be in the discharge. The Department will use existing data where available to characterize baseline water quality. The Department may require the person seeking authorization for a new or expanded regulated discharge to provide data to the Department to characterize baseline water quality where no data exist or there are insufficient data to characterize baseline water quality for a pollutant of concern. Baseline

water quality shall be characterized at a location upstream of the proposed discharge location.

- 5 A person seeking authorization for a new or expanded regulated discharge that will significantly degrade water quality of a perennial water shall prepare and submit to the Department a written analysis of alternatives to the discharge. The alternatives analysis shall provide information on all reasonable, cost-effective, less degrading or non-degrading pollution control alternatives that do not result in significant degradation. Alternatives may include, but are not limited to, wastewater treatment process changes or upgrades, pollution prevention measures, source reduction, water reclamation, alternative discharge locations, groundwater recharge, land application or treatment, local pretreatment programs, improved operation and maintenance of existing systems, and seasonal or controlled discharge to avoid critical flow conditions.
 - a. An alternatives analysis shall include cost information on base pollution control measures associated with the regulated discharge. Base pollution control measures are water pollution control measures required to meet technology-based requirements of the US Clean Water Act and water quality-based effluent limits designed to achieve compliance with applicable water quality standards.
 - b. An alternatives analysis shall include the treatment costs of each alternative that produces an effluent that does not result in significant degradation.
 - c. An alternative is deemed to be cost-effective and reasonable if treatment costs associated with the alternative are less than 110 percent of the cost of base pollution control measures.
 - d. The Department will require that the alternative or combination of alternatives that results in the least degradation and does not exceed 110 percent of the cost of base pollution control measures be implemented.
- 6 A person seeking authorization for a new or expanded regulated discharge to a perennial water that will result in significant degradation shall prepare a written statement demonstrating that the discharge and significant degradation are necessary to accommodate important social and economic development in the area of the discharge.

- 7 In accordance with the Navajo Nation Environmental Protection Agency's Uniform Regulations, Permit Review, Administrative Enforcement Orders, Hearings, and Rulemaking Under Navajo Nation Environmental Acts, the Department shall provide public notice of an antidegradation review, provide an opportunity for public comment on its antidegradation review, and hold public hearings on antidegradation reviews. Intergovernmental coordination is required before the Department approves a regulated discharge that will significantly degrade a perennial water.
- D. Tier 3 antidegradation protection applies only to Exceptional Waters of the Navajo Nation and their tributaries. Existing water quality in an Exceptional Water of the Navajo Nation shall be maintained and protected.
- 1 A new or expanded regulated discharge directly to an Exceptional Water of the Navajo Nation is prohibited.
 - 2 The Department may authorize a regulated discharge to a tributary or upstream of an Exceptional Water of the Navajo Nation provided the person seeking authorization for the regulated discharge demonstrates in a permit application or in other written documentation submitted to the Department that the regulated discharge will not degrade existing water quality in the downstream Exceptional Water of the Navajo Nation
 - 3 The Department may allow temporary and short-term changes to existing water quality of an Exceptional Water of the Navajo Nation on a case-by-case basis. Temporary and short-term changes are defined as those occurring for a period of six months or less.
- E. The Department shall conduct the antidegradation review of a regulated discharge authorized by an individual, nationwide or regional §404 permit issued by the U.S. Army Corps of Engineers as part of the US CWA §401 water quality certification process. A regulated discharge authorized by a §404 permit that receives §401 water quality certification from the Department is deemed to have satisfied antidegradation requirements provided the permittee complies with the conditions of the §404 permit and any conditions required by the Department for §401 water quality certification. The Department shall conduct the antidegradation review for a nationwide or a regional §404 permit at the time of issuance or

re-issuance of the permit by the U.S. Army Corps of Engineers. A person seeking authorization to discharge under a nationwide or regional §404 permit that has been certified by the Department under §401 of the Clean Water Act is not required to undergo an individual antidegradation review at the time of submittal of the Notice of Intent to be covered by the permit except where a person seeks authorization to discharge to an Exceptional Water of the Navajo Nation. A discharge regulated under a nationwide or regional §404 permit that may affect water quality of an Exceptional Water of the Navajo Nation requires individual §401 water quality certification to ensure that water quality impacts are temporary.

- F. The Department shall conduct the antidegradation review of a regulated discharge authorized by a general permit for the entire class of discharges covered by the general permit at the time a general permit is issued or renewed. A person seeking authorization to discharge under a general permit that the Department has reviewed on a categorical basis is not required to undergo an individual antidegradation review at the time of submittal of the Notice of Intent to be covered by the general permit except where the discharge may affect water quality of an Exceptional Water of the Navajo Nation. Any discharge authorized by a general permit that may affect water quality of an Exceptional Water of the Navajo Nation requires an individual antidegradation review by the Department to ensure that the water quality impacts to the Exceptional Water of the Navajo Nation are temporary.

§ ~~202~~ 203 NARRATIVE SURFACE WATER QUALITY STANDARDS

- A. All Waters of the Navajo Nation shall be free from pollutants in amounts or combinations that, for any duration:
1. Cause injury to, are toxic to, or otherwise adversely affect human health, public safety, or public welfare.
 2. Cause injury to, are toxic to, or otherwise adversely affect the habitation, growth, or propagation of aquatic life and wildlife, ~~indigenous aquatic plant and animal communities or any member of these communities; of any desirable non-indigenous member of these communities; of waterfowl accessing the water body; or otherwise~~

~~adversely affect the physical, chemical, or biological conditions on which these communities and their members depend.~~

3. ~~Settle to form bottom deposits, including sediments, precipitates and organic materials that cause injury to, are toxic to, or otherwise adversely affect the habitation, growth, or propagation of aquatic life and wildlife, indigenous aquatic plant and animal communities or any member of these communities; of any desirable non-indigenous member of these communities; of waterfowl accessing the water body; or otherwise adversely affect the physical, chemical, or biological conditions on which these communities and their members depend.~~
 4. Cause physical, chemical, or biological conditions that promote the habitation, growth, or propagation of undesirable, non-indigenous species of plant or animal life in the water body.
 5. Cause solids, oil, grease, foam, scum, or any other form of objectionable floating debris on the surface of the water body; may cause a film or iridescent appearance on the surface of the water body; or that may cause a deposit on a shoreline, on a bank, or on aquatic vegetation.
 6. Cause objectionable odor in the area of the water body.
 7. Cause objectionable taste, odor, color, or turbidity in the water body.
 8. Cause objectionable taste in edible plant and animal life, including waterfowl that reside in, on, or adjacent to the water body.
 9. Cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth, or propagation of other aquatic life or that impair recreational uses.
- B. All Waters of the Navajo Nation shall be free of toxic pollutants from other than natural sources in amounts, concentrations, or combinations which affect the propagation of fish or which are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food, or which will or can reasonably be expected to bioaccumulate in tissues of fish, shellfish, or other aquatic organisms to levels which will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers. Aquatic toxicity may be determined by the "National Whole Effluent Toxicity (WET) Implementation Guidance Under the NPDES Program, Draft, U.S. Environmental Protection Agency, Office of Wastewater Management, (EPA-832-B-04-003) (November, 2004)" which is incorporated by reference.
- C. No person shall place animal carcasses, refuse, rubbish, demolition or construction debris, trash, garbage, motor vehicles, motor vehicle parts, batteries, appliances, tires, or

other solid waste into Waters of the Navajo Nation or onto their banks.

§ ~~203~~ 204 IMPLEMENTATION PLAN

The Navajo Nation Water Quality Program (NNWQP) within the Navajo Nation Environmental Protection Agency (NNEPA), pursuant to the NNCWA, shall implement these water quality standards, including the antidegradation policy, by establishing and maintaining controls on the introduction of pollutants into waters of the Navajo Nation. Specifically, NNWQP shall do the following:

1. Develop a comprehensive database that fully identifies all waters of the Navajo Nation, their quality and designated uses, and any activities which may detrimentally impact those waters and uses.
2. Monitor water quality to assess the effectiveness of pollution controls, and to determine whether designated uses are being supported and narrative and numeric water quality standards are being met.
3. Obtain information as to the impact of effluent on receiving waters.
4. Advise prospective dischargers of discharge requirements.
5. Assess the probable impact of effluent on the capability of receiving waters to support designated uses and achieve narrative and numeric water quality standards.
6. Require the highest degree of wastewater treatment practicable to maintain designated uses and existing water quality.
7. Develop water quality-based effluent limitations and provide comment on technology-based effluent limitations as appropriate for inclusion in any permit to be issued to a discharger pursuant to §301 of the NNCWA, C.J.Y.-81-99, and §402 of the Federal Clean Water Act (33 U.S.C. §1342).
8. Require that effluent limitations or any other appropriate limitations applicable to activities with the potential for discharge to waters of the Navajo Nation be included in any permit as a condition for Navajo Nation certification pursuant to §209 of the NNCWA, C.J.Y.-81-99, and §401 of the Federal Clean Water Act (33 U.S.C. §1341).
9. Coordinate water pollution control activities with other Navajo Nation, local, state, and federal agencies as appropriate.
10. Develop and pursue inspection and enforcement programs in order to ensure that dischargers comply with requirements of the NNCWA and any regulations promulgated there under (including these water quality standards), and in order to support the

enforcement of federal permits issued by the U.S.EPA and permits issued by the NNEPA.

11. Provide technical assistance to wastewater treatment facility operators.
12. Assist publicly owned wastewater treatment facilities in the pursuit of wastewater treatment construction funds through construction grants authorized by the Federal Clean Water Act (33 U.S.C. §1281) and other federal funding available for this purpose.
13. Encourage, in conjunction with other agencies, voluntary implementation of best management practices (BMPs) to control nonpoint sources of pollutants in order to support designated uses and meet Navajo Nation narrative and numeric water quality standards.
14. Examine existing and future Navajo Nation policies pertaining to septic systems, solid waste disposal, range management practices, and any other relevant activities to ensure that these policies are sufficient to meet narrative and numeric water quality standards.
15. Require that sufficient instream flows be maintained to support designated uses and meet narrative and numeric water quality standards.
16. Require that surface and groundwater withdrawals do not cause degradation of surface or ground water bodies.
17. Conduct an antidegradation analysis for regulated actions that may potentially impair water quality.

§ ~~204~~ 205 NARRATIVE NUTRIENT STANDARD IMPLEMENTATION PLAN

- A. The implementation plan in this Section applies to lakes and reservoirs.
- B. The narrative nutrient standard in Section 202(A)(9) is met if sampling conducted during the peak season for lake productivity shows:
 1. The mean chlorophyll-a concentration is less than the lower value in the target range chlorophyll-a for the lake category; or
 2. The mean chlorophyll-a concentration is within the target range for the lake category and:
 - a. The mean blue green algae count is at or below 20,000 per milliliter, and
 - b. The blue green algae count is less than 50 percent of the total algae count, and
 - c. There is no evidence of nutrient-related impairments such as:

- i. An exceedance of dissolved oxygen or pH exceedance;
 - ii. A fish kill occurring with dissolved oxygen or pH exceedance;
 - iii. A fish kill or other aquatic organism mortality occurring with algal toxicity;
 - iv. Secchi depth is less than the lower value prescribed for the lake category;
 - v. A nuisance algal bloom is present in the lacustrine portion of the lake or reservoir; or
 - vi. The concentration of total phosphorous, total nitrogen, or total Kjeldahl nitrogen (TKN) is greater than the upper value in the range prescribed for the lake category;
3. Submerged aquatic vegetation covers 50 percent or less of the lake bottom of a shallow lake and there is less than a 5 milligram per liter change in diel dissolved concentrations measured within the photic zone.
- C. The following threshold ranges apply during the peak season for lake productivity:
- 1. Warm water lakes peak season, April - October;
 - 2. Cold water lakes peak season, May – September.

D. Table ~~204.1~~ 205.1 lists the numeric targets for lakes and reservoirs:

Table 204.1 <u>205.1</u> Numeric Targets for Lakes and Reservoirs										
Designated Use	Lake Category	Chl-a (ug/L)	Secchi Depth (m)	Total Phosphorus (ug/L)	Total Nitrogen (mg/L)	Total Kjeldahl Nitrogen (TKN)	Blue-Green Algae (per ml)	Blue-Green Algae (% of total)	Dissolved Oxygen (mg/L)	pH
PrHC	Deep	10-15	1.5-2.5	70-90	1.2-1.4	1.0-1.1	20,000			6.5-9.0
	Shallow	10-15	1.5-2.5	70-90	1.2-1.4	1.0-1.1				
	Igneous	20-30	0.5-1.0	100-125	1.5-1.7	1.2-1.4				

	Sedimentary	20-30	1.5-2.0	100-125	1.2-1.4	1.2-1.4				
A&WHbt (cold water)	All	5-15	1.5-2.0	50-90	1.0-1.4	0.7-1.1		<50		6.5-9.0
A&WHbt (warm water)	All	25-40	0.8-1.0	115-140	1.6-1.8	1.3-1.6				
Dom	All	10-20	0.5-1.5	70-100	1.2-1.5	1.0-1.2	20,000			5.0-9.0

§ ~~205~~ 206 DESIGNATED USE CLASSIFICATION SYSTEM FOR NAVAJO NATION SURFACE WATERS

A. ~~Designated Uses~~

The following are the designated uses for the surface waters of the Navajo Nation:

Dom **Domestic Water Supply:** Water body supports use of the water as a potable water supply.

FC **Fish Consumption:** Water body supports the use of the water by humans for harvesting aquatic organisms for consumption. Harvestable aquatic organisms include, but are not limited to, fish, shell-fish, turtles, crayfish, and frogs.

PrHC **Primary Human Contact:** Water body supports the use of the water that causes the human body to come into direct contact with the water, typically to the point of submergence in the water body, or probable ingestion of the water, or contact by the water with membrane material of the body. Examples include ceremonial uses, swimming and water-skiing.

ScHC **Secondary Human Contact:** Water body supports the use of water which may cause the water to come into direct contact with the skin of the body, but normally not to the point of submergence, ingestion of the water, or contact of the water with membrane material of the body. Such contact would occur incidentally and infrequently. Examples include ceremonial and other cultural uses, boating and fishing.

AgWS **Agricultural Water Supply:** Water body supports the use of the water for the irrigation of crops which could be used for human consumption.

A&WHbt **Aquatic and Wildlife ~~Habitat~~:** Water body supports the use of the water

by animals, plants or other organisms, including salmonids and non-salmonids, and non-domestic animals (including migratory birds) for habitation, growth or propagation. Water body supports or is capable of supporting either cold water fishes, including trout species or warm water fishes including bass species, catfish species, and bluegill species. Water body supports the aquatic communities upon which cold and warm water fishes depend. Cold waters are waters that typically have temperatures below 20 °C. Warm waters are waters that typically have temperatures exceeding 20 °C. Water body supports prey base for non-domestic animals (including migratory birds).

LW Livestock Watering: Water body supports the use of the water by livestock for consumption (ingestion).

B. The Director shall adopt or remove a designated use or subcategory of a designated use by rule.

C. The Director shall revise the designated uses of a surface water if water quality improvements result in a level of water quality that permits a use that is not currently listed as a designated use in Table 206.1.

D. A use attainability analysis shall be conducted prior to removal of a designated use or adoption of a subcategory of a designated use that requires less stringent water quality criteria if the requirements of 40 CFR Section 131.10 are met.

E. ~~Designated Use Modifications~~

~~Modifications to Designated Uses, including removal of a use or establishing a use subcategory, may be made if the requirements of 40 CFR Section 131.10 are met.~~

F. ~~Designated Use Table~~

Table 205.1 206.1 lists the uses designated for the ~~currently designated~~ surface waters of the Navajo Nation. Each surface water body is geographically listed according to the Hydrologic Unit Code system developed by the United States Geological Survey (USGS) and published in the USGS's "Water Supply Paper Number 2294". The name of the water body is followed by columns listing the Sub region (or Basin) and Cataloging Unit. A sub region includes the area drained by a river system, a reach of a river and its tributaries in that reach. A cataloging unit is a geographic area representing part or all of a surface drainage basin, a combination of drainage basins, or a distinct hydrologic feature.

G. ~~Applicability of Designated Uses~~

~~Uses that are designated for all Waters of the Navajo Nation are Fish Consumption (FC), Secondary Human Contact (ScHC), Aquatic and Wildlife Habitat (A&WHbt), and Livestock Watering (LW).~~

If a surface water has more than one designated use listed in Table ~~205.1~~ 206.1, the most stringent water quality standard applies.

- H. Water quality standards established for the attainment and maintenance of upstream surface water designated uses shall be sufficient to protect the attainment and maintenance of downstream surface water designated uses.
- I. The following minimum designated uses apply to a surface water that is not listed in Table 206.1 but that is a tributary to a listed surface water:
- 1 The aquatic and wildlife, agricultural water supply, secondary human contact and livestock watering designated uses apply to a tributary that is an ephemeral water.
 - 2 The aquatic and wildlife, agricultural water supply, secondary human contact, primary human contact, fish consumption and livestock watering designated uses apply to an unlisted tributary that is a perennial or intermittent surface water.

§ ~~206~~ 207 NUMERIC SURFACE WATER QUALITY STANDARDS

When a Water of the Navajo Nation has more than a single designated use, the applicable numeric standards shall be the most stringent of those established for that body of water.

- A. The numeric surface water quality standards for all Designated Uses may be found in Table ~~206.1~~ 207.1.
- B. ***E. coli* Bacteria:** The following water quality standards for *Escherichia coli* (*E. coli*) are expressed in Colony Forming Units per 100 milliliters of water (CFU/100 ml), or as a Most Probable Number (MPN):

<i>E. coli</i>	Dom	PrHC	ScHC
Geometric mean (minimum of four samples in 30 days)	126	126	126
Single sample maximum	235	235	575

- C. **pH:** The following water quality standards for pH are expressed in standard units:

pH	Dom	PrHC, ScHC, &-A&WHbt	AgWS	LW
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Maximum	9.0	9.0	9.0	9.0
Minimum	5.0	6.5	4.5	6.5

E. D. Salinity: To preserve the basin-wide approach to salinity control developed by the Colorado River Basin states, the NNSWQS adopts the plan of implementation contained in the "2005 Triennial 2014 Review, Water Quality Standards for Salinity, Colorado River System," Colorado River Basin Salinity Control Forum (~~October 2005~~ October 2014).

- J. **E. Suspended Solids:** The following water quality standards for suspended solids concentration are expressed as a median value determined from a minimum of four samples collected at least 7 days apart. A suspended solids sample collected during or within 48 hours of a local precipitation event shall not be used to determine the median value. The suspended solids standards in this section only apply to lotic (flowing) surface waters.

A&WHbt (warm water)**A&WHbt (cold water)**

80 mg/L

25 mg/L

- K. **E. Temperature:** The maximum allowable increases in ambient water temperature, expressed in degrees Celsius, due to a thermal discharge are as follows:

A&WHbt (warm water)**A&WHbt (cold water)**

3.0

1.0

This does not apply to a storm water discharge.

- L. **G. Dissolved Oxygen:** The following are the water quality standards for dissolved oxygen:

1. **Dissolved Oxygen** **A&WHbt (warm water)** **A&WHbt (cold water)**

Single sample minimum (from a depth no greater than one meter.)	6.0 mg/L	7.0 mg/L
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Single sample minimum (from a depth greater than one meter.)	1.0 mg/L	1.0 mg/L
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2. A surface water complies with the water quality standard for dissolved oxygen if the percent saturation of dissolved oxygen is equal to or greater than 90 percent from a depth no greater than one meter.
- M. **H. Turbidity:** Turbidity attributable to other than natural causes shall not reduce light transmission to the point that the normal growth, function, or reproduction of aquatic life is impaired or that will cause substantial visible contrast with the natural appearance of the water. Turbidity shall not exceed 10 Nephelometric Turbidity Units (NTU) over background turbidity when the background turbidity is 50 NTU or less, or increase more than 20 percent when the background turbidity is more than 50 NTU. Background turbidity shall be measured at a point immediately upstream of the turbidity-causing activity.
- N. **I. Mercury and Methylmercury:** The following are the water quality standards for mercury and methylmercury in total concentrations which apply only to Waters of the Navajo Nation listed in this section (§ 207 (I)):

A&WHbt (chronic)

<u>Mercury</u>	<u>0.001 ug/L</u>
<u>Methylmercury</u>	<u>0.00011 ug/L</u>

The mercury and methylmercury water quality standards listed in this section (§ 206 (I)) apply only to the following Waters of the Navajo Nation:

Colorado River and perennial tributaries,
Navajo Creek, perennial reaches
Little Colorado River, perennial reaches
Cow Springs Lake
White Mesa Lake
Asaayi Lake
Asaayi Creek, perennial reaches
Asaayi Creek – East Fork, perennial reaches
Red Lake
Trout Lake
Zuni River perennial tributaries
Bluewater Creek, perennial reaches
San Juan River and perennial tributaries
Cutter Dam Reservoir
Chuska Lake
Morgan Lake
Whiskey Lake

Chinle Creek/Chinle Wash, perennial reaches

Nazlini Wash, perennial reaches

Whiskey Creek, perennial reaches

Wheatfields Lake,

Canyon del Muerto Wash, perennial reaches

Tsaile Lake

Tsaile Creek, perennial reaches

Wheatfields Creek, perennial reaches

Aspen Lake

Round Rock Lake

Mancos River, perennial reaches

Information on the mercury and methylmercury chronic numeric standards for the aquatic and wildlife designated use may be found in the United States Fish and Wildlife Service's July 2006 fish tissue study entitled: "Methylmercury and Other Environmental Contaminants in Water and Fish Collected from Four Recreational Fishing Lakes on the Navajo Nation, 2004".

§ ~~207~~ 208 SAMPLE COLLECTION AND ANALYSIS

- A. All sample collection methods used to obtain surface water and effluent samples shall be conducted according to the "Quality Assurance ~~Project~~ Plan (QAP) for Surface Water Quality Data Collection, Assessment of Streams and Lakes of the Navajo Nation" and other applicable sample collection guidance documents approved by the Navajo Nation EPA Water Quality Program.
- B. All analytical methods conducted to evaluate compliance with water quality standards and to support any revisions to those standards, including all field and laboratory analyses to determine chemical, physical or biological conditions of water on the Navajo Nation, shall be conducted in accordance with approved procedures published in 40 CFR §136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants" unless the Navajo Nation selects, by regulation, alternative test methods, including methods under review by EPA for inclusion in 40 CFR §136. Analytical test procedures referenced in and approved in 40 CFR §136 include but are not limited to those published by the American Public Health Association (*Standard Methods for the Examination of Water and Wastewater, 17th edition or latest edition*); by the American Society of Testing Materials; by the U.S. Environmental Protection Agency (*Methods for Chemical Analysis of Water and Wastes* and others); and by the U.S. Geological Survey (*Techniques of Water Resource Investigations of the U.S. Geological Survey publication series*).
- C. When an analytical result is reported as <X or as =X, where X is the Method Reporting Limit for the analyte and the Method Reporting Limit is less than or equal to the surface water quality standard, the result will be considered as meeting the water quality standard.

§ 209 EXCEPTIONAL WATERS OF THE NAVAJO NATION

- A. The Director may classify a surface water as an Exceptional Water of the Navajo Nation (EWNN) by rule.
- B. The Director may adopt, under NSWQS Section 212, a site-specific standard to maintain and protect existing water quality in an EWNN.
- C. Any person may nominate a surface water for classification as an EWNN by filing a nomination with the Director. The nomination shall include:
 - 1. A map and a description of the surface water;
 - 2. A written statement in support of the nomination, including specific reference to the applicable criteria for an EWNN classification prescribed in Subsection (D);
 - 3. Supporting evidence demonstrating that the criteria in subsection (D) are met; and
 - 4. Available water quality data relevant to establishing the baseline water quality for the proposed EWNN
- D. The Director may classify a surface water as an EWNN based upon the following criteria:
 - 1. The surface water is a perennial or intermittent water;
 - 2. The surface water is in a free-flowing condition. For the purposes of this subsection, "in a free-flowing condition" means that a surface waters does not have an impoundments, diversion, channelization, rip-rapping or other bank armor, or another hydrological modification within the reach nominated for an EWNN classification;
 - 3. The surface water has good water quality. For purposes of this subsection, "good water quality" means that the surface water has water quality that meets of is better than applicable surface water quality standards. A surface water that is listed as impaired is ineligible for EWNN classification; and
 - 4. The surface water meets one or both of the following conditions:
 - a. The surface water is of exceptional cultural, ecological, and/or recreational significance because of its unique attributes, such as the geology, flora and fauna, water quality, aesthetic value, cultural resource value, and/or the wilderness characteristic of the surface water;
 - b. An endangered or threatened species is associated with the surface water and the existing water quality is essential to the species' maintenance and propagation and/or the surface water provides critical habitat for the threatened or endangered species. An endangered or threatened species is identified by the Navajo Nation Fish and Wildlife Service.
- E. The Director shall hold at least one public meeting in the local area of a surface water that is nominated for classification as an EWNN to solicit public comment on the nomination.
- F. The Director shall consider the following factors when deciding whether to classify a surface water as an EWNN:
 - 1. Whether there is the ability to manage the surface water and its watershed to

maintain and protect existing water quality:

2. The social and economic impact of Tier 3 antidegradation protection;
3. The public comments in support of, or in opposition to, an EWNN classification;
4. The timing of the nomination relative to the triennial review of surface water quality standards;
5. The consistency of an EWNN classification with applicable water quality management plans; and
6. Whether the nominated surface water is located within a Navajo Nation park, National Monument, wilderness area, conservation area, area of critical environmental concern, or within another area with special use designation.

§ 208 210 VARIANCES

- A. The Director may grant a variance from a water quality standard for a point source discharge provided the discharger demonstrates that treatment more advanced than that required to comply with technology-based effluent limitations is necessary to comply with the water quality standard and:
 1. It is not technically feasible to achieve compliance within the next three years; or
 2. The cost of the treatment would result in substantial and widespread economic and social impact.
- B. A variance may be granted only on a pollutant-specific basis. A point source discharge is required to comply with all other applicable water quality standards for which a variance is not granted.
- C. A variance applies only to a specific point source discharge. The granting of a variance does not modify a water quality standard. Other point source dischargers to the surface water shall comply with applicable water quality standards, including any water quality standard for which a variance has been granted for a specific point source discharge.
- D. A variance is for a fixed term not to exceed three years. Variances are not renewable but may be reissued upon adequate justification.
- E. The Director shall reevaluate a variance upon the issuance, reissuance, or modification of the National Pollutant Discharge Elimination System permit for the point source discharge.
- F. A person who seeks a variance from a water quality standard shall submit a letter to the Director requesting a variance. A request for a variance shall include the following information:

1. Identification of the specific pollutant and water quality standard for which a variance is sought;
2. Identification of the receiving surface water;
3. For an existing point source discharge, a detailed description of the existing discharge control technologies that are used to achieve compliance with applicable water quality standards. For a new point source discharge, a detailed description of the proposed discharge control technologies that will be used to achieve compliance with applicable water quality standards;
4. Documentation that the existing or proposed discharge control technologies will comply with applicable technology-based effluent limitations and that more advanced treatment technology is necessary to achieve compliance with the water quality standard for which a variance is sought;
5. A detailed discussion of the reasons why compliance with the water quality standard cannot be achieved;
6. A detailed discussion of the discharge control technologies that are available for achieving compliance with the water quality standard for which a variance is sought;
7. Documentation of one or both of the following:
 - a. That it is not technically feasible to install and operate any of the available discharge control technologies to achieve compliance with the water quality standard for which a variance is sought; or
 - b. That installation and operation of each of the available discharge technologies to achieve compliance with the water quality standard would result in substantial and widespread economic and social impact;
8. Documentation that the point source discharger has reduced, to the maximum extent practicable, the discharge of the pollutant for which a variance is sought through implementation of pretreatment, source reduction, or waste minimization program;
9. A detailed description of proposed interim discharge limitations that represent the highest level of treatment achievable by the point source discharge during the term of the variance. Interim discharge limitations shall not be less stringent than technology-based effluent limitations.

- G. In making a decision on whether to grant or deny the request for a variance, the Director shall consider the following factors: bioaccumulation, bioconcentration, predicted exposure on biota and the likelihood that resident biota will be adversely affected, the known or predicted safe exposure levels for the pollutant of concern, and the likelihood of adverse human health effects.
- H. The Director shall issue public notice and shall provide an opportunity for a public hearing on whether the request for a variance should be granted or denied.
- I. The Director shall not grant a variance for a point source discharge to a ~~Unique~~ Exceptional Water of the Navajo Nation.
- J. A variance is subject to review and approval by the Regional Administrator.

§ ~~209~~ 211 WASTEWATER MIXING ZONES

- A. A wastewater mixing zone is a defined and limited part of a surface water body with defined boundaries adjacent to a point source of pollution, in which initial dilution of wastewater occurs, and in which certain numeric water quality standards may apply. All mixing zones are subject to the following requirements:
 - 1. Mixing zones shall be limited to perennial streams, lakes and reservoirs;
 - 2. All mixing zones shall have defined boundaries, beyond which applicable water quality standards shall be met;
 - 3. In no instance shall narrative water quality standards described in §202 of this document be violated;
 - 4. In no instance shall the concentration of any toxic pollutant exceed the aquatic ~~and wildlife habitat~~ acute numeric standard for the pollutant. The aquatic ~~and wildlife habitat~~ acute numeric standard for all toxic pollutants shall be met at the point of discharge;
 - 5. In perennial streams, a continuous zone of passage around a mixing zone shall be maintained in which all applicable water quality standards are met, and which provides for migration of aquatic life without exposure to pollutant concentrations that exceed chronic toxicity for aquatic ~~and wildlife habitat~~ numeric standards. The zone of passage shall be at least 50 % of the cross-sectional area of the stream;
 - 6. In no instance shall mixing zones constitute more than 10% of the surface area of a lake or reservoir; boundaries of adjacent mixing zones in a lake or reservoir shall be no closer than the largest horizontal dimension of either mixing zone; and

7. A mixing zone is prohibited for the following persistent, bioaccumulative pollutants:
 - a) Chlordane,
 - b) DDT and its metabolites (DDD and DDE),
 - c) Dieldrin,
 - d) Dioxin,
 - e) Endrin,
 - f) Endrin aldehyde,
 - g) Heptachlor,
 - h) Heptachlor epoxide,
 - i) Lindane,
 - j) Mercury,
 - k) PCBs, and
 - l) Toxaphene.
- B. The Navajo Nation shall consider the requirements in subsections 1 through 6 in determining whether to grant or deny a mixing zone.
- C. The water quality criteria in these regulations shall apply within a mixing zone unless specific alternative criteria have been approved by the Navajo Nation Environmental Protection Agency and concurred upon by the U.S. Environmental Protection Agency. Mixing zones shall not be granted in lieu of reasonable control measures to reduce point source pollutant discharges but will be granted to complement such control measures. A limited mixing zone, serving as a zone of initial dilution in the immediate area of a point source of pollution, may be allowed if the conditions set out in this part are met.

§ 212 SITE-SPECIFIC STANDARDS

- A. The Director shall adopt a site-specific standard by rule.
- B. The Director may modify an existing water quality standard to protect aquatic life to be more or less stringent or adopt a new site-specific standard for any of the following reasons:
 1. Local physical, chemical, or hydrological conditions of a surface water such as pH, hardness, or temperature alters the biological availability or toxicity of a pollutant.
 2. The sensitivity of resident aquatic organisms that occur in a surface water to a pollutant differs from the sensitivity of the species used to derive the numeric

water quality standards to protect aquatic life in Table 207.1.

3. Resident aquatic organisms that occur in a surface water represent a different mix of species than those in the dataset used by Navajo Nation EPA to derive numeric water quality standards to protect aquatic life in Table 207.1; or
4. The natural background concentration of a pollutant is greater than the numeric water quality standard to protect aquatic life prescribed in Table 207.1.

C. A site-specific standard shall be supported by a site-specific standards study. A site-specific standard study shall be conducted according to approved procedures, including any of the following:

1. The Recalculation Procedure,
2. Water-Effects Ratio Procedure,
3. Resident Species Procedure,
4. Streamlined Water Effects Ratio Procedure for Discharges of Copper, and
5. Natural Background Determination Procedures.

D. The Recalculation, Water-Effects Ratio and Resident Species procedures are contained in §3.7 and Appendix L of the Water Quality Standards Handbook, Second Edition, U.S. Environmental Protection Agency, Office of Water, EPA 823-8-94-005a, (August 1994) (and no future editions). The Streamlined Water Effects Ratio Procedure for Copper is contained in "Streamlined Water-Effect Ratio Procedure for Discharges of Copper," U.S. Environmental Protection Agency, Office of Water, (EPA-822-R-01-005) (March, 2001) (and no future editions) which are incorporated by reference.

E. The Director may establish a site-specific standard based on the natural background condition. For purposes of this subsection, "natural background" means the background concentration of a pollutant in a surface water due only to non-anthropogenic sources. A site-specific standard based on the natural background condition shall be established at a concentration that is equal to the natural background concentration. A determination of natural background shall:

1. Consider natural spatial and temporal variability as appropriate;
2. Document the natural sources of the pollutant;

3. Document the absence of human sources of the pollutant or quantify the human contribution; and
 4. Rely on analytical methods, statistical methods and/or modeling methods to quantify the natural background.
- F. The Director shall not adopt site-specific standards to protect human health.

§ 213 NATURAL BACKGROUND

Where the concentration of a pollutant exceeds a water quality standard and the exceedance is not anthropogenic but is due to natural background conditions, the exceedance shall not be considered a violation of the water quality standard.

§ ~~210~~ 214 BIOLOGICAL STANDARDS (RESERVED)

Table 2005-4 206.1 Designated Uses for Navajo Nation Surface Waters

Surface Water Body (Within the Jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SCHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&WWHb) A&W	Livestock Watering (LW)
<u>Big Canyon, ephemeral reaches</u>	Little Colorado	Lower Colorado- Marble Canyon			SCHC	AgWS		A&W	LW
<u>Big Canyon, perennial and intermittent reaches</u>	Little Colorado	Lower Colorado- Marble Canyon		PHC	SCHC	AgWS	FC	A&W	LW
<u>Salt Trail Canyon, ephemeral reaches</u>	Little Colorado	Lower Colorado- Marble Canyon			SCHC	AgWS		A&W	LW
<u>Salt Trail Canyon, perennial and intermittent reaches</u>	Little Colorado	Lower Colorado- Marble Canyon		PHC	SCHC	AgWS	FC	A&W	LW
<u>Tachiaso Wash, mouth-to-headwaters- ephemeral reaches</u>	Lower Colorado	Lower Colorado- Marble Canyon			SCHC	AgWS	FC	A&WWHb A&W	LW
<u>Tachiaso Wash, mouth-to-headwaters- perennial and intermittent reaches</u>	Lower Colorado	Lower Colorado- Marble Canyon		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
<u>Shinumo Wash, mouth-to-headwaters ephemeral reaches</u>	Lower Colorado	Lower Colorado- Marble Canyon			SCHC	AgWS	FC	A&WWHb A&W	LW
<u>Shinumo Wash, mouth-to-headwaters perennial and intermittent reaches</u>	Lower Colorado	Lower Colorado- Marble Canyon		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
<u>Tiger Wash, mouth-to-headwaters ephemeral reaches</u>	Lower Colorado	Lower Colorado- Marble Canyon			SCHC	AgWS		A&WWHb A&W	LW
<u>Tiger Wash, mouth-to-headwaters perennial and intermittent reaches</u>	Lower Colorado	Lower Colorado- Marble Canyon		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
<u>Tanner Wash, mouth-to-headwaters ephemeral reaches</u>	Lower Colorado	Lower Colorado- Marble Canyon			SCHC	AgWS		A&WWHb A&W	LW
<u>Tanner Wash, mouth-to-headwaters perennial and intermittent reaches</u>	Lower Colorado	Lower Colorado- Marble Canyon		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
<u>Colorado River, mouth of Little Colorado River to mouth of Paria River warm water reaches</u>	Lower Colorado and Upper Colorado	Lower Colorado- Marble Canyon and Lower Lake Powell	Dom	PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
<u>Colorado River, cold water reaches</u>	Lower Colorado and Upper Colorado	Lower Colorado- Marble Canyon and Lower Lake Powell	Dom	PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
<u>Colorado River-mouth of Paria River to Glen Canyon Dam</u>	Upper- Colorado	Lower Lake Powell	Dom	PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
<u>Antelope Creek, Lake Powell-shoreline- at elevation 7220 feet-to-headwaters ephemeral reaches</u>	Upper Colorado	Lower Lake Powell		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
<u>Antelope Creek, perennial and intermittent reaches</u>	Upper Colorado	Lower Lake Powell		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
<u>Kahito Creek, Lake Powell-shoreline- at elevation 7220 feet-to-headwaters ephemeral reaches</u>	Upper Colorado	Lower Lake Powell		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW

Table 206.4 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SCHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&WHH) A&W	Livestock Watering (LW)
Kaibito Creek, <u>perennial and intermittent reaches</u>	Upper Colorado	Lower Lake Powell		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Navajo Creek Lake Powell shoreline at elevation 7220 feet to headwaters ephemeral reaches	Upper Colorado	Lower Lake Powell		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Navajo Creek, <u>perennial and intermittent reaches</u>	Upper Colorado	Lower Lake Powell		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Aztec Creek, Lake Powell shoreline at elevation 7220 feet to headwaters ephemeral reaches	Upper Colorado	Lower Lake Powell		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Aztec Creek, <u>perennial and intermittent reaches</u>	Upper Colorado	Lower Lake Powell		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Little Colorado River, mouth to origin of perennial flow (between mouth of Lee Canyon and USGS Gaging Station)	Little Colorado	Lower Little Colorado	Dom	PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Little Colorado River, <u>origin of perennial flow to Navajo Nation boundary ephemeral reaches</u>	Little Colorado	Lower Little Colorado	Dom	PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Little Colorado River, <u>perennial and intermittent reaches</u>	Little Colorado	Lower Little Colorado		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Lee Canyon, <u>mouth to headwaters ephemeral reaches</u>	Little Colorado	Lower Little Colorado		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Lee Canyon, <u>perennial and intermittent reaches</u>	Little Colorado	Lower Little Colorado		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Moenkopi Wash, <u>mouth to headwaters ephemeral reaches</u>	Little Colorado	Moenkopi Wash		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Moenkopi Wash, <u>perennial and intermittent reaches</u>	Little Colorado	Moenkopi Wash		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Hamblin Wash, <u>mouth to headwaters ephemeral reaches</u>	Little Colorado	Moenkopi Wash		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Hamblin Wash, <u>perennial and intermittent reaches</u>	Little Colorado	Moenkopi Wash		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Begashbito Wash, <u>mouth to headwaters ephemeral reaches</u>	Little Colorado	Moenkopi Wash		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Begashbito Wash, <u>perennial and intermittent reaches</u>	Little Colorado	Moenkopi Wash		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Shonto Wash, <u>mouth to headwaters ephemeral reaches</u>	Little Colorado	Moenkopi Wash		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Shonto Wash, <u>perennial and intermittent reaches</u>	Little Colorado	Moenkopi Wash		PHC	SCHC	AgWS	FC	A&WHH A&W	LW

Table 206-4 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the Jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&WHH) A&W	Livestock Watering (LW)
Cow Springs Lake	Little Colorado	Moenkopi Wash		PHC	SHC	AgWS	FC	A&WHH A&W	LW
White Mesa Lake	Little Colorado	Moenkopi Wash		PHC	SHC	AgWS	FC	A&WHH A&W	LW
Tappan Wash, mouth-to-headwaters ephemeral reaches	Little Colorado	Lower Little Colorado			SHC	AgWS	FC	A&WHH A&W	LW
Tappan Wash, mouth-to-headwaters perennial and intermittent reaches	Little Colorado	Lower Little Colorado		PHC	SHC	AgWS	FC	A&WHH A&W	LW
Cedar Wash, mouth-to-headwaters ephemeral reaches	Little Colorado	Lower Little Colorado			SHC	AgWS	FC	A&WHH A&W	LW
Cedar Wash, mouth-to-headwaters perennial and intermittent reaches	Little Colorado	Lower Little Colorado		PHC	SHC	AgWS	FC	A&WHH A&W	LW
Deadman Wash, mouth-to-headwaters ephemeral reaches	Little Colorado	Lower Little Colorado			SHC	AgWS	FC	A&WHH A&W	LW
Canyon Diablo, mouth-to-Navajo- Nation-boundary ephemeral reaches	Little Colorado	Canyon Diablo			SHC	AgWS	FC	A&WHH A&W	LW
Canyon Diablo, perennial and intermittent reaches	Little Colorado	Canyon Diablo		PHC	SHC	AgWS	FC	A&W	LW
San Francisco Wash, mouth-to-Navajo- Nation-boundary ephemeral reaches	Little Colorado	Lower Little Colorado Canyon Diablo			SHC	AgWS	FC	A&WHH A&W	LW
San Francisco Wash, perennial and intermittent reaches	Little Colorado	Canyon Diablo		PHC	SHC	AgWS	FC	A&W	LW
Padre Canyon, mouth-to-Navajo- Nation-boundary ephemeral reaches	Little Colorado	Lower Little Colorado Canyon Diablo			SHC	AgWS	FC	A&WHH A&W	LW
Padre Canyon, perennial and intermittent reaches	Little Colorado	Canyon Diablo		PHC	SHC	AgWS	FC	A&W	LW
Youngs Canyon, mouth-to-Navajo- Nation-boundary ephemeral reaches	Little Colorado	Lower Little Colorado Canyon Diablo			SHC	AgWS	FC	A&WHH A&W	LW
Youngs Canyon, perennial and intermittent reaches	Little Colorado	Canyon Diablo		PHC	SHC	AgWS	FC	A&W	LW
Yellow Jacket Canyon, mouth-to-Navajo- Nation-boundary ephemeral reaches	Little Colorado	Lower Little Colorado Canyon Diablo			SHC	AgWS	FC	A&WHH A&W	LW
Yellow Jacket Canyon, perennial and intermittent reaches	Little Colorado	Canyon Diablo		PHC	SHC	AgWS	FC	A&W	LW

Table 206.1 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&WHH) A&W	Livestock Watering (LW)
Dinnebito Wash, within Navajo Nation boundary ephemeral reaches	Little Colorado	Dinnebito Wash			SHC	AgWS	FC	A&WHH A&W	LW
Dinnebito Wash, within Navajo Nation boundary perennial and intermittent reaches	Little Colorado	Dinnebito Wash		PHC	SHC	AgWS	FC	A&WHH A&W	LW
East Fork Dinnebito Wash, within Navajo Nation boundary ephemeral reaches	Little Colorado	Dinnebito Wash			SHC	AgWS	FC	A&WHH A&W	LW
East Fork Dinnebito Wash, perennial and intermittent reaches	Little Colorado	Dinnebito Wash		PHC	SHC	AgWS	FC	A&WHH A&W	LW
Corn Creek Wash, within Navajo Nation boundary ephemeral reaches	Little Colorado	Corn-Oraibi			SHC	AgWS	FC	A&WHH A&W	LW
Corn Creek Wash, perennial and intermittent reaches	Little Colorado	Corn-Oraibi		PHC	SHC	AgWS	FC	A&WHH A&W	LW
Oraibi Wash, within Navajo Nation boundary ephemeral reaches	Little Colorado	Corn-Oraibi			SHC	AgWS	FC	A&WHH A&W	LW
Oraibi Wash, perennial and intermittent reaches	Little Colorado	Corn-Oraibi		PHC	SHC	AgWS	FC	A&WHH A&W	LW
Polacca Wash, within Navajo Nation boundary ephemeral reaches	Little Colorado	Polacca Wash			SHC	AgWS	FC	A&WHH A&W	LW
Polacca Wash, perennial and intermittent reaches	Little Colorado	Polacca Wash		PHC	SHC	AgWS	FC	A&WHH A&W	LW
Jeddito Wash, within Navajo Nation boundary ephemeral reaches	Little Colorado	Jeddito Wash			SHC	AgWS	FC	A&WHH A&W	LW
Jeddito Wash, perennial and intermittent reaches	Little Colorado	Jeddito Wash		PHC	SHC	AgWS	FC	A&W	LW
Little Colorado River ephemeral reaches	Little Colorado	Middle Little Colorado			SHC	AgWS		A&W	LW
Little Colorado River, perennial and intermittent reaches	Little Colorado	Middle Little Colorado		PHC	SHC	AgWS	FC	A&W	LW
Cottonwood Wash, within Navajo Nation boundary ephemeral reaches	Little Colorado	Cottonwood Wash			SHC	AgWS	FC	A&WHH A&W	LW
Cottonwood Wash, within Navajo Nation boundary perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PHC	SHC	AgWS	FC	A&W	LW
Kinichsee Creek, ephemeral reaches	Little Colorado	Cottonwood Wash		PHC	SHC	AgWS	FC	A&WHH A&W	LW

Table 205.4 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SCHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&WWHb) A&W	Livestock Watering (LW)
Kinichee Creek, perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Scattered Willow Wash, ephemeral reaches	Little Colorado	Cottonwood Wash			SCHC	AgWS		A&W	LW
Scattered Willow Wash, perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PHC	SCHC	AgWS	FC	A&W	LW
Black Soil Wash, ephemeral reaches	Little Colorado	Cottonwood Wash			SCHC	AgWS		A&W	LW
Black Soil Wash, perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PHC	SCHC	AgWS	FC	A&W	LW
Willow Creek, ephemeral reaches	Little Colorado	Cottonwood Wash			SCHC	AgWS		A&W	LW
Willow Creek, perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PHC	SCHC	AgWS	FC	A&W	LW
Ganado Lake	Little Colorado	Cottonwood Wash		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Pueblo Colorado Wash, ephemeral reaches	Little Colorado	Cottonwood Wash		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Pueblo Colorado Wash, perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PHC	SCHC	AgWS	FC	A&W	LW
Leroux Wash, within Navajo- Nation boundary, ephemeral reaches	Little Colorado	Leroux Wash			SCHC	AgWS	FC	A&WWHb A&W	LW
Leroux Wash, perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PHC	SCHC	AgWS	FC	A&W	LW
Antelope Lake (cold water)	Little Colorado	Leroux Wash		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Puerco River, within Navajo- Nation boundary, ephemeral reaches	Little Colorado	Upper Puerco & Lower Puerco	Dom		SCHC	AgWS	FC	A&WWHb A&W	LW
Puerco River, perennial and intermittent reaches	Little Colorado	Upper Puerco & Lower Puerco		PHC	SCHC	AgWS	FC	A&W	LW
Black Creek, mouth-to-headwaters-ephemeral reaches	Little Colorado	Upper Puerco		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Black Creek, perennial and intermittent reaches	Little Colorado	Upper Puerco		PHC	SCHC	AgWS	FC	A&W	LW
Tohididonth Wash, ephemeral reaches mouth-to-Asayi-Lake	Little Colorado	Upper Puerco			SCHC	AgWS	FC	A&WWHb A&W	LW
Tohididonth Wash, perennial and intermittent reaches	Little Colorado	Upper Puerco		PHC	SCHC	AgWS	FC	A&W	LW
Asayi Lake (cold water)	Little Colorado	Upper Puerco		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW

Table 205.1 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&W/H&H)	Livestock Watering (LW)
Asaayi (Bowl) Creek, ephemeral reaches <u>Asaayi Lake to headwaters</u>	Little Colorado	Upper Puerto		PHC	SHC	AgWS	FC	A&W/H&H A&W	LW
Asaayi Creek, perennial and intermittent reaches	Little Colorado	Upper Puerto		PHC	SHC	AgWS	FC	A&W	LW
Asaayi (Bowl) Creek - East Fork, ephemeral reaches	Little Colorado	Upper Puerto		PHC	SHC	AgWS	FC	A&W/H&H A&W	LW
Asaayi (Bowl) Creek - East Fork, perennial and intermittent reaches	Little Colorado	Upper Puerto		PHC	SHC	AgWS	FC	A&W	LW
Bonito Creek, ephemeral reaches	Little Colorado	Upper Puerto		PHC	SHC	AgWS	FC	A&W/H&H A&W	LW
Bonito Creek, perennial and intermittent reaches	Little Colorado	Upper Puerto		PHC	SHC	AgWS	FC	A&W A&W	LW
Red Lake	Little Colorado	Upper Puerto		PHC	SHC	AgWS	FC	A&W/H&H A&W	LW
Trout Lake (cold water)	Little Colorado	Upper Puerto		PHC	SHC	AgWS	FC	A&W/H&H A&W	LW
Rio Pescado, within Navajo, ephemeral reaches <u>Navajo-Nation boundary</u>	Little Colorado	Zuni River		PHC	SHC	AgWS	FC	A&W/H&H A&W	LW
Rio Pescado, perennial and intermittent reaches	Little Colorado	Zuni River		PHC	SHC	AgWS	FC	A&W	LW
Zuni River tributaries within, ephemeral reaches <u>Navajo-Nation boundary</u>	Little Colorado	Zuni River		PHC	SHC	AgWS	FC	A&W/H&H A&W	LW
Zuni River tributaries, perennial and intermittent reaches	Little Colorado	Zuni River		PHC	SHC	AgWS	FC	A&W	LW
Arroyo Chico and tributaries within <u>Navajo-Nation boundary, ephemeral reaches</u>	Rio Grande	Arroyo Chico		PHC	SHC	AgWS	FC	A&W/H&H A&W	LW
Arroyo Chico and tributaries perennial and intermittent reaches	Rio Grande	Arroyo Chico		PHC	SHC	AgWS	FC	A&W	LW
Torrcon Wash within, ephemeral reaches <u>Navajo-Nation boundary</u>	Rio Grande	Arroyo Chico		PHC	SHC	AgWS	FC	A&W/H&H A&W	LW
Torrcon Wash, perennial and intermittent reaches	Rio Grande	Arroyo Chico		PHC	SHC	AgWS	FC	A&W/H&H A&W	LW
Unnamed ephemeral tributaries and plays within Navajo-Nation boundary	Rio Grande	North Plains		PHC	SHC	AgWS	FC	A&W/H&H A&W	LW
Unnamed perennial and intermittent tributaries and plays within Navajo-Nation	Rio Grande	North Plains		PHC	SHC	AgWS	FC	A&W	LW
Rio Puerto and tributaries within, ephemeral reaches <u>Navajo-Nation boundary</u>	Rio Grande	Rio Puerto		PHC	SHC	AgWS	FC	A&W/H&H A&W	LW

Table 205.1 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SCHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&WHH) (A&WHH)	Livestock Watering (LW)
Rio Puerco and tributaries perennial and intermittent reaches	Rio Grande	Rio Puerco		PHC	SCHC	AgWS	FC	A&W A&W	LW
Rio Salado and tributaries within ephemeral reaches Navajo Nation boundary	Rio Grande	Rio Salado			SCHC	AgWS	FC	A&WHH A&W	LW
Rio Salado and tributaries perennial and intermittent reaches	Rio Grande	Rio Salado		PHC	SCHC	AgWS	FC	A&W	LW
Alamo Creek within ephemeral reaches Navajo Nation boundary	Rio Grande	Rio Salado		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Alamo Creek, perennial and intermittent reaches	Rio Grande	Rio Salado		PHC	SCHC	AgWS	FC	A&W	LW
Rio San Jose ephemeral tributaries within Navajo Nation boundary	Rio Grande	Rio San Jose			SCHC	AgWS	FC	A&WHH A&W	LW
Rio San Jose perennial and intermittent tributaries	Rio Grande	Rio San Jose		PHC	SCHC	AgWS	FC	A&W	LW
Bluewater Creek within ephemeral reaches Navajo Nation boundary	Rio Grande	Rio San Jose		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
San Juan River and perennial tributaries (except as listed below)	San Juan	Alamosa Lower San Juan Four Corners	Dom	PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Non-perennial Ephemeral tributaries to the San Juan River (except as listed below)	San Juan	Alamosa Lower San Juan Four Corners			SCHC	AgWS	FC	A&WHH A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed below)	San Juan	Lower San Juan Four Corners		PHC	SCHC	AgWS	FC	A&W	LW
Desert Creek, ephemeral reaches	San Juan	Lower San Juan Four Corners			SCHC	AgWS	FC	A&WHH A&W	LW
Desert Creek, perennial and intermittent reaches	San Juan	Lower San Juan Four Corners		PHC	SCHC	AgWS	FC	A&W	LW
Gothic Creek, ephemeral reaches	San Juan	Lower San Juan Four Corners			SCHC	AgWS	FC	A&WHH A&W	LW
Gothic Creek, perennial and intermittent reaches	San Juan	Lower San Juan Four Corners		PHC	SCHC	AgWS	FC	A&W	LW
McCraken Canyon within ephemeral reaches Navajo Nation boundary	San Juan	Lower San Juan Four Corners			SCHC	AgWS	FC	A&WHH A&W	LW
McCraken Canyon, perennial and intermittent reaches	San Juan	Lower San Juan Four Corners		PHC	SCHC	AgWS	FC	A&W	LW
Tec Nos Pos Wash (perennial), perennial and intermittent reaches	San Juan	Lower San Juan Four Corners			SCHC	AgWS	FC	A&WHH A&W	LW
Tec Nos Pos Wash (non-perennial), ephemeral reaches	San Juan	Lower San Juan Four Corners			SCHC	AgWS	FC	A&WHH A&W	LW

Table 206-I 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SCHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&WHH)	Livestock Watering (LW)
Toh Dahstim Wash ephemeral reaches	San Juan	Lower San Juan Four Corners			SCHC	AgWS	FC	A&WHH A&W	LW
Toh Dahstim Wash perennial and intermittent reaches	San Juan	Lower San Juan Four Corners		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
San Juan River	San Juan	Lower San Juan River	Dom	PHC	SCHC	AgWS	FC	A&W	LW
Epifemeral tributaries to the San Juan River (except as listed below)	San Juan	Lower San Juan River			SCHC	AgWS		A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed below)	San Juan	Lower San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
Cha Canyon - perennial reaches	San Juan	Lower San Juan River	Dom	PHC	SCHC	AgWS	FC	A&W	LW
Cha Canyon - intermittent reaches	San Juan	Lower San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
Cha Canyon - epifemeral reaches	San Juan	Lower San Juan River			SCHC	AgWS		A&W	LW
Gypsum Creek, mouth-to-headwaters, epifemeral reaches	San Juan	Lower San Juan River			SCHC	AgWS	FC	A&WHH A&W	LW
Gypsum Creek, perennial and intermittent reaches	San Juan	Lower San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
Nokai Canyon, shore of Lake Powell at elevation 3720 feet to headwaters, epifemeral reaches	San Juan	Lower San Juan River			SCHC	AgWS	FC	A&WHH A&W	LW
Nokai Canyon, perennial and intermittent reaches	San Juan	Lower San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
Ojeto Wash, mouth-to-headwaters, epifemeral reaches	San Juan	Lower San Juan River			SCHC	AgWS	FC	A&WHH A&W	LW
Ojeto Wash, mouth-to-headwaters perennial and intermittent reaches	San Juan	Lower San Juan River		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Pute Canyon, epifemeral reaches	San Juan	Lower San Juan River			SCHC	AgWS		A&W	LW
Pute Canyon, perennial and intermittent reaches	San Juan	Lower San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
San Juan River	San Juan	Middle San Juan River	Dom	PHC	SCHC	AgWS	FC	A&W	LW
Epifemeral tributaries to the San Juan River (except as listed below)	San Juan	Middle San Juan River			SCHC	AgWS		A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed below)	San Juan	Middle San Juan River		PHC	SCHC	AgWS	FC	A&W	LW

Table 205-4 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SCHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&W/Hb)	Livestock Watering (LW)
Baker Arroyo, <u>ephemeral reaches</u>	San Juan	Middle San Juan River			SCHC	AgWS	FC	A&W/Hb A&W	LW
Baker Arroyo, <u>perennial and intermittent reaches</u>	San Juan	Middle San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
Cove Wash, <u>ephemeral reaches</u>	San Juan	Middle San Juan River			SCHC	AgWS	FC	A&W/Hb A&W	LW
Cove Wash, <u>perennial and intermittent reaches</u>	San Juan	Middle San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
Eagle Nest Arroyo, <u>ephemeral reaches</u>	San Juan	Middle San Juan River			SCHC	AgWS	FC	A&W/Hb A&W	LW
Eagle Nest Arroyo, <u>perennial and intermittent reaches</u>	San Juan	Middle San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
Pine Wash, <u>ephemeral reaches</u>	San Juan	Middle San Juan River			SCHC	AgWS	FC	A&W/Hb A&W	LW
Pine Wash, <u>perennial and intermittent reaches</u>	San Juan	Middle San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
Ojo Amarillo, <u>ephemeral reaches</u>	San Juan	Middle San Juan River		PHC	SCHC	AgWS	FC	A&W/Hb A&W	LW
Ojo Amarillo, <u>perennial and intermittent reaches</u>	San Juan	Middle San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
Salt Creek Wash, <u>ephemeral reaches</u>	San Juan	Middle San Juan River			SCHC	AgWS	FC	A&W/Hb A&W	LW
Salt Creek Wash, <u>perennial and intermittent reaches</u>	San Juan	Middle San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
Standing Redrock Creek, <u>ephemeral reaches</u>	San Juan	Middle San Juan River			SCHC	AgWS	FC	A&W/Hb A&W	LW
Standing Redrock Creek, <u>perennial and intermittent reaches</u>	San Juan	Middle San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
Red Wash, <u>ephemeral reaches</u>	San Juan	Middle San Juan River			SCHC	AgWS	FC	A&W/Hb A&W	LW
Red Wash, <u>perennial and intermittent reaches</u>	San Juan	Middle San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
San Juan River	San Juan	Upper San Juan River	Dom	PHC	SCHC	AgWS	FC	A&W	LW
Ephemeral tributaries to the San Juan River (except as listed below)	San Juan	Upper San Juan River			SCHC	AgWS		A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed below)	San Juan	Upper San Juan River		PHC	SCHC	AgWS	FC	A&W	LW

Table 205-1 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SCHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&WWHb) (A&WWHb) A&W	Livestock Watering (LW)
Gallegos Canyon, ephemeral reaches	San Juan	Upper San Juan River		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Gallegos Canyon, perennial and intermittent reaches	San Juan	Upper San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
West Fork Gallegos Canyon, ephemeral reaches	San Juan	Upper San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
West Fork Gallegos Canyon, perennial and intermittent reaches	San Juan	Upper San Juan River		PHC	SCHC	AgWS	FC	A&W	LW
Blanco Canyon, ephemeral reaches	San Juan	Blanco Canyon		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Blanco Canyon, perennial and intermittent reaches	San Juan	Blanco Canyon		PHC	SCHC	AgWS	FC	A&W	LW
Largo Canyon, ephemeral reaches	San Juan	Blanco Canyon		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Largo Canyon, perennial and intermittent reaches	San Juan	Blanco Canyon		PHC	SCHC	AgWS	FC	A&W	LW
Cutter Dam Reservoir (cold and warm water)	San Juan	Blanco Canyon		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Chaco River/Chaco Wash, mouth to mouth of Dead Man's Wash perennial and intermittent reaches	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Chaco River/Chaco Wash, mouth of Dead Man's Wash to Navajo Nation boundary	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Dead Man's Wash, mouth to headwaters ephemeral reaches	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Dead Man's Wash, perennial and intermittent reaches	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&W	LW
Chinde Wash, mouth to headwaters, ephemeral reaches	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Chinde Wash, perennial and intermittent reaches	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&W	LW
Cottonwood Arroyo, mouth ephemeral reaches to headwaters	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Cottonwood Arroyo, perennial and intermittent reaches	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&W	LW
Sanostee Wash, perennial and intermittent reaches	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Sanostee Wash (not perennial ephemeral reaches)	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW
Tocito Wash, mouth to headwaters, ephemeral reaches	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&WWHb A&W	LW

Table 206-1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (DWS)	Primary Human Contact (PHC)	Secondary Human Contact (SHC)	Agricultural Water Supply (AWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&WHH) (A&WHH) A&W	Livestock Watering (LW)
Tocito Wash, <u>perennial and intermittent reaches</u>	San Juan	Chaco		PHC	SHC	AWS	FC	A&W	LW
Brimhall Wash, <u>mouth to Navajo-ephemeral reaches</u> Nation-boundary	San Juan	Chaco			SHC	AWS	FC	A&WHH A&W	LW
Brimhall Wash, <u>perennial and intermittent reaches</u>	San Juan	Chaco		PHC	SHC	AWS	FC	A&W	LW
Captain Tom Wash, <u>perennial and intermittent reaches</u>	San Juan	Chaco		PHC	SHC	AWS	FC	A&WHH A&W	LW
Captain Tom Wash (<u>non-perennial ephemeral reaches</u>)	San Juan	Chaco			SHC	AWS	FC	A&WHH A&W	LW
Captain Tom Reservoir	San Juan	Chaco		PHC	SHC	AWS	FC	A&W	LW
Hunter Wash, <u>mouth to Navajo-ephemeral reaches</u> Nation-boundary	San Juan	Chaco			SHC	AWS	FC	A&WHH A&W	LW
Hunter Wash, <u>perennial and intermittent reaches</u>	San Juan	Chaco		PHC	SHC	AWS	FC	A&W	LW
Sheep Springs Wash, <u>mouth-ephemeral reaches</u> to headwaters	San Juan	Chaco			SHC	AWS	FC	A&WHH A&W	LW
Sheep Springs Wash, <u>perennial and intermittent reaches</u>	San Juan	Chaco		PHC	SHC	AWS	FC	A&W	LW
Coyote Wash, <u>mouth to headwaters-ephemeral reaches</u>	San Juan	Chaco			SHC	AWS	FC	A&WHH A&W	LW
Coyote Wash, <u>perennial and intermittent reaches</u>	San Juan	Chaco		PHC	SHC	AWS	FC	A&W	LW
Indian Creek, <u>within Navajo-ephemeral reaches</u> Nation-boundary	San Juan	Chaco			SHC	AWS	FC	A&WHH A&W	LW
Indian Creek, <u>perennial and intermittent reaches</u>	San Juan	Chaco		PHC	SHC	AWS	FC	A&W	LW
Red Willow Wash, <u>ephemeral reaches</u> Nation-boundary	San Juan	Chaco			SHC	AWS	FC	A&WHH A&W	LW
Red Willow Wash, <u>perennial and intermittent reaches</u>	San Juan	Chaco		PHC	SHC	AWS	FC	A&W	LW
De Na Zin Wash, <u>mouth to Navajo-ephemeral reaches</u> Nation-boundary	San Juan	Chaco			SHC	AWS	FC	A&WHH A&W	LW
De Na Zin Wash, <u>perennial and intermittent reaches</u>	San Juan	Chaco		PHC	SHC	AWS	FC	A&W	LW
Berland Lake (cold water)	San Juan	Chaco		PHC	SHC	AWS	FC	A&WHH A&W	LW
Chuska Lake (cold water)	San Juan	Chaco		PHC	SHC	AWS	FC	A&WHH A&W	LW
Morgan Lake	San Juan	Chaco		PHC	SHC	AWS	FC	A&WHH A&W	LW
Whiskey Lake (cold water)	San Juan	Chaco		PHC	SHC	AWS	FC	A&WHH A&W	LW

Table 206.1 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SCHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&W/HbH)	Livestock Watering (LW)
<u>Toadlena Fish Hatchery un-named ephemeral tributaries</u>	San Juan	Chaco			SCHC	AgWS		A&W	LW
<u>Toadlena Fish Hatchery un-named intermittent and perennial tributaries</u>	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&W	LW
<u>Whiskey Lake (cold water)</u>	San Juan	Chaco		PHC	SCHC	AgWS	FC	A&W/HbH A&W	LW
<u>Alcega Canyon, perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
<u>Alcega Canyon, ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
<u>White Rock Wash, perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
<u>White Rock Wash, ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
<u>Chinle Creek/Chinle Wash, mouth-to-mouth-of Canyon de Chelly, ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HbH A&W	LW
<u>Many Farms Lake</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HbH A&W	LW
<u>Chinle Creek/Chinle Wash, mouth-to-mouth-of Canyon de Chelly, ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HbH A&W	LW
<u>Many Farms Lake</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HbH A&W	LW
<u>Walker Creek, perennial and intermittent reaches, mouth-to-headwaters</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HbH A&W	LW
<u>Walker Creek, nonperennial ephemeral reaches, mouth-to-headwaters</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HbH A&W	LW
<u>Bubbling Springs Canyon, perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
<u>Bubbling Springs Canyon, ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
<u>Long Canyon, perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
<u>Long Canyon, ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
<u>Dowozhiebito Canyon, perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
<u>Dowozhiebito Canyon, ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
<u>Laguna Creek, perennial and intermittent reaches, mouth-to-headwaters</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HbH A&W	LW
<u>Laguna Creek, nonperennial ephemeral reaches, mouth-to-headwaters</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HbH A&W	LW
<u>Tyende Creek, mouth-to-headwaters, ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HbH A&W	LW
<u>Tyende Creek, mouth-to-headwaters perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
<u>Lukachukai Wash, perennial reaches, mouth-to-headwaters</u>	San Juan	Chinle	Dom	PHC	SCHC	AgWS	FC	A&W/HbH A&W	LW

Table 206-1 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SCHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&WHH) (A&WHH) A&W	Livestock Watering (LW)
Lukachukai Wash, <u>non-perennial and intermittent reaches,</u> <u>mouth-to-headwaters</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Lukachukai Wash, <u>ephemeral reaches</u>	San Juan	Chinle			SCHC	AgWS	FC	A&W	LW
Black Mountain Wash, <u>ephemeral reaches,</u> <u>mouth-to-headwaters</u>	San Juan	Chinle			SCHC	AgWS	FC	A&WHH A&W	LW
Black Mountain Wash, <u>perennial and intermittent reaches,</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Nazlim Wash, <u>perennial and intermittent reaches,</u> <u>mouth-to-headwaters</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Nazlim Wash, <u>non-perennial ephemeral reaches</u> <u>mouth-to-headwaters</u>	San Juan	Chinle			SCHC		FC	A&WHH A&W	LW
Cottonwood Wash, <u>mouth-to-headwaters; ephemeral reaches</u>	San Juan	Chinle			SCHC	AgWS	FC	A&WHH A&W	LW
Cottonwood Wash, <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Balakai Wash, <u>mouth-to-headwaters; ephemeral reaches</u>	San Juan	Chinle			SCHC	AgWS	FC	A&WHH A&W	LW
Balakai Wash, <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Canyon de Chelly Wash, <u>mouth-to- ephemeral reaches</u> <u>mouth-of-Coyote Wash</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Canyon de Chelly Wash, <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Whiskey Creek, <u>mouth-of-Coyote; ephemeral reaches</u> <u>Wash-to-headwaters</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Whiskey Creek, <u>mouth-of-Coyote- Wash-to-headwaters; perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Wheatfields Lake	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Coyote Wash, <u>mouth-to-headwaters; ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Coyote Wash, <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Canyon del Muerto Wash, <u>mouth-of, ephemeral reaches</u> <u>Canyon-de-Chelly-to-Tsaiile Lake</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Canyon del Muerto Wash, <u>mouth-of Canyon-de-Chelly-to-Tsaiile Lake</u> <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Tsaiile Lake (cold and warm water)	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Tsaiile Creek, <u>lake-to-headwaters; ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&WHH A&W	LW
Tsaiile Creek, <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW

Table 206-4 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SCHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife Habitat (A&W/HH)	Livestock Watering (LW)
Crystal Creek, <u>ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HH A&W	LW
Crystal Creek, <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Little Whiskey Creek, <u>ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HH A&W	LW
Little Whiskey Creek, <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Palisade Creek, <u>ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HH A&W	LW
Palisade Creek, <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Tohito Creek, <u>ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HH A&W	LW
Tohito Creek, <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Wheatfields Creek, <u>ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HH A&W	LW
Wheatfields Creek, <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Aspen Lake (cold water)	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HH A&W	LW
Round Rock Lake	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HH A&W	LW
McElmo Creek, <u>ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HH A&W	LW
McElmo Creek, <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Montezuma Creek, <u>ephemeral reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W/HH A&W	LW
Montezuma Creek, <u>perennial and intermittent reaches</u>	San Juan	Chinle		PHC	SCHC	AgWS	FC	A&W	LW
Mancos River, <u>ephemeral reaches</u>	San Juan	Mancos River		PHC	SCHC	AgWS	FC	A&W/HH A&W	LW
Mancos River, <u>perennial and intermittent reaches</u>	San Juan	Mancos River		PHC	SCHC	AgWS	FC	A&W	LW

Table 206.4 2015 Numeric Surface Water Quality Standards

(All units are in µg/l, unless otherwise indicated)

All numeric standards are in total concentration unless otherwise indicated.

Parameter (Total concentration unless otherwise indicated)	CAS Number	Domestic Water Supply	Fish Consumption	Designated Uses			Aquatic & Wildlife Habitat Acute	Aquatic & Wildlife Habitat Chronic	Agricultural Water Supply	Livestock Watering
				Primary Human Contact	Secondary Human Contact	Aquatic & Wildlife Habitat Chronic				
1,1,1-Trichloroethane	71556	200	NCNS-200000	200	200	2500	1600	NCNS	NCNS	NCNS
1,1,2,2-Tetrachloroethane	79345	0.17	4.3	7	46670	4700	3200	NCNS	NCNS	NCNS
1,1,2-Trichloroethane	79005	6.59 0.55	46.8.9	25	3730	18000	12000	NCNS	NCNS	NCNS
1,4-Dichlorobenzene	75354	7	7100	230	12600	15000	950	NCNS	NCNS	NCNS
1,2,4-Trichlorobenzene	120821	20.0.071	20.0.076	9300	9300	750	130	NCNS	NCNS	NCNS
1,2,4,5-Tetrachlorobenzene	95943	0.03	0.03	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
1,2-Dichlorobenzene	95501	600	205	84000	84000	790	300	NCNS	NCNS	NCNS
1,3-Dichlorobenzene	107062	0.38	35	15	18670	59000	41000	NCNS	NCNS	NCNS
1,2-Dichloropropane	78875	0.50	15	126000	126000	26000	9200	NCNS	NCNS	NCNS
1,2-Diphenylhydrazine	122667	0.036	0.2	1.8	1.8	130	11	NCNS	NCNS	NCNS
1,2-trans-Dichloroethene	156605	100	44000.0.000	18670	18670	68000	3900	NCNS	NCNS	NCNS
1,3-Dichlorobenzene	541731	240.7	600.10	NCNS	NCNS	2500	970	NCNS	NCNS	NCNS
1,3-Dichloropropane	542756	6.44 0.27	24.12	90	420	3000	1100	NCNS	NCNS	NCNS
1,4-Dichlorobenzene	106467	63	190	65330	65330	560	210	NCNS	NCNS	NCNS
2,2,4,5-Tetrachlorophenoxypropionic acid (2,4,5-TP)	95721	50	NCNS-400	7470	7470	NCNS	NCNS	NCNS	NCNS	NCNS
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	1746016	0.000000005	0.000000051	0.00033	0.001	0.01	0.005	NCNS	NCNS	NCNS
2,4,5-Trichloroethanol	99954	300	600	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
2,4,6-Trichlorophenol	88062	1.4	2.4	130	130	160	25	NCNS	NCNS	NCNS
2,4-Dichlorophenol	120832	27.10	200.60	2800	2800	1000	88	NCNS	NCNS	NCNS
2,4-Dichlorophenoxyacetic acid (2,4-D)	94757	70	NCNS-12000	9330	9330	NCNS	NCNS	NCNS	NCNS	NCNS
2,4-Dimethyl phenol	105679	380.100	850.171	18670	18670	1600	310	NCNS	NCNS	NCNS
2,4-Dinitrophenol	51285	44.10	4070.300	1870	1870	110	9.2	NCNS	NCNS	NCNS
2,4-Dinitrotoluene	121142	0.44 0.040	3.4.1.7	1870	1870	14000	860	NCNS	NCNS	NCNS
2,6-Dinitrotoluene	606202	0.05	NCNS	2	3233	NCNS	NCNS	NCNS	NCNS	NCNS
Dinitroethyl phthalate	117840	2800	NCNS	373333	373333	NCNS	NCNS	NCNS	NCNS	NCNS
2-Chloroethyl vinyl ether	110758	NCNS	NCNS	NCNS	NCNS	180000	9800	NCNS	NCNS	NCNS
2-Chloromethyltoluene	91587	4400.800	4400.1000	74670	74670	NCNS	NCNS	NCNS	NCNS	NCNS
2-Chlorophenol	95578	25.30	30	4670	4670	2200	150	NCNS	NCNS	NCNS
2-methoxy-4,6-Dinitrophenol	534521	43.2	240.10	6600.3733	6600.3733	310	24	NCNS	NCNS	NCNS

Table 206.4 2015. Numeric Surface Water Quality Standards (continued)

(All units are in µg/L unless otherwise indicated)

All numeric standards are in total concentration unless otherwise indicated.

Parameter (Total concentration unless otherwise indicated)	CAS Number	Domestic Water Supply	Fish Consumption	Designated Uses				Aquatic & Wildlife Habitat Chronic	Aquatic & Wildlife Habitat Acute	Agricultural Water Supply	Livestock Watering
				Primary Human Contact	Secondary Human Contact	Aquatic & Wildlife Habitat Acute	Aquatic & Wildlife Habitat Chronic				
3,3-Dichlorobenzidine	91941	0.021	0.028	3.1	3.1	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
3-methyl 4-chlorophenol	59507	NCNS 500	NCNS 2600	NCNS	NCNS	15	4.7	NCNS	NCNS	NCNS	NCNS
4-Bromophenyl phenyl ether	101553	NCNS	NCNS	NCNS	NCNS	180	14	NCNS	NCNS	NCNS	NCNS
4-Nitrophenol	106027	NCNS	NCNS	NCNS	NCNS	4160	3060	NCNS	NCNS	NCNS	NCNS
Acenaphthene	83329	620 20	600 90	56000	56000	850	550	NCNS	NCNS	NCNS	NCNS
Acrsolin	107028	4.3	2	470	470	34	30	NCNS	NCNS	NCNS	NCNS
Acrylonitrile	107131	0.051	0.25	3	9500	3800	250	NCNS	NCNS	NCNS	NCNS
Aldrin	309002	0.000000077	0.000000077	0.08	30	3	NCNS	NCNS	0.003	0.003	0.003
Alkylbenzene	15972608	2	2	9333	9333	2500	170	NCNS	NCNS	NCNS	NCNS
alpha-HHE: alpha-Hexachlorocyclopentadiene (HCH)	319846	0.00036	0.00039	0.22	7470	1600	130	NCNS	NCNS	NCNS	NCNS
alpha-Ersohalin	959988	40 20	20	5600	5600	0.22	0.056	NCNS	NCNS	NCNS	NCNS
Aluminum (Al) pH 6.5-9.0 (for Asphal. A&B)	7429905	NCNS	NCNS	NCNS	NCNS	750 - Sec. 101	87 - Sec. 101	NCNS	NCNS	NCNS	NCNS
Ammonia-N	7664417	NCNS	NCNS	NCNS	NCNS	Sec. 101 and Tables 206.2-207.19 and 207.20	Sec. 101 and Tables 206.2-207.19 and 207.21	NCNS	NCNS	NCNS	NCNS
Anthrascene	120127	2400 300	75	280000	280000	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Antimony (Sb)	7440360	5.6	640	250 217	250 217	88 D	30 D	NCNS	NCNS	NCNS	NCNS
Arsenic (As)	7440382	10	80	30	280	340 D	150 D	2000	2000	2000	200
Asbestos (fibers > 10 µm)	1332214	7000000	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Atrazine	1912240	3	NCNS	32667	32667	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Barium (Ba)	7440395	4000 2000	NCNS	98000	98000	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Benzene	71432	5.0 52.1	54 16-38	93	43 3733	2700	180	NCNS	NCNS	NCNS	NCNS
Benzidine	92875	0.00006	0.00020	0.01	2800	1360	89	NCNS 0.01	NCNS 0.01	NCNS 0.01	NCNS 0.01
Benzofluoranthracene	56553	0.00008 0.0012	0.00008 0.0012	4 0.2	NCNS 0.2	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Benzofluoranthracene	50328	0.00008 0.00012	0.00008 0.00012	4 0.2	4 0.2	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Benzofluoranthracene	205992	0.00008 0.0012	0.00008 0.0012	4 1.9	NCNS 1.9	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Benzofluoranthracene	207089	0.00008	0.00008	4 1.9	NCNS 1.9	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Benzofluoranthracene	7440417	4	85	1870	1870	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Beta-2-Fluoranthracene	319857	0.00008	0.00008	3	560	1600	130	NCNS	NCNS	NCNS	NCNS
Beta-2-Fluoranthracene	3321659	40 20	20	5600	5600	0.22	0.056	NCNS	NCNS	NCNS	NCNS
Beta particles and photon emitters		4 millirem/year	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Bis(2-chloroethyl) ether	111444	0.030	0.53	1.3	1.3	120000	6700	NCNS	NCNS	NCNS	NCNS
Bis(2-chloroethyl) ether	108601	4400 200	65000 3441	56000 37333	56000 37333	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS

Table 206.4 2021 Numeric Surface Water Quality Standards (continued)

(All units are in µg/l, unless otherwise indicated)

All numeric standards are in total concentration unless otherwise indicated.

Parameter (Total concentration unless otherwise indicated)	CAS Number	Domestic Water Supply	Fish Consumption	Designated Uses				Aquatic & Wildlife Habitat Chronic	Aquatic & Wildlife Habitat Acute	Livestock Watering
				Primary Human Contact	Secondary Contact	Aquatic & Wildlife Habitat Acute	Aquatic & Wildlife Habitat Chronic			
Bis(2-ethylhexyl) adipate	103231	400	NCNS	560000	560000	NCNS	NCNS	NCNS	NCNS	NCNS
Bis(2-ethylhexyl) phthalate	117817	4-2 0.32	2-2 0.37	240 1200	1870	400	360	NCNS	NCNS	NCNS
Bis(2-chloroethyl) ether	542881	0.00015	0.017	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Bisphenol A	7440428	630 1.400	NCNS	125000	125000	NCNS	NCNS	NCNS	NCNS	5000-10
Bromofen	75252	4.3	440 120	180	28000	15000	10000	NCNS	NCNS	NCNS
Bis(1-hexyl) phthalate	85587	4500 0.10	4500 0.10	18670	18670	1700	130	NCNS	NCNS	NCNS
Cadmium (Cd)	7440439	5	8	470	470	NCNS	NCNS	NCNS	NCNS	50
Carbon tetrachloride	56235	0.23	1.6	40	650	18000	1100	NCNS	NCNS	NCNS
Chlordane	57749	0.0008 0.00031	0.0008 0.00032	13	470	2.4	0.0043	NCNS	NCNS	NCNS
Chlorine (total residual)	7782505	4000	NCNS	4000	4000	19	11	NCNS	NCNS	44-NCNS
Chlorobenzene	108907	100	4540 800	18670	18670	3800	260	NCNS	NCNS	NCNS
Chlorodibromomethane	124481	0.40	13	18670	18670	NCNS	NCNS	NCNS	NCNS	NCNS
Chloroform	67663	5.7	470	9330	9330	14000	960	NCNS	NCNS	NCNS
Chromium (Cr III + Cr VI)	7440473	100	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	1000
Chromium III (Cr III)	16065831	NCNS	75000	1400000	1400000	NCNS	NCNS	NCNS	NCNS	NCNS
Chromium VI (Cr VI)	18540599	20	150	2800	2800	1610	1110	NCNS	NCNS	NCNS
Chrysene	218019	0.0038	0.018	1	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Cobalt (Co)	7440484	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	1000-10
Copper (Cu)	7440508	1300	NCNS	9330	9330	NCNS	NCNS	NCNS	NCNS	500-10
Cyanide (as free Cyanide)	57125	300.4	140	18670	18670	22	5.2	NCNS	NCNS	5-2 200
delta-BHC	319868	0.0123	0.0414	NCNS	NCNS	1600	130	NCNS	NCNS	NCNS
Dibenzofuran	57703	0.0008 0.00012	0.0008 0.00013	1	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Dibutyl phthalate	84742	200 20	900 30	9330	9330	470	35	NCNS	NCNS	NCNS
Dichlorobromomethane	75274	0.55	17	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Dieldrin	60571	0.000032 0.0000012	0.000034 0.0000012	0.3	50	0.24	0.056	NCNS	NCNS	NCNS
Diethyl phthalate	84662	12000 0.60	44000 0.60	74670	74670	26000	1600	NCNS	NCNS	NCNS
Dimethyl phthalate	131113	25000 2.00	44000 2.00	NCNS	NCNS	17000	1000	NCNS	NCNS	NCNS

All numeric standards are in total concentration unless otherwise indicated.

[illegible]

Table 206.4 2021. Numeric Surface Water Quality Standards (continued)

(All units are in µg/L unless otherwise indicated)

All numeric standards are in total concentration unless otherwise indicated.

Parameter (Total concentration unless otherwise indicated)	CAS Number	Domestic Water Supply	Fish Consumption	Designated Uses			Aquatic & Wildlife Habitat Acute	Aquatic & Wildlife Habitat Chronic	Agricultural Water Supply	Livestock Watering
				Primary Human Contact	Secondary Contact					
Nitrate-N	14797558	10000	NCNS	1493330	1493330		NCNS	NCNS	NCNS	NCNS
Nitrite-N	14797650	1000	NCNS	93330	93330		NCNS	NCNS	NCNS	NCNS
Nitrite+Nitrate-N (mg/L)		NCNS	NCNS	NCNS	NCNS		NCNS	NCNS	NCNS	442 100
Nitrobenzene	98953	47 10	600 600	470	470		13000	850	NCNS	NCNS
Nitrosodimethylamine	62759	0.00060	3	0.1	0.1		NCNS	NCNS	NCNS	NCNS
Nitrosodimethylpropylamine	621647	0.005	0.51	1	88670		NCNS	NCNS	NCNS	NCNS
Nitrosodiphenylamine	86306	3 3	6	950	950		2900	200	NCNS	NCNS
p,p'-DDT (p,p'-Dichlorodiphenyldichloroethane)	72548	0.00044 0.00012	0.00044 0.00012	5.8	5.8		1.1	0.001	0.001	0.001
p,p'-DDE (p,p'-Dichlorodiphenylethene)	72559	0.00042 0.000018	0.00042 0.000018	4.1	4.1		1.1	0.001	0.001	0.001
p,p'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	50293	0.00042 0.000030	0.00042 0.000030	4.1	700		1.1	0.001	0.001	0.001
Perchlorobenzene	608935	0.1	0.1	NCNS	NCNS		NCNS	NCNS	NCNS	NCNS
Perchloroethanol	87865	0.27 0.03	2 0.04	40	28000		NCNS	NCNS	NCNS	NCNS
Phenanthrene	85018	NCNS	NCNS	NCNS	NCNS		30	6.3	NCNS	NCNS
Phenol	108952	2100	35	280000	280000		5160	730	NCNS	NCNS
Polychlorinated biphenyls (PCBs)	1356363	0.5	0.000064	2 19	19		2.0	0.014	0.04 0.001	0.04 0.001
Pyrene	129000	240 20	800 40	28000	28000		NCNS	NCNS	NCNS	NCNS
Radium 226 + 228 (pCi/L)		5	NCNS	NCNS	NCNS		NCNS	NCNS	NCNS	30
Selenium (Se)	7782492	50	670	4670	4670		33	2	20	50
Silver (Ag)	7440224	35	8000	4670	4670		NCNS	NCNS	NCNS	NCNS
Silverium 90 (pCi/L)		8	NCNS	NCNS	NCNS		NCNS	NCNS	NCNS	NCNS
Tetrachloroethene	127184	5	3 3	9330	9330		2600	280	NCNS	NCNS
Thallium (Tl)	7440280	2	1	75	75		700 D	150 D	NCNS	NCNS
Toluene	108883	4400 520	44000 520	74670	74670		8700	180	NCNS	NCNS
Trachloroethene	8001352	0.00028	0.00028	4	930		0.73	0.0002	0.0002 0.005	0.0002 0.005
Trichloroethene	79016	2.5 0.6	40 7	360	2800		20000	1300	NCNS	NCNS
Titanium (µCi/L)	10028178	20000	NCNS	NCNS	NCNS		NCNS	NCNS	NCNS	20000

Table 206-1 207.L Numeric Surface Water Quality Standards (continued)
(All units are in µg/L unless otherwise indicated)

(All numeric standards are in total concentration unless otherwise indicated.)

Parameter (Total concentration unless otherwise indicated)	CAS Number	Domestic Water Supply	Fish Consumption	Designated Uses					Aquatic & Wildlife Habitat Chronic	Aquatic & Wildlife Habitat Acute	Agricultural Water Supply	Livestock Watering
				Primary Human Contact	Secondary Human Contact	Human Contact	Human Contact	Human Contact				
Uranium (U)	7440611	30	NCNS	2800	2800	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Vanadium (V)	7440622	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	444-1000	100-10
Vinyl Chloride	75014	0.002	≤ 1.6	6	2800	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Xenon (Total)	1333207	10000	NCNS	186670	186670	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Zinc (Zn)	7440666	2100	5100	280000	280000	280000	280000	280000	280000	280000	10000	25000

Footnotes:

a. The A&W aluminum standard is for acid-soluble aluminum.

Acid-soluble aluminum is defined as the aluminum that passes through a 0.45 µm membrane filter after the sample has been acidified to a pH between 1.5 and 2.0 with nitric acid.

b. Hardness, expressed as mg/L calcium carbonate, is inserted into the equation where it says "hardness". The hardness-dependent formulae for metals shall be valid only

for hardness values from 0 to 400 mg/L calcium carbonate. For values above 400 mg/L, the value for 400 mg/L. Hardness analysis is

done from a dissolved water sample.

c. The pH is inserted into the equation where it says "pH". pH is determined according to the following criteria:

If the water body has an Aquatic and Wildlife Habitat designated use, then the pH is based on the pH of either the effluent (for a point source discharge) or the water body

from a sample taken at the same time that the sample for pentachlorophenol is taken.

d. Abbreviations: NCNS = No Current Numeric Standard D = Dissolved mg = milligram(s) µg = microgram(s) um = micrometer(s)

L = liter N = Nitrogen µCl = picocurie(s)

CAS Number = Chemical Abstracts Service (CAS) Registry Numbers are unique numerical identifiers assigned to chemical substances recorded

in the CAS Chemical Registry System.

4. Compliance with the gross alpha numeric standard of 15 µCi/L is determined according to the following criteria:

For values above 15 µCi/L, subtract the radon and uranium activity (in µCi/L) from the gross alpha value to determine the reported gross alpha value.

If radon gas is removed during the gross alpha analytical method, only subtract the uranium activity value.

Uranium activity in µCi/L is determined from the uranium concentration in (mg/L) according to the following formula:

$$\text{Uranium (}\mu\text{Ci/L)} = \text{Uranium (mg/L)} \times 0.67$$

**Table 206.2 Maximum Total Ammonia Concentration
Acute Standard for Aquatic and Wildlife Habitat
(Total Ammonia in mg-N/liter)**

pH	Salmonids Present	Salmonids Absent	pH
6.5	32.6	48.8	6.5
6.6	31.3	46.8	6.6
6.7	29.8	44.6	6.7
6.8	28.1	42.0	6.8
6.9	26.2	39.1	6.9
7.0	24.1	36.1	7.0
7.1	22.0	32.8	7.1
7.2	19.7	29.5	7.2
7.3	17.5	26.2	7.3
7.4	15.4	23.0	7.4
7.5	13.3	19.9	7.5
7.6	11.4	17.0	7.6
7.7	9.65	14.4	7.7
7.8	8.11	12.1	7.8
7.9	6.77	10.1	7.9
8.0	5.62	8.40	8.0
8.1	4.64	6.95	8.1
8.2	3.83	5.72	8.2
8.3	3.15	4.71	8.3
8.4	2.59	3.88	8.4
8.5	2.14	3.20	8.5
8.6	1.77	2.65	8.6
8.7	1.47	2.20	8.7
8.8	1.23	1.84	8.8
8.9	1.04	1.56	8.9
9.0	0.885	1.32	9.0

- NOTES:
1. pH is a field measurement to be taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.
 2. If the field-measured pH value falls between the tabular values, round the field-measured value according to standard scientific rounding procedures to the nearest tabular value to determine the ammonia standard.

**Table 206.3 Maximum Total Ammonia Concentration
Chronic Standard for Aquatic and Wildlife Habitat
(Total Ammonia mg-N/liter)**

pH	Temperature in Degrees Celsius										pH
	0	14	16	18	20	22	24	26	28	30	
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46	6.5
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42	6.6
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37	6.7
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32	6.8
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25	6.9
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18	7.0
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09	7.1
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99	7.2
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87	7.3
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74	7.4
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61	7.5
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47	7.6
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32	7.7
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17	7.8
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03	7.9
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897	8.0
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773	8.1
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661	8.2
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562	8.3
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475	8.4
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401	8.5
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339	8.6
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287	8.7
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244	8.8
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208	8.9
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179	9.0

NOTES:

1. pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.
2. If the field measured pH value falls between the tabular values, round the field measured value according to standard scientific rounding procedures to the nearest tabular value to determine the ammonia standard.

$$\text{Acute Standard} = [e^{(1.0166 [\ln(\text{hardness})] - 2.561)}]^{[1.136672 - [\ln(\text{hardness})]]^{(0.041838)}}$$

Hard.		Std.		Hard.		Std.		Hard.		Std.		Hard.		Std.		Hard.		Std.		Hard.		Std.		Hard.		Std.		Hard.		Std.	
mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L	mg/L	u/L
1	0.09	41	3.30	81	6.41	121	9.47	161	12.50	201	15.51	241	18.49	281	21.47	321	24.42	361	27.37	401	30.33	341	27.37	401	30.33	341	27.37	401	30.33	341	27.37
2	0.17	42	3.38	82	6.49	122	9.55	162	12.58	202	15.58	242	18.57	282	21.54	322	24.50	362	27.44	402	30.39	342	27.44	402	30.39	342	27.44	402	30.39	342	27.44
3	0.26	43	3.46	83	6.57	123	9.62	163	12.65	203	15.66	243	18.64	283	21.61	323	24.57	363	27.52	403	30.48	343	27.52	403	30.48	343	27.52	403	30.48	343	27.52
4	0.34	44	3.54	84	6.64	124	9.70	164	12.73	204	15.73	244	18.72	284	21.69	324	24.64	364	27.59	404	30.59	344	27.59	404	30.59	344	27.59	404	30.59	344	27.59
5	0.42	45	3.62	85	6.72	125	9.78	165	12.80	205	15.81	245	18.79	285	21.76	325	24.72	365	27.66	405	30.69	345	27.66	405	30.69	345	27.66	405	30.69	345	27.66
6	0.51	46	3.70	86	6.80	126	9.85	166	12.88	206	15.88	246	18.87	286	21.84	326	24.79	366	27.74	406	30.79	346	27.74	406	30.79	346	27.74	406	30.79	346	27.74
7	0.59	47	3.77	87	6.87	127	9.93	167	12.95	207	15.96	247	18.94	287	21.91	327	24.87	367	27.81	407	30.89	347	27.81	407	30.89	347	27.81	407	30.89	347	27.81
8	0.67	48	3.85	88	6.95	128	10.00	168	13.03	208	16.03	248	19.02	288	21.98	328	24.94	368	27.88	408	30.99	348	27.88	408	30.99	348	27.88	408	30.99	348	27.88
9	0.75	49	3.93	89	7.03	129	10.08	169	13.10	209	16.11	249	19.09	289	22.06	329	25.01	369	27.96	409	31.09	349	27.96	409	31.09	349	27.96	409	31.09	349	27.96
10	0.83	50	4.01	90	7.10	130	10.16	170	13.18	210	16.18	250	19.16	290	22.13	330	25.09	370	28.03	410	31.19	350	28.03	410	31.19	350	28.03	410	31.19	350	28.03
11	0.92	51	4.09	91	7.18	131	10.23	171	13.25	211	16.26	251	19.24	291	22.21	331	25.16	371	28.10	411	31.29	351	28.10	411	31.29	351	28.10	411	31.29	351	28.10
12	1.00	52	4.17	92	7.26	132	10.31	172	13.33	212	16.33	252	19.31	292	22.28	332	25.23	372	28.18	412	31.39	352	28.18	412	31.39	352	28.18	412	31.39	352	28.18
13	1.08	53	4.24	93	7.33	133	10.38	173	13.40	213	16.40	253	19.39	293	22.35	333	25.31	373	28.25	413	31.49	353	28.25	413	31.49	353	28.25	413	31.49	353	28.25
14	1.16	54	4.32	94	7.41	134	10.46	174	13.48	214	16.48	254	19.46	294	22.43	334	25.38	374	28.32	414	31.59	354	28.32	414	31.59	354	28.32	414	31.59	354	28.32
15	1.24	55	4.40	95	7.49	135	10.53	175	13.56	215	16.55	255	19.54	295	22.50	335	25.46	375	28.40	415	31.69	355	28.40	415	31.69	355	28.40	415	31.69	355	28.40
16	1.32	56	4.48	96	7.56	136	10.61	176	13.63	216	16.63	256	19.61	296	22.58	336	25.53	376	28.47	416	31.79	356	28.47	416	31.79	356	28.47	416	31.79	356	28.47
17	1.40	57	4.55	97	7.64	137	10.69	177	13.71	217	16.70	257	19.68	297	22.65	337	25.60	377	28.54	417	31.89	357	28.54	417	31.89	357	28.54	417	31.89	357	28.54
18	1.48	58	4.63	98	7.72	138	10.76	178	13.78	218	16.78	258	19.76	298	22.72	338	25.68	378	28.62	418	31.99	358	28.62	418	31.99	358	28.62	418	31.99	358	28.62
19	1.56	59	4.71	99	7.79	139	10.84	179	13.86	219	16.85	259	19.83	299	22.80	339	25.75	379	28.69	419	32.09	359	28.69	419	32.09	359	28.69	419	32.09	359	28.69
20	1.64	60	4.79	100	7.87	140	10.91	180	13.93	220	16.93	260	19.91	300	22.87	340	25.82	380	28.77	420	32.19	360	28.77	420	32.19	360	28.77	420	32.19	360	28.77
21	1.72	61	4.87	101	7.95	141	10.99	181	14.01	221	17.00	261	19.98	301	22.95	341	25.90	381	28.84	421	32.29	361	28.84	421	32.29	361	28.84	421	32.29	361	28.84
22	1.80	62	4.94	102	8.02	142	11.07	182	14.08	222	17.08	262	20.06	302	23.02	342	25.97	382	28.91	422	32.39	362	28.91	422	32.39	362	28.91	422	32.39	362	28.91
23	1.88	63	5.02	103	8.10	143	11.14	183	14.16	223	17.15	263	20.13	303	23.09	343	26.05	383	28.99	423	32.49	363	28.99	423	32.49	363	28.99	423	32.49	363	28.99
24	1.96	64	5.10	104	8.18	144	11.22	184	14.23	224	17.23	264	20.20	304	23.17	344	26.12	384	29.06	424	32.59	364	29.06	424	32.59	364	29.06	424	32.59	364	29.06
25	2.04	65	5.18	105	8.25	145	11.29	185	14.31	225	17.30	265	20.28	305	23.24	345	26.19	385	29.13	425	32.69	365	29.13	425	32.69	365	29.13	425	32.69	365	29.13
26	2.12	66	5.25	106	8.33	146	11.37	186	14.38	226	17.38	266	20.35	306	23.32	346	26.27	386	29.21	426	32.79	366	29.21	426	32.79	366	29.21	426	32.79	366	29.21
27	2.20	67	5.33	107	8.40	147	11.44	187	14.46	227	17.45	267	20.43	307	23.39	347	26.34	387	29.28	427	32.89	367	29.28	427	32.89	367	29.28	427	32.89	367	29.28
28	2.28	68	5.41	108	8.48	148	11.52	188	14.53	228	17.53	268	20.50	308	23.46	348	26.41	388	29.35	428	32.99	368	29.35	428	32.99	368	29.35	428	32.99	368	29.35
29	2.36	69	5.49	109	8.56	149	11.59	189	14.61	229	17.60	269	20.58	309	23.54	349	26.49	389	29.43	429	33.09	369	29.43	429	33.09	369	29.43	429	33.09	369	29.43
30	2.44	70	5.56	110	8.63	150	11.67	190	14.68	230	17.67	270	20.65	310	23.61	350	26.56	390	29.50	430	33.19	370	29.50	430	33.19	370	29.50	430	33.19	370	29.50
31	2.52	71	5.64	111	8.71	151	11.75	191	14.76	231	17.75	271	20.72	311	23.69	351	26.63	391	29.57	431	33.29	371	29.57	431	33.29	371	29.57	431	33.29	371	29.57
32	2.60	72	5.72	112	8.79	152	11.82	192	14.83	232	17.82	272	20.80	312	23.76	352	26.71	392	29.65	432	33.39	372	29.65	432	33.39	372	29.65	432	33.39	372	29.65
33	2.67	73	5.79	113	8.86	153	11.90	193	14.91	233	17.90	273	20.87	313	23.83	353	26.78	393	29.72	433	33.49	373	29.72	433	33.49	373	29.72	433	33.49	373	29.72
34	2.75	74	5.87	114	8.94	154	11.97	194	14.98	234	17.97	274	20.95	314	23.91	354	26.85	394	29.79	434	33.59	374	29.79	434	33.59	374	29.79	434	33.59	374	29.79
35	2.83	75	5.95	115	9.01	155	12.05	195	15.06	235	18.05	275	21.02	315	23.98	355	26.93	395	29.87	435	33.69	375	29.87	435	33.69	375	29.87	435	33.69	375	29.87
36	2.91	76	6.03	116	9.09	156	12.12	196	15.13	236	18.12	276	21.09	316	24.05	356	27.00	396	29.94	436	33.79	376	29.94	436	33.79	376	29.94	436	33.79	376	29.94
37	2.99	77	6.10	117	9.17	157	12.20	197	15.21	237	18.20	277	21.17	317	24.13	357	27.08	397	30.01	437	33.89	377	30.01	437	33.89	377	30.01	437	33.89	377	30.01
38	3.07	78	6.18	118	9.24	158	12.27	198	15.28	238	18.27	278	21.24	318	24.20	358	27.15	398	30.08	438	33.99	378	30.08	438	33.99	378	30.08	438	33.99	378	30.08
39	3.15	79	6.26	119	9.32	159	12.35	199	15.36	239	18.35	279	21.32	319	24.28	359	27.22	399	30.16	439	34.09	379	30.16	439	34.09	379	30.16	439	34.09	379	30.16
40	0.8	80	6.33	120	9.40	160	12.43	200	15.43	240	18.42	280	21.39	320	24.35	360	27.30	400	30.23	440	34.19	380	30.23	440	34.19	380	30.23	440	34.19	380	30.23

Table 207.5 Chronic Water Quality Standards for Dissolved Cadmium - Aquatic and Wildlife Warm Water

Chronic Standard = $[e (0.7409 \ln (\text{hardness})) - 3.894] [1.101672 - \ln (\text{hardness})] (0.041838)$

Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L
1	0.02	41	0.30	81	0.48	121	0.64	161	0.78	201	0.91	241	1.03	281	1.15	321	1.26	361	1.37
2	0.04	42	0.31	82	0.49	122	0.64	162	0.78	202	0.91	242	1.04	282	1.15	322	1.26	362	1.37
3	0.05	43	0.31	83	0.49	123	0.65	163	0.79	203	0.92	243	1.04	283	1.16	323	1.27	363	1.37
4	0.06	44	0.32	84	0.50	124	0.65	164	0.79	204	0.92	244	1.04	284	1.16	324	1.27	364	1.38
5	0.07	45	0.32	85	0.50	125	0.66	165	0.79	205	0.92	245	1.05	285	1.16	325	1.27	365	1.38
6	0.08	46	0.33	86	0.51	126	0.66	166	0.80	206	0.93	246	1.05	286	1.16	326	1.27	366	1.38
7	0.09	47	0.33	87	0.51	127	0.66	167	0.80	207	0.93	247	1.05	287	1.17	327	1.28	367	1.38
8	0.10	48	0.34	88	0.51	128	0.67	168	0.80	208	0.93	248	1.05	288	1.17	328	1.28	368	1.39
9	0.10	49	0.34	89	0.52	129	0.67	169	0.81	209	0.94	249	1.06	289	1.17	329	1.28	369	1.39
10	0.11	50	0.35	90	0.52	130	0.67	170	0.81	210	0.94	250	1.06	290	1.17	330	1.28	370	1.39
11	0.12	51	0.35	91	0.53	131	0.68	171	0.81	211	0.94	251	1.06	291	1.18	331	1.29	371	1.39
12	0.13	52	0.36	92	0.53	132	0.68	172	0.82	212	0.95	252	1.07	292	1.18	332	1.29	372	1.40
13	0.14	53	0.36	93	0.53	133	0.68	173	0.82	213	0.95	253	1.07	293	1.18	333	1.29	373	1.40
14	0.14	54	0.37	94	0.54	134	0.69	174	0.82	214	0.95	254	1.07	294	1.19	334	1.30	374	1.40
15	0.15	55	0.37	95	0.54	135	0.69	175	0.83	215	0.95	255	1.07	295	1.19	335	1.30	375	1.40
16	0.16	56	0.38	96	0.55	136	0.69	176	0.83	216	0.96	256	1.08	296	1.19	336	1.30	376	1.41
17	0.16	57	0.38	97	0.55	137	0.70	177	0.83	217	0.96	257	1.08	297	1.19	337	1.30	377	1.41
18	0.17	58	0.38	98	0.55	138	0.70	178	0.84	218	0.96	258	1.08	298	1.20	338	1.31	378	1.41
19	0.18	59	0.39	99	0.56	139	0.71	179	0.84	219	0.97	259	1.09	299	1.20	339	1.31	379	1.41
20	0.18	60	0.39	100	0.56	140	0.71	180	0.84	220	0.97	260	1.09	300	1.20	340	1.31	380	1.42
21	0.19	61	0.40	101	0.57	141	0.71	181	0.85	221	0.97	261	1.09	301	1.21	341	1.31	381	1.42
22	0.20	62	0.40	102	0.57	142	0.72	182	0.85	222	0.98	262	1.10	302	1.21	342	1.32	382	1.42
23	0.20	63	0.41	103	0.57	143	0.72	183	0.85	223	0.98	263	1.10	303	1.21	343	1.32	383	1.42
24	0.21	64	0.41	104	0.58	144	0.72	184	0.86	224	0.98	264	1.10	304	1.21	344	1.32	384	1.43
25	0.21	65	0.42	105	0.58	145	0.73	185	0.86	225	0.99	265	1.10	305	1.22	345	1.32	385	1.43
26	0.22	66	0.42	106	0.58	146	0.73	186	0.86	226	0.99	266	1.11	306	1.22	346	1.33	386	1.43
27	0.23	67	0.42	107	0.59	147	0.73	187	0.87	227	0.99	267	1.11	307	1.22	347	1.33	387	1.43
28	0.23	68	0.43	108	0.59	148	0.74	188	0.87	228	0.99	268	1.11	308	1.22	348	1.33	388	1.44
29	0.24	69	0.43	109	0.60	149	0.74	189	0.87	229	1.00	269	1.12	309	1.23	349	1.34	389	1.44
30	0.24	70	0.44	110	0.60	150	0.74	190	0.88	230	1.00	270	1.12	310	1.23	350	1.34	390	1.44
31	0.25	71	0.44	111	0.60	151	0.75	191	0.88	231	1.00	271	1.12	311	1.23	351	1.34	391	1.44
32	0.25	72	0.45	112	0.61	152	0.75	192	0.88	232	1.01	272	1.12	312	1.24	352	1.34	392	1.45
33	0.26	73	0.45	113	0.61	153	0.75	193	0.89	233	1.01	273	1.13	313	1.24	353	1.35	393	1.45
34	0.26	74	0.46	114	0.61	154	0.76	194	0.89	234	1.01	274	1.13	314	1.24	354	1.35	394	1.45
35	0.27	75	0.46	115	0.62	155	0.76	195	0.89	235	1.02	275	1.13	315	1.24	355	1.35	395	1.46
36	0.28	76	0.46	116	0.62	156	0.76	196	0.90	236	1.02	276	1.14	316	1.25	356	1.35	396	1.46
37	0.28	77	0.47	117	0.63	157	0.77	197	0.90	237	1.02	277	1.14	317	1.25	357	1.36	397	1.46
38	0.29	78	0.47	118	0.63	158	0.77	198	0.90	238	1.02	278	1.14	318	1.25	358	1.36	398	1.46
39	0.29	79	0.48	119	0.63	159	0.77	199	0.91	239	1.03	279	1.14	319	1.26	359	1.36	399	1.47
40	0.30	80	0.48	120	0.64	160	0.78	200	0.91	240	1.03	280	1.15	320	1.26	360	1.36	400	1.47

Table 207.7 Chronic Water Quality Standards for Dissolved Chromium III - Aquatic and Wildlife

Chronic Standard = $\text{[Cr (0.8190 [In (hardness)] + 0.6848)] 10.860}$

Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L
1	1.7	41	35.71	81	62.37	121	86.64	161	109.47	201	131.29	241	152.33	281	172.74	321	192.63	361	212.08		
2	3.01	42	36.42	82	63.00	122	87.22	162	110.03	202	131.82	242	152.84	282	173.24	322	193.12	362	212.56		
3	4.19	43	37.13	83	63.63	123	87.81	163	110.58	203	132.36	243	153.36	283	173.75	323	193.62	363	213.04		
4	5.31	44	37.83	84	64.25	124	88.39	164	111.14	204	132.89	244	153.88	284	174.25	324	194.11	364	213.52		
5	6.37	45	38.54	85	64.88	125	88.98	165	111.69	205	133.42	245	154.39	285	174.75	325	194.60	365	214.00		
6	7.40	46	39.24	86	65.50	126	89.56	166	112.25	206	133.96	246	154.91	286	175.25	326	195.09	366	214.48		
7	8.40	47	39.93	87	66.13	127	90.14	167	112.80	207	134.49	247	155.43	287	175.76	327	195.58	367	214.96		
8	9.37	48	40.63	88	66.75	128	90.72	168	113.35	208	135.02	248	155.94	288	176.26	328	196.07	368	215.44		
9	10.31	49	41.32	89	67.37	129	91.30	169	113.90	209	135.55	249	156.46	289	176.76	329	196.56	369	215.92		
10	11.24	50	42.01	90	67.99	130	91.88	170	114.46	210	136.08	250	156.97	290	177.26	330	197.05	370	216.40		
11	12.16	51	42.70	91	68.61	131	92.46	171	115.01	211	136.61	251	157.48	291	177.76	331	197.53	371	216.88		
12	13.05	52	43.38	92	69.22	132	93.04	172	115.56	212	137.14	252	158.00	292	178.26	332	198.02	372	217.36		
13	13.94	53	44.06	93	69.84	133	93.61	173	116.11	213	137.67	253	158.51	293	178.76	333	198.51	373	217.84		
14	14.81	54	44.74	94	70.45	134	94.19	174	116.66	214	138.20	254	159.02	294	179.26	334	199.00	374	218.32		
15	15.67	55	45.42	95	71.07	135	94.76	175	117.21	215	138.73	255	159.54	295	179.76	335	199.49	375	218.79		
16	16.52	56	46.10	96	71.68	136	95.34	176	117.75	216	139.26	256	160.05	296	180.26	336	199.97	376	219.27		
17	17.36	57	46.77	97	72.29	137	95.91	177	118.30	217	139.79	257	160.56	297	180.76	337	200.46	377	219.75		
18	18.20	58	47.44	98	72.90	138	96.49	178	118.85	218	140.31	258	161.07	298	181.25	338	200.95	378	220.23		
19	19.02	59	48.11	99	73.51	139	97.06	179	119.40	219	140.84	259	161.58	299	181.75	339	201.44	379	220.70		
20	19.84	60	48.78	100	74.11	140	97.63	180	119.94	220	141.37	260	162.09	300	182.25	340	201.92	380	221.18		
21	20.64	61	49.44	101	74.72	141	98.20	181	120.49	221	141.89	261	162.60	301	182.75	341	202.41	381	221.66		
22	21.45	62	50.10	102	75.33	142	98.77	182	121.03	222	142.42	262	163.11	302	183.24	342	202.89	382	222.13		
23	22.24	63	50.76	103	75.93	143	99.34	183	121.58	223	142.94	263	163.62	303	183.74	343	203.38	383	222.61		
24	23.03	64	51.42	104	76.53	144	99.91	184	122.12	224	143.47	264	164.13	304	184.24	344	203.87	384	223.09		
25	23.81	65	52.08	105	77.14	145	100.48	185	122.66	225	143.99	265	164.64	305	184.73	345	204.35	385	223.56		
26	24.59	66	52.74	106	77.74	146	101.04	186	123.21	226	144.52	266	165.15	306	185.23	346	204.84	386	224.04		
27	25.36	67	53.39	107	78.34	147	101.61	187	123.75	227	145.04	267	165.66	307	185.72	347	205.32	387	224.51		
28	26.13	68	54.04	108	78.94	148	102.18	188	124.29	228	145.56	268	166.17	308	186.22	348	205.81	388	224.99		
29	26.89	69	54.69	109	79.53	149	102.74	189	124.83	229	146.09	269	166.67	309	186.72	349	206.29	389	225.46		
30	27.65	70	55.34	110	80.13	150	103.31	190	125.37	230	146.61	270	167.18	310	187.21	350	206.77	390	225.94		
31	28.40	71	55.99	111	80.73	151	103.87	191	125.91	231	147.13	271	167.69	311	187.70	351	207.26	391	226.41		
32	29.15	72	56.63	112	81.32	152	104.43	192	126.45	232	147.65	272	168.20	312	188.20	352	207.74	392	226.88		
33	29.89	73	57.27	113	81.92	153	104.99	193	126.99	233	148.17	273	168.70	313	188.69	353	208.22	393	227.36		
34	30.63	74	57.92	114	82.51	154	105.56	194	127.53	234	148.69	274	169.21	314	189.19	354	208.71	394	227.83		
35	31.37	75	58.56	115	83.10	155	106.12	195	128.07	235	149.21	275	169.71	315	189.68	355	209.19	395	228.31		
36	32.10	76	59.20	116	83.69	156	106.68	196	128.61	236	149.73	276	170.22	316	190.17	356	209.67	396	228.78		
37	32.83	77	59.83	117	84.28	157	107.24	197	129.14	237	150.25	277	170.72	317	190.66	357	210.15	397	229.25		
38	33.55	78	60.47	118	84.87	158	107.80	198	129.68	238	150.77	278	171.23	318	191.16	358	210.64	398	229.72		
39	34.28	79	61.10	119	85.46	159	108.35	199	130.22	239	151.29	279	171.73	319	191.65	359	211.12	399	230.20		
40	34.99	80	61.74	120	86.05	160	108.91	200	130.75	240	151.81	280	172.24	320	192.14	360	211.60	400	230.67		

Table 207.11 Chronic Water Quality Standards for Dissolved Lead - Aquatic and Wildlife

Chronic Standard = $[e (1.273 \ln (\text{hardness})] - 4.705] [1.46203 - \ln (\text{hardness})] [0.145712]$

Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L	Hard, mg/L	Std, ug/L
1	0.01	41	0.94	81	2.00	121	3.10	161	4.21	201	5.33	241	6.46	281	7.59	321	8.72	361	9.85				
2	0.03	42	0.97	82	2.03	122	3.12	162	4.24	202	5.36	242	6.49	282	7.62	322	8.75	362	9.88				
3	0.05	43	0.99	83	2.05	123	3.15	163	4.27	203	5.39	243	6.52	283	7.65	323	8.78	363	9.90				
4	0.07	44	1.02	84	2.08	124	3.18	164	4.29	204	5.42	244	6.55	284	7.68	324	8.81	364	9.93				
5	0.09	45	1.04	85	2.11	125	3.21	165	4.32	205	5.45	245	6.57	285	7.70	325	8.83	365	9.96				
6	0.11	46	1.07	86	2.13	126	3.23	166	4.35	206	5.47	246	6.60	286	7.73	326	8.86	366	9.99				
7	0.13	47	1.10	87	2.16	127	3.26	167	4.38	207	5.50	247	6.63	287	7.76	327	8.89	367	10.02				
8	0.15	48	1.12	88	2.19	128	3.29	168	4.41	208	5.53	248	6.66	288	7.79	328	8.92	368	10.05				
9	0.17	49	1.15	89	2.22	129	3.32	169	4.43	209	5.56	249	6.69	289	7.82	329	8.95	369	10.07				
10	0.19	50	1.17	90	2.24	130	3.34	170	4.46	210	5.59	250	6.72	290	7.85	330	8.97	370	10.10				
11	0.21	51	1.20	91	2.27	131	3.37	171	4.49	211	5.62	251	6.74	291	7.87	331	9.00	371	10.13				
12	0.24	52	1.23	92	2.30	132	3.40	172	4.52	212	5.64	252	6.77	292	7.90	332	9.03	372	10.16				
13	0.26	53	1.25	93	2.33	133	3.43	173	4.55	213	5.67	253	6.80	293	7.93	333	9.06	373	10.19				
14	0.28	54	1.28	94	2.35	134	3.46	174	4.57	214	5.70	254	6.83	294	7.96	334	9.09	374	10.21				
15	0.30	55	1.31	95	2.38	135	3.48	175	4.60	215	5.73	255	6.86	295	7.99	335	9.12	375	10.24				
16	0.33	56	1.33	96	2.41	136	3.51	176	4.63	216	5.76	256	6.89	296	8.02	336	9.14	376	10.27				
17	0.35	57	1.36	97	2.43	137	3.54	177	4.66	217	5.78	257	6.91	297	8.04	337	9.17	377	10.30				
18	0.37	58	1.38	98	2.46	138	3.57	178	4.69	218	5.81	258	6.94	298	8.07	338	9.20	378	10.33				
19	0.40	59	1.41	99	2.49	139	3.60	179	4.71	219	5.84	259	6.97	299	8.10	339	9.23	379	10.35				
20	0.42	60	1.44	100	2.52	140	3.62	180	4.74	220	5.87	260	7.00	300	8.13	340	9.26	380	10.38				
21	0.44	61	1.46	101	2.54	141	3.65	181	4.77	221	5.90	261	7.03	301	8.16	341	9.28	381	10.41				
22	0.47	62	1.49	102	2.57	142	3.68	182	4.80	222	5.93	262	7.05	302	8.18	342	9.31	382	10.44				
23	0.49	63	1.52	103	2.60	143	3.71	183	4.83	223	5.95	263	7.08	303	8.21	343	9.34	383	10.47				
24	0.52	64	1.54	104	2.63	144	3.73	184	4.85	224	5.98	264	7.11	304	8.24	344	9.37	384	10.49				
25	0.54	65	1.57	105	2.65	145	3.76	185	4.88	225	6.01	265	7.14	305	8.27	345	9.40	385	10.52				
26	0.57	66	1.60	106	2.68	146	3.79	186	4.91	226	6.04	266	7.17	306	8.30	346	9.43	386	10.55				
27	0.59	67	1.62	107	2.71	147	3.82	187	4.94	227	6.07	267	7.20	307	8.33	347	9.45	387	10.58				
28	0.61	68	1.65	108	2.74	148	3.85	188	4.97	228	6.09	268	7.22	308	8.35	348	9.48	388	10.61				
29	0.64	69	1.68	109	2.76	149	3.87	189	5.00	229	6.12	269	7.25	309	8.38	349	9.51	389	10.64				
30	0.66	70	1.70	110	2.79	150	3.90	190	5.02	230	6.15	270	7.28	310	8.41	350	9.54	390	10.66				
31	0.69	71	1.73	111	2.82	151	3.93	191	5.05	231	6.18	271	7.31	311	8.44	351	9.57	391	10.69				
32	0.71	72	1.76	112	2.85	152	3.96	192	5.08	232	6.21	272	7.34	312	8.47	352	9.59	392	10.72				
33	0.74	73	1.78	113	2.87	153	3.99	193	5.11	233	6.24	273	7.37	313	8.50	353	9.62	393	10.75				
34	0.76	74	1.81	114	2.90	154	4.01	194	5.14	234	6.26	274	7.39	314	8.52	354	9.65	394	10.78				
35	0.79	75	1.84	115	2.93	155	4.04	195	5.16	235	6.29	275	7.42	315	8.55	355	9.68	395	10.80				
36	0.81	76	1.86	116	2.96	156	4.07	196	5.19	236	6.32	276	7.45	316	8.58	356	9.71	396	10.83				
37	0.84	77	1.89	117	2.98	157	4.10	197	5.22	237	6.35	277	7.48	317	8.61	357	9.74	397	10.86				
38	0.87	78	1.92	118	3.01	158	4.13	198	5.25	238	6.38	278	7.51	318	8.64	358	9.76	398	10.89				
39	0.89	79	1.95	119	3.04	159	4.15	199	5.28	239	6.41	279	7.54	319	8.66	359	9.79	399	10.92				
40	0.92	80	1.97	120	3.07	160	4.18	200	5.31	240	6.43	280	7.56	320	8.69	360	9.82	400	10.94				

$$\text{Acute Standard} = [e^{(0.8460 [\ln(\text{hardness})] + 2.255)}]^{0.998}$$
[illegible]

Table 207.13 Chronic Water Quality Standards for Dissolved Nickel - Aquatic and Wildlife

Chronic Standard = $[e (0.8460 \ln (\text{hardness})) + 0.0584]0.997$

Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L	Hard. mg/L	Std. mg/L
1	1.06	41	24.46	81	43.51	121	61.11	161	77.81	201	93.88	241	109.46	281	124.64	321	139.50	361	154.07
2	1.90	42	24.96	82	43.97	122	61.63	162	78.22	202	94.27	242	109.84	282	125.02	322	139.86	362	154.43
3	2.68	43	25.47	83	44.42	123	61.96	163	78.63	203	94.67	243	110.23	283	125.39	323	140.23	363	154.79
4	3.42	44	25.97	84	44.87	124	62.39	164	79.03	204	95.06	244	110.61	284	125.77	324	140.60	364	155.15
5	4.12	45	26.47	85	45.33	125	62.81	165	79.44	205	95.46	245	110.99	285	126.14	325	140.96	365	155.51
6	4.81	46	26.96	86	45.78	126	63.24	166	79.85	206	95.85	246	111.38	286	126.52	326	141.33	366	155.87
7	5.48	47	27.46	87	46.23	127	63.66	167	80.26	207	96.24	247	111.76	287	126.89	327	141.70	367	156.23
8	6.14	48	27.95	88	46.68	128	64.09	168	80.66	208	96.64	248	112.14	288	127.26	328	142.07	368	156.59
9	6.78	49	28.44	89	47.12	129	64.51	169	81.07	209	97.03	249	112.52	289	127.64	329	142.43	369	156.95
10	7.41	50	28.93	90	47.57	130	64.93	170	81.47	210	97.42	250	112.91	290	128.01	330	142.80	370	157.31
11	8.04	51	29.42	91	48.02	131	65.35	171	81.88	211	97.81	251	113.29	291	128.38	331	143.16	371	157.67
12	8.65	52	29.91	92	48.46	132	65.78	172	82.28	212	98.21	252	113.67	292	128.76	332	143.53	372	158.03
13	9.26	53	30.39	93	48.91	133	66.20	173	82.69	213	98.60	253	114.05	293	129.13	333	143.90	373	158.39
14	9.86	54	30.88	94	49.35	134	66.62	174	83.09	214	98.99	254	114.43	294	129.50	334	144.26	374	158.75
15	10.45	55	31.36	95	49.80	135	67.04	175	83.50	215	99.38	255	114.81	295	129.88	335	144.63	375	159.11
16	11.03	56	31.84	96	50.24	136	67.46	176	83.90	216	99.77	256	115.19	296	130.25	336	144.99	376	159.47
17	11.61	57	32.32	97	50.68	137	67.88	177	84.30	217	100.16	257	115.57	297	130.62	337	145.36	377	159.82
18	12.19	58	32.80	98	51.13	138	68.30	178	84.71	218	100.55	258	115.95	298	130.99	338	145.72	378	160.18
19	12.76	59	33.28	99	51.57	139	68.71	179	85.11	219	100.94	259	116.33	299	131.36	339	146.09	379	160.54
20	13.33	60	33.76	100	52.01	140	69.13	180	85.51	220	101.33	260	116.71	300	131.74	340	146.45	380	160.90
21	13.89	61	34.23	101	52.45	141	69.55	181	85.91	221	101.72	261	117.09	301	132.11	341	146.81	381	161.26
22	14.45	62	34.71	102	52.89	142	69.97	182	86.31	222	102.11	262	117.47	302	132.48	342	147.18	382	161.62
23	15.00	63	35.18	103	53.32	143	70.38	183	86.71	223	102.50	263	117.85	303	132.85	343	147.54	383	161.97
24	15.55	64	35.65	104	53.76	144	70.80	184	87.12	224	102.89	264	118.23	304	133.22	344	147.91	384	162.33
25	16.10	65	36.12	105	54.20	145	71.22	185	87.52	225	103.28	265	118.61	305	133.59	345	148.27	385	162.69
26	16.64	66	36.59	106	54.63	146	71.63	186	87.92	226	103.67	266	118.99	306	133.96	346	148.63	386	163.05
27	17.18	67	37.06	107	55.07	147	72.05	187	88.32	227	104.05	267	119.37	307	134.33	347	149.00	387	163.40
28	17.72	68	37.53	108	55.51	148	72.46	188	88.71	228	104.44	268	119.75	308	134.70	348	149.36	388	163.76
29	18.25	69	37.99	109	55.94	149	72.87	189	89.11	229	104.83	269	120.12	309	135.07	349	149.72	389	164.12
30	18.78	70	38.46	110	56.37	150	73.29	190	89.51	230	105.22	270	120.50	310	135.44	350	150.09	390	164.47
31	19.31	71	38.92	111	56.81	151	73.70	191	89.91	231	105.60	271	120.88	311	135.81	351	150.45	391	164.83
32	19.83	72	39.39	112	57.24	152	74.11	192	90.31	232	105.99	272	121.26	312	136.18	352	150.81	392	165.19
33	20.36	73	39.85	113	57.67	153	74.53	193	90.71	233	106.38	273	121.63	313	136.55	353	151.17	393	165.54
34	20.88	74	40.31	114	58.10	154	74.94	194	91.10	234	106.76	274	122.01	314	136.92	354	151.54	394	165.90
35	21.40	75	40.77	115	58.53	155	75.35	195	91.50	235	107.15	275	122.39	315	137.29	355	151.90	395	166.26
36	21.91	76	41.23	116	58.96	156	75.76	196	91.90	236	107.53	276	122.76	316	137.66	356	152.26	396	166.61
37	22.43	77	41.69	117	59.39	157	76.17	197	92.29	237	107.92	277	123.14	317	138.02	357	152.62	397	166.97
38	22.94	78	42.15	118	59.82	158	76.58	198	92.69	238	108.30	278	123.52	318	138.39	358	152.98	398	167.32
39	23.45	79	42.60	119	60.25	159	76.99	199	93.09	239	108.69	279	123.89	319	138.76	359	153.34	399	167.68
40	23.96	80	43.06	120	60.68	160	77.40	200	93.48	240	109.07	280	124.27	320	139.13	360	153.71	400	168.04

Table 207.14 Acute Water Quality Standards for Pentachlorophenol - Aquatic and Wildlife

Acute Standard = $e(1.005^{pH-4.869})$				
pH	Std. $\mu\text{g/L}$	pH	Std. $\mu\text{g/L}$	Std. $\mu\text{g/L}$
3	0.153	6.9	7.699	387.864
3.1	0.169	7	8.514	428.870
3.2	0.187	7.1	9.414	474.212
3.3	0.207	7.2	10.409	
3.4	0.228	7.3	11.509	
3.5	0.253	7.4	12.726	
3.6	0.279	7.5	14.072	
3.7	0.309	7.6	15.559	
3.8	0.342	7.7	17.204	
3.9	0.378	7.8	19.023	
4	0.418	7.9	21.034	
4.1	0.462	8	23.258	
4.2	0.511	8.1	25.717	
4.3	0.564	8.2	28.436	
4.4	0.624	8.3	31.442	
4.5	0.690	8.4	34.767	
4.6	0.763	8.5	38.442	
4.7	0.844	8.6	42.506	
4.8	0.933	8.7	47.000	
4.9	1.032	8.8	51.969	
5	1.141	8.9	57.464	
5.1	1.261	9	63.539	
5.2	1.395	9.1	70.257	
5.3	1.542	9.2	77.684	
5.4	1.705	9.3	85.898	
5.5	1.885	9.4	94.979	
5.6	2.085	9.5	105.020	
5.7	2.305	9.6	116.124	
5.8	2.549	9.7	128.401	
5.9	2.818	9.8	141.976	
6	3.116	9.9	156.986	
6.1	3.446	10	173.583	
6.2	3.810	10.1	191.935	
6.3	4.213	10.2	212.227	
6.4	4.658	10.3	234.664	
6.5	5.151	10.4	259.474	
6.6	5.695	10.5	286.906	
6.7	6.298	10.6	317.239	
6.8	6.963	10.7	350.779	

Table 207.15 Chronic Water Quality Standards for Pentachlorophenol - Aquatic and Wildlife

Chronic Standard = $e(1.005^{pH-5.134})$				
pH	Std. $\mu\text{g/L}$	pH	Std. $\mu\text{g/L}$	Std. $\mu\text{g/L}$
3	0.117	6.9	5.899	297.178
3.1	0.129	7	6.523	328.596
3.2	0.143	7.1	7.213	363.337
3.3	0.158	7.2	7.975	
3.4	0.175	7.3	8.818	
3.5	0.194	7.4	9.751	
3.6	0.214	7.5	10.781	
3.7	0.237	7.6	11.921	
3.8	0.262	7.7	13.182	
3.9	0.289	7.8	14.575	
4	0.320	7.9	16.116	
4.1	0.354	8	17.820	
4.2	0.391	8.1	19.704	
4.3	0.433	8.2	21.787	
4.4	0.478	8.3	24.091	
4.5	0.529	8.4	26.638	
4.6	0.585	8.5	29.454	
4.7	0.647	8.6	32.568	
4.8	0.715	8.7	36.011	
4.9	0.790	8.8	39.818	
5	0.874	8.9	44.028	
5.1	0.966	9	48.683	
5.2	1.069	9.1	53.830	
5.3	1.182	9.2	59.521	
5.4	1.306	9.3	65.814	
5.5	1.445	9.4	72.772	
5.6	1.597	9.5	80.466	
5.7	1.766	9.6	88.973	
5.8	1.953	9.7	98.379	
5.9	2.159	9.8	108.780	
6	2.388	9.9	120.281	
6.1	2.640	10	132.997	
6.2	2.919	10.1	147.058	
6.3	3.228	10.2	162.606	
6.4	3.569	10.3	179.797	
6.5	3.947	10.4	198.806	
6.6	4.364	10.5	219.825	
6.7	4.825	10.6	243.065	
6.8	5.335	10.7	268.763	

Table 207.17 Acute Water Quality Standards for Dissolved Zinc - Aquatic and Wildlife

Acute Standard = $[e (0.8473 \ln (\text{hardness})) + 0.884] 10.978$

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	2.4	41	55.1	81	98.0	121	137.7	161	175.4	201	211.7	241	246.9	281	281.2	321	314.8	361	347.7				
2	4.3	42	56.2	82	99.0	122	138.7	162	176.4	202	212.6	242	247.8	282	282.1	322	315.6	362	348.5				
3	6.0	43	57.3	83	100.1	123	139.6	163	177.3	203	213.5	243	248.6	283	282.9	323	316.4	363	349.4				
4	7.7	44	58.4	84	101.1	124	140.6	164	178.2	204	214.4	244	249.5	284	283.8	324	317.3	364	350.2				
5	9.3	45	59.6	85	102.1	125	141.6	165	179.1	205	215.3	245	250.4	285	284.6	325	318.1	365	351.0				
6	10.8	46	60.7	86	103.1	126	142.5	166	180.0	206	216.2	246	251.2	286	285.5	326	318.9	366	351.8				
7	12.3	47	61.8	87	104.1	127	143.5	167	181.0	207	217.1	247	252.1	287	286.3	327	319.8	367	352.6				
8	13.8	48	62.9	88	105.2	128	144.4	168	181.9	208	217.9	248	253.0	288	287.1	328	320.6	368	353.4				
9	15.2	49	64.0	89	106.2	129	145.4	169	182.8	209	218.8	249	253.8	289	288.0	329	321.4	369	354.2				
10	16.7	50	65.1	90	107.2	130	146.4	170	183.7	210	219.7	250	254.7	290	288.8	330	322.2	370	355.1				
11	18.1	51	66.2	91	108.2	131	147.3	171	184.6	211	220.6	251	255.6	291	289.7	331	323.1	371	355.9				
12	19.4	52	67.3	92	109.2	132	148.3	172	185.5	212	221.5	252	256.4	292	290.5	332	323.9	372	356.7				
13	20.8	53	68.4	93	110.2	133	149.2	173	186.4	213	222.4	253	257.3	293	291.4	333	324.7	373	357.5				
14	22.1	54	69.5	94	111.2	134	150.2	174	187.4	214	223.3	254	258.1	294	292.2	334	325.6	374	358.3				
15	23.5	55	70.6	95	112.2	135	151.1	175	188.3	215	224.1	255	259.0	295	293.0	335	326.4	375	359.1				
16	24.8	56	71.7	96	113.2	136	152.1	176	189.2	216	225.0	256	259.9	296	293.9	336	327.2	376	359.9				
17	26.1	57	72.8	97	114.2	137	153.0	177	190.1	217	225.9	257	260.7	297	294.7	337	328.0	377	360.7				
18	27.4	58	73.9	98	115.2	138	153.9	178	191.0	218	226.8	258	261.6	298	295.6	338	328.9	378	361.5				
19	28.7	59	74.9	99	116.2	139	154.9	179	191.9	219	227.7	259	262.4	299	296.4	339	329.7	379	362.4				
20	30.0	60	76.0	100	117.2	140	155.8	180	192.8	220	228.6	260	263.3	300	297.2	340	330.5	380	363.2				
21	31.2	61	77.1	101	118.2	141	156.8	181	193.7	221	229.4	261	264.2	301	298.1	341	331.3	381	364.0				
22	32.5	62	78.2	102	119.2	142	157.7	182	194.6	222	230.3	262	265.0	302	298.9	342	332.2	382	364.8				
23	33.7	63	79.2	103	120.2	143	158.7	183	195.5	223	231.2	263	265.9	303	299.8	343	333.0	383	365.6				
24	35.0	64	80.3	104	121.1	144	159.6	184	196.4	224	232.1	264	266.7	304	300.6	344	333.8	384	366.4				
25	36.2	65	81.3	105	122.1	145	160.5	185	197.3	225	232.9	265	267.6	305	301.4	345	334.6	385	367.2				
26	37.4	66	82.4	106	123.1	146	161.5	186	198.3	226	233.8	266	268.4	306	302.3	346	335.4	386	368.0				
27	38.6	67	83.5	107	124.1	147	162.4	187	199.2	227	234.7	267	269.3	307	303.1	347	336.3	387	368.8				
28	39.9	68	84.5	108	125.1	148	163.3	188	200.1	228	235.6	268	270.2	308	304.0	348	337.1	388	369.6				
29	41.1	69	85.6	109	126.1	149	164.3	189	201.0	229	236.5	269	271.0	309	304.8	349	337.9	389	370.4				
30	42.2	70	86.6	110	127.0	150	165.2	190	201.9	230	237.3	270	271.9	310	305.6	350	338.7	390	371.2				
31	43.4	71	87.7	111	128.0	151	166.2	191	202.8	231	238.2	271	272.7	311	306.5	351	339.5	391	372.1				
32	44.6	72	88.7	112	129.0	152	167.1	192	203.7	232	239.1	272	273.6	312	307.3	352	340.4	392	372.9				
33	45.8	73	89.8	113	130.0	153	168.0	193	204.6	233	239.9	273	274.4	313	308.1	353	341.2	393	373.7				
34	47.0	74	90.8	114	130.9	154	168.9	194	205.5	234	240.8	274	275.3	314	309.0	354	342.0	394	374.5				
35	48.1	75	91.8	115	131.9	155	169.9	195	206.3	235	241.7	275	276.1	315	309.8	355	342.8	395	375.3				
36	49.3	76	92.9	116	132.9	156	170.8	196	207.2	236	242.6	276	277.0	316	310.6	356	343.6	396	376.1				
37	50.5	77	93.9	117	133.9	157	171.7	197	208.1	237	243.4	277	277.8	317	311.5	357	344.5	397	376.9				
38	51.6	78	94.9	118	134.8	158	172.7	198	209.0	238	244.3	278	278.7	318	312.3	358	345.3	398	377.7				
39	52.8	79	96.0	119	135.8	159	173.6	199	209.9	239	245.2	279	279.5	319	313.1	359	346.1	399	378.5				
40	53.9	80	97.0	120	136.8	160	174.5	200	210.8	240	246.0	280	280.4	320	314.0	360	346.9	400	379.3				

$$\text{Chronic Standard} = [\text{e } (0.8473 [\ln (\text{hardness})] + 0.884)]^{0.986}$$

Chromatogram											
Hard.	Std.	Hard.	Std.	Hard.	Std.	Hard.	Std.	Hard.	Std.	Hard.	Std.
mg/L	ug/L	mg/L	ug/L	mg/L	ug/L	mg/L	ug/L	mg/L	ug/L	mg/L	ug/L
1	2.4	41	55.5	81	121	138.8	161	176.9	201	213.4	241
2	4.3	42	56.6	82	99.9	122	139.8	162	177.8	202	214.3
3	6.1	43	57.8	83	100.9	123	140.8	163	178.7	203	215.2
4	7.7	44	58.9	84	101.9	124	141.8	164	179.7	204	216.1
5	9.3	45	60.1	85	102.9	125	142.7	165	180.6	205	217.0
6	10.9	46	61.2	86	104.0	126	143.7	166	181.5	206	217.9
7	12.4	47	62.3	87	105.0	127	144.7	167	182.4	207	218.8
8	13.9	48	63.4	88	106.0	128	145.6	168	183.4	208	219.7
9	15.4	49	64.6	89	107.0	129	146.6	169	184.3	209	220.6
10	16.8	50	65.7	90	108.0	130	147.5	170	185.2	210	221.5
11	18.2	51	66.8	91	109.1	131	148.5	171	186.1	211	222.4
12	19.6	52	67.9	92	110.1	132	149.5	172	187.0	212	223.3
13	21.0	53	69.0	93	111.1	133	150.4	173	188.0	213	224.2
14	22.3	54	70.1	94	112.1	134	151.4	174	188.9	214	225.1
15	23.7	55	71.2	95	113.1	135	152.3	175	189.8	215	226.0
16	25.0	56	72.3	96	114.1	136	153.3	176	190.7	216	226.9
17	26.3	57	73.4	97	115.1	137	154.3	177	191.6	217	227.8
18	27.6	58	74.5	98	116.1	138	155.2	178	192.6	218	228.6
19	28.9	59	75.6	99	117.1	139	156.2	179	193.5	219	229.5
20	30.2	60	76.6	100	118.1	140	157.1	180	194.4	220	230.4
21	31.5	61	77.7	101	119.1	141	158.1	181	195.3	221	231.3
22	32.8	62	78.8	102	120.1	142	159.0	182	196.2	222	232.2
23	34.0	63	79.9	103	121.1	143	160.0	183	197.1	223	233.1
24	35.3	64	80.9	104	122.1	144	160.9	184	198.0	224	234.0
25	36.5	65	82.0	105	123.1	145	161.9	185	199.0	225	234.9
26	37.7	66	83.1	106	124.1	146	162.8	186	199.9	226	235.7
27	39.0	67	84.1	107	125.1	147	163.7	187	200.8	227	236.6
28	40.2	68	85.2	108	126.1	148	164.7	188	201.7	228	237.5
29	41.4	69	86.3	109	127.1	149	165.6	189	202.6	229	238.4
30	42.6	70	87.3	110	128.1	150	166.6	190	203.5	230	239.3
31	43.8	71	88.4	111	129.1	151	167.5	191	204.4	231	240.1
32	45.0	72	89.4	112	130.0	152	168.4	192	205.3	232	241.0
33	46.2	73	90.5	113	131.0	153	169.4	193	206.2	233	241.9
34	47.4	74	91.5	114	132.0	154	170.3	194	207.1	234	242.8
35	48.5	75	92.6	115	133.0	155	171.3	195	208.0	235	243.7
36	49.7	76	93.6	116	134.0	156	172.2	196	208.9	236	244.5
37	50.9	77	94.7	117	134.9	157	173.1	197	209.8	237	245.4
38	52.0	78	95.7	118	135.9	158	174.1	198	210.7	238	246.3
39	53.2	79	96.8	119	136.9	159	175.0	199	211.6	239	247.2
40	54.4	80	97.8	120	137.9	160	175.9	200	212.5	240	248.1
										280	282.7
										320	316.5
										360	349.7
										400	382.4

Table 207.19 Maximum Total Ammonia Concentration Acute Standard for Aquatic and Wildlife (Salmonids Present)
(Total Ammonia mg-N/liter)

Temperature (°C)																	
pH	0-14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	33	33	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9
6.6	31	31	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5
6.7	30	30	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0
6.8	28	28	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5
6.9	26	26	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9
7.0	24	24	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	8.0	7.3
7.1	22	22	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.2	6.7
7.2	20	20	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.5	6.0
7.3	18	18	17	16	14	13	12	11	10	9.5	8.7	8.0	7.4	6.8	6.3	5.8	5.3
7.4	15	15	15	14	13	12	11	9.8	9.0	8.3	7.7	7.0	6.5	6.0	5.5	5.1	4.7
7.5	13	13	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4.0
7.6	11	11	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5
7.7	9.6	9.6	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	3.0
7.8	8.1	8.1	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.2	2.9	2.7	2.5
7.9	6.8	6.8	6.6	6.0	5.6	5.1	4.7	4.3	4.0	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1
8.0	5.6	5.6	5.4	5.0	4.6	4.2	3.9	3.6	3.3	3.0	2.8	2.6	2.4	2.2	2.0	1.9	1.7
8.1	4.6	4.6	4.5	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4
8.2	3.8	3.8	3.7	3.5	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2
8.3	3.1	3.1	3.1	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.96
8.4	2.6	2.6	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79
8.5	2.1	2.1	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.98	0.90	0.83	0.77	0.71	0.65
8.6	1.8	1.8	1.7	1.6	1.5	1.3	1.2	1.1	1.0	0.96	0.88	0.81	0.75	0.69	0.63	0.59	0.54
8.7	1.5	1.5	1.4	1.3	1.2	1.1	1.0	0.94	0.87	0.80	0.74	0.68	0.62	0.57	0.53	0.49	0.45
8.8	1.2	1.2	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37
8.9	1.0	1.0	1.0	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.32
9.0	0.88	0.88	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27

Notes: pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.

Table 207.20 Maximum Total Ammonia Concentration Acute Standard for Aquatic and Wildlife (Salmonids Absent)
(Total Ammonia mg-N/liter)

Temperature (°C)																						
	0_	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
pH	10																					
6.5	51	48	44	41	37	34	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9	
6.6	49	46	42	39	36	33	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5	
6.7	46	44	40	37	34	31	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0	
6.8	44	41	38	35	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5	
6.9	41	38	35	32	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9	
7.0	38	35	33	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.3	
7.1	34	32	30	27	25	23	21	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.7	
7.2	31	29	27	25	23	21	19	18	16	15	14	13	12	11	9.5	8.7	8.0	7.4	6.8	6.3	6.0	
7.3	27	26	24	22	20	18	17	16	14	13	12	11	10	9.0	8.3	7.7	7.0	6.5	6.0	5.5	5.1	
7.4	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0	8.3	7.7	7.0	6.5	6.0	5.5	5.1	4.7	
7.5	21	19	18	17	15	14	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4.0	
7.6	18	17	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	
7.7	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	2.9	
7.8	13	12	11	10	9.3	8.5	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.2	2.9	2.7	2.5	
7.9	11	9.9	9.1	8.4	7.7	7.1	6.6	3.0	5.6	5.1	4.7	4.3	4.0	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1	
8.0	8.8	8.2	7.6	7.0	6.4	5.9	5.4	5.0	4.6	4.2	3.9	3.6	3.3	3.0	2.8	2.6	2.4	2.2	2.0	1.9	1.7	
8.1	7.2	6.8	6.3	5.8	5.3	4.9	4.5	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	
8.2	6.0	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	
8.3	4.9	4.6	4.3	3.9	3.6	3.3	3.1	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.96	
8.4	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	
8.5	3.3	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.98	0.90	0.83	0.77	0.71	0.65	
8.6	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.5	1.3	1.2	1.1	1.0	0.96	0.88	0.81	0.75	0.69	0.63	0.58	0.54	
8.7	2.3	2.2	2.0	1.8	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.94	0.87	0.80	0.74	0.68	0.62	0.57	0.53	0.49	0.45	
8.8	1.9	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	
8.9	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.32	
9.0	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27	

Notes: pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.

Table 207.21 Maximum Total Ammonia Concentration Chronic Standard for Aquatic and Wildlife
(Total Ammonia mg-N/liter)

pH	Temperature (°C)										11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	0-7	8	9	10																										
6.5	4.9	4.6	4.3	4.1	3.8	3.6	3.3	3.1	2.9	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.5	1.4	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1
6.6	4.8	4.5	4.3	4.0	3.8	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1
6.7	4.8	4.5	4.2	3.9	3.7	3.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1
6.8	4.6	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.0
6.9	4.5	4.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	0.99
7.0	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.7	2.5	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.0
7.1	4.2	3.9	3.7	3.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	0.95	0.95
7.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0	0.96	0.96	0.96	0.90	0.90
7.3	3.8	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	1.0	0.97	0.97	0.91	0.91	0.85	0.85	0.79	0.79
7.4	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	1.0	0.96	0.96	0.90	0.90	0.85	0.85	0.78	0.78	0.73
7.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	0.98	0.92	0.86	0.81	0.76	0.71	0.67	0.67	0.61	0.61	0.67	0.67
7.6	2.9	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.60	0.57	0.57	0.53	0.53	0.60
7.7	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.44	0.44	0.41	0.41
7.8	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.44	0.40	0.38	0.35	0.35	0.35
7.9	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.56	0.53	0.49	0.46	0.43	0.40	0.38	0.35	0.35	0.30	0.30
8.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	0.99	0.92	0.87	0.81	0.76	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38	0.35	0.35	0.30	0.30	0.26
8.1	1.5	1.5	1.4	1.3	1.2	1.1	1.1	0.99	0.92	0.84	0.79	0.74	0.70	0.65	0.61	0.57	0.54	0.50	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.30	0.30	0.26	0.26	0.26
8.2	1.3	1.2	1.2	1.1	1.0	0.96	0.90	0.84	0.79	0.72	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.27	0.26	0.26	0.26	0.26
8.3	1.1	1.1	0.99	0.93	0.87	0.82	0.76	0.72	0.67	0.65	0.61	0.57	0.53	0.50	0.47	0.44	0.41	0.39	0.36	0.34	0.32	0.30	0.28	0.26	0.25	0.23	0.22	0.22	0.22	0.22
8.4	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47	0.44	0.41	0.39	0.36	0.34	0.32	0.30	0.28	0.26	0.25	0.23	0.22	0.21	0.20	0.18	0.18	0.18	0.18
8.5	0.80	0.75	0.71	0.67	0.62	0.58	0.55	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31	0.29	0.27	0.25	0.24	0.22	0.21	0.20	0.19	0.18	0.16	0.15	0.15	0.15	0.15
8.6	0.68	0.64	0.60	0.56	0.53	0.49	0.46	0.43	0.41	0.38	0.36	0.33	0.31	0.29	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.13	0.13	0.13
8.7	0.57	0.54	0.51	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.12	0.12	0.12	0.12	0.12
8.8	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26	0.24	0.23	0.21	0.20	0.19	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.10
8.9	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.12	0.11	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09
9.0	0.36	0.34	0.32	0.30	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.11	0.11	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.08	0.08

Notes: pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.

Footnotes to the Numeric Surface Water Quality Standards

a — Cadmium (dissolved)

$$\begin{aligned} \text{acute: } & \left[e^{(1.0166 [\ln (\text{hardness})] - 3.924)} \right] \left[1.136672 - [\ln (\text{hardness})](0.041838) \right] \\ \text{chronic: } & \left[e^{(0.7409 [\ln (\text{hardness})] - 4.719)} \right] \left[1.101672 - [\ln (\text{hardness})](0.041838) \right] \end{aligned}$$

b — Chromium III (dissolved)

$$\begin{aligned} \text{acute: } & \left[e^{(0.8190 [\ln (\text{hardness})] + 3.7256)} \right] 0.316 \\ \text{chronic: } & \left[e^{(0.8190 [\ln (\text{hardness})] + 0.6848)} \right] 0.860 \end{aligned}$$

c — Copper (dissolved)

$$\begin{aligned} \text{acute: } & \left[e^{(0.9422 [\ln (\text{hardness})] - 1.700)} \right] 0.960 \\ \text{chronic: } & \left[e^{(0.8545 [\ln (\text{hardness})] - 1.702)} \right] 0.960 \end{aligned}$$

d — Lead (dissolved)

$$\begin{aligned} \text{acute: } & \left[e^{(1.273 [\ln (\text{hardness})] - 1.460)} \right] \left[1.46203 - [\ln (\text{hardness})](0.145712) \right] \\ \text{chronic: } & \left[e^{(1.273 [\ln (\text{hardness})] - 4.705)} \right] \left[1.46203 - [\ln (\text{hardness})](0.145712) \right] \end{aligned}$$

e — Nickel (dissolved)

$$\begin{aligned} \text{acute: } & \left[e^{(0.8460 [\ln (\text{hardness})] + 2.255)} \right] 0.998 \\ \text{chronic: } & \left[e^{(0.8460 [\ln (\text{hardness})] + 0.0584)} \right] 0.997 \end{aligned}$$

h — Pentachlorophenol

$$\text{acute: } e^{(1.005 [\text{pH} - 4.869])} \quad \text{chronic: } e^{(1.005 [\text{pH} - 5.134])}$$

f — Silver (dissolved)

$$\text{acute: } \left[e^{(1.72 [\ln (\text{hardness})] - 6.59)} \right] 0.85 \quad \text{chronic: NCNS}$$

~~g~~ Zinc (dissolved)

$$\text{acute: } \left[e^{(0.8473 [\ln (\text{hardness})] + 0.884)} \right]^{0.978}$$

$$\text{chronic: } \left[e^{(0.8473 [\ln (\text{hardness})] + 0.884)} \right]^{0.986}$$

~~Hardness, expressed as mg/L calcium carbonate, is inserted into the equation where it says "hardness".~~

- ~~a. The hardness dependent formulae for metals shall be valid only for hardness values from 0 to 400 mg/L calcium carbonate. For values above 400 mg/L, the value for 400 mg/L shall apply~~

~~The pH is inserted into the equation where it says "pH". pH is determined according to the following criteria:~~

- ~~a. If the water body has an Aquatic and Wildlife Habitat designated use, then the pH is based on the pH of either the effluent (for a point source discharge) or the water body from a sample taken at the same time that the sample for pentachlorophenol is taken.~~

~~i. Information on the mercury and methylmercury chronic numeric standards for the Aquatic and Wildlife Habitat use may be found in the United States Fish and Wildlife Service's July 2006 fish tissue study entitled: "Methylmercury and Other Environmental Contaminants in Water and Fish Collected from Four Recreational Fishing Lakes on the Navajo Nation, 2004".~~

Abbreviations

~~NCNS~~ No Current Numeric Standard ~~D~~ Dissolved

~~CAS Number~~ Chemical Abstracts Service (CAS) Registry Numbers are unique numerical identifiers assigned to chemical substances recorded in the CAS Chemical Registry System.

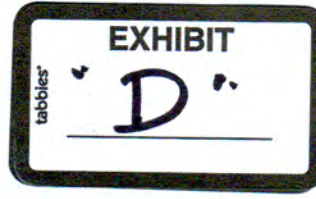
~~mg~~ milligram(s) ~~ug~~ microgram(s) ~~um~~ micrometer(s)

~~L~~ Liter ~~N~~ Nitrogen ~~pCi~~ picocurie(s)

9:00 AM

Public Hearing
Amendments to the Navajo Nation Surface Water Quality Standards
September 29, 2016, Twin Arrows Navajo Casino & Resort
9 am to 5 pm
Sign In Sheet Page 1

Name	Organization	Address	Email	Phone
Orlinda Dineen	Golden Association	Box 4590 Gallup, NM 87305	Orlinda-bineyazho @golden.com	505-371 6370
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Diana Munkse Smith	CDM Smith	Phoenix, AZ	Munkse@ cdm-smith.com	602 418- 0274



**SEPTEMBER 2015 PUBLIC COMMENT DRAFT –
NAVAJO NATION SURFACE WATER QUALITY STANDARDS 2015 –
SUMMARY OF AMENDMENTS TO NAVAJO NATION SURFACE WATER
QUALITY STANDARDS 2007**

The federal Clean Water Act (CWA) requires states and federally recognized Indian tribes to adopt water quality standards in order to "restore and maintain the chemical, physical, and biological integrity of the Nation's Waters".

The "Navajo Nation Surface Water Quality Standards 2007" (NNSWQS 2007) was passed by the Navajo Nation Resources and Development Committee on May 13, 2008. Section 202 of the Navajo Nation Clean Water Act (NNCWA) and Section 303(c) (1) of the federal CWA both require that water quality standards be reviewed and, as appropriate; be amended from time to time.

The Navajo Nation Environmental Protection Agency Water Quality Program (NNEPA WQP) has reviewed and amended the NNSWQS 2007. These amendments are contained in the "September 2015 Public Comment Draft – Navajo Nation Surface Water Quality Standards 2015" (DRAFT NNSWQS 2015). Amendments in the DRAFT NNSWQS 2015 are indicated by strikethroughs and double underlines. Deleted information is indicated by strikethroughs (~~strikethroughs~~). New information is indicated by double underlines (double underlines). A general summary of these amendments is as follows (please refer to the DRAFT NNSWQS 2015 for the exact amendments):

- Changed definitions and added new definitions in Section 104.
- Changed antidegradation policy in Section 201.
- Added antidegradation implementation procedures in Section 202.
- Changed narrative surface water quality standards in Section 203.
- Changed designated use classification system for Navajo Nation surface waters in Section 206. Added additional known surface water bodies and designated uses. Made distinctions in fish consumption and primary human contact designated uses between ephemeral and perennial/intermittent surface water bodies. Added agricultural designated uses to all surface water bodies. Identified known cold surface water bodies.
- Changed numeric surface water quality standards in Section 207. Added chronic mercury and methylmercury numeric standards at select surface water bodies to protect the bald eagle prey base. Adopted updated United States Environmental Protection Agency recommended human health and ammonia numeric standards. Updated other numeric standards. Updated numeric standards footnotes and tables.
- Changed sample collection and analysis in Section 208.
- Added exceptional waters of the Navajo Nation implementation in Section 209.
- Changed wastewater mixing zone text in Section 211.
- Added site specific standards implementation in Section 212.
- Added natural background implementation in Section 213.

**Response to Public Comments on the “September 2015
Public Comment Draft - Navajo Nation Surface Water
Quality Standards 2015”**

Prepared by:

Navajo Nation Environmental Protection Agency
Water Quality Program
Post Office Box 339
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January 6, 2017

Introduction

This document contains the Navajo Nation Environmental Protection Agency (NNEPA) response to written comments on the “September 2015 Public Comment Draft - Navajo Nation Surface Water Quality Standards 2015”. Public comments were solicited through a public notice in the March 10, 2016 issue of the Navajo Times (see attached). A public notice for a public hearing was also published in the August 11, 2016 issue of the Navajo Times (see attached). The public hearing was held on September 29, 2016 at the Twin Arrows Casino and allowed the public to provide additional comments.

The comments below have been grouped by topic and summarized in the following sections. For each group of comments, the names of the respondents, a summary of the issues raised in the comments, and the NNEPA rationale and response to the comments are provided.

§ 104 Definitions

Chevron Environmental Management Company – Mark Brearly – April 8, 2016

Chevron supports the revision to the definitions of “Ephemeral Surface Water” and “Intermittent Surface Water” at §104.T and §104.Z, respectively.

NNEPA response: No response required

Federal Office of Surface Mining Reclamation & Enforcement, Program Support Division, Indian Programs Branch – Flynn Dickinson – March 21, 2016

The proposed standards modify the definition of "ephemeral surface water" and "intermittent surface water" to account for ponds. Specifically these definitions may address the frequency in which water is present in ponds and whether it is in response to direct precipitation events, and potentially whether the ponds are located in an ephemeral channel. Would ponds located in ephemeral channels qualify as ephemeral surface water in this case because they only receive drainage from ephemeral watersheds and are located above the water table?

NNEPA response: If the pond bed is at all times above the water table and water above the bed is only in direct response to precipitation, then the pond is an ephemeral surface water. There may be instances where the pond is

holding water throughout the year (perennial) but the pond tributary is ephemeral.

§ 201 Antidegradation Policy and

§ 202 Antidegradation Implementation Procedures

Peabody Western Coal Company (PWCC) - Peabody Energy – Jimmy Boswell –
October 14, 2016

Tier 1 and Tier 2 protection are being applied to perennial, intermittent, and ephemeral waters. Instead, NNEPA should apply Tier 1 protection to all waters (perennial, intermittent, and ephemeral) and Tier 2 protection to a subset of those waters, such as those waters that consistently maintain a baseflow volume (perennial). This would be consistent with Federal Regulations that apply Tier 2 protection to waters “where the quality of waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water”, which define the “fishable swimmable” uses (40 CFR 131.12(a) (2)). Ephemeral and intermittent waters do not typically support “fishable swimmable” uses as a result of the low flow conditions.

Moreover, applying Tier 2 protection to all waters, including ephemeral and intermittent streams, will present problems conducting baseline assessments. Arizona Department of Environmental Quality recognized this limitation in their 2008 Draft “Antidegradation Implementation Procedures” document. Since flow in ephemeral and intermittent streams is dominated by runoff from precipitation events, water chemistry data will also be controlled by these events. Water chemistry can be highly variable depending on flow magnitude, duration, and the timing of sampling relative to the runoff event. Considering water quality data that was collected immediately following a precipitation event as representative of average instream conditions is erroneous. The existing standards recognize this in other areas such as the designated uses classification system, the total suspended sediment standard, and the recognition of natural conditions in the streams.

Lastly, Tier 2 analyses require extensive water quality sampling, data analysis, and detailed economic / social analysis to obtain representative and accurate results. Conducting Tier 2 antidegradation assessments on all discharges to all waters would require substantial resources on behalf of both the tribe and all regulated entities. Applying Tier 2 protection to a subset of waters, rather than all waters, will eliminate these issues.

NNEPA response: NNEPA agrees with this comment. Ephemeral and intermittent surface waters have been removed from Tier 2 waters. Tier 2 waters will only be for perennial surface waters. (This is also consistent with Arizona Department of Environmental Quality's 2008 Draft "Antidegradation Implementation Procedures" document).

Regarding the application of antidegradation, the proposed antidegradation regulations do not address when an antidegradation review is required, thus applying the review to all discharges by default. Federal guidance (EPA 2005) states that Tier 2 antidegradation reviews should be applied to "new or increased discharges". This does not include pre-existing discharges. PWCC recommends that the NNEPA regulations be made consistent with the EPA guidance and limit antidegradation reviews to "new or increased discharges".

NNEPA response: NNEPA agrees and has changed § 202 (C) (1 through 6) and § 202 (C) (6) for Tier 2 antidegradation review from: "...regulated discharge..." or "...discharge..." to "...new or expanded regulated discharge..."

(These changes are also consistent with ADEQ Water Quality Standards (January 31, 2009) Title 18, Chapter 11, Section 107.01(B) (3), Antidegradation Criteria.)

Regarding the uses that antidegradation reviews be applied to, 40 CFR 131.12(a) (2) only addresses "fishable and swimmable" uses. Under the NSWQS, antidegradation would be applicable to the designated uses of primary human contact, secondary human contact, and aquatic life and wildlife. PWCC recommends that NNEPA limit antidegradation reviews to the uses for protection of fish, shellfish, and wildlife and recreation. Currently, the antidegradation policy at 201(B) includes the language "including, but not limited to". Instead, PWCC recommends that NNEPA remove the "but not limited to" language in this section.

NNEPA response: The NNEPA may adopt designated uses in addition to those found in 40 CFR 131(a) (2). Determining whether there is degradation of water quality in a surface water is made on a pollutant-by-pollutant basis. The aquatic and wildlife habitat designated use usually has the most stringent water quality standard and applies to all Waters of the Navajo Nation and is required by 40 CFR 131.13(a) (2). The NNEPA has removed "but not limited

to” but this does not affect the overall meaning that designated uses in addition to those in 40 CFR 131.12(a) (2) are protected from antidegradation. This is clear in § 201 (A) where it states: “*Existing designated uses* and the level of water quality necessary to protect the *existing designated uses* shall be maintained and protected.” *Existing designated uses* includes designated uses in addition to those in 40 CFR 131.12(a) (2).

§ 206 Designated Use Classification System for Navajo Nation Surface Waters
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Peabody Western Coal Company (PWCC) - Peabody Energy – Jimmy Boswell – October 14, 2016

Table 206.1, Moenkopi and Dinnebito Washes: PWCC agrees with the reclassification of Moenkopi and Dinnebito Washes into 1) ephemeral reaches and 2) intermittent and perennial reaches. Furthermore, PWCC agrees with the removal of the fish consumption use from ephemeral reaches. PWCC notes in some areas, there can be short distances of perennial or intermittent reaches contained within an overall ephemeral reach. These conditions arise due to localized variations in groundwater hydrology, topography, and streambed composition. These short reaches of wetter conditions can be isolated from the traditional intermittent and perennial reaches further downstream. Fish may not be present at all in these wetter areas, in which case PWCC recommends the reach be viewed at the larger watershed scale, where overall the reach is ephemeral and is isolated from downstream intermittent and perennial areas by miles of ephemeral streambed.

NNEPA response: The purpose of dividing surface water bodies into different reaches based on surface water flow types was to assign designated uses to differing flow types more appropriately. To assign one flow type to an entire water body where differing flow types exist contradicts the purpose of assigning more appropriate designated uses to that water body.

Section 206(I): NNEPA is proposing to apply primary contact standards and fish consumption to intermittent streams. Intermittent streams as defined, are very unlikely to have sufficient water for full-body contact or fish consumption designated uses. The fact that this stream type dries up for portions of the year severely limits the habitat of and potential for fish. Furthermore, these waters do not typically have the water depth to support primary contact recreation. PWCC believes that intermittent waters would be better classified as secondary human

contact, not primary, and without fish consumption.

NNEPA response: The fish consumption and primary human contact designated uses no longer apply to ephemeral reaches of water bodies. Primary human contact includes contact by the water with membrane material of the body (not just swimming) and includes ceremonial uses. Fish consumption includes harvesting any aquatic organism (not just fish) for human consumption. Intermittent waters can provide sufficient water volume for these uses. (These definitions are also consistent with ADEQ Water Quality Standards (January 31, 2009) Title 18, Chapter 11, Section 105(2&3), Tributaries; Designated Uses).

Consideration should be given to the application of the aquatic and wildlife use on ephemeral waters. Ephemeral waters by definition flow only in response to precipitation events. The intensity of storms in this region cause quick responses in the flow hydrographs. Following these events, ephemeral waters do not retain sufficient amounts of water to support a diverse aquatic life community. Many of the acute and chronic water quality standards that are being implemented were devised based on specific species and exposure times that do not occur in these types of waters. This should be considered in the application of these standards on reaches where 1) diverse aquatic life communities do not exist, or 2) the flow regime does not permit exposure times such as those that were used to derive these standards.

The Arizona Department of Environmental Quality recognized this discrepancy and addressed it in the surface water quality standards by implementing a separate designated use for ephemeral waters. In most cases, the metals standards for these waters are given a separate equation for calculating the acute water quality standard, while chronic standards are not applied. This approach recognizes that ephemeral streams do not contain water for sufficient periods of time to be representative of chronic conditions. Chronic water quality standards are derived based on exposure times of at least four days for short-lived organisms but in many cases are much higher. The limited aquatic life that exists in ephemeral streams is not exposed to water for 4-day periods and chronic water quality standards should not be applied.

The acute standard equations that Arizona Department of Environmental Quality applies to ephemeral streams yield standards that are substantially higher than the acute standards provided for cold water, warm water, and effluent dependent

streams. The resultant ephemeral acute standards range from 1.73 times (copper) to 11.34 times (cadmium) higher than the corresponding cold water, warm water, or effluent dependent acute standard. It is recommended that this type of approach be considered for addressing ephemeral waters. PWCC recommends that ephemeral streams be given a separate use designation where only acute standards should be applied while chronic standards should not (AAC 18.11.1).

NNEPA response: The adoption of ephemeral designated uses and the adoption of ephemeral water quality standards was not a proposed change to the Navajo Nation Surface Water Quality Standards. Comments on proposed changes can only be responded to. Additionally, USEPA will not approve of the adoption of ephemeral aquatic and wildlife designated uses and standards at this time.

§ 207 Numeric Surface Water Quality Standards

Chevron Environmental Management Company – Mark Brearly – April 8, 2016

Chevron supports the revision to §207.E that clarifies that the suspended solids standard only applies to lotic (flowing) surface waters.

NNEPA response: No response required.

Federal Office of Surface Mining Reclamation & Enforcement, Program Support Division, Indian Programs Branch – Flynn Dickinson – March 21, 2016

Aquatic and Wildlife Acute and Chronic standards for aluminum reference a methodology for determining "acid soluble aluminum" that is not well known. The methodology calls for filtering the sample through a 0.45µm filter after acidifying it to between 1.5 - 2.0 pH. Essentially, the methodology proposed by NNEPA, to my understanding, would account for additional aluminum that isn't in a dissolved state at a near neutral pH (around 7) and that is sorbed onto suspended sediments or other turbidity associated material. It appears that NNEPA wants to capture more of the bioavailable portion of aluminum that could be associated with such sorption and that would not necessarily show up in a dissolved sample. Has NNEPA tested this methodology thoroughly and created SOP's regarding it? Is there any literature available on the differences between common aluminum concentrations using the dissolved method versus NNEPA's proposed acid soluble aluminum method? Analyzing for dissolved concentrations is already a well-

established and commonly utilized methodology and would be much easier to implement than what is proposed here, so I'm curious about NNEPA's reasoning for proposing this specific methodology.

NNEPA response: The Implementation Section of USEPA's 1998 "Ambient Aquatic Life Water Quality Criteria for Aluminum" recommends acid-soluble aluminum as the best measurement of aluminum. NNEPA has not developed an SOP, however the NNEPA contract laboratory is implementing the acid-soluble aluminum method.

Peabody Western Coal Company (PWCC) - Peabody Energy – Jimmy Boswell – October 14, 2016

Table 207.1, Aluminum: PWCC recognizes that the change in analytical methods proposed for aluminum, from total to acid-soluble, is an improvement that is consistent with the 1988 aluminum criteria document. PWCC understands that a short period of acidification prior to filtering with a 0.45 µm should account for the aluminum that is potentially toxic to aquatic life and remove the influence of non-toxic forms of aluminum that are bound within and on the clay, silt, and sand particles in the sample. PWCC intends to begin analyzing samples with this newly proposed method if it becomes final. Until PWCC obtains samples using the proposed acid-soluble method, there is some uncertainty regarding its results.

As an alternative, PWCC would like NNEPA to reconsider the hardness-based aluminum standard recently promulgated by New Mexico as an alternative for the following reasons: 1) The updated standard addresses new data collected since the original 1988 criterion document, 2) the updated standard is based on species more appropriate for the southwest environment, and 3) EPA Regions 6 and 8 have approved a form of this standard in the states of New Mexico and Colorado. While there has been some recent concern expressed by EPA over the hardness-based standard, the standard is still more accurate than the 1988 criteria or any other available alternatives. If EPA's concerns over the hardness-based standard can be addressed through pH boundary limits or some other method, it would be beneficial to pursue it. This may also have the effect of accelerating the to-be-proposed Federal criteria.

NNEPA response: The Implementation Section of USEPA's 1998 "Ambient Aquatic Life Water Quality Criteria for Aluminum" recommends acid-soluble aluminum as the best measurement of aluminum. NNEPA has not

developed an SOP, however the NNEPA contract laboratory is implementing the acid-soluble aluminum method.

The adoption of the New Mexico and Colorado aluminum criteria was not a proposed change to the Navajo Nation Surface Water Quality Standards. Comments on proposed changes can only be responded to. However, USEPA will not approve of the adoption of the New Mexico and Colorado aluminum standard at this time.

Total Suspended Solids, Section 207(E): PWCC has no comments on the changes to the total suspended sediment standard.

NNEPA response: No response required.

Mercury and Methylmercury, Section 207(I): PWCC has no comments on the proposed mercury and methylmercury standards.

NNEPA response: No response required.

§ 208 Sample Collection and Analysis

Peabody Western Coal Company (PWCC) - Peabody Energy – Jimmy Boswell – October 14, 2016

PWCC requests that the document “Quality Assurance Plan (QAP) for Surface Water Quality Data Collection” be made available to the public through the NNEPA website or some other means. PWCC agrees with the NNEPA interpretation of results reported below the method reporting limit.

NNEPA response: The NNEPA can make the “Quality Assurance Plan (QAP) for Surface Water Quality Data Collection” available through the NNEPA website and by email .

§ 209 – Exceptional Waters of the Navajo Nation
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Peabody Western Coal Company (PWCC) - Peabody Energy – Jimmy Boswell – October 14, 2016

Exceptional Waters, Section 209: PWCC has no comments on the proposed

exceptional waters regulations.

NNEPA response: No response required.

§ 212 Site Specific Standards

Chevron Environmental Management Company – Mark Brearly – April 8, 2016

Comment 1: With regards to §212.B.3., it is recommended that the proposed text be revised as follows, “Resident aquatic organisms that occur in a surface water represent a ~~narrower~~ different mix of species than those in the dataset used by Navajo Nation EPA to derive numeric water quality standards to protect aquatic life in Table 207.1; or”.

The resident species may not necessarily represent a narrower mix of species; instead, the resident species may represent a “different” mix of species than what was used to establish the existing numeric water quality criterion.

NNEPA response: NNEPA agrees and changed “narrower” to “different”.

Comment 2: With regards to §212.C.5., “Natural Background Procedures”

Does the Navajo EPA have a citation for these procedures that can be provided or incorporated into the water quality standards or does this statement refer only to the minimum requirements for determination of “Natural Background” discussed in §212.E?

NNEPA response: This statement refers only to the minimum requirements in §212.E. However NNEPA anticipates developing future guidance consistent with §212.E.

Comment 3: With regards to §212.E. and the text, “For purposes of this subsection, ‘natural background’ means the background concentration of a pollutant in a surface water due only to non-anthropogenic sources.”

Is there a need for a temporal component associated with “natural background” to address possible events or disturbances that may have occurred well in the past, e.g., pre-Columbian, that had an anthropogenic component?

NNEPA response: In §212.E(1) a consideration of the natural spatial and temporal variability will be considered when determining natural background. In §212.E(3) quantifying the human contribution to determine natural background is allowed if there are no absences of human sources. In other words, if it is impossible to find a surface water body without anthropogenic impacts to the natural background, then the least impacted or most undisturbed surface water may be used to establish natural background.

Peabody Western Coal Company (PWCC) - Peabody Energy – Jimmy Boswell – October 14, 2016

PWCC supports the NNEPA proposal to add the site-specific standard as a method for determining the appropriate water quality standard for a particular waterbody. This allows consideration of local environmental conditions and the biological communities that are present in the waterbodies. Many water quality criteria are derived with a one-size-fits-all approach that can work for a majority of surface waters. However, in some cases, it may be more appropriate to set criteria based upon site-specific circumstances that account for local hydrological and biological conditions within the waterbodies, particularly with the arid environment and variable metrological conditions of northeastern Arizona.

NNEPA response: No response required.

§ 213 Natural Background

Chevron Environmental Management Company – Mark Brearly – April 8, 2016

Comment 1: We recommend the following edits to this text, “Where the concentration of a pollutant exceeds a water quality standard and the exceedance is not caused by human activity but is due solely to naturally-occurring conditions, the exceedance shall not be considered ~~a violation of the water quality standard.~~”

An observed exceedance of a water quality standard for a number of constituents is not always an automatic violation of a water quality standard. Other factors may

need to be considered, e.g., type of constituent, representativeness of the sample, etc. Therefore, we recommend simplifying the text to state that the exceedance will not be considered at all if the exceedance is not caused by human activity.

NNEPA response: Please note that for clarification and consistency with §212, §213 has been changed from "...caused by human activity..." to "...anthropogenic..." and from "...solely to naturally occurring conditions..." to "...to natural background..."

It is understood that an exceedance of a water quality to determine a violation of the water quality standard includes consideration of sampling method, sample and laboratory quality assurance/quality control, analytical method, parameter type, frequency of the exceedances, and other considerations. In addition to the water quality standards the NNEPA has guidance documents for: 1) quality assurance for surface water data collection and 2) assessing water quality to determine impairment. These documents are available and address the issues you raise. Therefore the proposed edit will not be made.

Federal Office of Surface Mining Reclamation & Enforcement, Program Support Division, Indian Programs Branch – Flynn Dickinson – March 21, 2016

Where the concentration of a pollutant exceeds a water quality standard and the exceedance is not caused by human activity but is due solely to naturally-occurring conditions, the exceedance shall not be considered a violation of the water quality standard." As I read this, a reclaimed mine-site would not apply here because the reclaimed mine-site has human activity associated with it. Please clarify if possible.

NNEPA response: In §212.E(3) quantifying the human contribution to determine natural background is allowed if there are no absences of human sources. In other words, if it is impossible to find a surface water body without anthropogenic impacts to the natural background, then the least impacted or most undisturbed surface water may be used to establish natural background. For clarification and consistency with §212, §213 have been changed from "...caused by human activity..." to "...anthropogenic..." and from "...solely to naturally occurring conditions..." to "...to natural background..."

Under the various procedures for developing a site specific standard under § 213

Part C, all but the "Natural Background Determination Procedures" has a cited reference to documents which would explain how such a demonstration would be conducted. What literature is available which outlines how a "natural background determination procedure" is conducted?

NNEPA response: There is no §213 Part C. Your reference is to §212 Part C (5). The minimum requirements for establishing a site-specific standard base on the natural background conditions is in §212.E. NNEPA anticipates developing future guidance consistent with §212.E.

Peabody Western Coal Company (PWCC) - Peabody Energy – Jimmy Boswell – October 14, 2016

PWCC supports the acknowledgement of natural background conditions in regards to surface water quality criteria. Again, site-specific conditions can create circumstances where water quality standards are not met in undisturbed portions of a watershed. Examples of these locally influenced environments include, but are not limited to, 1) highly erosive stream environments subject to intense localized precipitation and subsequent flash-flood events, and 2) natural springs that emanate from groundwater sources containing high concentrations of dissolved ions.

NNEPA response: No response required.

§ 214 – Biological Standards (Reserved)
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Peabody Western Coal Company (PWCC) - Peabody Energy – Jimmy Boswell – October 14, 2016

Biological Standards, Section 214: PWCC recognizes that USEPA has been promoting Whole Effluent Toxicity Testing (WET) as a means for measuring toxicity to aquatic life. While PWCC recognizes WET as a valid tool for assessing potential toxicity of water, it is also important to recognize the limitations of the test method. For example:

- Studies have shown that the variability in WET testing analytical methods, which is inherent in toxicity tests, can lead to false positive results (EPA 2000).
- There are additional confounding factors involved in WET testing such as, ionic interferences, inability to simulate field conditions in the laboratory,

selection of representative test species, and episodic flow characteristics that can give misleading indications of potential toxicity. An example of these factors is that small variations in the ionic balance of test water can affect the reproductive cycle of some species used in WET testing. In fact, variation in salinity and Total Dissolved Solids (TDS) can have an adverse effect on daphnids regardless of contaminant concentrations. Chapman (2000) expands upon numerous examples of these types of issues.

- Choice of representative test organisms can be an issue as well. For instance, *Ceriodaphnia dubia* can be adversely affected by suspended solids and generally does not inhabit flowing waters. This questions its use as a test species where high velocity flows in streams are often sediment laden after precipitation and snowmelt events.
- Lastly, many coal mining facilities only discharge episodically, in which case the basis for chronic testing is no longer applicable. The length of chronic tests varies but can be up to 9 days, which is not accurately represented by a short-term episodic discharge.

All of the preceding issues are even more problematic and results can be more misleading when testing for sublethal effects. Because sublethal effects are not as definitive as lethal effects, sublethal testing methods would be even more sensitive to the above issues.

NNEPA response: Whole Effluent Toxicity (WET) testing is not mentioned in §214 – Biological Standards (reserved). However WET testing is mentioned in §104 – Definitions, and in §203 – Narrative Surface Water Quality Standards. In both sections it states that aquatic toxicity may be determined by the “National Whole Effluent Toxicity (WET) Implementation Guidance...”

NEER, liná bá, Inc. by contacting Nicholas Porell, P.E. at 505-327-1072 or nporell@iinaba.com with Contractor email address and full contact information. Questions must be submitted to the ENGINEER by March 25, 2016 by 4:00 PM (Local Time) and will be answered by March 30, 2016.

A MANDATORY PRE-BID MEETING will be held at the Iyanbito Senior Center project location located off Route 27 (Sweetwater Road) in Iyanbito, New Mexico on March 22, 2016 at 10:00 A.M. (Local Time).

The selection of the firm shall be made in accordance with the Navajo Nation Business Opportunity Act. This project is also subject to the Navajo Preference in Employment Act.

A bid bond for ten percent (10%) of the total amount of the bid shall be submitted with the bid. Checks are not accepted in lieu of bonding. The successful Bidder shall furnish applicable security, bonding, covering the faithful performance of the contract and the payment of all obligations arising there under in such form as specified by the Owner in the amount of 100% of the contract sum. Money Orders and Checks are not acceptable as Bonds.

The Navajo Nation reserves the right to waive any informalities or irregularities in this Request for Bids, or to reject any or all bids whenever such rejection is deemed in the best interest of the Navajo Nation.

To be Published in The NAVAJO TIMES March 10, 2016.

Public Notice of Proposed Rulemaking Navajo Nation Environmental Protection Agency
The Navajo Nation Environmental Protection Agency (Navajo EPA) is announcing public notice of and requesting comment on proposed amendments to the Navajo Nation Surface Water Quality Standards 2007 (NNSWQS 2007). This document relates to Navajo EPA's efforts to protect surface waters of the Navajo Nation.

The purpose of this public notice is to inform the public of rulemaking initiatives involving proposed amendments to the NNSWQS 2007 and to provide the public an opportunity to comment. During the public comment period, any person may submit written comments on the proposed regulations. The public comments period is thirty (30) days from the date of this public notice. Written comments can be submitted to the Navajo EPA Water Quality/NPDES Program, P.O. Box 339, Window Rock, AZ 86515.

A copy of the proposed amendments to the NNSWQS 2007 is available for public review between the hours of 8:00 am to 5:00 pm on weekdays (except for Navajo Nation holidays) at the three following locations:

Water Quality/NPDES Program Main Office, Navajo EPA Administration Building, Window Rock Boulevard, Window Rock, AZ (928) 871-7690.

Water Quality/NPDES Program Western Agency Sub office, 2717 North Steves Blvd, Suite 2-2, Flagstaff, AZ (928) 890-7599

Water Quality/NPDES Program Northern Agency Sub office, Building 2583 (Old NAPA Building), US Highway 64, Shiprock, NM (505) 368-1037.

In addition, any person can request and be provided a copy of the proposed regulations.

The Director of Navajo EPA shall, if requested and if deemed appropriate, hold a public hearing on the proposed regulations to allow any person the opportunity to present their views, data or arguments in Navajo or English. Procedures governing Navajo EPA public notices and public hearings are found in the Uniform Regulations for Permit Review, Administrative Enforcement Orders, Hearings, and Rulemakings Under Navajo Nation Environmental Acts. If you have any questions please contact Patrick Antonio of the Water Quality/NPDES Program at (928) 871-7185.

To be Published in The NAVAJO TIMES March 10, 2016.

Navajo Nation Environmental Protection Agency Request for Analytical Services

The Navajo Nation Environmental Protection Agency Water Quality/NPDES Program is requesting bids for archaeological services for a Clean Water Act Nonpoint Source (NPS) project involving the installation of erosion structures and fencing for range management in Fiscal Year 2016.

For detailed information on the project and request for bid documents please contact:

Water Quality/NPDES Program, P.O. Box 339, Window Rock, Arizona 86515, 928-871-7651.

To be Published in The NAVAJO TIMES, March 10, 2016.

IN THE FAMILY COURT OF THE NAVAJO NATION JUDICIAL DISTRICT OF WINDOW ROCK, ARIZONA

In the Matter of Name Change of: Annette Shorty, C#051,832, DOB: 12/03/1942
TO BE CHANGED TO: Antionette Shorty, C# 051,832, DOB: 12/03/1942.
Petitioner. No. WR-FC-1160-15

AMENDED

NOTICE FOR PUBLICATION
Notice to all Interested Parties and Others:

NOTICE IS HEREBY GIVEN that, Annette Shorty, C#051,832 has petitioned this court to change her name and to be exclusively known as Antionette Shorty. A hearing will be held on the Petition on April 6, 2016 at 1:00 p.m., at the Window Rock Family Court in Window Rock, AZ.

If you wish to object or intervene to this petition, you must file an answer to the Petition and serve a copy to the Petitioner Annette Shorty, 2410 E. Aztec Ave. B-18, Gallup, New Mexico 87301. You may obtain a copy of the petition from Petitioner. If you do not file an answer to the Petition, your answer and claims may be barred from being heard.

Dated this: February 1, 2016.

J. Plummer,
Family Court Clerk
Window Rock Judicial District
To be Published in The NAVAJO TIMES March 10, 17, 2016.

PUBLIC NOTICES

NAVAJO TIMES

NOTICE OF PUBLIC HEARING on Proposed Rulemaking by Navajo Nation Environmental Protection Agency

The Navajo Nation Environmental Protection Agency (Navajo EPA) is announcing notice of a public hearing on proposed amendments to the Navajo Nation Surface Water Quality Standards 2007 (NNSWQS 2007). This document relates to Navajo EPA's efforts to protect surface waters of the Navajo Nation.

The purpose of this notice is to inform the public that a public hearing will be held to provide the public an opportunity to comment on proposed amendments to the NNSWQS 2007. During the public hearing on the proposed regulations any person is allowed the opportunity to present their views, data or arguments in Navajo or English. The public hearing will be held from 9 am to 4 pm on September 29, 2016 in the VIP Board Room at Twin Arrows Casino. Twin Arrows Casino is located at 22181 Resort Blvd, Flagstaff, AZ 86004. The phone number is (928) 856-7200.

A copy of the proposed amendments to the NNSWQS 2007 is available for public review between the hours of 8:00 am to 5:00 pm on weekdays (except for Navajo Nation holidays) at the three following locations:

Water Quality/NPDES Program
Main Office, Navajo EPA Administration Building, Window Rock Boulevard, Window Rock, AZ (928) 871-7690.

Water Quality/NPDES Program
Western Agency Sub office, 2717 North Steves Blvd, Suite 2-2, Flagstaff, AZ (928) 890-7599

Water Quality/NPDES Program
Northern Agency Sub office, Building 2583 (Old NAPA Building), US Highway 64, Shiprock, NM (505) 368-1037.

In addition, any person can request and be provided a copy of the proposed regulations.

Procedures governing Navajo EPA public notices and public hearings are found in the Uniform Regulations for Permit Review, Administrative Enforcement Orders, Hearings, and Rulemakings Under Navajo Nation Environmental Acts. If you have any questions please contact Patrick Antonio of the Water Quality/NPDES Program at (928) 871-7185.
Published August 11, 2016.