

NAVAJO NATION SURFACE  
WATER QUALITY STANDARDS

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**PART I**  
**SURFACE WATER QUALITY STANDARDS - GENERAL PROVISIONS**

**§ 101 TITLE**

These regulations may be cited as the Navajo Nation Surface Water Quality Standards (NNSWQS).

**§ 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 Habitat (AqHbt)" means the use of the water by animals, plants or other organisms, including salmonids and non-salmonids, 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.
- E. "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.
- F. "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.
- G. "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.
- H. "Chronic Standard" means a standard that applies to the arithmetic mean of samples collected during four consecutive days; chronic standards shall not be exceeded more than once every three years.
- I. "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.
- J. "Clean Water Act" means the Federal Water Pollution Control Act of 1972, as amended, 33 U.S.C., § 1251 *et seq.*
- K. "Criteria" means elements of water quality standards that are expressed as pollutant concentrations, levels or narrative statements representing a water quality that supports a designated use. When criteria are met, water quality should protect the designated use.

- L. "Designated Use" means a use described in §204 and specified in Table 204.1 of these standards for a surface water body or surface water body segment of the Navajo Nation.
- M. "Director" means the Executive Director of the Navajo Nation Environmental Protection Agency.
- N. "Dissolved" means the concentration of a constituent in a water sample that is analytically determined following filtration using a 0.45 micron filter.
- O. "Domestic Water Supply (Dom)" means the use of the water as a potable water supply.
- P. "Ephemeral 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.
- Q. "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.
- R. "Geometric Mean" means the  $n$ th 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:
- $$GM_Y = \sqrt[n]{(Y_1)(Y_2)(Y_3)\dots(Y_n)}$$
- S. "Hardness" means the sum of the calcium and magnesium concentrations, expressed as calcium carbonate ( $\text{CaCO}_3$ ), in milligrams per liter.
- T. "Intermittent Stream" means a watercourse 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.
- U. "Livestock and Wildlife Watering (L&W)" means water used by livestock and/or by non-domestic animals (including migratory birds) for consumption (ingestion), habitation, growth and/or propagation.
- V. "Micrograms per Liter ( $\mu\text{g}/\text{l}$ )" means micrograms of solute per liter of solution (equivalent to parts per billion when the specific gravity of the solution = 1.000).
- W. "Milligrams per Liter ( $\text{mg}/\text{l}$ )" means milligrams of solute per liter of solution (equivalent to parts per million when the specific gravity of the solution = 1.000).

- X. "Nonpoint Source" means any source of water pollution that is not a point source, as defined herein.
- Y. "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).
- Z. "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.
- AA. "Perennial Water" means a water that flows continuously throughout the year.
- BB. "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).
- CC. "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.
- DD. "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.
- EE. "Pollution" means any man-made or man-induced alteration of the chemical, physical, biological, or radiological integrity of waters of the Navajo Nation.
- FF. "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.

- GG. "Recreational Uses" are the Primary Human Contact and Secondary Human Contact designated uses.
- HH. "Regional Administrator" means the Regional Administrator of Region 9 of the U.S. Environmental Protection Agency.
- II. "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 only incidentally. Examples include ceremonial and other cultural uses, boating and fishing.
- JJ. "TDS" means total dissolved solids, also termed "total filterable residue."
- KK. "Total Concentration" means the concentration of a constituent in a water sample which is analytically determined without filtration through a 0.45 micron filter.
- LL. "Total Nitrogen" means the sum of the concentrations of ammonia (NH<sub>3</sub>), ammonium ion (NH<sub>4</sub><sup>+</sup>), nitrite (NO<sub>2</sub><sup>-</sup>), nitrate (NO<sub>3</sub><sup>-</sup>) and dissolved and particulate organic nitrogen in a water sample, expressed as elemental nitrogen (N).
- MM. "Total Phosphorus" means all the phosphorus species present in a water sample, regardless of form, as measured by a persulfate digestion procedure.
- NN. "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.
- OO. "Turbidity" means the optical clarity of water that causes incident light to be scattered or absorbed rather than transmitted in straight lines.
- PP. "Unique Waters" means ground or surface waters which 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.
- QQ. "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.



- RR. "Waters of the Navajo Nation" means all surface waters including, but not limited to, 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, 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.
- SS. "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.
- TT. "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).

1. Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.
2. Where the quality of any water body is of a higher quality than is necessary to support

existing 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 uses fully.

3. 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.
4. 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.
5. 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).

## § 202 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

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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 thereunder (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

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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.

### **§ 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 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 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.
- 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.

#### § 204 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 only incidentally. 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.

- AqHbt**      **Aquatic Habitat:** Water body supports the use of the water by animals, plants or other organisms, including salmonids and non-salmonids, 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.
- L&W**      **Livestock and Wildlife Watering:** Water body supports use by livestock and/or by non-domestic animals (including migratory birds) for consumption (ingestion), habitation, growth and/or propagation.

B. 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.

C. Designated Use Table

Table 204.1 lists the uses 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 Subregion (or Basin) and Cataloging Unit. A subregion 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.

D. Applicability of Designated Uses

Uses that are designated for all Waters of the Navajo Nation are Secondary Human Contact (ScHC), Aquatic Habitat (AqHbt), and Livestock and Wildlife Watering (L&W). If water is only present in a Water of the Navajo Nation for 30 days or less, only the acute AqHbt standards apply.

If a surface water has more than one designated use listed in Table 204.1, the most stringent water quality standard applies.

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.

## § 205 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 the Domestic Water Supply, Primary Human Contact, Secondary Human Contact, and Agricultural Water Supply, and Fish Consumption Designated Uses may be found in Tables 205A.1, 205A.2, 205A.3, and 205A.4.
- B. The numeric surface water quality standards for the Aquatic Habitat and Livestock and Wildlife Watering Designated Uses may be found in Tables 205B.1, 205B.2, 205B.3, 205B.4, 205B.5, and 205B.6.
- C. **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 "2002 Review, Water Quality Standards for Salinity, Colorado River System," Colorado River Basin Salinity Control Forum, 106 West 500 South, Suite 101, Bountiful, Utah 84010-6232 (October 2002).
- D. **Suspended Sediments:** The following water quality standard for suspended sediment concentration, expressed as a geometric mean (four-sample minimum) shall not be exceeded. The standard applies only to a surface water that is at or near base flow and does not apply to a surface water during or soon after a precipitation event:

AqHbt	80 mg/L
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- E. **Temperature:** The following maximum allowable increase in ambient water temperature from other than natural causes, expressed in degrees Celcius, shall not be exceeded:

Temperature	AqHbt	AqHbt
Maximum increase due to	(warm water)	(cold water)
a thermal discharge	3.0	1.0

This does not apply to a wastewater treatment plant discharge to a naturally dry watercourse that creates an effluent dependent water or to a stormwater discharge.

- F. **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.

## § 206 SAMPLE COLLECTION AND ANALYSIS

All sample collection methods used to obtain surface water and effluent samples shall be conducted according to the "Quality Assurance Project Plan, 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.

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).

## § 207 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 Water.
- J. A variance is subject to review and approval by the Regional Administrator.

## **§ 208 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 §203 of this document be violated;

4. In no instance shall the concentration of any toxic pollutant exceed the aquatic habitat acute numeric standard for the pollutant. The aquatic 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 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.

## § 209 BIOLOGICAL STANDARDS (RESERVED)

Table 204.1 Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (Pr-HC)	Secondary Human Contact (SdHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic Habitat (AqHbt)	Livestock and Wildlife Watering (L&W)
Tatahatso Wash, mouth to headwaters	Lower Colorado	Lower Colorado-Marble Canyon			SdHC			AqHbt	L&W
Shinumo Wash, mouth to headwaters	Lower Colorado	Lower Colorado-Marble Canyon			SdHC			AqHbt	L&W
Tiger Wash, mouth to headwaters	Lower Colorado	Lower Colorado-Marble Canyon			SdHC			AqHbt	L&W
Tanner Wash, mouth to headwaters	Lower Colorado	Lower Colorado-Marble Canyon			SdHC			AqHbt	L&W
Colorado River, mouth of Little Colorado River to mouth of Paria River	Lower Colorado	Lower Colorado-Marble Canyon	Dom	PHC	SdHC		FC	AqHbt	L&W
Colorado River mouth of Paria River to Glen Canyon Dam	Upper Colorado	Lower Lake Powell	Dom	PHC	SdHC		FC	AqHbt	L&W
Antelope Creek, Lake Powell shoreline at elevation 3720 feet to headwaters	Upper Colorado	Lower Lake Powell		PHC	SdHC			AqHbt	L&W
Kaibito Creek, Lake Powell shoreline at elevation 3720 feet to headwaters	Upper Colorado	Lower Lake Powell		PHC	SdHC			AqHbt	L&W
Navajo Creek Lake Powell shoreline at elevation 3720 feet to headwaters	Upper Colorado	Lower Lake Powell		PHC	SdHC			AqHbt	L&W
Aztec Creek, Lake Powell shoreline at elevation 3720 feet to headwaters	Upper Colorado	Lower Lake Powell		PHC	SdHC			AqHbt	L&W
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	SdHC		FC	AqHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PHC)	Secondary Human Contact (SCHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic Habitat (AqHbt)	Livestock and Wildlife Watering (L&W)
Little Colorado River, origin of perennial flow to Navajo Nation boundary	Little Colorado	Lower Little Colorado	Dom	PHC	SCHC			AqHbt	L&W
Lee Canyon, mouth to headwaters	Little Colorado	Lower Little Colorado			SCHC			AqHbt	L&W
Moenkopi Wash, mouth to headwaters	Little Colorado	Moenkopi Wash			SCHC	AgWS		AqHbt	L&W
Hamblin Wash, mouth to headwaters	Little Colorado	Moenkopi Wash			SCHC			AqHbt	L&W
Begashibito Wash, mouth to headwaters	Little Colorado	Moenkopi Wash			SCHC			AqHbt	L&W
Shonto Wash, mouth to headwaters	Little Colorado	Moenkopi Wash			SCHC			AqHbt	L&W
Cow Springs Lake	Little Colorado	Moenkopi Wash		PHC	SCHC		FC	AqHbt	L&W
White Mesa Lake	Little Colorado	Moenkopi Wash		PHC	SCHC		FC	AqHbt	L&W
Tappan Wash, mouth to headwaters	Little Colorado	Lower Little Colorado			SCHC			AqHbt	L&W
Cedar Wash, mouth to headwaters	Little Colorado	Lower Little Colorado			SCHC			AqHbt	L&W
Deadman Wash, mouth to headwaters	Little Colorado	Lower Little Colorado			SCHC			AqHbt	L&W
Canyon Diablo, mouth to Navajo Nation boundary	Little Colorado	Canyon Diablo			SCHC			AqHbt	L&W
San Francisco Wash, mouth to Navajo Nation boundary	Little Colorado	Lower Little Colorado			SCHC			AqHbt	L&W
Padre Canyon, mouth to Navajo Nation boundary	Little Colorado	Lower Little Colorado			SCHC			AqHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (Pr-HC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic Habitat (AqHbt)	Livestock and Wildlife Watering (L&W)
Youngs Canyon, mouth to Navajo Nation boundary	Little Colorado	Lower Little Colorado			ScHC			AqHbt	L&W
Yellow Jacket Canyon, mouth to Navajo Nation boundary	Little Colorado	Lower Little Colorado			ScHC			AqHbt	L&W
Dinnebito Wash, within Navajo Nation boundary	Little Colorado	Dinnebito Wash			ScHC			AqHbt	L&W
East Fork Dinnebito Wash	Little Colorado	Dinnebito Wash			ScHC			AqHbt	L&W
Corn Creek Wash, within Navajo Nation boundary	Little Colorado	Corn-Oraibi			ScHC			AqHbt	L&W
Oraibi Wash, within Navajo Nation boundary	Little Colorado	Corn-Oraibi			ScHC			AqHbt	L&W
Polacca Wash, within Navajo Nation boundary	Little Colorado	Polacca Wash			ScHC			AqHbt	L&W
Jeddito Wash, within Navajo Nation boundary	Little Colorado	Jeddito Wash			ScHC			AqHbt	L&W
Cottonwood Wash, within Navajo Nation boundary	Little Colorado	Cottonwood Wash			ScHC			AqHbt	L&W
Kinlichee Creek	Little Colorado	Cottonwood Wash		PHC	ScHC	AgWS		AqHbt	L&W
Gamado Lake	Little Colorado	Cottonwood Wash		PHC	ScHC		FC	AqHbt	L&W
Pueblo Colorado Wash	Little Colorado	Cottonwood Wash		PHC	ScHC			AqHbt	L&W
Leroux Wash, within Navajo Nation boundary	Little Colorado	Leroux Wash			ScHC			AqHbt	L&W
Antelope Lake	Little Colorado	Leroux Wash		PHC	ScHC		FC	AqHbt	L&W
Puerto River, within Navajo Nation boundary	Little Colorado	Upper Puerto & Lower Puerto	Dom		ScHC			AqHbt	L&W
Black Creek, mouth to headwaters	Little Colorado	Upper Puerto		PHC	ScHC			AqHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (Pr-HC)	Secondary Human Contact (SeHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic Habitat (AqHbt)	Livestock and Wildlife Watering (L&W)
Tohdidonih Wash, mouth to Asaayi Lake	Little Colorado	Upper Puerco			SeHC	AgWS		AqHbt	L&W
Asaayi Lake	Little Colorado	Upper Puerco		PrHC	SeHC	AgWS	FC	AqHbt	L&W
Asaayi (Bow) Creek, Asaayi Lake to headwaters	Little Colorado	Upper Puerco		PrHC	SeHC	AgWS	FC	AqHbt	L&W
Asaayi (Bow) Creek - East Fork	Little Colorado	Upper Puerco		PrHC	SeHC	AgWS		AqHbt	L&W
Bonito Creek	Little Colorado	Upper Puerco		PrHC	SeHC			AqHbt	L&W
Red Lake	Little Colorado	Upper Puerco		PrHC	SeHC		FC	AqHbt	L&W
Trout Lake	Little Colorado	Upper Puerco		PrHC	SeHC		FC	AqHbt	L&W
Rio Pescado, within Navajo Nation boundary	Little Colorado	Zuni River		PrHC	SeHC	AgWS		AqHbt	L&W
Zuni River tributaries within Navajo Nation boundary	Little Colorado	Zuni River			SeHC			AqHbt	L&W
Arroyo Chico and tributaries within Navajo Nation boundary	Rio Grande	Arroyo Chico			SeHC			AqHbt	L&W
Torrecon Wash within Navajo Nation boundary	Rio Grande	Arroyo Chico			SeHC			AqHbt	L&W
Unnamed ephemeral tributaries and playas within Navajo Nation boundary	Rio Grande	North Plains			SeHC			AqHbt	L&W
Rio Puerco and tributaries within Navajo Nation boundary	Rio Grande	Rio Puerco			SeHC			AqHbt	L&W
Rio Salado and tributaries within Navajo Nation boundary	Rio Grande	Rio Salado			SeHC			AqHbt	L&W
Alamo Creek within Navajo Nation boundary	Rio Grande	Rio Salado		PrHC	SeHC			AqHbt	L&W
Rio San Jose tributaries within Navajo Nation boundary	Rio Grande	Rio San Jose			SeHC			AqHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (Pr-HC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic Habitat (AqHbt)	Livestock and Wildlife Watering (L&W)
Bluewater Creek within Navajo Nation boundary	Rio Grande	Rio San Jose		PHC	ScHC		FC	AqHbt	L&W
San Juan River and perennial tributaries (except as listed below)	San Juan	Numerous	Dom	PHC	ScHC	AgWS	FC	AqHbt	L&W
Nonperennial tributaries to the San Juan River (except as listed below)	San Juan	Numerous			ScHC			AqHbt	L&W
Desert Creek	San Juan	Lower San Juan Four Corners			ScHC			AqHbt	L&W
Gothic Creek	San Juan	Lower San Juan Four Corners			ScHC			AqHbt	L&W
McCraken Canyon within Navajo Nation boundary	San Juan	Lower San Juan Four Corners			ScHC			AqHbt	L&W
Teece Nos Pos Wash (perennial)	San Juan	Lower San Juan Four Corners		PHC	ScHC	AgWS	FC	AqHbt	L&W
Teece Nos Pos Wash (non perennial)	San Juan	Lower San Juan Four Corners			ScHC			AqHbt	L&W
Toh Dohstini Wash	San Juan	Lower San Juan Four Corners			ScHC	AgWS		AqHbt	L&W
Gypsum Creek, mouth to headwaters	San Juan	Lower San Juan River			ScHC			AqHbt	L&W
Nokai Canyon, shore of Lake Powell at elevation 3720 feet to headwaters	San Juan	Lower San Juan River			ScHC			AqHbt	L&W
Ojieto Wash, mouth to headwaters	San Juan	Lower San Juan River			ScHC			AqHbt	L&W
Baker Arroyo	San Juan	Middle San Juan River			ScHC	AgWS		AqHbt	L&W
Cove Wash	San Juan	Middle San Juan River			ScHC			AqHbt	L&W
Eagle Nest Arroyo	San Juan	Middle San Juan River			ScHC			AqHbt	L&W
Pine Wash	San Juan	Middle San Juan River			ScHC			AqHbt	L&W



Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic Habitat (AqHbt)	Livestock and Wildlife Watering (L&W)
Ojo Amarillo	San Juan	Middle San Juan River		PrHC	ScHC			AqHbt	L&W
Salt Creek Wash	San Juan	Middle San Juan River			ScHC			AqHbt	L&W
Standing Redrock Wash	San Juan	Middle San Juan River			ScHC			AqHbt	L&W
Red Wash	San Juan	Middle San Juan River			ScHC			AqHbt	L&W
Gallegos Canyon	San Juan	Upper San Juan River		PrHC	ScHC			AqHbt	L&W
Blanco Canyon	San Juan	Blanco Canyon			ScHC			AqHbt	L&W
Largo Canyon	San Juan	Blanco Canyon			ScHC			AqHbt	L&W
Cutter Dam Reservoir	San Juan	Blanco Canyon		PrHC	ScHC		FC	AqHbt	L&W
Chaco River/Chaco Wash, mouth to mouth of Dead Man's Wash	San Juan	Chaco		PrHC	ScHC			AqHbt	L&W
Chaco River/Chaco Wash, mouth of Dead Man's Wash to Navajo Nation boundary	San Juan	Chaco			ScHC			AqHbt	L&W
Dead Man's Wash, mouth to headwaters	San Juan	Chaco			ScHC			AqHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (SchC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic Habitat (AqHbt)	Livestock and Wildlife Watering (L&W)
Chinde Wash, mouth to headwaters	San Juan	Chaco			SchC			AqHbt	L&W
Cottonwood Arroyo, mouth to headwaters	San Juan	Chaco			SchC			AqHbt	L&W
Sanostee Wash (perennial reaches)	San Juan	Chaco		PrHC	SchC	AgWS		AqHbt	L&W
Sanostee Wash (non perennial reaches)	San Juan	Chaco			SchC			AqHbt	L&W
Tocito Wash, mouth to headwaters	San Juan	Chaco			SchC			AqHbt	L&W
Brimhall Wash, mouth to Navajo Nation boundary	San Juan	Chaco			SchC			AqHbt	L&W
Captain Tom Wash (perennial reaches)	San Juan	Chaco		PrHC	SchC	AgWS		AqHbt	L&W
Captain Tom Wash (non perennial reaches)	San Juan	Chaco			SchC			AqHbt	L&W
Hunter Wash, mouth to Navajo Nation boundary	San Juan	Chaco			SchC			AqHbt	L&W
Sheep Springs Wash, mouth to headwaters	San Juan	Chaco			SchC			AqHbt	L&W
Coyote Wash, mouth to headwaters	San Juan	Chaco			SchC			AqHbt	L&W
Indian Creek, within Navajo Nation boundary	San Juan	Chaco			SchC			AqHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (Pr-HC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic Habitat (AqHbt)	Livestock and Wildlife Watering (L&W)
De Na Zin Wash, mouth to Navajo Nation boundary	San Juan	Chaco			ScHC			AqHbt	L&W
Berland Lake	San Juan	Chaco		PHC	ScHC		FC	AqHbt	L&W
Chuska Lake	San Juan	Chaco		PHC	ScHC		FC	AqHbt	L&W
Morgan Lake	San Juan	Chaco		PHC	ScHC		FC	AqHbt	L&W
Whiskey Lake	San Juan	Chaco		PHC	ScHC		FC	AqHbt	L&W
Chinle Creek/Chinle Wash, mouth to mouth of Canyon de Chelly	San Juan	Chinle		PHC	ScHC	AgWS		AqHbt	L&W
Many Farms Lake	San Juan	Chinle		PHC	ScHC	AgWS	FC	AqHbt	L&W
Walker Creek, perennial reaches, mouth to headwaters	San Juan	Chinle		PHC	ScHC	AgWS		AqHbt	L&W
Walker Creek, nonperennial reaches, mouth to headwaters	San Juan	Chinle			ScHC			AqHbt	L&W
Laguna Creek, perennial reaches, mouth to headwaters	San Juan	Chinle		PHC	ScHC	AgWS		AqHbt	L&W
Laguna Creek, nonperennial reaches, mouth to headwaters	San Juan	Chinle			ScHC			AqHbt	L&W
Tyende Creek, mouth to headwaters	San Juan	Chinle			ScHC			AqHbt	L&W
Lukachukai Wash, perennial reaches, mouth to headwaters	San Juan	Chinle	Dom	PHC	ScHC	AgWS		AqHbt	L&W
Lukachukai Wash, nonperennial reaches, mouth to headwaters	San Juan	Chinle			ScHC			AqHbt	L&W
Black Mountain Wash, mouth to headwaters	San Juan	Chinle			ScHC			AqHbt	L&W
Nazlimi Wash, perennial reaches, mouth to headwaters	San Juan	Chinle			ScHC	AgWS		AqHbt	L&W
Nazlimi Wash, nonperennial reaches, mouth to headwaters	San Juan	Chinle			ScHC			AqHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (Pr-HC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic Habitat (AqHbt)	Livestock and Wildlife Watering (L&W)
Cottonwood Wash, mouth to headwaters	San Juan	Chinle			ScHC			AqHbt	L&W
Balakai wash, mouth to headwaters	San Juan	Chinle			ScHC			AqHbt	L&W
Canyon de Chelly Wash, mouth to mouth of Coyote Wash	San Juan	Chinle		PHC	ScHC			AqHbt	L&W
Whiskey Creek, mouth of Coyote Wash to headwaters	San Juan	Chinle		PHC	ScHC	AgWS	FC	AqHbt	L&W
Wheatfields Lake	San Juan	Chinle		PHC	ScHC	AgWS	FC	AqHbt	L&W
Coyote Wash, mouth to headwaters	San Juan	Chinle		PHC	ScHC			AqHbt	L&W
Canyon del Muerto Wash, mouth of Canyon de Chelly to Tsatile Lake	San Juan	Chinle		PHC	ScHC	AgWS		AqHbt	L&W
Tsatile Lake	San Juan	Chinle		PHC	ScHC		FC	AqHbt	L&W
Tsatile Creek, lake to headwaters	San Juan	Chinle		PHC	ScHC	AgWS	FC	AqHbt	L&W
Crystal Creek	San Juan	Chinle		PHC	ScHC	AgWS		AqHbt	L&W
Little Whiskey Creek	San Juan	Chinle		PHC	ScHC			AqHbt	L&W
Palisade Creek	San Juan	Chinle		PHC	ScHC			AqHbt	L&W
Tohiso Creek	San Juan	Chinle		PHC	ScHC	AgWS		AqHbt	L&W
Wheatfields Creek	San Juan	Chinle		PHC	ScHC	AgWS	FC	AqHbt	L&W
Aspen Lake	San Juan	Chinle		PHC	ScHC		FC	AqHbt	L&W
Round Rock Lake	San Juan	Chinle		PHC	ScHC		FC	AqHbt	L&W
McElmo Creek	San Juan	McElmo Creek		PHC	ScHC	AgWS		AqHbt	L&W
Montezuma Creek	San Juan	Montezuma Creek			ScHC			AqHbt	L&W
Mancos River	San Juan	Mancos River			ScHC			AqHbt	L&W

**Table 205A.1. Human Health and Agricultural Numeric Surface Water Quality Standards for Bacteria and Physical Parameters.**

Parameter	Domestic Water Supply	Primary Human Contact	Secondary Human Contact
E. coli (single sample maximum, CFU)	235	235	576
E. coli (Geometric mean, CFU)	126	126	126
pH (standard units)	6.5 - 9.0	6.5 - 9.0	6.5 - 9.0

**Table 205A.2. Human Health and Agricultural Numeric Surface Water Quality Standards for Inorganics, Asbestos, and Radiological Constituents**

Parameter	CAS Number	Designated Uses					Fish Consumption
		Domestic Water Supply	Primary Human Contact	Secondary Human Contact	Agricultural Water Supply		
Ammonia-N	7664-41-7	NCNS	NCNS	NCNS	NCNS	NCNS	
Bicarbonate (mg/L)		NCNS	NCNS	NCNS	519	NCNS	
Boron (ug/L)	7440-42-8	630 T	126000 T	126000 T	750 D	NCNS	
Chloride (mg/L)		NCNS	NCNS	NCNS	354	NCNS	
Chlorine (total residual, ug/L)	7782-50-5	NCNS	NCNS	NCNS	NCNS	NCNS	
Cyanide (ug/L)	57-12-5	200 T	28000 T	28000 T	NCNS	220000 T	
Nitrate-N (mg/L)	14797-55-8	10	2240000	2240000	NCNS	NCNS	
Sodium (mg/L)		NCNS	NCNS	NCNS	69	NCNS	
Sulfides (ug/L)	18496-25-8	NCNS	NCNS	NCNS	NCNS	NCNS	
Total Dissolved Solids (dried at 180 degrees Celsius) (mg/L)		NCNS	NCNS	NCNS	500 or 20% above background	NCNS	
Asbestos (fibers/L > 10 um)	1332-21-4	7000000	NCNS	NCNS	NCNS	7000000	
Gross Alpha (pCi/L)		15 T	NCNS	NCNS	NCNS	NCNS	
Radium 226 + 228 (pCi/L)		5 T	NCNS	NCNS	NCNS	NCNS	
Strontium-90 (pCi/L)		8 T	NCNS	NCNS	NCNS	NCNS	
Tritium (pCi/L)	10028-17-8	20000 T	NCNS	NCNS	NCNS	NCNS	

**Table 205A.3. Human Health and Agricultural Numeric  
Surface Water Quality Standards for Metals.**

Parameter	CAS Number	Designated Uses				Fish Consumption (ug/L)
		Domestic Water Supply (ug/L)	Primary Human Contact (ug/L)	Secondary Human Contact (ug/L)	Agricultural Water Supply (ug/L)	
Aluminum (Al)	7429-90-5	NCNS	NCNS	NCNS	5000 D	NCNS
Antimony (Sb)	7440-36-0	5.6 T	560 T	560 T	NCNS	640 T
Arsenic (As)	7440-38-2	50 T	50 T	420 T	100 D	1450 T
Barium (Ba)	7440-39-3	1000 T	98000 T	98000 T	NCNS	NCNS
Beryllium (Be)	7440-41-7	4 T	2800 T	2800 T	NCNS	1130 T
Cadmium (Cd)	7440-43-9	5 T	700 T	700 T	10 D	NCNS
Chromium (Cr III + Cr VI)	7440-47-3	100 T	100 T	100 T	100 D	NCNS
Chromium III (Cr III)	16065-83-1	NCNS	NCNS	NCNS	NCNS	NCNS
Chromium VI (Cr VI)	18540-29-9	21 T	NCNS	NCNS	NCNS	NCNS
Cobalt (Co)	7440-48-4	NCNS	NCNS	NCNS	50 D	NCNS
Copper (Cu)	7440-50-8	1300 T	1300 T	1300 T	200 D	NCNS
Lead (Pb)	7439-92-1	15 T	15 T	15 T	5000 D	NCNS
Mercury (Hg)	7439-97-6	2 T	420 T	420 T	NCNS	0.15 T
Molybdenum (Mo)	7439-98-7	NCNS	NCNS	NCNS	10 D	NCNS
Nickel (Ni)	7440-02-0	610 T	28000 T	28000 T	NCNS	4600 T
Selenium (Se)	7782-49-2	50 T	7000 T	7000 T	130 D	9000 T
Selenium (in presence of >500 mg/l sulfate)	7782-49-2	NCNS	NCNS	NCNS	250 D	NCNS
Silver (Ag)	7440-22-4	35 T	7000 T	7000 T	NCNS	NCNS
Thallium (Tl)	7440-28-0	1.7 T	112 T	112 T	NCNS	6.3 T
Uranium (U)	7440-61-1	30 T	NCNS	NCNS	NCNS	NCNS
Vanadium (V)	7440-62-2	NCNS	NCNS	NCNS	100 D	NCNS
Zinc (Zn)	7440-66-6	NCNS	420000 T	420000 T	2000 D	NCNS

**Table 205A.4. Human Health and Agricultural Numeric Surface Water Quality Standards for Organic Compounds**

Parameter	CAS Number	Designated Uses				Fish Consumption (ug/L)
		Domestic Water Supply (ug/L)	Primary Human Contact (ug/L)	Secondary Human Contact (ug/L)	Agricultural Water Supply (ug/L)	
Acenaphthene	83-32-9	670	84000	84000	NCNS	990
Acrolein	107-02-8	190	700	700	NCNS	290
Acrylonitrile	107-13-1	0.059	3	56000	NCNS	0.66
Aldrin	309-00-2	0.00013	0.08	42	NCNS	0.00014
Anthracene	120-12-7	8300	420000	420000	NCNS	40000
alpha-BHC	319-84-6	0.0039	0.22	11200	NCNS	0.013
beta-BHC	319-85-7	0.014	0.78	840	NCNS	0.046
delta-BHC	319-86-8	NCNS	NCNS	NCNS	NCNS	NCNS
Benzene	71-43-2	1.2	93	93	NCNS	51
Benzidine	92-87-5	0.000086	0.01	4200	NCNS	0.00020
Benzo(a)anthracene	56-55-3	0.0028	NCNS	NCNS	NCNS	0.018
Benzo(a)pyrene	50-32-8	0.0002	0.2	0.2	NCNS	0.018
Benzo(b)fluoranthene	205-99-2	0.0028	NCNS	NCNS	NCNS	0.018
Benzo(k)fluoranthene	207-08-9	0.0028	NCNS	NCNS	NCNS	0.018
Bis(2-chloroethyl)ether	111-44-4	0.030	1.3	1.3	NCNS	0.53
Bis(2-chloroisopropyl)ether	108-60-1	1400	56000	56000	NCNS	65000
Bis(2-ethylhexyl)phthalate	117-81-7	1.2	NCNS	NCNS	NCNS	2.2
Bromoform	75-25-2	4.3	180	28000	NCNS	140
4-Bromophenyl phenyl ether	101-55-3	NCNS	NCNS	NCNS	NCNS	NCNS
Butyl benzyl phthalate	85-68-7	1500	280000	280000	NCNS	1900
Carbon tetrachloride	56-23-5	0.23	11	980	NCNS	1.6
Chlordane	57-74-9	0.00057	4	700	NCNS	0.00059
Chlorobenzene	108-90-7	100	28000	28000	NCNS	21000
Chlorodibromomethane	124-48-1	0.40	100	28000	NCNS	13
2-Chloroethyl vinyl ether	110-75-8	NCNS	NCNS	NCNS	NCNS	NCNS
Chloroform	67-66-3	5.7	230	14000	NCNS	470
2-Chloronaphthalene	91-58-7	1000	112000	112000	NCNS	1600
2-Chlorophenol	95-57-8	81	7000	7000	NCNS	150
3-methyl 4-Chlorophenol	59-50-7	NCNS	NCNS	NCNS	NCNS	NCNS
Chrysene	218-01-9	0.0028	NCNS	NCNS	NCNS	0.018
Dibenzo(a,h)anthracene	53-70-3	0.0028	NCNS	NCNS	NCNS	0.018
p,p'-DDD (p,p-Dichlorodiphenyldichloroethane)	72-54-8	0.00031	5.8	5.8	NCNS	0.00031
p,p'-DDE (p,p-Dichlorodiphenyldichloroethene)	72-55-9	0.00022	4.1	4.1	NCNS	0.00022
p,p'-DDT (p,p-Dichlorodiphenyltrichloroethane)	50-29-3	0.00022	4.1	700	NCNS	0.00022
1,2-Dichlorobenzene	95-50-1	600	126000	126000	NCNS	17000
1,3-Dichlorobenzene	541-73-1	400	NCNS	NCNS	NCNS	2600
1,4-Dichlorobenzene	106-46-7	75	560000	560000	NCNS	2600
3,3'-Dichlorobenzidine	91-94-1	0.04	3.1	3.1	NCNS	0.077
Dichlorobromomethane	75-27-4	0.27	NCNS	NCNS	NCNS	17
1,2-Dichloroethane	107-06-2	0.38	15	280000	NCNS	37
1,1-Dichloroethene	75-35-4	0.057	230	12600	NCNS	3.2
1,2-trans-Dichloroethene	156-60-5	100	28000	28000	NCNS	140000
2,4-Dichlorophenol	120-83-2	77	4200	4200	NCNS	290
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	70	14000	14000	NCNS	NCNS
1,2-Dichloropropane	78-87-5	0.50	126000	126000	NCNS	15
1,3-Dichloropropene	542-75-6	10	420	420	NCNS	1700
Dieldrin	60-57-1	0.000052	0.09	70	NCNS	0.000052
Dibutyl phthalate	84-74-2	2000	140000	140000	NCNS	4500
Diethyl phthalate	84-66-2	23000	1120000	1120000	NCNS	120000

**Table 205A.4 (continued). Human Health and Agricultural Numeric Surface Water Quality Standards for Organic Compounds**

Parameter	CAS Number	Designated Uses				Fish Consumption (ug/L)
		Domestic Water Supply (ug/L)	Primary Human Contact (ug/L)	Secondary Human Contact (ug/L)	Agricultural Water Supply (ug/L)	
Dimethyl phthalate	131-11-3	313000	NCNS	NCNS	NCNS	2900000
2,4-Dimethyl phenol	105-67-9	380	28000	28000	NCNS	850
2,4-Dinitrophenol	51-28-5	69	2800	2800	NCNS	5300
2-methyl-4,6-Dinitrophenol	534-52-1	13	5600	5600	NCNS	280
2,4-Dinitrotoluene	121-14-2	0.11	2800	2800	NCNS	9.1
1,2-Diphenylhydrazine	122-66-7	0.04	1.8	1.8	NCNS	0.54
Endosulfan sulfate	1031-07-8	62	NCNS	NCNS	NCNS	89
alpha-Endosulfan	959-98-8	62	NCNS	NCNS	NCNS	89
beta-Endosulfan	33213-65-9	62	NCNS	NCNS	NCNS	89
Endrin	72-20-8	0.76	420	420	NCNS	0.81
Endrin aldehyde	7421-93-4	0.29	NCNS	NCNS	NCNS	0.3
Ethylbenzene	100-41-4	700	140000	140000	NCNS	29000
Fluoranthene	206-44-0	300	56000	56000	NCNS	370
Fluorene	86-73-7	1300	84000	84000	NCNS	14000
Heptachlor	76-44-8	0.000079	0.4	700	NCNS	0.000079
Heptachlor epoxide	1024-57-3	0.000039	0.2	18	NCNS	0.000039
Hexachlorobenzene	118-74-1	0.00075	1	1120	NCNS	0.00077
Hexachlorobutadiene	87-68-3	0.44	18	280	NCNS	50
Hexachlorocyclohexane (Lindane)	58-89-9	0.019	420	420	NCNS	NCNS
Hexachlorocyclopentadiene	77-47-4	1.0	9800	9800	NCNS	17000
Hexachloroethane	67-72-1	1.9	100	1400	NCNS	8.9
Indeno(1,2,3-cd)pyrene	193-39-5	0.0028	NCNS	NCNS	NCNS	0.031
Isophorone	78-59-1	8.4	1500	280000	NCNS	2600
Methyl bromide	74-83-9	47	NCNS	NCNS	NCNS	1500
Methyl chloride	74-87-3	NCNS	NCNS	NCNS	NCNS	NCNS
Methylene chloride	75-09-2	4.6	NCNS	NCNS	NCNS	590
Methoxychlor	72-43-5	100	7000	7000	NCNS	NCNS
Naphthalene	91-20-3	140	28000	28000	NCNS	NCNS
Nitrobenzene	98-95-3	17	700	700	NCNS	1900
4-Nitrophenol	100-02-7	NCNS	NCNS	NCNS	NCNS	NCNS
n-Nitrosodimethylamine	62-75-9	0.00069	0.03	0.03	NCNS	8.1
n-Nitrosodiphenylamine	86-30-6	5	290	290	NCNS	16
n-Nitrosodi-n-propylamine	621-64-7	0.005	0.2	133000	NCNS	1.4
Pentachlorophenol	87-86-5	0.27	12	42000	NCNS	3.0
Phenanthrene	85-01-8	NCNS	NCNS	NCNS	NCNS	NCNS
Phenol	108-95-2	21000	840000	840000	NCNS	4600000
Polychlorinated biphenyls (PCBs)	1336-36-3	0.000064	28	28	NCNS	0.000064
Pyrene	129-00-0	960	42000	42000	NCNS	11000
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	1746-01-6	0.000000005	1.4	1.4	NCNS	0.0000000051
1,1,2,2-Tetrachloroethane	79-34-5	0.17	7	56000	NCNS	4
Tetrachloroethene	127-18-4	0.69	14000	14000	NCNS	3.3
Toluene	108-88-3	1000	280000	280000	NCNS	200000
Toxaphene	8001-35-2	0.00028	1.3	1400	NCNS	0.00028
1,2,4-Trichlorobenzene	120-82-1	70	14000	14000	NCNS	940
1,1,1-Trichloroethane	71-55-6	200	200	200	NCNS	NCNS
1,1,2-Trichloroethane	79-00-5	0.59	25	5600	NCNS	16
Trichloroethene	79-01-6	2.5	280000	280000	NCNS	30
2,4,6-Trichlorophenol	88-06-2	1.4	130	130	NCNS	2.4
2-(2,4,5-Trichlorophenoxy) propionic acid (2,4,5-TP)	93-72-1	10	11200	11200	NCNS	NCNS
Xylenes (Total)	1330-20-7	10000	2800000	2800000	NCNS	NCNS
Vinyl Chloride	75-01-4	2	NCNS	NCNS	NCNS	525



**Table 205B.1 Aquatic Numeric Surface Water Quality Standards for Physical Parameters**

Parameter	Designated Uses
	Aquatic Habitat
pH (standard units)	6.5 - 9.0
Dissolved Oxygen, minimum (mg/L)	5.0

**Table 205B.2 Aquatic, Wildlife, and Livestock Numeric Surface Water Quality Standards for Inorganics, Asbestos, and Radiological Constituents**

Parameter	CAS Number	Designated Uses		
		Aquatic Habitat Acute	Aquatic Habitat Chronic	Livestock and Wildlife Watering
Ammonia-N (mg/L)	7664-41-7	See Table 205B.3	See Table 205B.4	NCNS
Boron (ug/L)	7440-42-8	NCNS	NCNS	5000 D
Chloride (mg/L)		NCNS	NCNS	600
Chlorine (total residual, ug/L)	7782-50-5	11	5	11
Cyanide (ug/L)	57-12-5	22 T	5.2 T	5.2 T
Fluoride (mg/L)		NCNS	NCNS	2
Nitrate-N (mg/L)	14797-55-8	NCNS	NCNS	10
Nirite+Nitrate-N (mg/L)		NCNS	NCNS	100
Sulfates (mg/L)		NCNS	NCNS	1000
Sulfides (ug/L)	18496-25-8	100	NCNS	NCNS
Total Dissolved Solids (dried at 180 degrees Celsius) (mg/L)		NCNS	NCNS	2212
Asbestos (fibers/L > 10 um)	1332-21-4	NCNS	NCNS	NCNS
Gross Alpha (pCi/L)		NCNS	NCNS	15
Radium 226 + 228 (pCi/L)		NCNS	NCNS	30
Tritium (pCi/L)	10028-17-8	NCNS	NCNS	20000

**Table 205B.3 Maximum Total Ammonia Concentration  
Acute Standard for Aquatic 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 205B.4 Maximum Total Ammonia Concentration  
Chronic Standard for Aquatic 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.

**Table 205B.5 Aquatic, Wildlife, and Livestock Numeric Surface Water Quality Standards for Metals.**

Parameter	CAS Number	Designated Uses		
		Aquatic Habitat Acute (ug/L)	Aquatic Habitat Chronic (ug/L)	Livestock and Wildlife Watering (ug/L)
Aluminum (Al)	7429-90-5	750 D	87 D	500 T
Antimony (Sb)	7440-36-0	88 D	30 D	NCNS
Arsenic (As)	7440-38-2	340 D	150 D	20 T
Barium (Ba)	7440-39-3	NCNS	NCNS	10000 T
Beryllium (Be)	7440-41-7	65 D	5.3 D	NCNS
Cadmium (Cd)	7440-43-9	(b) D	(b) D	50 D
Chromium (Cr III + Cr VI)	7440-47-3	NCNS	NCNS	1000 D
Chromium III (Cr III)	16065-83-1	(c) D	(c) D	NCNS
Chromium VI (Cr VI)	18540-29-9	16 D	11 D	NCNS
Cobalt (Co)	7440-48-4	NCNS	NCNS	1000 D
Copper (Cu)	7440-50-8	(d) D	(d) D	500 D
Lead (Pb)	7439-92-1	(e) D	(e) D	100 D
Mercury (Hg)	7439-97-6	2.4 T	0.012 T	10 T / 0.012 T (a)
Molybdenum (Mo)	7439-98-7	NCNS	NCNS	NCNS
Nickel (Ni)	7440-02-0	(f) D	(f) D	NCNS
Selenium (Se)	7782-49-2	20 T	2 T	50 D / 2 T (a)
Selenium (in presence of >500 mg/l sulfate)	7782-49-2	NCNS	NCNS	NCNS
Silver (Ag)	7440-22-4	(g) D	NCNS	NCNS
Thallium (Tl)	7440-28-0	700 D	150 D	NCNS
Uranium (U)	7440-61-1	NCNS	NCNS	NCNS
Vanadium (V)	7440-62-2	NCNS	NCNS	100 D
Zinc (Zn)	7440-66-6	(h) D	(h) D	25000 D

Table 205B.6 Aquatic, Wildlife, and Livestock Numeric Surface Water Quality Standards for Organic Compounds.

Parameter	CAS Number	Designated Uses		
		Aquatic Habitat Acute (ug/L)	Aquatic Habitat Chronic (ug/L)	Livestock and Wildlife Watering (ug/L)
Acenaphthene	83-32-9	850	550	NCNS
Acrolein	107-02-8	34	30	NCNS
Acrylonitrile	107-13-1	3800	250	NCNS
Aldrin	309-00-2	2.0	NCNS	NCNS
Anthracene	120-12-7	NCNS	NCNS	NCNS
alpha-BHC	319-84-6	1600	130	NCNS
beta-BHC	319-85-7	1600	130	NCNS
delta-BHC	319-86-8	1600	130	NCNS
Benzene	71-43-2	2700	180	NCNS
Benzo(a)anthracene	92-87-5	1300	89	NCNS
Benzo(a)pyrene	56-55-3	NCNS	NCNS	NCNS
Benzo(b)fluoranthene	50-32-8	NCNS	NCNS	NCNS
Benzo(k)fluoranthene	205-99-2	NCNS	NCNS	NCNS
Bis(2-chloroisopropyl)ether	207-08-9	NCNS	NCNS	NCNS
Bis(2-ethylhexyl)phthalate	111-44-4	120000	6700	NCNS
Bis(2-chloroisopropyl)ether	108-60-1	NCNS	NCNS	NCNS
Bis(2-ethylhexyl)phthalate	117-81-7	400	360	NCNS
Bromoform	75-25-2	15000	10000	NCNS
4-Bromophenyl phenyl ether	101-55-3	180	14	NCNS
Butyl benzyl phthalate	85-68-7	1700	130	NCNS
Carbon tetrachloride	56-23-5	18000	1100	NCNS
Chlordane	57-74-9	2.4	0.0043	0.0043
Chlorobenzene	108-90-7	9800	620	NCNS
Chlorodibromomethane	124-48-1	NCNS	NCNS	NCNS
2-Chloroethyl vinyl ether	110-75-8	180000	9800	NCNS
Chloroform	67-66-3	14000	900	NCNS
2-Chloromaphthalene	91-58-7	NCNS	NCNS	NCNS
2-Chlorophenol	95-57-8	2200	150	NCNS
3-methyl 4-Chlorophenol	59-50-7	15	4.7	NCNS

Table 205B.6 (continued) Aquatic, Wildlife, and Livestock Numeric Surface Water Quality Standards for Organic Compounds.

Parameter	CAS Number	Designated Uses		
		Aquatic Habitat Acute (ug/L)	Aquatic Habitat Chronic (ug/L)	Livestock and Wildlife Watering (ug/L)
Chrysene	218-01-9	NCNS	NCNS	NCNS
Dibenzo(a,h)anthracene	53-70-3	NCNS	NCNS	NCNS
p,p'-DDD (p,p'-Dichlorodiphenylchloroethane)	72-54-8	1.1	0.001	0.001
p,p'-DDE (p,p'-Dichlorodiphenylchloroethane)	72-55-9	1.1	0.001	0.001
p,p'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	50-29-3	1.1	0.001	0.001
1,2-Dichlorobenzene	95-50-1	790	300	NCNS
1,3-Dichlorobenzene	541-73-1	2500	970	NCNS
1,4-Dichlorobenzene	106-46-7	560	210	NCNS
3,3'-Dichlorobenzidine	91-94-1	NCNS	NCNS	NCNS
Dichlorobromomethane	75-27-4	NCNS	NCNS	NCNS
1,2-Dichloroethane	107-06-2	59000	41000	NCNS
1,1-Dichloroethene	75-35-4	15000	950	NCNS
1,2-trans-Dichloroethene	156-60-5	68000	3900	NCNS
2,4-Dichlorophenol	120-83-2	1000	88	NCNS
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	NCNS	NCNS	NCNS
1,2-Dichloropropane	78-87-5	26000	9200	NCNS
1,3-Dichloropropene	542-75-6	3000	1100	NCNS
Dieldrin	60-57-1	0.24	0.002	NCNS
Dibutyl phthalate	84-74-2	470	35	NCNS
Diethyl phthalate	84-66-2	26000	1600	NCNS
Dimethyl phthalate	131-11-3	17000	1000	NCNS
2,4-Dimethyl phenol	105-67-9	1000	310	NCNS
2,4-Dinitrophenol	51-28-5	110	9.2	NCNS
2-methyl-4,6-Dinitrophenol	534-52-1	310	24	NCNS
2,4-Dinitrotoluene	121-14-2	15000	970	NCNS
1,2-Diphenylhydrazine	122-66-7	130	11	NCNS

Table 205B.6 (continued) Aquatic, Wildlife, and Livestock Numeric Surface Water Quality Standards for Organic Compounds.

Parameter	CAS Number	Designated Uses		
		Aquatic Habitat Acute (ug/L)	Aquatic Habitat Chronic (ug/L)	Livestock and Wildlife Watering (ug/L)
Endosulfan sulfate	1031-07-8	0.22	0.056	NCNS
alpha-Endosulfan	959-98-8	0.22	0.056	NCNS
beta-Endosulfan	33213-65-9	0.22	0.056	NCNS
Endrin	72-20-8	0.086	0.002	NCNS
Endrin aldehyde	7421-93-4	0.086	0.002	NCNS
Ethylbenzene	100-41-4	23000	1400	NCNS
Fluoranthene	206-44-0	2000	1600	NCNS
Fluorene	86-73-7	NCNS	NCNS	NCNS
Heptachlor	76-44-8	0.52	0.0038	NCNS
Heptachlor epoxide	1024-57-3	0.52	0.0038	NCNS
Hexachlorobenzene	118-74-1	6.0	3.7	NCNS
Hexachlorobutadiene	87-68-3	45	8.2	NCNS
Hexachlorocyclohexane (Lindane)	58-89-9	0.95	0.08	NCNS
Hexachlorocyclopentadiene	77-47-4	3.5	0.3	NCNS
Hexachloroethane	67-72-1	490	350	NCNS
Indeno(1,2,3-cd)pyrene	193-39-5	NCNS	NCNS	NCNS
Isophorone	78-59-1	59000	43000	NCNS
Methyl bromide	74-83-9	5500	360	NCNS
Methyl chloride	74-87-3	270000	15000	NCNS
Methylene chloride	75-09-2	97000	5500	NCNS
Methoxychlor	72-43-5	NCNS	NCNS	NCNS
Naphthalene	91-20-3	1100	210	NCNS
Nitrobenzene	98-95-3	13000	850	NCNS
4-Nitrophenol	100-02-7	4100	3000	NCNS
n-Nitrosodimethylamine	62-75-9	NCNS	NCNS	NCNS
n-Nitrosodiphenylamine	86-30-6	2900	200	NCNS
n-Nitrosodi-n-propylamine	621-64-7	NCNS	NCNS	NCNS

Table 205B.6 (continued) Aquatic, Wildlife, and Livestock Numeric Surface Water Quality Standards for Organic Compounds.

Parameter	CAS Number	Designated Uses		
		Aquatic Habitat Acute (ug/L)	Aquatic Habitat Chronic (ug/L)	Livestock and Wildlife Watering (ug/L)
Pentachlorophenol	87-86-5	(i)	(i)	NCNS
Phenanthrene	85-01-8	30	6.3	NCNS
Phenol	108-95-2	5100	730	NCNS
Polychlorinated biphenyls (PCBs)	1336-36-3	2.0	0.014	0.014
Pyrene	129-00-0	NCNS	NCNS	NCNS
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	1746-01-6	0.01	0.005	NCNS
1,1,2,2-Tetrachloroethane	79-34-5	4700	3200	NCNS
Tetrachloroethene	127-18-4	NCNS	NCNS	NCNS
Toluene	108-88-3	8700	180	NCNS
Toxaphene	8001-35-2	0.73	0.0002	NCNS
1,2,4-Trichlorobenzene	120-82-1	750	130	NCNS
1,1,1-Trichloroethane	71-55-6	2600	1600	NCNS
1,1,2-Trichloroethane	79-00-5	18000	12000	NCNS
Trichloroethene	79-01-6	20000	1300	NCNS
2,4,6-Trichlorophenol	88-06-2	160	25	NCNS
2-(2,4,5-Trichlorophenoxy) propanoic acid (2,4,5-TP)	93-72-1	NCNS	NCNS	NCNS
Vinyl Chloride	75-01-4	NCNS	NCNS	NCNS



### Footnotes to the Numeric Surface Water Quality Standards

**a -** In the event both wildlife and livestock are using the same body of water for ingestion, the more stringent value (lower chemical concentration) is the water quality standard. If it can be demonstrated that only livestock are using the water body for ingestion, then the less stringent value (higher chemical concentration) is the water quality standard.

**b -** Cadmium (dissolved)

$$\text{acute: } \left[ e^{(1.0166 [\ln (\text{hardness})] - 3.924)} \right] \left[ 1.136672 - [\ln (\text{hardness})](0.041838) \right]$$

$$\text{chronic: } \left[ e^{(0.7409 [\ln (\text{hardness})] - 4.719)} \right] \left[ 1.101672 - [\ln (\text{hardness})](0.041838) \right]$$

**c -** Chromium III (dissolved)

$$\text{acute: } \left[ e^{(0.8190 [\ln (\text{hardness})] + 3.7256)} \right] 0.316$$

$$\text{chronic: } \left[ e^{(0.8190 [\ln (\text{hardness})] + 0.6848)} \right] 0.860$$

**d -** Copper (dissolved)

$$\text{acute: } \left[ e^{(0.9422 [\ln (\text{hardness})] - 1.700)} \right] 0.960$$

$$\text{chronic: } \left[ e^{(0.8545 [\ln (\text{hardness})] - 1.702)} \right] 0.960$$

**e -** Lead (dissolved)

$$\text{acute: } \left[ e^{(1.273 [\ln (\text{hardness})] - 1.460)} \right] \left[ 1.46203 - [\ln (\text{hardness})](0.145712) \right]$$

$$\text{chronic: } \left[ e^{(1.273 [\ln (\text{hardness})] - 4.705)} \right] \left[ 1.46203 - [\ln (\text{hardness})](0.145712) \right]$$

**f -** Nickel (dissolved)

$$\text{acute: } \left[ e^{(0.8460 [\ln (\text{hardness})] + 2.255)} \right] 0.998$$

$$\text{chronic: } \left[ e^{(0.8460 [\ln (\text{hardness})] + 0.0584)} \right] 0.997$$

**g -** Silver (dissolved)

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

**h -** Zinc (dissolved)

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

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

**i - Pentachlorophenol**acute:  $e^{(1.005 [pH-4.869])}$ chronic:  $e^{(1.005 [pH-5.134])}$ 

- Hardness, expressed as mg/L calcium carbonate, is inserted into the equation where it says "hardness". Hardness is determined according to the following criteria:
  - a. If the water body has an Aquatic Habitat designated use, then hardness is based on the hardness of the water body from a sample taken at the same time that the sample for the metal is taken, except that the hardness may not exceed 400 mg/L calcium carbonate.
- 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 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.

**Abbreviations****NCNS** - No Current Numeric Standard     **D** - Dissolved     **T** - Total Concentration**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)

E. coli - Escherichia coli

CFU - Coliform Forming Units