NORTHERN CHEYENNE TRIBE
OF THE
NORTHERN CHEYENNE INDIAN RESERVATION

SURFACE WATER QUALITY STANDARDS

Prepared by
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NORTHERN CHEYENNE TRIBE
SURFACE WATER QUALITY STANDARDS
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NORTHERN CHEYENNE TRIBE
SURFACE WATER QUALITY STANDARDS

Chapter 1

PART I. GENERAL PROVISIONS

1.1.1 Purpose

A water quality standard defines the water quality goals for a water body, or portion thereof, by designating the use or uses to be made of the water, by setting criteria necessary to protect the uses, and by protecting water quality through antidegradation provisions. The Northern Cheyenne Tribe is adopting these standards to protect public health and welfare, enhance the quality of water and serve the purposes of the Federal Clean Water Act.

These standards will specifically serve the dual function of:

(1). Assessment. A primary purpose of these water quality standards is to guide, and inform efforts to monitor and assess surface water quality within the Reservation. These water quality standards play a central role in the Tribe's water quality protection program, and have broad application and use in evaluating potential impacts on water quality from a broad range of causes and sources.

(2). Regulatory Controls. Any regulatory pollution controls established by the Tribe or the Federal Government must be developed to ensure a level of water quality that will satisfy these water quality standards. Regulatory pollution controls established for pollution sources shall be consistent with applicable portions of the Federal Clean Water Act.

1.1.2 Authority

These rules are adopted by the Tribal Council upon recommendation of the Northern Cheyenne Environmental Protection Department, under authority of the Constitution of the Northern Cheyenne Tribe and Tribal Administrative Procedures Ordinance.

1.1.3 Severability

If any word, phrase, clause, sentence, paragraph, section, or other part of these rules is held invalid by any court of competent jurisdiction, such judgment shall affect only that portion held invalid.

1.1.4 Other Law

These rules in no manner supersede or negate the necessity of any person to obtain permits or conduct such environmental studies as may be required by Federal or Tribal authorities for any conduct or activity affecting or potentially affecting Reservation waters.

1.1.5 Review and Revision of Standards

Standards will be reviewed and revised in accordance with applicable sections of the Federal Clean Water Act and Tribal Administrative Procedures Ordinance.

PART II. PROCEDURES

1.2.1 Water Quality Standards and Antidegradation Policy

The rule-making procedures found in the Tribal Administrative Procedures Ordinance, Part IV, Sections 7-12, will be followed with respect to the classification and adoption of water quality standards for, and antidegradation policy decisions regarding, Reservation waters, defined as all surface water bodies of the Northern Cheyenne Reservation.

PART III. SURFACE WATER QUALITY STANDARDS

1.3.1 Policy

The following standards are adopted to preserve, protect and maintain the chemical, physical, and biological integrity of the surface waters and wetlands of the Northern Cheyenne Reservation and shall be effective thirty days after adoption for Tribal law, pursuant to the Tribal Administrative Procedures Ordinance.

1.3.2 Application and Composition of Surface Water Quality Standards

The standards in this Part are adopted to establish maximum allowable levels or concentrations of pollutants and provide a basis for protecting water quality that is better than standards required for surface water quality and to establish a basis for limiting the introduction of pollutants which could affect existing or designated uses of Reservation surface waters.

Current copies of this material may be obtained from the **Northern Cheyenne Tribe, Environmental Protection Department, P.O. Box 128, Lame Deer, Montana 59043, phone (406) 477-6506.**

1.3.3 Definitions

In this Part, the following terms have the meanings indicated below:

(1). "Artificial wetland" means a landscape feature where hydrophytic vegetation may be present as a result of human modifications to the landscape of hydrology and for which there is no prior wetland or stream history.

(2). "Assimilative capacity" means the increment of water quality (in terms of concentration), during the appropriate critical condition(s), that is better than the applicable numeric criterion.

(3). "Best Management Practices" ("BMP's") means schedules of activities, operational practices, maintenance procedures, and other management practices adopted by rule or incorporated by an agency as a condition of a permit or contract to prevent or reduce the pollution of Reservation waters. Best Management Practices may also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

(4). "Contaminated sediments" means sediments containing any of the specifically regulated toxic pollutants included in the Tribal Criteria Chart and any other materials in concentrations or combinations which are toxic to human, animal, plant or aquatic life.

(5). "Conventional water treatment" means, in order of application, the processes of coagulation, sedimentation, filtration and disinfecting. It may also include taste and odor control and lime softening.

(6). "Deleterious substances" means any physical, chemical or biological materials in concentrations or amounts that do or could impair existing or designated uses of Reservation surface waters.

(7). "Department" means the Tribal Environmental Protection Department which will administer the water quality standards for the Northern Cheyenne Tribe.

(8). "Designated use" means those beneficial uses of Reservation waters which are specified under sections 1.3.4 whether or not they are being attained. In addition, it is the intent of these regulations that all "existing uses", as defined under 1.3.3 (10) be designated as they become known.

(9). "Discharge" means any addition of pollutants or combination of pollutants to Reservation waters from any point source.

(10). "EPA" means the United States Environmental Protection Agency.

(11). "Ephemeral stream" means a stream or part of a stream which flows only in direct response to precipitation in the immediate watershed or in

response to the melting of a cover of snow and ice and whose channel bottom is always above the local water table.

(12). "Existing use" means a use actually attained in the water body on or after November 28, 1975, whether or not it is a designated use and included in water quality standards.

(13). "Geometric mean" means the value obtained by taking the nth root of the product of the measured values where zero values for measured values are taken to be the detection limit.

(14). "Intermittent stream" means a stream or reach of a stream that is below the local water table for at least some part of the year, and obtains its flow from both surface runoff and ground water discharge.

(15). "Mitigation project" means the restoration, enhancement or creation of wetlands to compensate for adverse impacts to other wetlands. "Mitigation project" includes using credits form a wetland mitigation bank.

(16). "Naturally occurring" means the range, mean, mode and other appropriate descriptors of seasonal water quality in Reservation waters occurs at levels over which humans have no control.

(17). "Outstanding Tribal Resource Waters" (OTRW) means waters that because of their quality, location and significance constitute an outstanding Tribal resource, recognized as possessing special ecological, cultural, aesthetic, educational, recreational or scientific qualities.

(18). "Perennial Stream" means a stream or reach of a stream that flows continuously. They are generally fed in part by springs. Surface water elevations are commonly lower than water table elevations in adjacent soils.

(19). "Person" means an individual, association, partnership, corporation, commercial or professional establishment, firm, agency, or any agent or employee thereof.

(20). "Pesticide" means any insecticide, herbicide, rodenticide, fungicide or any substance or mixture of substances intended for preventing, destroying, repelling, altering life processes, or controlling insects, rodents, nematodes, fungi, weeds and other undesirable forms of plant and animal life.

(21). "Pollutant" means dredged spoil, dirt, slurry, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded

equipment, rock, sand, cellar dirt, or any industrial, municipal, and agricultural wastes discharged into water.

(22). "Practicable alternatives" means available and capable of being implemented after taking into consideration cost, available technology and logistics in light of overall project purposes.

(23). "Regulated Activity " means any activity that requires a permit or a water quality certification pursuant to federal law (e.g. CWA §402 NPDES permits, CWA §404 dredge and fill permits, FERC licenses, any activity requiring a CWA §401 certification), and any other activities (which may include nonpoint sources of pollution) where tribal regulations specify that an antidegradation review is required.

(24). "Sediment" means solid material settled from suspension in a liquid; mineral or organic solid material that is being transported or has been moved from its site of origin by air, water or ice and has come to rest on the earth's surface, either above or below sea level; or inorganic or organic particles originating from weathering, chemical precipitation or biological activity.

(25). "Settleable solids" means inorganic or organic particles that are being transported or have been transported by water from the site or sites of origin and are settled or are capable of being settled from suspension.

(26). "State" means the State of Montana.

(27). "Surface waters" means any waters on the surface of the Reservation, including but not limited to streams and rivers, (perennial, intermittent, and ephemeral), lakes, ponds, wetlands, reservoirs, and irrigation and drainage systems discharging to a stream, lake, pond, wetland, reservoir or other surface water. Treatment works used solely for treating, transporting or impounding pollutants are not considered surface water.

(28). "Toxic substances" means those in EPA's most recently published list of toxic pollutants in the National Recommended Water Quality Criteria – Correction, EPA 822-Z-99-001, April 1999 and updates to that document published prior to the date of this rule and any material in concentrations and combinations which are toxic or harmful to human, animal, plant or aquatic life.

(29). "Tribe" means the Northern Cheyenne Indian Tribe.

(30). "True color" means the color of water from which turbidity has been removed.

(31). "Turbidity" means a condition in water or wastewater caused by the presence of suspended matter resulting in the scattering and absorption of light rays.

(32). "Use Attainability Analysis" means a structured scientific assessment of the factors affecting the attainment of a use. The assessment may include evaluation of physical, chemical, biological and economic factors as described in the federal water quality standards regulation at 40 CFR Part 131.10(g). A use attainability analysis may be used to determine whether or not a use is attainable were it not for natural or anthropogenic conditions that are not reparable within a 20-year planning period.

(33). "Water dependency" or "wetland dependency" means the activity is of a nature that requires location in or adjacent to surface waters or wetlands to fulfill its basic purpose.

(34). "Water Quality Standards" means those provisions of Tribal or Federal law which consist of a designated use or uses for the waters of the United States, water quality criteria for such water based upon such uses, and an antidegradation policy. Water quality standards are to protect public health and welfare, enhance the quality of the water and serve the purposes of the Federal Clean Water Act.

(35). "Waters of the tribe" includes those portions of all reservation watersheds within and including the boundary of the reservation, and all ponds, reservoirs, streams, springs, wells, marshes, watercourses, drainage systems and other surface of ground water, natural or artificial, tribal or allotted, within the reservation or its jurisdiction.

(36). "Wetland mitigation bank" means a system of accounting for wetland loss and compensation that includes one or more sites where wetlands are restored, enhanced or created to provide transferable credits to be subsequently applied to compensate for adverse impacts to other wetlands.

(37). "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 soils conditions, including lotic, riparian, and lentic, pothole, wetlands. Wetlands are recognized as "Waters of the tribe."

1.3.4 Tribal Beneficial Use Classifications

The federal water quality standards regulation at 40 CFR Part 131.10 requires that the Tribe specify appropriate water uses to be achieved and protected The Classification of Tribal waters must consider the use and value of the waters for public water supplies, protection and propagation of fish, shellfish and wildlife,

recreation in and on the waters, agriculture, industry and other purposes. The Tribe will use the following beneficial use classifications in meeting that requirement and designating appropriate uses for Tribal waters.

(1). Class 1 Cold Water Salmonid Propagation – Provides for protection, propagation and growth of Salmonid fishes, as well as protection, growth and propagation of associated aquatic life normally found where summer water temperatures do not often exceed 20 degrees C.

(2). Class 2 Cold Water Salmonid Growth – Provides for protection and growth of salmonid fishes as well as protection, propagation, and growth of associated aquatic life normally found in water where the summer water temperature does not often exceed 20 degrees C. However, due to physical habitat limitations or uncorrectable water quality conditions, these waters do not support propagation of salmonid fishes.

(3). Class 1 Cool Water Propagation – Provides for protection, propagation, and growth of cool water fishes, as well as protection, growth, and propagation of associated aquatic life normally found in waters where the summer temperatures do not often exceed 25 degrees C.

(4). Class 2 Cool Water Marginal Propagation - Provides for protection, marginal propagation, and growth of cool water fishes, as well as protection, propagation, and growth of associated aquatic life normally found in waters where the summer temperatures do not often exceed 30 degrees C. However due to physical habitat limitations or uncorrectable water quality conditions, these waters provide or have the potential to provide for only marginal propagation of cool water fishes.

(5). Class 1 Warm Water Propagation – Provides for protection, propagation and growth of warm water fishes as well as propagation and growth of associated aquatic life normally found where surface water temperatures do not often exceed 35 degrees C.

(6). Class 2 Warm Water Marginal Propagation – Provides for the protection, marginal propagation and growth of warm water fishes as well as protection, propagation and growth of associated aquatic life where summer temperature do not often exceed 35 degrees C. However, due to physical habitat or uncorrectable water quality conditions, these waters provide for only marginal propagation of warm water fishes.

(7). Class 1 Aquatic Life other than Fish – Provides for the protection, propagation and growth of a wide variety of aquatic invertebrate biota, including sensitive species. These are small perennial headwater streams, intermittent streams or springs which due to natural habitat conditions, water flows or levels, or uncorrectable water quality conditions do not support nor have the potential to support fish.

(8). Class 2 Aquatic Life other than Fish - These are waters not capable of sustaining a wide variety of invertebrate aquatic biota, including sensitive species, due to physical habitat, water flows or levels, or uncorrectable water quality conditions that substantially limit the diversity of species.

(9). Full Contact Recreation - These surface waters are suitable or intended to become suitable for recreational activities in or on the water when the ingestion of small quantities of water is likely to occur. Such waters include but are not limited to those used for bathing, swimming, and ceremonial uses.

(10). Incidental Contact Recreation - These surface waters are suitable or intended to become suitable for recreational activities on or about the water which are not included in the full contact category, including but not limited to fishing, wading and other streamside recreation.

(11). Public Water Supply - These surface waters are suitable or intended to become suitable for drinking, culinary and food processing purposes, after conventional treatment for naturally present impurities.

(12). Wildlife - These surface waters are suitable for all furbearers and waterfowl.

(13). Agriculture - These surface waters are suitable or intended to become suitable for crops usually grown on the reservation and are not hazardous as drinking water for livestock.

(14). Industrial - These are waters suitable for industrial processes and cooling water.

(15). Cultural – These waters are suitable for cultural, ceremonial, and religious uses to support and maintain the way of life and traditional activities practiced on the Northern Cheyenne Reservation. These activities include, but are not limited to cultural, spiritual, and medicinal practices which include the preservation and utilization of riparian habitat, as well as associated wetland species, significant to the cultural values of the Northern Cheyenne Tribe. These practices may include full contact and incidental contact with surface waters.

(16). Wetlands – These surface waters are suitable for maintaining and restoring natural wetland characteristics and functions, within the natural range of variation of the wetland.

All reservation surface waters may be assigned one or more of the designated uses shown in Table 1 of Appendix B.

1.3.5 Narrative Water Quality Criteria

A. Reservation surface waters must be free from substances which are or may become injurious to public health, safety, welfare, or any of the designated or existing beneficial uses. Such substances may or will:

(1). Settle to form objectionable sludge deposits or emulsions beneath the surface of the water or upon adjoining shorelines;
(2). Create floating debris, scum, a visible oil film (or oil be present in concentrations at or in excess of 10 milligrams per liter) or globules of grease or other floating materials;
(3). Produce odors, colors or other conditions which create a nuisance or render undesirable tastes to fish flesh or make fish inedible;
(4). Create concentrations or combinations of materials which are toxic or harmful to human, animal, plant or aquatic life except for pesticide application as described in this section below and,
(5). Create conditions which produce undesirable aquatic life.

B. No pollutants may be discharged which, either alone or in combination with other pollutants, will cause exceedances of surface water quality standards or criteria.

C. In all public water supply watersheds, detailed plans and specifications for the construction and operation of roads will be submitted to the Department for its written approval no less than 60 days prior to the day on which it is desired to commence road construction. Such approval must be obtained in writing prior to commencement of such construction.

D. Leaching pads, tailing ponds, or water, waste, or product holding facilities utilized in the processing of natural resources must be located, constructed, operated and maintained in such a manner and be constructed of materials which prevent the discharge, seepage, drainage, infiltration, or flow which cause, threaten or allow pollution of surface waters. The Department may require that a monitoring system be installed and operated if the Department determines that pollutants may reach surface waters or present a substantial risk to public health.

E. Complete plans and specifications for proposed leaching pads, tailing ponds, or water, waste, or product holding facilities must be submitted to the Department no less than 60 days prior to the proposed commencement of construction. Prior to commencement of construction, written Departmental approval must be obtained.

F. Application of pesticides in or adjacent to Reservation surface waters must be in strict compliance with the labeled directions for use of the pesticide and other relevant requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and other Federal or Tribal laws which apply.

Pesticide application must not impact the structure or function of indigenous or intentionally introduced aquatic and wildlife communities. Application of pesticides and/ or herbicides within 100 feet of all surface waters must have detailed plans for proposed activity and written approval from the Department prior to application.

1.3.6 Sampling Methods

Methods of sample collection, preservation and analysis used to determine compliance with the applicable water quality standards will comply with the latest edition of Standard Methods for the Examination of Water and Wastewater published by the American Public Health Association, the Northern Cheyenne Quality Assurance Project Plans approved for the Reservation in accordance with the EPA guidelines, or be in accordance with tests or procedures that have been found to be equivalent or more applicable by the EPA as set forth in 40 C.F.R. 141.23 and 40 C.F.R. 136, including any other applicable EPA guidance.

1.3.7 Biological Standards

It is the goal of the Tribal Council that all surface waters of the Reservation shall be free from substances in concentrations or combinations which will adversely impact the structure or function of indigenous or intentionally introduced aquatic and wildlife communities.

1.3.8 Water Quality Standards for Wetlands

Subchapter I –Standards

A. Purpose.

(1). The purpose of this chapter is to establish water quality standards for wetlands of the Northern Cheyenne Reservation. This is to be included with the Northern Cheyenne Surface Water Quality Standards.

(2). Water quality standards are intended to protect tribal rights and interest, tribal health and welfare and the present and prospective uses of all waters of the tribe for tribal and member water supplies, propagation of fish and other aquatic life and wild and domestic animals, preservation of natural flora and fauna, domestic and recreational uses, and agricultural, commercial and cultural uses. In all cases associated with wetland areas, where the potential beneficial uses classified in Section 1.3.4, are in conflict with potential uses identified in the proposed Water Quality Standards for Wetlands, these water quality standards for wetlands shall be administered to protect the tribal interest for water quality.

(3). This subchapter sets forth the conditions necessary to protect water quality related functions and values of wetlands including sediment and pollutant attenuation, storm and flood water retention, hydrologic cycle maintenance,

shoreline and streambank protection against erosion, biological diversity and production, as well as, tribal cultural and recreational uses.

(4). Water quality standards serve as a basis for developing and implementing strategies to achieve legislative policies and goals. These standards also serve as a basis for potential decisions in regulatory, permitting, planning or funding activities which may impact water quality including wetlands.

(5). Narrative Water Quality Standards and anti-degradation policies as outlined in the Northern Cheyenne Surface Water Quality Standards apply to wetlands of the Northern Cheyenne Reservation.

B. Wetland water quality standards.

(1). To protect, preserve, restore and enhance the quality of waters in wetland and other waters of the tribe influenced by wetlands, the following water quality related functional values or uses of wetlands, within the range of natural variation of the affected wetland, shall be protected:

(a). Storm and flood water storage and retention and the moderation of water level fluctuation extremes;
(b). Hydrologic functions including the maintenance of dry season stream flow, the discharge of groundwater to a wetland, the recharge of groundwater from a wetland to another area and the flow of groundwater through a wetland;
(c). Filtration or storage of sediments, nutrients or toxic substances that would otherwise adversely impact the quality of other waters of the tribe;
(d). Shoreline protection against erosion through the dissipation of wave energy and water velocity and anchoring of sediments;
(e). Habitat for aquatic organisms in the food web including, but not limited to fish, crustaceans, mollusks, insects, annelids, planktonic organisms and the plants and animals upon which these aquatic organisms feed and depend upon for their development in all life stages;
(f). Habitat for resident and transient wildlife species, including mammals, birds, reptiles and amphibians for breeding, resting, nesting, escape cover, travel corridors and food; and
(g). Recreational, culturally significant wetland plant species, educational, scientific and natural scenic beauty values and uses.

(2). The following criteria shall be used to assure the maintenance or enhancement of the functional values and uses identified in sub. (1):

(a). Liquids, fill or other solids or gas may not be present in amounts which may cause significant adverse impacts to wetlands;
(b). Floating or submerged debris, oil or other material(s) may not be present in amounts which may interfere with tribal rights or interest or which may cause significant adverse impacts to wetlands;

(c). Materials producing color, odor, taste or unsightliness may not be present in amounts which may cause significant adverse impacts to wetlands;

(d). Concentrations or combinations of substances which are toxic or harmful to human, animal or plant life may not be present in amounts which individually or cumulatively may cause significant adverse impacts to wetlands;

(e). Hydrological conditions necessary to support the biological and physical characteristics naturally present in wetlands shall be protected to prevent significant adverse impacts on:

(i). Water currents, erosion, or sedimentation patterns;

(ii). Water temperature variations;

(iii). The chemical, nutrient and dissolved oxygen regime of the wetland;

(iv). The movement of aquatic flora and/or fauna;

(v). The pH of the wetland; and

(vi). Water levels or elevations.

(f). Existing habitats and the populations of wetland animals and vegetation shall be maintained by:

(i). Protecting food supplies for fish and wildlife;

(ii). Protecting reproductive and nursery areas, and

(iii). Preventing conditions conducive to the establishment or proliferation of nuisance organisms.

(3). The following numeric criteria shall apply to wetlands that contain any of the following culturally significant wetland plant species:

(a). Sodium Adsorption Ratio (SAR) shall not exceed 2.0

(b). pH range shall remain within 6.9 and 8.9.

(i). June/Service Berry, *Amelanchier alnifolia*

(ii). Red Osier Dogwood, *Cornus stolinifera*

(iii). Common spikerush, *Eleocharis palustris*

(iv). Horsetail, Field, *Equisetum arvense*

(v). Wild licorice, *Glycyrrhiza lepidota*

(vi). Goose Berry, red shoot, *Ribes setosum*

(vii). Mint/Field, *Mentha arvensis*

(viii). Horsemint, *Monarda fistulosa*

(ix). Water plant, *Nasturtium officinale*

(x). Sweet Medicine, ***Oxtropis (lamnbertii)***

(xi). Chokecherry, *Prunus virginiana*

(xii). Cottonwood, *Populus deltoides*

(xiii). Box elder, *Acer negundo*

(xiv). Green ash, *Fraxinus pennsylvania*

(xv). Sandbar willow, *Salix exigua*

(xvi). Snow berry, *Symphoricarpos occidentalis*

(xvii). Cattail, *Typha latifolia*

(xviii). Wild Plum, *Prunus americana*

(xiv). Sweet Grass, *Hierochloe odorata*

(xx). Quaking aspen, *Populus tremuloides*
(xxi). Saw beak sedge, *Carex stipata*
(xxii). Leafy aster, *Aster foliacius*
(xxiii). Stinging nettle, *Urtica dioica*
(xxiv). Bulrush, *Scirpus nevadensis*
(xxv). Arrow leaf, *Sagittaria latifolia*
(xxvi). Golden currant, *Ribes aureum*
(xxvii). Skunkbush sumac, *Rhus Tribobata*
(xxviii). Milkweed, showy, *Asclepias speciosa*
(xxiv). Western yarrow, *Achilliea millefolium*
(xxx). Raspberry, red, *Rubes idaues*
(xxxi). Rose bush, *Rosa arkansana*

C. **Wetlands in areas of special natural resource interest.** Wetlands in areas of special natural resource interest include those wetlands both within the boundary of designated areas of special natural resource interest, such as outstanding tribal resource waters, and those wetlands which are in proximity to or have a direct hydrologic connection to such designated areas. For the purposes of this chapter, the following are designated as areas of special natural resource interest:

(1). Cold water communities as defined in the Tribal surface water quality standards, including all salmonid streams and their tributaries;

(2). Tribal designated wild and scenic rivers and waterways;

(3). Unique and significant wetlands identified by the Tribe as possessing culturally significant wetlands plant species and areas designated by the United States Environmental Protection Agency under §404, 33USC 1344 (c);

(4). Calcareous fens (Low, flat, swampy land; bog areas, composed of, containing or characteristic of calcium carbonate, calcium, or limestone; chalky).

(5). Habitat used by Tribal or federally designated threatened or endangered species;

(6). Tribal parks, forests, trails and recreation areas;

(7). Tribal fish and wildlife refuges and fish and wildlife management areas;

(8). Tribal designated wilderness areas;

(9). Culturally significant wetland areas;

(10). Any other surface waters identified as outstanding tribal resources waters (OTRW) in the Tribal surface water quality standards.

(11). Springs (Groundwater issues or discharge at the earth's surface, the formation is resultant of various subsurface conditions).

(12). Seeps (A spot where water trickles out of the ground to form a pool).

Subchapter II –Implementation

A. Purpose.

(1). The purpose of this subchapter is to establish implementation procedures for application of wetland water quality standards contained in Subchapter I.

(2). These procedures are promulgated under the Tribal surface water quality standards.

B. Applicability. The provisions of this chapter shall, subject to the provisions below, apply to all department regulatory, planning, resource management, liaison and financial aid determinations that affect wetlands.

(1). Activities subject to the requirements of the this chapter include, but are not limited to:

(a). permit reviews, approvals and other actions of the Tribe
(b). water quality certification
(c). Department development and management projects.

(2). This chapter shall apply to new or increased point source discharges to wetlands.

(3). Wetland alterations which are directly caused by operations on a metallic mineral prospecting site or mining site shall be regulated pursuant to specific wetland standards under Tribal surface water quality standards.

(4). EXEMPTIONS. A person who proposes a project that may affect an artificial wetland shall notify the department at least 15 working days prior to initiating the project. For purposes of this chapter, the following artificial wetlands are exempt from the provisions of this chapter unless the department notifies the applicant 15 working days from when the department receives the notice of the proposed project from the applicant that the artificial wetland has significant functional values or uses.

(a). Sedimentation and stormwater detention basins and associated conveyance features operated and maintained only for sediment detention;
(b). Active sewage lagoons, cooling ponds, waste disposal pits;
(c). Artificial wetlands within active nonmetallic mining operations.

C. Department determinations.

(1). The department shall review all proposed activities subject to this chapter and shall determine whether the project proponent has shown if activities are in conformance with the provisions of this chapter. The department shall, upon request, meet with a project proponent and other interested persons to make a preliminary assessment of the scope for analysis of alternatives and the potential for compliance with this chapter.

(a). The department shall review the application for completeness within 30 days of receipt of the application. The department shall notify the applicant of any additional information reasonably necessary to review the application. Response time will be within 180 days of receipt of a complete application.
(b). The applicant shall submit, at any time during the review process, additional information which the department finds to be reasonably necessary for review of the application.
(c). The department may rely upon wetland boundary determinations made by other agencies and consultants. If there is a dispute concerning a wetland boundary delineation, the review of the delineation shall be consistent with the procedures identified in the "Corps of Engineers Wetlands Delineation Manual, 1987."

(2). Wetland functional values and the impact of a proposed activity upon those functional values shall be determined using wetland ecological evaluation methods accepted by the department, i.e. riparian health evaluation, and/or 106 Rapid Bioassessments appropriate to the affected wetland (see Appendix F). The department shall consider available land use studies in its determinations.

(3). To protect all present and prospective future uses of wetlands, the following factors shall be considered by the department in making determinations under this section:
(a). Wetland dependency of the proposal;
(b). Practicable alternatives to the proposal which will avoid and minimize adverse impacts to wetlands and will not result in other significant adverse environmental consequences;
(c). Impacts which may result from the activity on the maintenance, protection, restoration or enhancement of standards under the "Wetland water quality standards' section;
(d). Cumulative impacts attributable to the proposed activity which may occur, based upon past or reasonably anticipated impacts on wetland functional values of similar activities in the affected area;
(e). Potential secondary impacts on wetland functional values from the proposed activity;
(f). Any potential adverse impacts to wetlands in areas of special natural resource interest; and
(g). Any potential adverse impact to wetlands in environmentally or culturally sensitive areas and environmental corridors identified in

Reservation-wide water quality management plans of the water quality standards.

(4). The department shall make a finding that the requirements of this chapter are satisfied if it determines that the project proponent has shown all of the following:

(a). No practicable alternatives exists which would avoid adverse impacts to wetlands.

(b). All practicable measures to minimize adverse impacts to the functional values of the affected wetlands have been taken.

(c). Considering potential wetland functional values provided by any mitigation project that is part of the subject application, that the activity will not result in significant adverse impacts to wetland functional values, significant adverse impacts to water quality or other significant adverse environmental consequences.

(d). For all activities that will adversely affect a wetland in an area of special natural resource interest, the department may not consider potential functional values provided by any mitigation project that is part of the subject application.

(e). For all activities that meet the above stipulations, the department must determine that proposed activities comply with the following:

(1). The activity is wetland dependent.

(2). The surface area of the wetland impact is 0.10 acres or less.

(3). All wetlands that may be affected by an activity are less than one acre in size, located outside a 100-year floodplain, and not any of the following types:

(i). Wetland area dominated by culturally significant wetland plant species.

(ii). Deep marsh.

(iii). Ephemeral pond in a wooded setting

(iv). Area dominated by a significant population of native species.

(v). Mitigation projects and the use of wetland mitigation banks shall be carried out in accordance with water quality standards, and shall follow guidelines as provided by the United States army corps of engineers for mitigation projects and wetland mitigation banks.

PART IV ANTIDEGRADATION POLICY AND REVIEW PROCESS

1.4.1 Antidegradation Policy

Antidegradation refers to actions taken to maintain existing uses and water quality in the Nation's waters; it allows, in certain cases, lowering of water quality that exceeds 'aquatic life/recreational uses' and provides special protection to waters that constitute a national resource (40 CFR 131.6; 131.12).

The Antidegradation Policy applicable to all surface waters of the Tribe is as follows:

(1). Tier 1 - Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(2). Tier 2 - Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Tribe finds, after appropriate intergovernmental coordination and public participation, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the Tribe shall assure water quality adequate to protect existing uses fully. Further, the Tribe 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 control.

(3). Tier 3 – Where high quality waters constitute an outstanding National resource or Tribal resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational, ecological, or cultural significance, that water quality shall be maintained and protected.

1.4.2 Antidegradation Review Process

A. Introduction

(1). These antidegradation procedures provide detailed methods and guidance to be followed by the Department and the Tribal Natural Resources Department in implementing the Tribal antidegradation policy found in Part IV. In all cases, applicable technology and water quality-based requirements are to be implemented in combination with the antidegradation requirements described in this document.

(2). Implementation of tribal antidegradation requirements serves to promote the maintenance and protection of existing surface water quality. Under this program, all "surface waters" of the tribe are provided one of three different levels of protection. The level of protection that is provided to a specific segment depends upon a number of factors discussed below. At a minimum, all waters are subject to a base level of protection (known as Tier 1 or existing use protection); some waters may qualify only for this level of protection. Antidegradation requirements are triggered whenever a regulated activity is proposed that may have some effect on surface water quality. Such activities are reviewed to determine, based on the level of antidegradation protection afforded to the affected waterbody segment, whether the proposed activity should be authorized.

B. **Scope**

(1). The Department will conduct some level of antidegradation review for all " regulated activities" (see definition in Section 1.3.3) that have the potential to affect existing water quality. The specifics of the review will depend upon the waterbody segment that would be affected, the tier of antidegradation applicable to that waterbody segment, and the extent to which existing water quality would be degraded.

(2). The sequence of steps to be completed by the Department in conducting an antidegradation review is presented in figure 1 (p. 19). In conducting an antidegradation review, the first task that will be addressed by the Department is to determine which tier of antidegradation applies. This is accomplished, as described in detail in figure 1, based on whether the existing quality of the segment is better than necessary to support "aquatic/recreational " uses.

1.4.3 Tier 3 Procedures

A. Water Qualifying for OTRW Protection

Qualification Criteria: Segments will be subject to Tier 3 protection only where an Outstanding Tribal Resource Water (OTRW) designation has been adopted as a revision to the water quality standards for the segment, consistent with Tribal procedures and EPA requirements. In adopting such a designation, all applicable public participation requirements will be addressed.

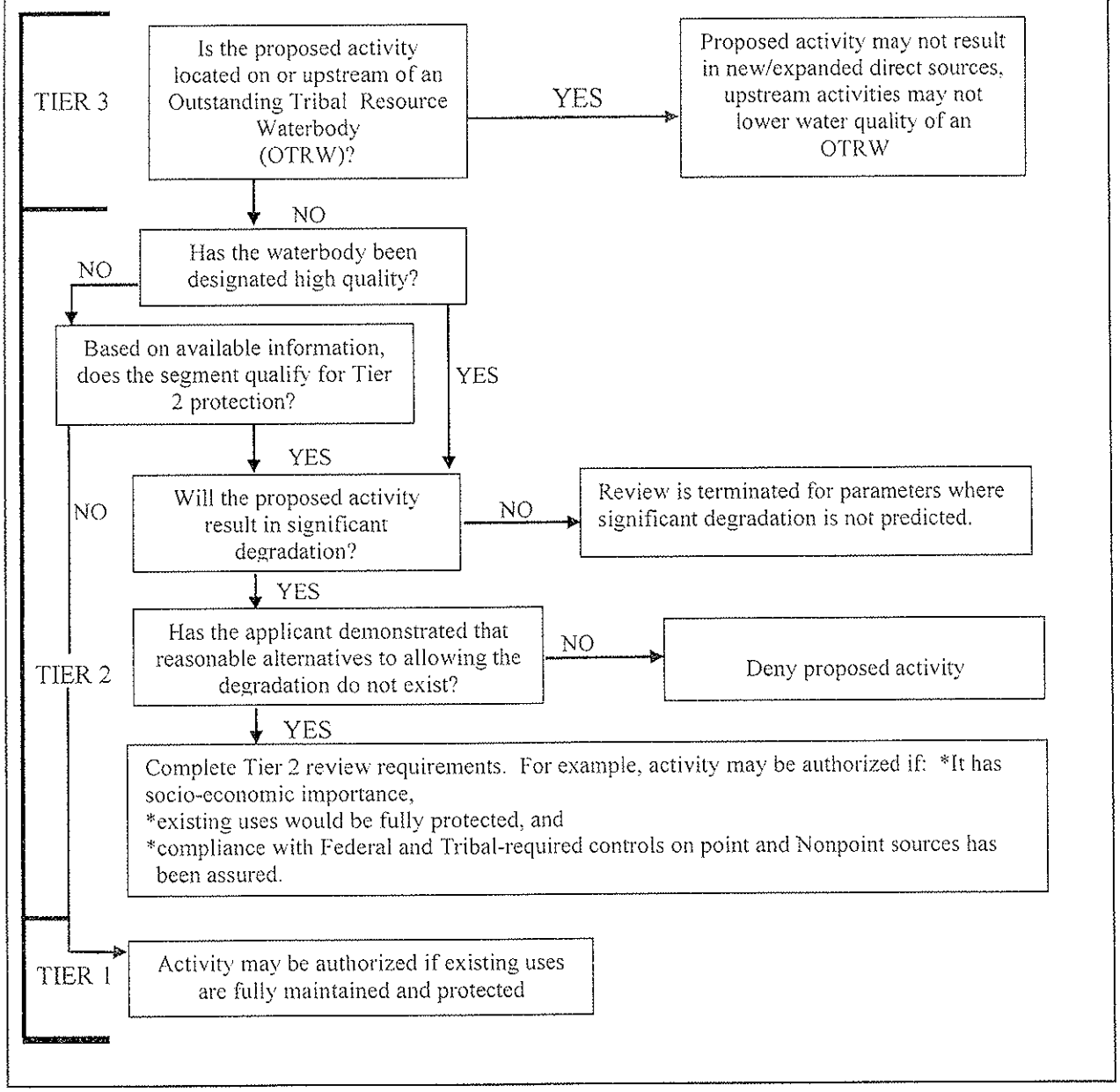
(1). Water Quality Requirements

Outstanding water quality is not a prerequisite for OTRW designation. The only requirement is that the segment have outstanding value as an aquatic resource, which may derive from the presence of exceptional scenic or recreational attributes, or from the presence of unique or sensitive ecosystems that have naturally high water quality as measured by conventional parameters, as well as being an important cultural resource for the Tribe. The factors to be considered in determining whether to assign an OTRW designation may include the following:

(a.) Location : specific guidance to be developed during first triennial review,
(b.) previous special designations (e.g. wild and scenic river),
(c.) existing water quality (pristine or naturally-occurring),
(d.) ecological value (e.g. presence of threatened or endangered species during one or more life stages, reference sited for ecoregions),
(e.) recreational or aesthetic value (e.g. presence of an outstanding recreational fishery), and

(f.) other factors that indicate outstanding ecological, cultural, or recreation value (e.g., rare or valuable wildlife habitat, critical ceremonial value). Where determined appropriate, the OTRW designation may be applied to an entire category of waters.

Figure 1. Antidegradation Implementation Flow Chart



(2). <u>Public Nomination</u>

Public nomination of tribal water(s) for OTRW protection may be submitted by providing a written request to the following address:

Northern Cheyenne Tribe
Environmental Protection Department
ATTENTION: Water Quality
P.O. Box 128
Lame Deer, MT 59043

The written request should explain why an OTRW designation is warranted based on one or more of the factors identified above in Section 1.4.3 A.1.(a – f).

B. Direct Sources to OTRW's

Prohibition of New or Expanded Sources

Any proposed activity that would result in a new or expanded direct source of pollutants to any segment which has been designated as an OTRW is prohibited. This prohibition applies to new sources, expansion of existing sources in which treatment levels are maintained, and expansion of existing sources in which treatment levels are increased to maintain existing pollutant loading levels. Regardless of effluent quality, any new or expanded direct sources is prohibited.

C. Sources Upstream of OTRW's

(1). No Change in Water Quality Allowed

Any proposed activity that would result in a permanent new or expanded indirect source of pollutants (i.e., an upstream source) to an OTRW segment is prohibited except where such source would have no effect on the existing quality of the OTRW segment. Effects on OTRW water quality resulting from upstream sources will be determined based on appropriate techniques and best professional judgment. Factors that may be considered in judging whether OTRW quality would be affected include:

(a). percent change in ambient concentrations predicted at the appropriate critical condition(s),
(b). percent change in loadings (i.e., the new or expanded loadings compared to total existing loadings to the segment),
(c). percent reduction in available assimilative capacity,
(d). nature, persistence, and potential effect of the parameter,
(e). potential for cumulative effects, and
(f). degree of confidence in the various components of any modeling technique utilized (e.g., associated with predicted effluent variability).

(2). Trading

A proposed activity that will result in a new or expanded upstream source may be allowed where the applicant agrees to implement or finance controls of point or nonpoint sources sufficient to offset the water quality effects of the proposed activity. Where such trading occurs upstream of an OTRW segment, Tier 3 requirements will be considered satisfied where the applicant can show that water quality at all points within the study area will be either maintained or improved. The Department, with assistance from EPA, will document the technical rationale for the trade. In some cases, this may be addressed as one element of a Total Maximum Daily Load (TMDL) analysis.

(3). Information Requirements

The applicant may be required to provide information sufficient to evaluate the potential effects of the proposed activity on downstream OTRW's. The information that will be required in a given situation will be identified on a case-by-case basis by the Department.

D. Temporary and Limited Effects

(1). Guidelines

A direct or upstream source that would result in a temporary and limited effect on OTRW water quality may be authorized. Any proposed activity that would result in a temporary source to any segment designated as an OTRW may be allowed and will be reviewed on a case-by-case basis. As a non-binding rule of thumb, activities with durations less than one month and resulting in less than a 5% change in ambient concentration will be deemed to have temporary and limited effects. Decisions on individual proposed activities may be based on the following factors:

(a.) Length of time during which water quality will be lowered,
(b.) Percent change in ambient concentrations,
(c.) Parameters affected,
(d.) Likelihood for long term water quality benefits to the segment (e.g., as may result from dredging of contaminated sediments),
(e.) Degree to which achieving applicable water quality standards during the proposed activity may be at risk, and
(f.) Potential for any residual long term influences on existing uses.

1.4.4 Tier 2 Procedures

A. Waters Qualifying for Tier 2 Procedures

(1). Qualification Criteria

The Department will determine whether a segment qualifies for Tier 2 protection during the antidegradation review of a proposed activity. Such decisions will be based on all relevant information including any ambient water quality (i.e., physical chemical, biological) data submitted by the applicant. The criteria that will be used in identifying high quality Tier 2 water are described in Section 2 below. Unlike the OTRW protection program described above, a revision to water quality standards is not necessary in order for the Department to apply Tier 2 requirements to a segment during the course of an antidegradation review.

(2). Qualification Factors

Decisions regarding whether a waterbody is high quality and subject to Tier 2 protection requirements will be based on a best professional judgment of the overall quality and value of the segment. In general, waters with existing quality that is better than necessary to support aquatic/recreational uses will be considered high quality and subject to Tier 2 requirements. The factors that may be considered in determining whether a segment satisfies the high quality test include the following:

(a.) Existing aquatic life uses,
(b.) existing recreational, cultural, or aesthetic uses,
(c.) existing water quality for all parameters (i.e., subject to the availability of monitoring data or other information for the segment, upstream segments, or for comparable segments), and
(d.) the overall value of the segment from an ecological and public use perspective.

Note that attainment of both aquatic life (fishable) and recreational (swimmable) uses is not required in order to qualify as a high quality segment.

(3). Presumptive Applicability

In general, it is presumed that a majority of tribal waters qualify for Tier 2 protection. However, there are some waters on the Reservation where neither of the Clean Water Act aquatic/recreational goal uses are attained. It is the intent of these procedures to apply only existing use (Tier 1) protection to such waters. There also may be waters on the Reservation where one or both of the aquatic/recreational uses are attained, but existing water quality is not "better than necessary" to support the goal uses (i.e. assimilative capacity does not exist for a number of parameters). It is the intent of these procedures to apply only existing use (Tier 1) protection to such waters provided that there is no assimilative capacity for each of the parameters to be affected by the proposed activity.

(4). Criteria Exceedences

Occasional exceedences of one or more narrative or numeric water quality criteria may constitute non-attainment sufficient to preclude Tier 2 protection. In waters where exceedences have occurred and continue to occur for one or more parameters, a judgment will be made based on the factors identified above and in consideration of information submitted by the applicant and by the public. As a general operating rule, Tier 2 protection will be applied even where the criteria for some parameters are not always satisfied.

(5). Information Requirements

The applicant may be required to provide monitoring data or other information about the affected waterbody to help determine the applicability of Tier 2 requirements based on the high quality test. The information that will be required in a given situation will be identified on a case-by-case basis. Because these procedures presume that Tier 2 protection requirements will be applied, such information will typically be required of the applicant only where this presumption is in dispute. Such information may include recent ambient chemical, physical, and biological monitoring data sufficient to characterize, during the appropriate critical condition(s), the existing uses and the spatial and temporal variability of existing quality of the segment for the parameters that would be affected by the proposed activity.

(6). Characterizing Existing Quality

The Department will use available water quality data collected by the Department and its sister Tribal Natural Resource Department. This water quality data should be no more than 6 years in age. The Department will collect water column data as well as physical and biological data on the primary streams for triennial review of approved Tribal Water Quality Standards. Characterization of existing quality will appropriately consider spatial and temporal variability. Assimilative capacity will be identified for the appropriate critical condition which, depending on the situation, may be at high or low flow.

B. Significant Degradation

(1). Overview

Once it is determined that Tier 2 protection applies to a waterbody, the next step in the review process is to determine whether the degradation that will result from the proposed activity is significant enough to warrant further review (such as evaluation of alternatives). The factors to be addressed in judging the significance of the proposed activity are

identified in paragraph (2) of this section. Where the significance of the degradation associated with a proposed activity is in dispute, the factors identified in paragraph (2) should also be the focal point of opposing views by the applicant or the public.

(2). Significance Factors

The likelihood that a proposed activity will pose significant degradation will be judged by the Department for all water quality parameters that would be affected by the proposed activity. Such significance judgments will be made on a parameter-by-parameter basis. The Department will identify and eliminate from further review only those proposed activities that present insignificant threats to water quality. Proposed activities will be considered significant and subject to tier 2 requirements where significant degradation is projected for one or more water quality parameters. Because determinations of significant degradation are most appropriately made based on case-specific information, these procedures do not provide rigid decision criteria for judging significant changes in water quality. Rather, significant degradation may be demonstrated with respect to any one (or a combination) of the following factors:

(a.) Percent change in ambient concentrations predicted at the appropriate critical condition(s),
(b.) the difference, if any, between existing ambient quality and ambient quality that would exist if all point sources were discharging at permitted loading rates,
(c.) percent change in loading (i.e., the new or expanded loadings compared to total existing loadings to the segment or, for existing facilities only, the proposed permitted loadings compared to the existing permitted loadings),
(d.) percent reduction in available assimilative capacity,
(e.) nature, persistence, and potential effects of the parameter,
(f.) potential for cumulative effects,
(g.) predicted impacts to aquatic biota,
(h.) degree of confidence in any modeling techniques utilized,
(i.) the difference, if any, between permitted and existing effluent quality, and
(j.) the duration of the proposed activity or the expected water quality changes.

(aa.) Required Analyses. Based on one or more of the significance factors identified above, the Department may make determinations of significant degradation based on appropriate modeling techniques coupled with detailed characterization of the existing background water quality. However, determinations of significance need not be complicated, data-

sensitive, or resource sensitive. It is not the intent of these procedures to require detailed analyses to address each of the factors identified above. Where appropriate, determinations of significance may be based on simple analyses. For example, proposed activities may be judged as insignificant where:

(i). available dilution exceeds 100:1,
(ii). the proposed activity would not result in a significant increase of loadings for any parameter,
(iii). there is substantial potential for the proposed activity to result in a net long-term water quality benefit to the segment, or
(iv). the projected water quality changes are temporary and limited.

Likewise, a significant increase in loading for any given parameter may be the basis for concluding that significant degradation will occur.

(bb.) Persistent Toxics. The significance of proposed new or expanded sources of bioaccumulative or other persistent toxic substances will be judged depending upon, for example, existing loadings of the substances to the segment from all sources. The Department's interpretation of monitoring data or other information indicating fish tissue or sediment accumulation in the watershed will be considered with respect to judging the significance of new or expanded sources of persistent toxic substances.

(3). General Guidelines

As a non-binding rule of thumb, proposed activities that would lower ambient quality of any parameter by more than 5%, reduce the available assimilative capacity by more than 5%, or increase pollutant loadings to a segment by more than 5% will be presumed to pose significant degradation. The intent of this guideline is to establish a de minimis test of significance and to eliminate from further review only those proposed activities that will result in truly minor changes in water quality.

(4). By-passing the Significance Test

Where available information clearly indicates that reasonable non-degrading or less-degrading alternatives to lowering existing water quality exist, the Department may by-pass the significant degradation

requirements and direct the applicant to demonstrate the necessity of the degradation pursuant to Evaluation of Alternatives to Lower Water Quality section below.

(5). Trading

The Department may also conclude that a proposed activity will not pose significant degradation based upon the specifics of any upstream/downstream trading that has been agreed to by the project applicant. The Department, with assistance from the U.S. Environmental Protection Agency, will document the technical rationale for the trade. In some cases, this may be addressed as one element of a Total Maximum Daily Load (TMDL) analysis.

(6). Information Requirements

The applicant may be required to provide monitoring data or other information about the affected waterbody and/or proposed activity to help determine the significance of the proposed degradation for specific parameters. The information that will be required in a given situation will be identified on a case-by-case basis. Because these procedures establish a fairly low threshold of significance, in many cases a large data base will not be necessary to determine that a proposed activity will result in significant degradation. The information required may include recent ambient chemical, physical, or biological monitoring data sufficient to characterize, during the appropriate critical condition(s), the spatial and temporal variability of existing background quality that would result if the proposed activity were authorized. Federal TMDL procedures for characterizing existing water quality and projecting future water quality will be the basis for identifying needed information and interpreting available data.

(7). Determine Significance of Proposed Activity

Proposed regulated activities determined to be significant by the Department shall be subject to the Tier 2 review requirements described below. If the Department determines that an activity will not pose significant degradation for any parameter, no further antidegradation Tier 2 requirements shall apply ; however, such activities must still meet all technology and/or water quality based control requirements or conditions of the permit for the water quality certification.

C. Evaluation of Alternatives to Lower Water Quality

(1). Role of the Environmental Protection Department

The primary emphasis of the Department's Tier 2 antidegradation reviews will be to determine whether reasonable non-degrading or less-degrading alternatives to allowing the proposed degradation are available. The Department will first evaluate any alternatives analysis submitted by the applicant for consistency with the minimum requirements described below. If an acceptable analysis of alternatives was completed and submitted to the Department as part of the initial project proposal, no further evaluation of alternatives will be required of the applicant. If an acceptable alternatives analysis has not been completed, the Department will work with the project applicant to ensure that an acceptable alternatives analysis is developed.

(2). Role of the Applicant

The applicant of any proposed activity that would significantly lower water quality in a high quality segment is required to prepare an evaluation of alternatives. The evaluation is required, at a minimum, to provide substantive information pertaining to the costs and environmental impacts associated with the following alternatives:

(a.) pollution prevention measures,
(b.) reduction in scale of the project,
(c.) water recycle or reuse,
(d.) process changes,
(e.) innovative treatment technology,
(f.) advanced treatment technology,
(g.) seasonal or controlled discharge options to avoid critical water quality periods,
(h.) improved operation and maintenance of existing treatment systems, and
(i.) alternative discharge locations.

(3). Preliminary Determination

Once the Department has determined that feasible alternatives to allowing the degradation have been adequately evaluated, the Department shall make a preliminary determination regarding whether reasonable non-degrading or less-degrading alternatives are available. This determination will be based primarily on the alternatives analysis developed by the project applicant, but may be supplemented with other information or data. As a non-binding rule of thumb, non-degrading or less-degrading pollution control alternatives with costs that are less than 110% of the costs of the pollution control alternatives associated with the proposed activity shall be considered reasonable. If the Department determines that reasonable alternatives to allowing the degradation do not exist, the Department shall continue with the Tier 2 review and document the substance and basis for

that preliminary determination using the antidegradation review worksheet.

(4). If Reasonable Alternative Exist

If the Department makes a preliminary determination that one or more reasonable alternatives to allowing the degradation exists, the Department will work with the project applicant to revise the project design. If a mutually-acceptable resolution cannot be reached, the Department will document the alternative analysis findings and public notice a preliminary decision based on antidegradation Tier 2 requirements, to deny the activity.

(5). Role of the Public

Based upon comments and information received during the public comment period, the Department may reverse it preliminary determination regarding the availability of reasonable alternatives to allowing the degradation.

D. Determination of Socio-Economic Importance

(1). Role of the Applicant

The applicant is required to demonstrate the social and economic importance of the proposed activity. The factors to be addressed in such a demonstration may include, but are not limited to, the following:

(a.) Employment (i.e., increasing, maintaining, or avoiding a reduction in employment),
(b.) increased production,
(c.) improved community tax base,
(d.) housing, and
(e.) correction of environmental or public health concerns.

(2). Role of the Environmental Protection Department

Prior to authorizing any proposed activity that would significantly lower the water quality of Tier 2 water, the Department shall ensure that the proposed activity will provide important social or economic development in the area in which the waters of concern are located. In making a preliminary determination, the Department will rely primarily on the demonstration made by the applicant. However, the Department may weigh the applicant's demonstration against counterbalancing socio-economic costs associated with proposed activity, such as projected negative socio-economic effects on the community and projected

environmental effects (i.e., those determined in the significance and/or alternatives analysis decisions processes).

(3). Additional Information Requirements

If information available to the Department is not sufficient to make a preliminary determination regarding the socio-economic costs or benefits associated with the proposed activity, the Department may require the project applicant to submit specific items of information needed to support a determination of importance. The types of information required of the applicant will be determined on a case-by-case basis, but may include:

(a). Information pertaining to current aquatic life, recreational, or other waterbody uses,
(b). information necessary to determine the environmental impacts that may result from the proposed activity,
(c). facts pertaining to the current state of economic development in the area (e.g., population, area employment, area income, major employers, types of business),
(d). government fiscal base, and
(e). land use in the areas surrounding the proposed activity.

(4). Mitigation

The applicant may voluntarily submit a proposal to mitigate the adverse environmental effects of the proposed activity (e.g., in-stream habitat improvement, bank stabilization/upgraded riparian vegetation). Such mitigation plans should describe the proposed mitigation measures and the costs of such mitigation. Such a mitigation plan will not release the Department from its obligation to require any reasonable non-degrading or less-degrading alternative in Part C (1) of this procedure, nor will such plans have any effect on the effluent limitations to be included in any NPDES permit (except possibly where a previously-completed mitigation project has resulted in an improvement in background water quality that affects the water quality-based limit). Such mitigation plans will be developed and implemented by the applicant as a means to further minimize the environmental effects of the proposed activity and to increase its socio-economic importance. It is anticipated that an effective mitigation plan may, in some cases, allow the tribe to conclude "importance" and to authorize proposed activities that could otherwise not be authorized pursuant to Tribal antidegradation requirements. Mitigation plans should include criteria for determining success of the mitigation, legal commitment for follow-up monitoring and additional work if necessary, and where practicable, a commitment to implement the mitigation before the project and water quality degradation are allowed.

(5). Preliminary Determination

Once the Department has reviewed available information pertaining to the socio-economic importance of the proposed activity, the Department shall make a preliminary determination regarding importance. If the Department determines that the proposed activity has social or economic importance in the area in which the affected waters are located, the Department shall continue with the Tier 2 review and document the substance and basis for that preliminary determination using the antidegradation review worksheet.

(6). If Importance is Found Lacking

If the Department makes a preliminary determination that the proposed activity does not have social or economic importance in the area in which the affected waters are located, the Department will document these findings and provide public notice of their preliminary decision to deny the proposed activity.

(7). Role of the Public

Because the socio-economic importance of a proposed activity is a question best addressed by local interests, the Department will give particular weight to the comments submitted by local governments, land use planning authorities, and other local interests in determining whether the balancing of benefits and costs that was the basis for the Department's preliminary decision was appropriate. Based upon comments and information received during the public comment period, the Department may reverse its preliminary determination regarding the social or economic importance of a proposed activity.

E. Ensure Full Protection of Existing Uses

See Part 1.4.5

Prior to authorizing any proposed activity that would significantly degrade Tier 2 waters, the Department shall ensure that existing uses will be fully protected consistent with the Tier 1 implementation procedures provided below.

F. Ensure Implementation of Tribal-Required Point and Nonpoint Source Controls

(1). Role of the Environmental Protection Department

Prior to authorizing a regulated activity that would significantly degrade a Tier 2 water, the Department shall determine that compliance with

required controls on all point and nonpoint sources in the zone of influence has been assured. This requirement is intended to ensure that regulated activities that will result in water quality degradation for a particular parameter will not be authorized where there are existing unresolved compliance problems involving the parameter in the zone of influence of the proposed activity. The 'zone of influence" is determined as appropriate for the parameter of concern, the characteristics of the receiving waterbody (e.g., lake versus river, etc.), and other relevant factors. Where available, a Total Maximum Daily Load analysis or other watershed-scale plan will be the basis for identifying the appropriate zone of influence. The Department may conclude that such compliance has not been assured where facilities are in noncompliance with their NPDES permit limits. However, the existence of schedules of compliance for the purposes of NPDES permit requirements will be taken into consideration in such cases. Where there are nonpoint sources that are regulated activities, the Department shall determine that any tribal-required control or best management practices have been achieved or that a plan that assures such compliance has been developed. In other words, required control on existing regulated sources in the area need not be finally achieved prior to authorizing a proposed activity provided there is reasonable assurance of future compliance.

(2). Preliminary Determination

Based upon available data or other information, the Department will make a preliminary determination regarding whether compliance with required controls on point and nonpoint sources in the zone of influence has been assured.

(a). Controls have been Assured

If the preliminary determination is that such compliance has been assured, the Department shall continue with the Tier 2 review and document the substance and basis for that preliminary determination using the antidegradation review worksheet (see Appendix E).

(b). Controls have not been Assured

If the Department makes a preliminary determination that compliance with required point and nonpoint source controls has not been assured, the Department shall document that antidegradation review finding and public notice a preliminary decision based upon Tier 2 requirements, to deny the proposed activity.

(3). Role of the Public

Based upon comments and information received during the public comment period, the Department may reverse its preliminary finding regarding the degree to which compliance with required point and nonpoint source controls has been assured.

1.4.5 TIER 1 PROCEDURES

A. Water Qualifying for Tier 1 Protection

Waters Subject to Tier 1 Requirements

All waters are subject to Tier 1 protection. Those which are only subject to Tier 1 protection are those waters that have not been assigned an OTRW designation, and that do not currently possess the overall water quality or value necessary to meet the high quality test. In general, Tier 1-only waters are those segments where fishable/swimmable goal uses are not attained, or where assimilative capacity does not exist for any of the parameters that would be affected by the proposed activity.

B. Two-Part Requirement

Protect Water Quality and Uses

The Tribal antidegradation policy requires that existing uses, and the water quality necessary to protect existing uses, shall be maintained and protected. This requirement contains two parts:

(a.) Protection of existing uses, and
(b.) protection of the water quality necessary to maintain and protect existing uses.

C. Ensure Water Quality Necessary to Maintain and Protect Existing Uses

(1). Confirm that Designated Uses Address Existing Uses

Prior to authorizing any proposed activity, the Department shall ensure that water quality sufficient to fully protect existing uses will be achieved. An important decision that must be made by the Department is whether the waterbody currently supports, or has supported since November 28, 1975, an existing use that has more stringent water quality requirements than the current designated uses. In making this decision, the Department will focus on whether a higher designated use (i.e., based on Tribal use designations) should be assigned to the waterbody to reflect an existing use. Where the Department determines that the current designated uses appropriately reflect the existing waterbody uses, the Department shall document that preliminary determination using the antidegradation review worksheet. In such cases, the water quality control requirements necessary

to protect designated uses will be presumed to also fully protect existing uses. Where the designated uses are found to be appropriate, but there is clear and convincing evidence that the numeric criteria adopted for the protection of designated uses would not adequately protect existing uses, the Tribe may either apply more stringent numeric criteria that will protect existing uses (where defensible criteria are readily available), or pursue development of criteria that will protect existing uses. The applicant may be required to assist with any needed studies. The Department will apply appropriate, defensible criteria as necessary to protect existing uses, and propose any needed revisions to the water quality standards for the affected segments at the earliest rulemaking opportunity.

(2). Where Designated Uses do not Address Existing Uses

The procedure outlined in paragraph (1) above will ensure that designated uses appropriately address existing uses pursuant to tribal and federal requirements. Where this is not the case, a revision to tribal standards may be needed since, pursuant to the tribal and federal water quality standards regulations, designated uses are required to reflect, at a minimum, all attainable (including currently attained, or existing) uses. Where existing uses with more stringent protection requirements than currently designated uses are identified, the Department will ensure levels of water quality necessary to protect existing uses fully and, at the earliest opportunity, propose that appropriate revision to the designated uses be adopted into the Tribal water quality standards. However, the Department will not delay Tier 1 protection pending the reclassification action.

(3). Require Water Quality Necessary to Protect Existing Uses

Where the Department determines that the water body currently supports, or has supported since November 28, 1975, an existing use that has more stringent water quality requirements than the current designated uses, the Department shall identify the level of water quality necessary to protect existing uses fully for the parameters in question. The Department's estimate of the level of water quality required will be based on numeric Tribal water quality criteria, narrative tribal criteria, and/or federal criteria guidance. In general, water quality sufficient to maintain and protect existing uses for the parameters in question will be assured using the same procedures that would have been followed had the water quality standards (i.e., uses and criteria) been appropriately assigned to begin with. The preliminary finding regarding existing uses and the level of water quality necessary to protect existing uses will be documented using the antidegradation review worksheet.

(4). Trading

The procedures outlined above describe one way in which a new or expanded discharge can be allowed consistent with Tier 1 requirements. If, for example, existing water quality for a given parameter exceeds the criteria determined appropriate for the protection of existing uses (as determined above), one option to meet Tier 1 requirements would be to require a new or expanded discharge to meet those criteria at the end of pipe, or some other effluent requirement that is specified in a Total Maximum Daily Load. As an alternative, a proposed activity that will result in a new or expanded source could also be allowed where the applicant agrees to implement or finance upstream controls of point or nonpoint sources sufficient to protect existing uses fully. Under such a trading arrangement, the effluent limits for the new or expanded source may be less stringent than criteria at the end-of-pipe, provided that the net effect of the trade is for the level of water quality necessary to protect existing uses will be achieved. The Department, with assistance from the U.S. Environmental Protection Agency, will document the technical rationale for the trade. In some cases, this may be addressed as one element of a Total Maximum Daily Load analysis.

(5). Additional Information Requirements

The applicant may be required to provide monitoring data or other information about the affected waterbody to help determine whether designated uses also reflect existing waterbody uses. The applicant may also be required to provide information that will assist in determining the level of water quality necessary to protect existing uses fully. The information that will be required in a given situation will be identified on a case-by-case basis. Because these procedures presume that designated uses reflect existing uses, such information will typically be required only where this presumption is in doubt, based on the information available to the Department. Where this presumption is in doubt, the applicant may be required to provide physical, chemical, and biological monitoring data or other information needed by the Department to identify and protect existing uses.

D. Ensure Full Protection of Existing Uses

(1). Presume that Applicable Criteria Will Protect Uses

The procedures just discussed presume that implementation of the water quality criteria established to protect designated uses will also incidentally protect existing uses. However, situations may arise where a proposed (regulated) activity will impair or eliminate an existing use in a manner that cannot readily be predicted with the water quality criteria established to protect designated uses. Examples include situations where appropriate and specific water quality criteria are not yet in place (e.g., impacts to

aquatic life habitat that may result from the discharge of "clean" sediment).

(2). Where Applicable Criteria Will Not Protect Existing Uses

Where the Department concludes that existing uses will be impaired by a regulated activity, the Department will work with the project applicant to revise the project design such that existing uses will be maintained and protected. If a mutually-acceptable resolution cannot be achieved, the Department will document the basis for its preliminary determination regarding the loss or impairment of existing uses that will occur using the antidegradation review worksheet, identify appropriate control requirements, up to and including denial of the proposed activity, and public notice its preliminary decision. Where possible, such effects will be predicted based upon quantitative methods. In predicting effects, the Department will use all information submitted by the applicant, available modeling techniques, and best professional judgment based upon experience with similar types of projects, as appropriate.

(3). Where Loss or Impairment of Existing Uses Is Not Predicted

Where the Department determines that implementation of the applicable water quality criteria will fully protect the existing uses, that finding will be documented using the antidegradation worksheet.

1.4.6 DOCUMENTATION, PUBLIC REVIEW, AND INTERGOVERNMENTAL COORDINATION PROCEDURES

A. Documentation of Antidegradation Review Findings

Antidegradation Worksheet

The Department will complete an antidegradation review for all proposed regulated activities that may have some effect on surface water quality. The findings of all antidegradation reviews will be documented using an antidegradation worksheet, a copy of which is in Appendix E.

B. Public Review Procedures

(1). Public Notice Requirements

Generally, the regulated activities triggering an antidegradation review will be generated by other federal agencies including but not limited to the U.S. Environmental Protection Agency, the U.S. Army Corps of Engineers, the Bureau of Indian Affairs, and the Bureau of Reclamation. As part of the public notice requirements for these agencies, the Department will provide a copy of the antidegradation worksheet which

may be incorporated into the public notice issued by these cooperating agencies. Where an antidegradation review results in the identification of water quality protection requirements that may affect activities other than the proposed activity under review (e.g., the review identifies an existing use that is not currently designated or a numeric criterion that is not stringent enough to protect an existing use), the Tribe will make a reasonable effort to inform potentially affected entities located on and off the reservation so that they have an opportunity to review and comment on the basis for the Department's antidegradation review.

(2). Content of Public Notice

If the Tribe takes an action without a federal partner, a public notice will be prepared and notice placed in local major newspapers such as the Billings Gazette, Hardin Tribune, or Rosebud County Press, for two weeks with comments taken for two weeks after the notice is run in newspapers. In preparing the public notice, the Department shall:

(a.) Outline the substance and basis of the Tribe's antidegradation review conclusions, including the preliminary finding regarding whether to authorize the proposed activity,
(b.) request public input on particular aspects of the antidegradation review that might be improved based on public input (e.g., existing uses of the waterbody by the public, the preliminary determination on socio-economic importance),
(c.) provide notice of the availability of the antidegradation review worksheet,
(d.) provide notice of the availability of any introductory public information regarding the state antidegradation program, and
(e.) include a reference to the Tribe's antidegradation policy.

C. Intergovernmental Coordination Procedures

Minimum Process

(a.) At a minimum, the Department will provide copies of the completed antidegradation review worksheet and/or the public notice to appropriate tribal, state, and federal government agencies along with a written request to provide comments by the public comment deadline.

PART V. MIXING ZONE AND DILUTION POLICY

1.5.1 Mixing Zones and Dilution Allowances

Mixing zones are regions surrounding or downstream of a point source discharge in which the discharge is progressively diluted by the receiving water and numerical water quality criteria may not apply. This policy describes how dilution and mixing of point source discharges within receiving waters will be addressed in developing discharge limitations for point source discharges.

A. **<u>The Mixing Zone and Dilution Policy applicable to all surface waters of the Tribe is as follows:</u>**

(1). Mixing Zones

(a) Where justified based on site-specific considerations and where the discharge does not mix at a near instantaneous and complete rate, mixing zones may be designated. Mixing zones are not authorized for discharges to lakes, reservoirs, and wetlands. Each mixing zone will be developed on a case-by-case basis to protect the most sensitive designated use, consistent with the latest EPA guidance. Individual mixing zones may be limited or denied when the following concerns in the area affected by the discharge have been considered:

(i) Bioaccumulation in fish tissues or wildlife;
(ii) biologically important areas such as fish spawning/nursery areas or segments with occurrences of federally listed threatened or endangered species;
(iii.) low acute to chronic ratio;
(iv.) potential human exposure to pollutants resulting from drinking water or recreational activities;
(v.) attraction of aquatic life to effluent plume;
(vi.) toxicity/persistence of the substance discharged;
(vii.) zone of passage for migrating fish or other species (including access to tributaries), and
(viii.) cumulative effects of multiple discharges and mixing zones (e.g., on a watershed scale, mixing zones should not total more than 10% of all river/stream miles).

(b) Effluent limits will be assigned consistent with mixing zone size limits determined by field study, an appropriate mixing model, or other defensible method.

(c) Chronic mixing zones shall not exceed one-half of the cross-sectional area or a length ten times the stream width at critical low flow, whichever is more limiting. Mixing zones for chemical-specific acute criteria, or zones of initial dilution, may not exceed 10% of the chronic mixing zone volume or flow. Mixing zones for purposes of developing acute whole effluent toxicity effluent limitations are not authorized.

(d) Narrative Water Quality Criteria defined in Section 1.3.5 A. (1), (2), (3), and (5) are applicable with mixing zones.

(2). Dilution Allowances

(a). For discharges to rivers and streams where it is reasonable to conclude that the discharge mixes in near instantaneous and complete manner, a dilution allowance equal to or less than the critical low flows identified in Part IX 1.9.1(6) may be provided for purposes of developing acute and chronic chemical-specific and whole effluent toxicity effluent limitations. For minor POTW's where the discharge does not mix in a near instantaneous and complete manner, such dilution allowances may also be provided for purposes of developing acute whole effluent toxicity effluent limitations. For intermittent discharges, such as lagoon facilities that discharge during high ambient flow, the stream flow to be used in the mixing zone analysis should be the lowest flow expected to occur during the period of discharge.

(b). Near instantaneous and complete mixing may be assumed where the mean daily flow of the discharge exceeds the critical low flow of the receiving water, or where an effluent diffuser has been installed. In all other cases where instantaneous and complete mixing is assumed, a defensible basis will be included in the statement of basis for the permit. For purposes of field mixing studies, near instantaneous and complete mixing is defined as no more than 10% difference in bank-to-bank concentrations within a longitudinal distance not greater than 2 stream/river widths.

(3). Other Considerations

(a) Where dilution flow is not available at critical conditions, the discharge limits will be based on achieving applicable water quality criteria at the end-of-pipe, and neither a mixing zone or an allowance for dilution will be provided.

(b) All mixing zone dilution assumptions are subject to review and revisions as information on the nature and impacts of the discharge becomes available (e.g., chemical and biological monitoring in the mixing zone boundary). Where justified, the discharger may be required to conduct in-stream monitoring to verify that mixing zone restrictions are being achieved. At a minimum, mixing zone and dilution decisions are subject to review and revision along with all other aspects of the discharge permit upon expiration of the permit.

(c) For certain pollutants (e.g., ammonia, dissolved oxygen, metals) that may exhibit increased toxicity or other effects on water quality after dilution and complete mixing with receiving waters is achieved, the wasteload allocation shall address such toxicity or other effect on water quality as necessary to fully protect beneficial uses (i.e., the point of compliance may be something other than the mixing zone boundary or the point where complete mixing is achieved).

Dilution allowances shall be developed considering guidance issued by EPA, including the EPA Region VIII Mixing Zone and Dilution Policy. Critical low flows for use in developing dilution allowances are specified in the Tribe's critical conditions policy.

1.5.2 Narrative Toxic Standards Implementation (Reserved)

Note: Narrative toxic standards will be developed as part of the mixing zone policy and will be prepared accordingly. Procedures will address various mechanisms used to implement water quality-based controls (chemical-specific, and biological standards components), as well as how these mechanisms will be integrated to protect designated uses. Implementation is expected to follow EPA guidance documents and 40 CFR 131.11 (a)(2).

PART VI. COMPLIANCE WITH STANDARDS

1.6.1 Investigation of Reported or Suspected Non Compliance

The Department will forthwith investigate compliance with the standards and criteria for surface water quality and other provisions contained in these rules whenever it:

(1). Receives notice of a suspected exceedance or the written request of any person to investigate and take action upon any suspected violation of any requirement hereunder;

(2). possesses reliable information, as a result of Department sampling or otherwise, giving the Department reason to believe that an exceedance of these standards or criteria has occurred or that a water body or segment thereof has been, or may be, degraded.

PART VII. COMPLIANCE PROCEDURES, REQUIREMENTS, AND ORDERS (RESERVED)

Until such time as a Tribal Water Quality Management Ordinance is adopted for the Northern Cheyenne Reservation this section shall be consistent with procedures in the Tribal Administrative Procedures Ordinance, Part II, Section 3.

PART VIII. 401 CERTIFICATION

1.8.1 Introduction

Section 401 of the Federal Water Pollution Control Act (Clean Water Act or CWA) requires that applicants for a Federal license or permit relating to any activity which may result in any discharge into navigable waters (i.e., waters of the United States) shall obtain a certification from the responsible governmental authority that such discharge will comply with the applicable provisions of sections 301, 302, 303, 306, and 307 of the Clean Water Act.

1.8.2 Purpose

The purpose of this regulation is to establish procedures for application, public notice and hearing in relation to the processing of applications for certification required by section 401 of the CWA.

1.8.3 Definitions

In this Part, the following terms have the meanings indicated below:

(1). "Applicant" for purposes of the CWA, 401 certification means any person who applies for a license or permit issued by an agency of the federal government to conduct an activity that may result in a discharge of a pollutant to Reservation surface waters or wetlands.

(2). "Certification" means a letter of approval, denial or approval with conditions of an application for certification issued by the Environmental Protection Department of the Northern Cheyenne Tribe.

(3). The definitions of other terms used in these regulations shall be consistent with those used in Tribal Administrative Procedures Ordinance , the Federal Clean Water Act and its implementing regulations. In the case of ambiguity, words will be given their ordinary meaning.

1.8.4 Authority to Act

A certification, certification with conditions, or denial of certification with conditions or alternatives shall be issued in letter form, but must be assigned a docket number and retained as a part of the Department's official records. Such letters must be signed by a duly authorized agency official which for purposes of this rule includes the head of the Environmental Protection Department or persons duly authorized to act for him/her in his/her absence.

1.8.5 Application

(1). No discharge of pollutants or construction of any facility which may precipitate a discharge of pollutants to Reservation surface waters, including wetlands, may commence without first obtaining a written certification of such discharge as described herein.

(2). Application for certification may be made upon a form supplied by the Environmental Protection Department or in any manner which adequately and accurately describes the applicant's name and address, a description of the proposed point source or activity, its volume, biological, chemical, physical and radiological characteristics, a description of the existing environmental conditions at the site of the proposed discharge, its location and duration and extent of the proposed discharge. The applicant shall also supply the Department with the size of the area potentially affected, the location or locations at which the discharge may enter Reservation waters and any environmental impact assessment, information, maps and/or photographs provided to any licensing or permitting agency, the date or dates of the proposed activity's inception and termination, a description of the methods proposed to monitor the quality and characteristics of the discharge and operation of the facility from which the discharge will originate and a description of the functions and operation of the activity and any practices proposed to minimize or treat pollutants or other effluent which may be discharged into Reservation waters.

(3). In cases where a CWA 402 permit application has been made to the U.S. Environmental Protection Agency or a CWA 404 permit application has been made to the U.S. Army Corps of Engineers, the applicant may submit a complete copy of that permit application to the Environmental Protection Department in lieu of subsection (2) above, but may be requested by the Department to supply such additional information as may be reasonably required to afford it sufficient information to make a certification decision in conformity with the Clean Water Act.

(4). Upon receipt of an application for certification, the Department shall make a record of the date of its receipt. If upon examination the application is found to be defective or incomplete, it will promptly be returned to the applicant for correction or completion, and the date and reasons for the return shall be marked on a copy of the application and made of record in Department files. The applicant shall be notified of the deficiencies by certified mail within 30 days of receipt of the application. The applicant shall have another 30 days from notification of the incomplete application to supply complete information to the Division or face rejection of the application. If no response or a grossly inadequate response is received by the Department, the application shall be deemed to have been withdrawn by the applicant. In addition, an untimely response may not be considered by the Department although any applicant may reapply for certification at any time.

(5). Within thirty (30) days of submission of a complete application and supporting scientific and technical information to the Department for review by a duly authorized board or commission, the Department may either grant, deny, or grant with conditions the application for 401 certification. Response from the duly authorized board or commission to the submitted application may be extended an additional forty-five (45) days upon determination that the time provided is insufficient to carry out consultation and technical review of an application.

(6). If the Department accepts the application and later determines that additional information is required before a certification decision can be made, such information may be required at a later date without rejecting the application. Once a complete application for certification is received by the Department, it shall be granted, denied or granted with conditions or alternatives.

(7). The Department shall issue a statement of its reasons for denial of certification in writing to the applicant and such statement shall be made a part of the Department's official record with regard to the application.

(8). The Department's decision as to any complete application for certification shall constitute an "agency action" within the meaning of the Tribal Administrative Procedures Ordinance and may be appealed according to the terms of that Ordinance. Any person aggrieved by the Department's final determination with respect to grant, denial of grant or grant of certification with conditions or alternatives may be appealed as set forth in the Tribal Administrative Procedures Ordinance.

1.8.6 Public Notice and Public Hearings

Public notice of an application shall be performed in relation to all applications, as follows:

(1). By mailing notice of the application for certification to persons and organizations who have requested the same and to all others deemed appropriate.

(2). When determined by the Department as necessary to protect the public interest, by publication of notice as set out in the Tribal Administrative Procedures Ordinance. However, certification action shall not be construed to constitute rulemaking proceedings for any other purpose. The publication shall be made on a form approved by the Department, as appropriate, and the applicant shall arrange for publication and bear the cost of such publication and provide an affidavit of publication to the Department.

(3). Any person desiring to present views on an application in relation to water pollution control considerations shall do so by providing the same in writing to the Department, whichever is identified in the last published notice, or such longer period of time as the Department may determine. In cases where the Department has elected to seek public comment on an application, no application may be deemed complete until the public comment period and hearing, if any, has been completed.

(4). If the Department determines there is sufficient public interest in any application, a public hearing for the informal submission of informal oral or written testimony may be held. When this determination is made before notice of application as set out at (1), the notice shall include the time and place of the hearing. Otherwise, a separate notice of public hearing shall be made and such notice shall be distributed and published in the manner provided above, at the sole expense of the applicant. In addition, it shall be the applicant's responsibility to obtain Departmental approval of all notices referenced herein and to arrange for publication of same.

PART IX. STANDARDS IMPLEMENTATION

1.9.1 Requirements

(1). All federal licenses and permits, such as permits for wastewater discharges issued under the National Pollution Discharge Elimination System (NPDES), shall be conditioned in such a manner as to authorize only activities that will not cause violations of these water quality standards. For new standards, revised standards that have become more stringent, or new interpretations of existing standards, schedules of compliance may be included in such permits where appropriate. Compliance schedules will be developed considering guidance issued by the EPA.

(2). These water quality standards apply to all waters affected by nonpoint sources of pollution. At this time , the Tribe intends to rely on voluntary compliance for activities which result in nonpoint sources of pollution but do not require a federal license or permit. All appropriate combinations of individual best management practices should be applied to avoid violation of tribal water quality standards.

(3). Until such time as the Tribe receives eligibility to implement Section 402 of the Clean Water Act, discharge permits will be issued by the EPA to comply with the Tribal water quality standards. All discharge permit applications will be reviewed by both the Tribe and EPA. The Tribe has the authority to deny certification of any discharge into reservation waters as described in paragraph 5 of this section if the Tribe determines that the proposed discharge would cause violation of the Tribal water quality standards.

The Tribe will assist with compliance inspection of all permitted facilities on the Reservation. Inspection results will be submitted to the EPA for review of compliance. The EPA will also have the responsibility of enforcing NPDES permit violations. However, under the Clean Water Act the Tribe may initiate citizen suits pursuant to section 505 against the EPA or the permittee to correct permit violations.

(4). The Tribe reserves the right to identify, in a water quality certification, specific water quality standards implementation methods to be used in developing water quality-based point and nonpoint source control requirements. All Controls shall be developed using technically-defensible methods such as those described in EPA guidance documents. These water quality standards will serve as the basis for any § 303(d) total maximum daily loads (TMDLs) developed for Tribal waters.

(5). All activities which require a federal license or permit on the Reservation are subject to certification by the Tribe consistent with § 401 of the Clean Water Act. In Implementing this authority, and depending upon specific facts, the Tribe may decide to certify unconditionally, deny certification, or certify with conditions. Conditional certifications shall specify water quality protective conditions, best management practices, or monitoring requirements that must be implemented by the applicant. Where the Tribe determines that the conditions specified in a certification are not being implemented, or that an activity for which a certification was previously issued is causing a violation or contributing to a violation of the Tribal water quality standards, the Tribe may suspend or revoke a certification pending corrective actions by the applicant, deny certification upon expiration and reissuance of the permit, or initiate a citizen suit consistent with CWA § 505.

(6). Critical Conditions Policy

(a.) For purposes of determining water quality based control requirements for point source discharges, critical conditions shall be determined consistent with the policy and procedure described below, where a steady state modeling approach is used. Where seasonal controls are appropriate, critical conditions shall be determined based on seasonal characteristics of the receiving water and pollution source. Other exceptions may be granted where a technically sound reason to use an alternative method is developed and approved by the Department (e.g. where a dynamic or continuous simulation modeling method is used). Critical conditions shall be representative of conditions upstream from the point where the discharge exists.

(i.) Stream Flow[1]

Aquatic life, Chronic	4-day, 3-year flow (biologically based)
Aquatic life, acute	1-day, 3-year flow (biologically based)
Human health (carcinogens)	Harmonic mean flow
Human health (non-carcinogens)[2]	4-day,3-year flow (biologically based) or
Human health (non-carcinogens)	1-day, 3-year flow (biologically based)

(ii) Effluent Flows

Aquatic life, Chronic	Mean daily flow
Aquatic life, acute	Maximum daily flow
Human health (all)	Mean daily flow

(iii) Temperature and pH (for effluent and receiving waters)
80th percentile of all samples that are representative of the site.

(iv) Hardness (for effluent and receiving waters)
20th percentile of all samples that are representative of the site.

(v) Ambient Quality
Dissolved Oxygen – the 20th percentile of all samples that are representative of the site.
Fecal Coliform – the geometric mean of available data.
Others – the 80th percentile of all samples that are representative of the site.

[1]Application of these low flows in determining dilution assumptions is subject to application of the Tribe's mixing zone and dilution policy.
[2]For human health non-carcinogens, a distinction is made between parameters that typically have an effect after prolonged exposure(e.g. copper) and those that have more of an immediate effect(e.g. nitrate). The chronic aquatic life flow shall be used for the longer-lasting parameters and the acute aquatic life flow for the shorter-acting parameters.

APPENDIX A

TRIBAL NUMERIC CRITERIA CHARTS

NORTHERN CHEYENNE TRIBE

Numeric Water Quality Standards Chart for Priority Pollutants

(Footnotes A-O)

Priority Pollutants	CASRN	Freshwater-Aquatic Life:		Human Health for Consumption of:	
		ACUTE (CMC) (µg/L)	CHRONIC (CCC) (µg/L)	Water + Organism (µg/L)	Organism only (µg/L)
1. Antimony	74403060			5.6	640
2. Arsenic	7440382	340 [A]	150 [A]	0.018 [B,L]	0.14 [B,L]
3. Beryllium	7440417			[F]	[F]
4. Cadmium	7440439	2.0	0.27 [C,P]	[F]	[F]
5a. Chromium III	16065831	1804 [C,P]	74 [C,P]	[F]	[F]
5b. Chromium VI	18540299	16 [P]	11 [P]	[F]	[F]
6. Copper	7440508	13 [C,N,P]	9.0 [C,N,P]	1,300	
7. Lead	7439921	82 [C,P]	3.2 [C,P]	[F]	[F]
8. Mercury	7439976	1.7 [O,P]	0.012 [O,P]	0.050	0.051
9. Nickel	7440020	470 [C,P]	52 [C,P]	610	4,600
10. Selenium	7782492	[G]	5.0	170	4,200
11. Silver	7440224	4.1 [C,E,P]	0.12 [P]		
12. Thallium	7440280			0.24	0.47
13. Zinc	7440666	120 [C,P]	120 [C,P]	7,400	26,000
14. Cyanide	57125	22 [K,P]	5.2 [K,P]	140	140
15. Asbestos	1332214			7 million fibers/L	
16. 2,3,7,8-TCDD Dioxin	1746016			$5.0\ E^{-9}$ [B]	$5.1\ E^{-9}$ [B]
17. Acrolein	107028			190	290
18. Acrylonitrile	107131			.051 [B]	.25 [B]
19. Benzene	71432			2.2 [B]	51 [B]
20. Bromoform	75252			4.3 [B]	140 [B]
21. Carbon Tetrachloride	56235			0.23 [B]	1.6 [B]
22. Chlorobenzene	108907			130	1,600
23. Chlorodibromomethane	124481			0.40 [B]	13 [B]
24. Chloroethane	75003				
25. 2-Chloroethylvinyl Ether	110758				
26. Chloroform	67663			5.7 [B]	470 [B]
27. Dichlorobromomethane	75274			0.55 [B]	17 [B]
28. 1,1-Dichloroethane	75343				
29. 1,2-Dichloroethane	107062			.38 [B]	37 [B]
30. 1,1-Dichloroethylene	75354			330 [B]	7,100 [B]
31. 1,2-Dichloropropane	78875			0.50 [B]	15 [B]

Priority Pollutants	CASRN	Freshwater-Aquatic Life:		Human Health for Consumption of:	
		ACUTE (CMC) (µg/L)	CHRONIC (CCC) (µg/L)	Water + Organism (µg/L)	Organism only (µg/L)
32. 1,3-Dichloropropene	542756			0.34	21
33. Ethylbenzene	100414			530	2,100
34. Methyl Bromide	74839			47	1,500
35. Methyl Chloride	74873			[F]	[F]
36. Methylene Chloride	75092			4.6 [B]	590 [B]
37. 1,1,2,2-Tetrachloroethane	79345			0.17 [B]	4.0 [B]
38. Tetrachloroethylene	127184			0.69 [B]	3.3 [B]
39. Toluene	108883			1,300	15,000
40. 1,2-Trans-Dichloroethylene	156605			140	10,000
41. 1,1,1-Trichloroethane	71556			[F]	[F]
42. 1,1,2-Trichloroethane	79005			0.59 [B]	16 [B]
43. Trichloroethylene	79016			2.5 [B]	30 [B]
44. Vinyl Chloride	75014			0.025 [B]	2.4 [B]
45. 2-Chlorophenol	95578			81	150
46. 2,4-Dichlorophenol	120832			77	290
47. 2,4-Dimethylphenol	105679			380	850
48. 2-Methyl-4,6-Dinitrophenol	534521			13	280
49. 2,4-Dinitrophenol	51285			69	5,300
50. 2-Nitrophenol	88755				
51. 4-Nitrophenol	100027				
52. 3-Methyl-4-Chlorophenol	59507				
53. Pentachlorophenol	87865	19 [D]	15 [D]	0.27 [B]	3.0 [B]
54. Phenol	108952			21,000	1,700,000
55. 2,4,6-Trichlorophenol	88062			1.4 [B]	2.4 [B]
56. Acenaphthene	83329			670	990
57. Acenaphthylene	208968				
58. Anthracene	120127			8,300	40,000
59. Benzidine	92875			0.000086 [B]	0.00020[B]
60. BenzoaAnthracene	56553			0.0038 [B]	0.018 [B]
61. BenzoaPyrene	50328			0.0038 [B]	0.018 [B]
62. BenzobFluoranthene	205992			0.0038 [B]	0.018 [B]
63. BenzoghiPerylene	191242				
64. BenzokFluoranthene	207089			0.0038 [B]	0.018 [B]
65. Bis2-ChloroethoxyMethane	111911				
66. Bis2-ChloroethylEther	111444			0.030 [B]	0.53 [B]
67. Bis2-ChloroisopropylEther	108601			1,400	65,000
68. Bis2-EthylhexylPhthalate x	117817			1.2 [B]	2.2 [B]
69. 4-Bromophenyl Phenyl Ether	101553				
70. Butylbenzyl Phthalate w	85687			1,500	1,900

Priority Pollutants	CASRN	Freshwater-Aquatic Life:		Human Health for Consumption of:	
		ACUTE (CMC) (µg/L)	CHRONIC (CCC) (µg/L)	Water + Organism (µg/L)	Organism only (µg/L)
71. 2-Chloronaphthalene	91587			1,000	1,600
72. 4-Chlorophenyl Phenyl Ether	7005723				
73. Chrysene	218019			0.0038 [B]	0.018 [B]
74. Dibenzoa,hAnthracene	53703			0.0038 [B]	0.018 [B]
75. 1,2-Dichlorobenzene	95501			420	1,300
76. 1,3-Dichlorobenzene	541731			320	960
77. 1,4-Dichlorobenzene	106467			63	190
78. 3,3-Dichlorobenzidine	91941			0.021 [B]	0.028 [B]
79. Diethyl Phthalate w	84662			17,000	44,000
80. Dimethyl Phthalate w	131113			270,000	1,100,000
81. Di-n-Butyl Phthalate w	84742			2,000	4,500
82. 2,4-Dinitrotoluene	121142			0.11 [B]	3.4 [B]
83. 2,6-Dinitrotoluene	606202				
84. Di-n-Octyl Phthalate	117840				
85. 1,2-Diphenylhydrazine	122667			0.036 [B]	0.20 [B]
86. Flouranthene	206440			130	140
87. Flourene	86737			1,100	5,300
88. Hexachlorobenzene	118741			0.00028 [B]	0.00029 [B]
89. Hexachlorobutadiene	87683			0.44 [B]	18 [B]
90. Hexachlorocyclopentadiene	77474			40	1,100
91. Hexachloroethane	67721			1.4 [B]	3.3 [B]
92. Ideno 1,2,3-cdPyrene	193395			0.0038 [B]	0.018 [B]
93. Isophorone	78591			35 [B]	960 [B]
94. Naphthalene	91203				
95. Nitrobenzene	98953			17	690
96. N-Nitrosodimethylamine	62759			0.00069 [B]	3.0 [B]
97. N-Nitrosodi-n-Propylamine	621647			0.005 [B]	0.51 [B]
98. N-Nitrosodiphenylamine	86306			3.3 [B]	6.0 [B]
99. Phenanthrene	85018				
100. Pyrene	129000			830	4,000
101. 1,2,4-Trichlorobenzene	120821			35	70
102. Aldrin	309002	3.0 [E]		0.000049 [B]	0.000050[B]
103. alpha-BHC	319846			0.0026 [B]	0.0049 [B]
104. beta-BHC	319857			0.0091 [B]	0.017 [B]
105. gamma-BHC (Lindane)	58899	0.95		0.98 [B]	1.8 [B]
106. delta-BHC	319868				
107. Chlordane	57749	2.4 [E]	0.0043 [E]	0.00080	0.00081

Priority Pollutants	CASRN	Freshwater-Aquatic Life:		Human Health for Consumption of:	
		ACUTE (CMC) (µg/L)	CHRONIC (CCC) (µg/L)	Water + Organism (µg/L)	Organism only (µg/L)
108. 4,4-DDT	50293	1.1 [E]	0.001 [E]	0.00022 [B]	0.00022 [B]
109. 4,4-DDE	72559			0.00022 [B]	0.00022 [B]
110. 4,4-DDD	72548			0.00031 [B]	0.00031 [B]
111. Dieldrin	60571	0.24	0.056 [I]	0.000052 [B]	0.000054[B]
112. alpha-Endosulfan	959988	0.22 [E,M]	0.056 [E,M]	62	89
113. beta-Endosulfan	33213659	0.22 [E,M]	0.056 [E,M]	62	89
114. Endosulfan Sulfate	1031078			62	89
115. Endrin	72208	0.086	0.036 [I]	0.059	0.060
116. Endrin Aldehyde	7421934			0.29	0.30
117. Heptachlor	76448	0.52 [E]	0.0038 [E]	0.000079 [B]	0.000079[B]
118. Heptachlor Epoxide	1024573	0.52 [E]	0.0038 [E]	0.000039 [B]	0.000039[B]
119. Polychlorinated Biphenyls PCB's			0.014 [H]	0.000064 [B,J]	0.000064 [B,J]
120. Toxaphene	8001352	0.73	0.0002	0.00028 [B]	0.00028 [B]

Priority Footnotes:

A. Applies to total arsenic.

B. Based on carcinogenicity of 10^{-6} risk.

C. Freshwater Aquatic life Standards for these metals are expressed as a function of total hardness (mg/L, $CaCO_3$). The values displayed in the chart correspond to a total hardness of 100 mg/L. The hardness relationship is as follows:

Acute = exp {ma [ln (hardness)] + ba} Chronic = exp {mc [ln (hardness)] + bc}

	ma	ba	mc	bc
Cadmium	1.0166	-3.924	0.7409	-4.719
Copper	0.9422	-1.700	0.8545	-1.702
Chromium III	0.8190	3.7256	0.8190	.6848
Lead	1.273	-1.460	1.273	-4.705
Nickel	0.8460	2.255	0.8460	.0584
Silver	1.72	-6.52	--------	--------
Zinc	0.8473	0.884	0.8473	0.884

Note: If the hardness is greater than or equal to 400 mg/L of $CaCO_3$, 400 mg/L will be used in the calculation.

D. Freshwater Aquatic Life values for pentachlorophenol are expressed as a function pH, and are calculated as follows: Acute CMC = exp [1.005 (pH) – 4.869]; Chronic CCC=exp [1.005 (pH) – 5.134]. Values displayed in table correspond to a pH of 7.8.

E. If assessment is to be done using an averaging period; the values should be divided by 2.

F. EPA has not calculated a human health criterion for this contaminant. However, permit authorities should address this contaminant in NPDES permit actions using the Tribe's existing narrative criteria for toxics. (see MCLs)

G. The CMC=1/[(f1/CMC)+(f2/CMC2)] where f1 and f2 are the fractions of total selenium that are treated as selenite and selenate, respectively, and CMC1 and CMC2 are 186 µg/l and 13 µg/l, respectively.

H. PCB's are a class of chemicals which include all aroclors.

I. The derivation of the chronic (CCC) standard for this pollutant did not consider exposure through the diet, which is probably important for aquatic life occupying upper tropic levels.

J. This standard applies to total PCBs.

K. This water quality standard is expressed as µg free cyanide (as CN)/L.

L. This water quality standard refers to the inorganic form only.

M. This standard was derived from data for endosulfan and is most appropriately applied to the sum of alpha-endosulfan and beta-endosulfan.

N. Under conditions of high dissolved organic carbon, copper is substantially less toxic and the Tribe will consider use of the Water Effect-Ratio.

O. EPA Region 8 recommends adopting this CCC value for Mercury while maintaining the existing Human Health values, as an interim step until EPA completes Guidance for implementation of the fish tissue value (0.3 mg/kg) for the protection of human health. This CCC value should be protective of Human Health for fish consumption.

P. The numeric water quality standards for metals are expressed as the total recoverable form of the metal.

Northern Cheyenne Tribe
Numeric Water Quality Standards Chart For Non-Priority Pollutants

(Footnotes A-B)

Non-Priority Pollutants	CASRN	Freshwater-Aquatic Life:		Human Health for Consumption of:	
		ACUTE (CMC) (µg/L)	CHRONIC (CCC) (µg/L)	Water + Organism (µg/L)	Organism only (µg/L)
1. Alkalinity			20,000		
2. Aluminum pH 6.5-9.0	7429905	750 [A]	87 [A,B]		
3. Ammonia	7664417	See Ammonia Table			
4. Aesthetic Qualities **		See Narrative standards			
5. Bacteria	See Physical and Biological Criteria Table				
6. Barium	7440393			1,000	
7. Boron**		See Narrative standards			
8. Chloride	16887006	860,000	230,000		
9. Chlorine	7782505	19	11		
10. Chlorophenoxy Herbicide 2,4,5-TP	93721			10	
11. Chlorophenoxy Herbicide 2,4-D	94757			100	
12. Chloropyrifos	2921882	0.083	0.041		
13. Color **					
14. Demeton	8065483		0.1		
15. Ether, Bis Chloromethyl	542881			0.00010	0.00029
16. Gases, Total Dissolved **		See Narrative Standards			
17. Guthion	86500		0.01		
18. Hardness**		See Narrative standards			
19. Hexachlorocyclo-hexane-Technical	319868			0.0123	0.0414
20. Iron	7439896		1,000	300	
21. Malathion	121755		0.1		
22. Manganese	7439965			50	100
23. Methoxychlor	72435		0.03	100	
24. Mirex	2385855		0.001		
25. Nitrates	14797558			10,000	
26. Nitrosamines				0.0008	1.24
27. Dinitrophenols	25550587			69	5,300
28. Nitrosodibutylamine, N	924163			0.0063	0.22
29. Nitrosodiethylamine, N	55185			0.0008	1.24
30. Nitrosopyrrolidine, N	930552			0.016	34
31. Oil and Grease**		See Narrative Standards			
32. Oxygen, Dissolved	7782447	See Oxygen Table			
33. Parathion	56382	0.065	0.013		
34. Pentachlorobenzene	608935			1.4	1.5

Priority Pollutants	CASRN	Freshwater-Aquatic Life:		Human Health for Consumption of:	
		ACUTE (CMC) (µg/L)	CHRONIC (CCC) (µg/L)	Water + Organism (µg/L)	Organism only (µg/L)
35. pH		6.5-9.0	6.5-9.0	5.0-9.0	
36. Phosphorus Total**	7723140	See Narrative Standards			
37. Phosphate Phosphorous**		See Narrative Standards			
38. Solids Dissolved (TDS) and Salinity**		See Narrative Standards		250,000	
39. Solid Suspended (TSS) &/or Turbidity**		See Narrative Standards			
40. Sulfide-Hydrogen Sulfide	7783064		2.0		
41. Tainting Substances**					
42. Temperature	See Physical and Biological Criteria Table – Appendix D				
43. Tetrachlorobenzene, 1,2,4,5-	95943			0.97	1.1
44. Tributyltin TBT		0.46	0.072		
45. Trichlorophenol, 2,4,5-	95954			1,800	3,600
46. Clean Sediment**		See Narrative Standards			
47. Contaminated Sediment**		See Narrative Standards			

Non-Priority Pollutant Footnotes:

**See Narrative Standards.

A. This value is expressed in terms of total recoverable metal in the water column.

B. The use of Water-Effect Ratios might be appropriate at pH values greater than 7.0 and moderate to high hardness. Supporting data indicated that aluminum is substantially less toxic at higher pH and hardness, but the effects of pH and hardness are not well quantified at this time.

Freshwater Aquatic Life Standards for *dissolved oxygen* are as follows:

Standards for Waters Designated Cold, Cool, and Warm

	Early Life Stages[1,2]	Other Life Stages	Early Life Stages[2]	Other Life Stages
30 Day Mean	N/A[3]	6.5	N/A	5.5
7 Day Mean	9.5 (6.5)	N/A	6.0	N/A
7 Day Mean Minimum	N/A	5.0	N/A	4.0
1 Day Minimum [4]	8.0 (5.0)	4.0	5.0	3.0

1. These are water column concentrations to achieve the required inter-gravel dissolved oxygen concentrations shown in parentheses. For species that have early life stages exposed directly to the water column, the figures in parentheses apply.
2. Includes all embryonic and larval stages and all juvenile forms to 30-days following hatching.

3. N/A (Not Applicable)
4. All minima should be considered as instantaneous concentrations to be achieved at all times.

Freshwater Aquatic Life Standards for *total ammonia* (mg/l NH_3-N plus NH_4-N) are expressed as a function of pH and temperature. Because these formulas are non-linear in pH and temperature, the standard is the average of separate evaluations of the formulas reflective of the fluctuations of flow, pH, and temperature within the averaging period; it is not appropriate to apply the formula to average pH, temperature and flow.

1. Acute Criteria

(a). The one-hour average concentration of total ammonia nitrogen (in mg N/L) can not exceed, more than once every three years on the average, the CMC (acute criterion) calculated as follows.

Where salmonid fish are present:

$$\mathbf{CMC} = \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$$

Or where salmonid fish are not present:

$$\mathbf{CMC} = \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$$

2. Chronic Criteria

(a). The thirty-day average concentration of total ammonia nitrogen (in mg N/L) can not exceed, more than once every three years on the average, the CCC (chronic criterion) calculated as follows.

When fish early life stages[1] are present:

$$\mathbf{CCC} = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) \mathbf{X\ MIN}\ (2.85,\ 1.45 \times 10^{0.028 \times (25 - T)})$$

When fish early life stages[1] are absent:

$$\mathbf{CCC} = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) \mathbf{X}\ (1.45 \times 10^{0.028 \times (25 - MAX\ (T,7))})$$

[1] Includes all embryonic and larval stages and all juvenile forms of fish to 30-days following hatching.

Note: In addition, the highest four-day average within the 30-day period should not exceed 2.5 times the CCC.

For temperature (T) and pH conditions not expressed in Tables 1 and 2 below, ammonia toxicity criteria can be calculated using the equations above.

Ammonia Toxicity Criteria for Aquatic Life

The ammonia toxicity criteria in the tables below are expressed in milligrams ammonia nitrogen per liter (mg N/L) and vary with temperature and pH. The criteria vary with presence/absence of salmonid fishes and fish life stages as well.

Table 1.

PH-Dependent Values of the CMC (Acute Criterion) Ammonia Standard.

CMC, Total Ammonia nitrogen (mg/l NH_3-N plus NH_4-N)		
pH	Salmonids Present	Salmonids Absent
6.5	32.6	48.8
6.6	31.3	46.8
6.7	29.8	44.6
6.8	28.1	42.0
6.9	26.2	39.1
7.0	24.1	36.1
7.1	22.0	32.8
7.2	19.7	29.5
7.3	17.5	26.2
7.4	15.4	23.0
7.5	13.3	19.9
7.6	11.4	17.0
7.7	9.65	14.4
7.8	8.11	12.1
7.9	6.77	10.1
8.0	5.62	8.40
8.1	4.64	6.95
8.2	3.83	5.72
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0	0.885	1.32

Table 2.

Temperature and pH-Dependent Values of the CCC (Chronic Criterion) For Fish Early Life Stages Present

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

Temperature and pH-Dependent Values of the CCC (Chronic Criterion) For Fish Early Life Stages Absent

CCC for Fish Early Life Stages Absent, mg N/L										
	Temperature, C									
pH	0-7	8	9	10	11	12	13	14	15*	16*
6.5	10.8	10.1	9.51	8.92	8.36	7.84	7.35	6.89	6.46	6.06
6.6	10.7	9.99	9.37	8.79	8.24	7.72	7.24	6.79	6.36	5.97
6.7	10.5	9.81	9.20	8.62	8.08	7.58	7.11	6.66	6.25	5.86
6.8	10.2	9.58	8.98	8.42	7.90	7.40	6.94	6.51	6.10	5.72
6.9	9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33	5.93	5.56
7.0	9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11	5.73	5.37
7.1	9.20	8.63	8.09	7.58	7.11	6.67	6.25	5.86	5.49	5.15
7.2	8.75	8.20	7.69	7.21	6.76	6.34	5.94	5.57	5.22	4.90

7.3	8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25	4.92	4.61
7.4	7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89	4.59	4.30
7.5	7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51	4.23	3.97
7.6	6.46	6.05	5.67	5.32	4.99	4.68	4.38	4.11	3.85	3.61
7.7	5.81	5.45	5.11	4.79	4.49	4.21	3.95	3.70	3.47	3.25
7.8	5.17	4.84	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89
7.9	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	2.71	2.54
8.0	3.95	3.70	3.47	3.26	3.05	2.86	2.68	2.52	2.36	2.21
8.1	3.41	3.19	2.99	2.81	2.63	2.47	2.31	2.17	2.03	1.91
8.2	2.91	2.73	2.56	2.40	2.25	2.11	1.98	1.85	1.74	1.63
8.3	2.47	2.32	2.18	2.04	1.91	1.79	1.68	1.58	1.48	1.39
8.4	2.09	1.96	1.84	1.73	1.62	1.52	1.42	1.33	1.25	1.17
8.5	1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13	1.06	0.990
8.6	1.49	1.40	1.31	1.23	1.15	1.08	1.01	0.951	0.892	0.836
8.7	1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.805	0.754	0.707
8.8	1.07	1.01	0.944	0.885	0.829	0.778	0.729	0.684	0.641	0.601
8.9	0.917	0.860	0.806	0.756	0.709	0.664	0.623	0.584	0.548	0.513
9.0	0.790	0.740	0.694	0.651	0.610	0.572	0.536	0.503	0.471	0.442

* At 15 C and above, the criterion for fish ELS absent is the same as the criterion for fish ELS present

General Notes:

(1) Priority and Non-Priority Pollutants are based on EPA's categories and include parameters determined to be toxic (toxin), carcinogenic (carcinogen), or harmful. Harmful parameters include nutrients, biological agents, and those parameters that cause taste and/or odor effects or physical effects.

(2) Carcinogens: chemicals classified by EPA as carcinogens for an oral route of exposure; Standards are based upon the incremental risk of causing one additional instance of cancer in one million persons. Includes those parameters in classifications A (Human Carcinogen), B1 or B2 (Probable Human Carcinogens), and C (Possible Human Carcinogen). For priority and non priority pollutants, values for carcinogens are calculated at a 10^{-6} risk level.

(3) Chronic Standards, based on 30 day average concentration, shall not exceed these values. Chronic standards will be evaluated on the basis of all samples taken with in any consecutive 30-day period. It is recommended that a minimum of 3 representative samples be provided.

(4) Radionuclide photon-emitters consisting of either beta or gamma emitters and are classified as carcinogenic. Their associated Standard is based upon a 4 mrem ede/yr exposure. This exposure is based upon daily ingestion of 2 liters of water. The emitters covered under this Standard are:

_Cesium, radioactive
_Iodine, radioactive
_Strontium –89 and –90, radioactive
_Tritium
_Gamma photon emitters

(5) For surface waters the applicable Water Quality Standard is the more restrictive of either the Aquatic Life Standard or the Human Health Standards.

(6) Levels of individual petrochemicals in the water column should not exceed 0.010 of the lowest continuous flow 96-hour LC_{50} to several important fresh water species, each having high susceptibility to oils and petrochemicals.

(7) The ingestion of aquatic organisms is based on the assumption of 6.5 grams of aquatic organisms per day. Where it is shown that consumption is more than 6.5 grams per day, these values must be proportionately lowered. For example, if average consumption equals 13 grams per day then the appropriate standard should be divided by 2.

NCT Numeric Surface Water Maximum Contaminant Level (MCL) Standards Adopted To Protect The Public Water Supply Designated Use

Adopted Public Water Supply Criterion. All concentrations expressed as µg/l, except where noted.

Chemical Name	CASRN	SDWA MCL (1)	Potential Health Effects from Ingestion of Water (2)
Priority Pollutants			
Chlorobenzene	108-90-7	100	Liver, Kidneys
1,2,4-Trichlorobenzene	120-82-1	70	Adrenal Glands
1,1,1-Trichloroethane	71-55-6	200	Liver, nervous system, circulatory system
1,2-Dichlorobenzene	95-50-1	600	Liver, kidneys, circulatory system
1,4-Dichlorobenzene	106-46-7	75	Anemia, liver, kidneys, spleen, blood
1,2-trans-Dichloroethylene	156-60-5	100	Liver
Ethylbenzene	100-41-4	700	Liver, kidneys
Hexachlorocyclopentadiene	77-47-4	50	Kidneys, stomach
Lead	7439-92-1	TT3	Physical/mental development (children), kidney, high blood pressure (adults)
Toluene	108-88-3	1000	Nervous system, kidneys, liver
Antimony	7440-36-0	6	Blood cholesterol, blood sugar
Beryllium	7440-41-7	4	Intestinal lesions
Cadmium	7440-43-9	5	Kidneys
Chromium (total)	7440-47-3	100	Health effects not identified
Cyanide	57-12-5	200	Thyroid
Selenium	7782-49-2	50	Hair, fingernail, numbness, circulatory system
Non-priority Pollutants			
Alachlor	15972-60-8	2	Eye, liver, kidneys, spleen, anemia, cancer
Atrazine	1912-24-9	3	Cardiovascular system, reproductive system
Carbufuran	1563-66-2	40	Blood, nervous system, reproductive system
2,4-D	94-75-7	70	kidney, liver, adrenal glands
Dalapon	75-99-0	200	Kidneys
Di(2-ethylhexyl)adipate	103-23-1	400	reproductive system
Dibromochloropropane	96-12-8	.02	Reproductive system, cancer
Dichloroethylene (cis-1,2-)	156-59-2	70	Liver
Dinoseb	88-85-7	7	Reproductive system
Diquat	85-00-7	20	Cataracts
Endothall	145-73-3	100	Stomach, intestines

Ethylene dibromide (EDB)	106-93-4	0.05	Liver, stomach, reproductive system, kidneys, cancer
Glyphosphate	1071-83-6	700	Kidneys, reproductive system
Methoxychlor	72-43-5	40	Reproductive system
Oxamyl (Vydate)	23135-22-0	20	Nervous system
Picloram	1918-0201	500	liver
Simazine	122-34-9	4	Blood
Styrene	100-42-5	100	Liver, kidneys, circulatory system
Xylenes	1330-20-7	10,000	Nervous system
Fluoride	7782-41-4	4,000	Bone, teeth
Nitrite	14797-65-0	1,000	Methemoglobulinemia
Radiological (in pCi/l, except where noted)			
Alpha emitters	Multiple	15	Cancer
Beta/photon emitters	12587-47-2	4 mrem/y	Cancer
Combined Radium 226 & 228	13982-63-6 15262-20-1	5	Cancer

Notes:

(1) This Column shows published human health criteria based on the Federal Drinking Water maximum contaminant levels (MCLs), which, in most cases assume consumption of 2 liters of water per day. MCLs are the highest level of a contaminant that is allowed in drinking water.

(2) The potential effects are based on consumption of water containing pollutant concentrations that exceed the MCL, in most cases, over many years. The listed effects are consistent with those that drinking water systems must disclose to the public, on an annual basis, where MCL's have been exceeded during the year covered by the report. See 63 Federal Register 44512-44536, 40 CFR Parts 141 and 142, National Primary Drinking Water Regulation: Consumer Confidence Reports, Final Rule, August 19, 1998.

(3) For lead, the MCL requires a Treatment Technology (TT); however, the action level is 15 µg/l.

(4) Potential health effects for nickel are taken from *Is Your Drinking Water Safe?*, EPA 810-F-94-002, May, 1994.

ACRONYMS:

CASRN Chemical Abstracts Service Registry Number

NCT Northern Cheyenne Tribe

SDWA Safe Drinking Water Act

APPENDIX B

Designated Use Table

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek
SEGMENT		Upper Dry Creek	Lower Dry Creek	Spring Gulch	Sheep Gulch	Corral Creek	Mainstem South Reservation Boundary to Corral Creek
Stream Classification	USE						
Class 1 Cold Water	Salmonid Propagation/growth						X
Class 2 Cold Water	Salmonid growth					X	
Class 1 Cool Water	Cool water fish Propagation/growth						
Class 2 Cool Water	Cool water fish Marginal Propagation		X				
Class 1 Warm Water	Warm water fish Propagation/ growth						
Class 2 Warm Water	Warm water fish Marginal propagation/ growth						
Class 1 Aquatic Life other than Fish	Aquatic life propagation/growth						
Class 2 Aquatic Life other than Fish	Aquatic life limited propagation/growth	X		X	X		
Recreation	Full contact						
	Incidental contact	X	X	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X	X
Wetland	Wetland	X		X	X	X	X
OTRW	OTRW						

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek
SEGMENT		Mainstem Confluence Corral Creek to North Reservation Boundary	Skunk Creek	Pine Creek	Upper Trail Creek Headwaters to 1st Reservoir	Lower Trail Creek 1st reservoir to confluence Rosebud Creek	Wolf Creek
Stream Classification	USE						
Class 1 Cold Water	Salmonid Propagation/growth						
Class 2 Cold Water	Salmonid growth						
Class 1 Cool Water	Cool water fish Propagation/growth	X					
Class 2 Cool Water	Cool water fish Marginal propagation						
Class 1 Warm Water	Warm water fish Propagation/growth						
Class 2 Warm Water	Warm water fish marginal Propagation/growth						
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth						
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth		X	X	X	X	X
Recreation	Full contact	X					
	Incidental contact		X	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X	X
Wetland	Wetland	X		X	X	X	
OTRW	OTRW						

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RE SERVATION

WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek	Busby Creek
SEGMENT		East Thompson	Thompson Creek	Dog Creek	Davis Creek	EagleFeathers Creek	Dry Creek
Stream Classification	USE						
Class 1 Cold Water	Salmonid Propagation/growth						
Class 2 Cold Water	Salmonid growth						
Class 1 Cool Water	Cool water fish Propagation/growth				X		
Class 2 Cool Water	Cool water fish marginal propagation		X				
Class 1 Warm Water	Warm water fish Propagation/growth						
Class 2 Warm Water	Warm water fish marginal Propagation/growth						
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X		X		X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth						
Recreation	Full contact						
	Incidental contact	X	X	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X	X
Wetland	Wetland	X					X
OTRW	OTRW						

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Busby Creek	Busby Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek
SEGMENT		East Fork	South Fork	Busby Creek Mainstem	Ash Creek	Deafy Creek	Teeth Creek
Stream Classification	USE						
Class 1 Cold Water	Salmonid Propagation/growth						
Class 2 Cold Water	Salmonid growth						
Class 1 Cool Water	Cool water fish Propagation/growth						
Class 2 Cool Water	Cool water fish marginal propagation						
Class 1 Warm Water	Warm water fish Propagation/growth						
Class 2 Warm Water	Warm water fish marginal Propagation/growth			X	X	X	
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X				X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth						
Recreation	Full contact				X		
	Incidental contact	X	X	X		X	X
Drinking	Conventional Treatment	X	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X	X
Wetland	Wetland						
OTRW	OTRW						

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek
SEGMENT		Dry Fork	Parker Creek	Black Whiteman Creek	Porcupine Creek	East Fork Porcupine Creek	Little Hawk Creek
Stream Classification	USE						
Class 1 Cold Water	Salmonid Propagation/growth						
Class 2 Cold Water	Salmonid growth						
Class 1 Cool Water	Cool water fish Propagation/growth						
Class 2 Cool Water	Cool water fish marginal propagation						
Class 1 Warm Water	Warm water fish Propagation/growth						
Class 2 Warm Water	Warm water fish marginal Propagation/growth						
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth			X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth	X	X				
Recreation	Full contact						
	Incidental contact	X	X	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X	X
Wetland	Wetland		X				
OTRW	OTRW						

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek	Indian Coulee	Indian Coulee
SEGMENT		Butte Creek	North Fork Butte Creek	David Creek	Wood Gulch	Indian Coulee Mainstem	Waterhole Creek
Stream Classification	USE						
Class 1 Cold Water	Salmonid Propagation/growth						
Class 2 Cold Water	Salmonid growth						
Class 1 Cool Water	Cool water fish Propagation/growth						
Class 2 Cool Water	Cool water fish marginal propagation						
Class 1 Warm Water	Warm water fish Propagation/growth						
Class 2 Warm Water	Warm water fish marginal Propagation/growth					X	
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X		X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth						
Recreation	Full contact						
	Incidental contact	X	X	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X	X
Wetland	Wetland					X	
OTRW	OTRW						

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Indian Coulee	Indian Coulee	Indian Coulee	Rosebud Creek	Rosebud Creek	Rosebud Creek
SEGMENT		South Fork	Williams Prong	North Fork	Two Moons Creek	Killsnight Creek	Ridgewalker Creek
Stream Classification	USE						
Class 1 Cold Water	Salmonid Propagation/growth						
Class 2 Cold Water	Salmonid growth						
Class 1 Cool Water	Cool water fish Propagation/growth						
Class 2 Cool Water	Cool water fish marginal propagation						
Class 1 Warm Water	Warm water fish Propagation/growth						
Class 2 Warm Water	Warm water fish marginal Propagation/growth						
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth						
Recreation	Full contact						
	Incidental contact	X	X	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X	X
Wetland	Wetland					X	X
OTRW	OTRW						

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek	Ryegrass Creek
SEGMENT		Little Chief Creek	Black Spring Coulee	Lynch Coulee	Caswell Coulee	Ryegrass Creek Mainstem	West Fork
Stream Classification	USE						
Class 1 Cold Water	Salmonid Propagation/growth						
Class 2 Cold Water	Salmonid growth						
Class 1 Cool Water	Cool water fish Propagation/growth						
Class 2 Cool Water	Cool water fish marginal propagation						
Class 1 Warm Water	Warm water fish Propagation/growth						
Class 2 Warm Water	Warm water fish marginal Propagation/growth						
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X		X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth			X			
Recreation	Full contact						
	Incidental contact	X	X	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X	X
Wetland	Wetland		X	X			X
OTRW	OTRW						

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Ryegrass Creek	Rosebud Creek	Greenleaf Creek	Greenleaf Creek	Greenleaf Creek
SEGMENT		Kelly Creek	Greenleaf Creek Main stem to Reservation boundary	Miller Creek	Hollowbreast Creek	Ash Creek
Stream Classification	USE					
Class 1 Cold Water	Salmonid Propagation/growth					
Class 2 Cold Water	Salmonid growth					
Class 1 Cool Water	Cool water fish Propagation/growth		X			
Class 2 Cool Water	Cool water fish marginal propagation					
Class 1 Warm Water	Warm water fish Propagation/growth					
Class 2 Warm Water	Warm water fish marginal Propagation/growth					
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X		X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth					
Recreation	Full contact		X			
	Incidental contact	X		X	X	X
Drinking	Conventional Treatment	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X
Wetland	Wetland	X	X		X	X
OTRW	OTRW					

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Muddy Creek	Muddy Creek	Muddy Creek	Muddy Creek	Muddy Creek
SEGMENT		Main stem to confluence Rosebud Creek	Whitedirt Creek	Wilfred Creek	Spang Creek	Juddy Creek
Stream Classification	USE					
Class 1 Cold Water	Salmonid Propagation/growth					
Class 2 Cold Water	Salmonid growth					
Class 1 Cool Water	Cool water fish Propagation/growth					
Class 2 Cool Water	Cool water fish marginal propagation					
Class 1 Warm Water	Warm water fish Propagation/growth	X				
Class 2 Warm Water	Warm water fish marginal Propagation/growth					
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth		X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth					
Recreation	Full contact					
	Incidental contact	X	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X
Wetland	Wetland	X				
OTRW	OTRW					

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Muddy Creek	Muddy Creek	Muddy Creek	Muddy Creek
SEGMENT		Coal Creek	Black Canyon Creek	Powell Creek	East Fork
Stream Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				X
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth		X		
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth	X		X	
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland			X	
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Muddy Creek	Muddy Creek	Muddy Creek	Muddy Creek
SEGMENT		Upper Spang Creek	Red Shale Creek	Longjaw Coulee	Paddy Creek
Stream Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				X
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland				X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Muddy Creek	Muddy Creek	Muddy Creek	Muddy Creek
SEGMENT		Wild Hog Creek	West Fork	Cow Creek	Slocum Creek
Stream Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation		X		
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X		X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland		X		
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Muddy Creek	Muddy Creek	Muddy Creek	Muddy Creek
SEGMENT		Spring Creek	Medicine Elk Creek	Bee Creek	Shavedhead Creek
Stream Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X			
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth		X	X	X
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland				
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Muddy Creek	Muddy Creek	Muddy Creek	Muddy Creek
SEGMENT		Horse Creek	Bear Creek	Brady Creek	Hardrobe Creek
Stream Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal propagation/growth				X
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland		X		X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Rosebud Creek	Lame Deer Creek	Lame Deer Creek	Lame Deer Creek
SEGMENT		Lame Deer Creek Mainstem	Yellowfox Creek	Alderson Creek	Coal Creek/ Soldier Gulch
Stream Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth	X			
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth		X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X		X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Lame Deer Creek	Lame Deer Creek	Lame Deer Creek	Lame Deer Creek
SEGMENT		Spottedelk Creek	Sweet Medicine	Calls First Gulch	South Fork
Stream Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				X
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X			
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth		X	X	
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X		X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Lame Deer Creek	Lame Deer Creek	Lame Deer Creek	Lame Deer Creek	Lame Deer Creek
SEGMENT		White Buffalo Creek	East Fork	Broken Jaw Creek	Horn Creek	Standing Elk Creek
Stream Classification	USE					
Class 1 Cold Water	Salmonid Propagation/growth		X			
Class 2 Cold Water	Salmonid growth					
Class 1 Cool Water	Cool water fish Propagation/growth					
Class 2 Cool Water	Cool water fish marginal propagation					
Class 1 Warm Water	Warm water fish Propagation/growth					
Class 2 Warm Water	Warm water fish marginal Propagation/growth					
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X		X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth					
Recreation	Full contact					
	Incidental contact	X	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X
Wetland	Wetland		X	X		
OTRW	OTRW					

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Tongue River	Tongue River	Tongue River	Tongue River	Tongue River
SEGMENT		Confluence Mainstem Cook Creek to Birney Day Bridge	Main stem Tongue River Birney Day Bridge to Logging Crk	Confluence Mainstem Logging Crk to North Boundary	Prairie Dog Creek	Bull Creek Mainstem
Stream Classification	USE					
Class 1 Cold Water	Salmonid Propagation/growth					
Class 2 Cold Water	Salmonid growth					
Class 1 Cool Water	Cool water fish Propagation/growth	X	X			
Class 2 Cool Water	Cool water fish marginal propagation					
Class 1 Warm Water	Warm water fish Propagation/growth			X		
Class 2 Warm Water	Warm water fish marginal Propagation/growth					X
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth				X	
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth					
Recreation	Full contact	X	X	X		
	Incidental contact				X	X
Drinking	Conventional Treatment	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X
Wetland	Wetland	X	X	X	X	X
OTRW	OTRW					

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

DRAINAGE		Bull Creek	Bull Creek	Bull Creek	Bull Creek	Tongue River
SEGMENT		Coyote Creek	South Fork	Middle Fork	North Fork	Cook Creek Main stem to confluence Tongue River
Stream Classification	USE					
Class 1 Cold Water	Salmonid Propagation/growth					
Class 2 Cold Water	Salmonid growth					
Class 1 Cool Water	Cool water fish Propagation/growth					
Class 2 Cool Water	Cool water fish marginal propagation					X
Class 1 Warm Water	Warm water fish Propagation/growth					
Class 2 Warm Water	Warm water fish marginal Propagation/growth					
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X	
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth					
Recreation	Full contact					
	Incidental contact	X	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X
Wetland	Wetland	X	X	X		X
OTRW	OTRW					

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Cook Creek	Cook Creek	Tongue River	Tongue River
SEGMENT		Black Eagle Creek	St. John's Fork	Mission Creek	Birney Creek
Stream Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X		
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth			X	X
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Tongue River	Tie Creek	Tie Creek	Tongue River
SEGMENT		Tie Creek Mainstem to confluence Tongue River	Long Roach Creek	Clubfoot Creek	Pawnee Creek
Stream Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth	X			
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth		X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X		X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Tongue River	Tongue River	Logging Creek	Logging Creek
SEGMENT		Kelty Creek	Logging Creek Mainstem to confluence Tongue River	Hollowwood Creek	Parker Creek
Stream Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation/growth				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth		X		
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X		X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland		X	X	
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Logging Creek	Logging Creek	Tongue River	Tongue River	Tongue River
SEGMENT		Woodenthigh Creek	Crazyhead Fork	Little Coyote Coulee	Walking Horse Coulee	Walking Horse Creek
Stream Classification	USE					
Class 1 Cold Water	Salmonid Propagation/growth					
Class 2 Cold Water	Salmonid growth					
Class 1 Cool Water	Cool water fish Propagation/growth		X			
Class 2 Cool Water	Cool water fish marginal propagation					
Class 1 Warm Water	Warm water fish Propagation/growth					
Class 2 Warm Water	Warm water fish marginal Propagation/growth					
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X				
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth			X	X	X
Recreation	Full contact		X			
	Incidental contact	X		X	X	X
Drinking	Conventional Treatment	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X
Wetland	Wetland	X	X			
OTRW	OTRW					

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Tongue River	Stebbins Creek	Stebbins Creek	Stebbins Creek
SEGMENT		Stebbins Creek Mainstem	North Fork Stebbins Creek	South Fork Stebbins Creek	Lake Creek
Stream Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X		
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth			X	X
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X			
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

WATERSHED		Stebbins Creek	Tongue River	Tongue River	Tongue River
SEGMENT		Cow Creek	Reservation Creek	Burning Creek	Lay Creek
Stream Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X		
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth			X	X
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland		X		
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Tongue River	Tongue River	Tongue River	Tongue River	Tongue River
Reservoirs, lakes, ponds, springs		Crazyhead Springs	Crazyhead Pond #1	Crazyhead Pond #2	Crazyhead Pond #3	Crazyhead Pond #4
Surface water Classification	USE					
Class 1 Cold Water	Salmonid Propagation/growth					
Class 2 Cold Water	Salmonid growth	X	X	X	X	X
Class 1 Cool Water	Cool water fish Propagation/growth					
Class 2 Cool Water	Cool water fish marginal propagation					
Class 1 Warm Water	Warm water fish Propagation/growth					
Class 2 Warm Water	Warm water fish marginal Propagation/growth					
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth					
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth					
Recreation	Full contact	X	X	X	X	X
	Incidental contact					
Drinking	Conventional Treatment	X	X	X	X	X
Wildlife	Wildlife	X	X	X	X	X
Agriculture	Agriculture	X	X	X	X	X
Industrial	Industrial	X	X	X	X	X
Cultural	Cultural	X	X	X	X	X
Wetland	Wetland	X	X	X	X	X
OTRW	OTRW					

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Tongue River	Tongue River	Tongue River	Tongue River
Reservoirs, lakes, ponds, springs		Upper South Fork Logging Creek Spring #1	Upper South Fork Logging Creek Spring #2	White Horse Spring	Patrick Springs
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				X
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Tongue River	Tongue River	Tongue River	Tongue River
Reservoirs, lakes, ponds, and springs		Woodenthigh Spring	South Fork Stebbins Creek Spring #1	North Fork Stebbins Creek Spring #1	Cow Creek Spring #1
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Tongue River	Tongue River	Tongue River	Tongue River
Reservoirs, lakes, ponds, and springs		Upper Pawnee Creek Spring	Middle Pawnee Creek Spring	Lower Pawnee Creek Spring	Station Spring
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Tongue River	Tongue River	Tongue River	Tongue River
Reservoirs, lakes, ponds, and springs		Hollowbreast Spring	Elliot Spring	Mission Creek Spring	Black Eagle Spring
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Tongue River	Tongue River	Tongue River	Tongue River
Reservoirs, lakes, ponds, and springs		Canyon Spring	Rondeau Spring	B. Heart Spring	St. John's Spring
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Tongue River	Tongue River	Tongue River	Tongue River
Reservoirs, lakes, ponds, and springs		Cook Creek Spring #1 S9	Cook Creek Spring #2 S13	Middle Fork Bull Creek Spring # 1 S17	Middle Fork Bull Creek Spring #2 S20
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Tongue River	Tongue River	Tongue River	Tongue River
Reservoirs, lakes, ponds, and springs		South Fork Bull Creek Spring #1 Section 18	South Fork Bull Creek Spring #2 Section 28	Coyote Creek Spring #1 Section 33	Coyote Creek Spring #2 Section 35
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek
Reservoirs, lakes, ponds, and springs		Pine Creek Spring	Parker Creek Spring	Killsnight Creek Spring	Indian Coulee Spring
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek
Reservoirs, lakes, ponds, and springs		Black Springs	Ridge Walker Creek Spring	Lynch Coulee Spring	Powell Creek Spring
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek
Reservoirs, lakes, ponds, and springs		Muddy Spring	Bear Creek Spring	Birdseye Spring	Dog Creek Spring
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek
Reservoirs, lakes, ponds, and springs		Hard Robe Creek Spring #1, S24	Hard Robe Creek Spring #2, S20	Hard Robe Spring	Muddy Creek Spring #1, S7
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek
Reservoirs, lakes, ponds, and springs		Muddy Creek Spring #2, S6	Killsnight Spring	Muddy Creek Spring #3, S 31, Brown's Camp	Muddy Creek Spring #4, S31, below Brown's Camp
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek
Reservoirs, lakes, ponds, and springs		Muddy Creek Spring #5, S27, Big Bend	Paddy Creek Spring	Sweet Medicine Gulch Spring, S15	South Fork Lame Deer Creek , S11, Bixby Ranch
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek
Reservoirs, lakes, ponds, and springs		South Fork Lame Deer Creek Spring, S15	Broken Jaw Spring	Alderson Creek Spring, S28	Barb wood Spring, S11
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Rosebud Creek	Rosebud Creek	Rosebud Creek	Rosebud Creek
Reservoirs, lakes, ponds, and springs		Wood Spring S12	Diamond R Spring	Greenleaf Creek Spring. S13	Ash Creek Spring #1, S19
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X	X	X
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X	X	X
Drinking	Conventional Treatment	X	X	X	X
Wildlife	Wildlife	X	X	X	X
Agriculture	Agriculture	X	X	X	X
Industrial	Industrial	X	X	X	X
Cultural	Cultural	X	X	X	X
Wetland	Wetland	X	X	X	X
OTRW	OTRW				

Table 1
DESIGNATED USE TABLE-NORTHERN CHEYENNE RESERVATION

MAJOR WATERSHED		Rosebud Creek	Rosebud Creek		
Reservoirs, lakes, ponds, and springs		Ash Creek Spring #2, S18	Hollowbreast Creek Spring		
Surface water Classification	USE				
Class 1 Cold Water	Salmonid Propagation/growth				
Class 2 Cold Water	Salmonid growth				
Class 1 Cool Water	Cool water fish Propagation/growth				
Class 2 Cool Water	Cool water fish marginal propagation				
Class 1 Warm Water	Warm water fish Propagation/growth				
Class 2 Warm Water	Warm water fish marginal Propagation/growth				
Class 1 Aquatic Life other than Fish	Aquatic life Propagation/growth	X	X		
Class 2 Aquatic Life other than Fish	Aquatic life limited Propagation/growth				
Recreation	Full contact				
	Incidental contact	X	X		
Drinking	Conventional Treatment	X	X		
Wildlife	Wildlife	X	X		
Agriculture	Agriculture	X	X		
Industrial	Industrial	X	X		
Cultural	Cultural	X	X		
Wetland	Wetland	X	X		
OTRW	OTRW				

APPENDIX C

Physical and Biological Criteria Table

NORTHERN CHEYENNE INDIAN RESERVATION
PHYSICAL AND BIOLOGICAL CRITERIA TABLE

Parameter	Recreation		Aquatic Life								Domestic
	Full Contact	Incidental Contact	Class 1 Cold Water Salmonid Propagation	Class 2 Cold Water Salmonid Growth	Class 1 Cool Water Fish Propagation	Class 2 Cool Water Fish Marginal Propagation	Class 1 Warm Water Fish Propagation	Class 2 Warm Water Fish Marginal Propagation	Class1 No fish	Class 2 No Fish	Water Supply
PHYSICAL **											
pH [1]	6.5 – 9.0	6.5 – 9.0	6.5 – 9.0	6.5 – 9.0	6.5 – 9.0	6.5 – 9.0	6.5 – 9.0	6.5 – 9.0	6.5 – 9.0	6.5 – 9.0	6.5 – 9.0
Dissolved Oxygen [2]	Refer to Northern Cheyenne Numeric Criteria Table in Appendix A.										
Temperature (Maximum Values)			20° C	20° C	25° C	30° C	35° C	35° C	20° C	35° C	
Solids	Refer to Part III Section 3.5 Narrative Water Quality Criteria										
BIOLOGICAL**											
Fecal Coliforms [3] (colonies per 100 ml)	200	200									200
E. Coli [4]	Refer to reference 4										

** All numerical references are listed in the "References for Physical and Biological Criteria" in Appendix C, page 2.

References for: Physical and Biological Criteria Table

1. Induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 9.0 must be less than 0.5 pH unit. Natural pH outside this range must be maintained without change. Natural pH above 7.0 must be maintained above 7.0.

2. For those streams designated as Class 1 and Class 2 Cold water, a 0.5° C maximum temperature increase is allowed where naturally occurring water temperatures are in the range of 0° C to 10° C; within the naturally occurring range of 10° C to 15° C no discharge is allowed which will cause the water temperature to exceed 20° C. A 2° C per hour maximum decrease below naturally occurring water temperatures is allowed when the water temperature is above 20° C and a 2° C maximum decrease below naturally occurring water temperature is allowed within the range of 20° C to 0° C. A 1° C per-hour maximum decrease below naturally occurring water temperature is allowed when the water temperature is above 15° C and a 1° maximum decrease below naturally occurring water temperature is allowed within the range of 20° to 0° C.

   For those stream designated as Class 1 and Class 2 cool water , a 1° C maximum temperature increase is allowed where naturally occurring water temperatures are in the range 0° C to 20° C; within the naturally occurring range of 20° C to 25° C no discharge is allowed which will cause the water temperature to exceed 30° C. A 2° C per hour maximum decrease below naturally occurring water temperatures is allowed when the water temperature is above 30° C and a 2° C maximum decrease below naturally occurring water temperature is allowed within the range of 30° C to 0° C. A 1.1° C per-hour maximum decrease below naturally occurring water temperature is allowed when the water temperature is above 20° C and 1.1° C maximum decrease below naturally occurring water temperature is allowed within the range of 30° to 0° C.

   For those streams designated Class 1 and Class 2 warm water, a 1° C maximum temperature increase is allowed where naturally occurring water temperatures are in the range 0° C to 30° C; within the naturally occurring range of 30° C to 35° C no discharge is allowed which will cause the water temperature to exceed 35° C. A 2° C per hour maximum decrease below naturally occurring water temperatures is allowed when the water temperature is above 35° C and a 2° C maximum decrease below naturally occurring water temperature is allowed within the range of 35° C to 0° C. A 1.1 ° C per-hour maximum decrease below naturally occurring water temperature is allowed when the water temperature is above 35° C and 1.1° C maximum decrease below naturally occurring water temperature is allowed with the range of 35°C to 0° C.

3. During periods when the daily maximum water temperature is greater that 15.5° C, the geometric mean number of organisms in the fecal coliform group must not exceed 200 per 100 milliliters, nor are 10% of the total samples during any 30-day period to exceed 400 fecal coliforms per 100 milliliters.

4. Criteria for the Full and Incidental Contact Recreation Use:

   Based on a statistically sufficient number of samples (not less than 5 samples equally spaced over a 30-day period), the geometric mean of the E Coli densities shall not exceed 126 per 100 ml. In addition, no single sample shall exceed 235 per 100 ml in water designated for Full Contact Recreation or 406 per 100 ml in water designated as Incidental Contact Recreation.

Where exceedences of the geometric mean or single sample E. Coli criteria occur the Environmental Protection Department will take appropriate action to stop the source of the contamination. Where necessary, a sanitary survey procedure will be used to determine the source of the contamination.

APPENDIX D

NUMERIC CRITERIA TO SUPPORT AGRICULTURAL
And
CULTURAL USES

NORTHERN CHEYENNE TRIBE
NUMERIC CRITERIA TO SUPORT AGRICULTURAL USES [1]
(Except where indicated, all concentrations are µg/l)

Parameter	Agricultural Use	
	Livestock	Irrigation
Arsenic	-	100[2]
Beryllium	-	100[2]
Boron	-	750[2]
Cadmium	50 [3]	-
Chromium	1000 [3]	-
Copper	500 [3]	-
Lead	100 [3]	-
Nitrate (as N)	100000 [3]	-
Nitrite (as N)	10000 [3]	-
Selenium	50 [3]	-
Zinc	25000 [3]	-
Sodium Adsorption Ratio [4]		See table below

(1) Implementation of these criteria shall include case-by-case decisions regarding averaging period and allowable frequency of exceedances, and shall take in consideration the use to be protected and the available toxicological data for the substance, including whether the effects are acute or chronic.

(2) Criteria based recommendations included in the *Quality Criteria for Water*, 1976, U.S. EPA; U.S. Government Printing Office: 1977 (0-222-904).

(3) Criteria based on recommendations included in *Water Quality Criteria*, 1972, National Academy of Sciences, March, 1973, EPA-R3-73-033.

(4) Criteria based on recommendations included in Recommended in-stream standards, thresholds and criteria for irrigation or water spreading to soils of alluvial channels, ephemeral streams, flood plains, and potentially irrigable parcels of land within the boundaries of the Northern Cheyenne Reservation, 2001, Bauder, James W., Professor, Soil and water Specialist, Department of Land Resources and Environmental Sciences, Montana State University, Bozeman MT (Reference Table on page D2).

D1

Numeric Standards for EC and SAR including TDS Indicator Values
Applicable to the Tongue River and Rosebud Creek mainstems and tributaries[1/]

	Electrical Conductivity (EC)[1] dS/m	Sodium Adsorption Ratio (SAR)[2]	Total Dissolved Solids (TDS)[3] mg/l
Southern Boundary			
Irrigation Period Average[4]	1.0	--	660
Year round Maximum[5]	1.5	2.0	990
Northern Boundary			
Irrigation Period Average	1.0	--	660
Year round Maximum	1.5	2.0	990
Tributaries			
Irrigation period average	1.0	--	660
Year round Maximum	1.5	2.0	990

[1/] In response and consideration of comments, concerns, objections received from the Tongue River Water Users Association, the Montana Department of Environmental Quality, the Montana Natural Gas Alliance, the Northern Plains Resource Council, the following modification have been incorporated into the proposed surface water quality standards for EC and SAR of the Northern Cheyenne Reservation.

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[1] The EC values are numerical water quality standards. EC is and expression of salinity as electrical conductance in units of deciSiemens per meter at 25 degrees C (dS/m) or in units of millimhos per centimeter (mmho/cm).

[2] The SAR values are numerical water quality standards. Sodium adsorption ratio (SAR) is an expression of the concentration of sodium relative to the sum of concentrations of calcium and magnesium in water.

$$\text{SAR} = \text{(meg/l)} \quad \frac{[Na^{+}]}{\sqrt{\frac{[Ca^{+2}] + [Mg^{+2}]}{2}}} \quad \text{or} \quad \text{(ppm)} = \frac{[Na^{+}]}{\sqrt{\frac{[Ca^{+2} \times 0.05 + Mg^{+2} \times 0.083]}{2}}}$$

[3] The TDS values are indicator values and are not water quality standards. TDS is an expression of salinity as total dissolved solids in mg/L. The TDS values will be used to monitor conditions and trends in Tribal waters. If a TDS indicator value is exceeded, the Tribe will evaluate the cause and, where appropriate, make necessary adjustments to the EC water quality standard(s). Any change to the EC standard will be made through the Tribe's water quality standards-setting process.

[4] . An "irrigation period average" is the 30-day average applicable during the period of active irrigation or water spreading, defined by the Tribe as April 1st to November 15th annually.

[5] a "maximum" value is an instantaneous maximum, not to be exceeded value, applicable during the period of active irrigation or water spreading and non-irrigation periods, defined by the Tribe as January 1st through December 31st.

APPENDIX E

ANTIDEGRADATION REVIEW SHEET

ANTIDEGRADATION REVIEW SHEET

1. Name of Reviewer: _____
   Name of Receiving Water: _____
   Watershed: _____
   Segment Location(Land Description): _____
   Stream Classification: _____
   Other: _____

2. Brief Description of Proposed Activity:

ID Number if any: _____

3. Which tier(s) of Antidegradation apply?

_____ Tier 3 - go to question 4

_____ Tier 2 - go to question 7

_____ Tier 3 - go t question 13

Tier 3 Questions

4. Will the proposed activity result in a permanent new or expanded source of pollutants directly to an ONRW segment?

_____ yes - recommend denial of a proposed activity

_____ no

5. If the proposed activity will result in a permanent new or expanded source of pollutants to a segment upstream from an ONRW segment, will the proposed activity affect ONRW water quality (see Part IV 1.4.3 A. of the implementation procedure).

_____ yes - recommend denial of proposed activity

_____ no

Basis for conclusion

6. If the proposed activity will result in a non-permanent new or expanded source of pollutants to ONRW segment or a segment upstream from an ONRW segment, will the proposed activity result in "temporary and limited" effects on ONRW water quality (see Part IV 1.4.3 B. of the implementation procedure)?

_____ yes

_____ no - recommend denial of proposed activity

Basis for conclusion:

Tier 2 Questions

7. Does the segment qualify for tier 2 protection based on the applicable criteria (see Part IV 1.4.4 A. of the implementation procedure)?

_____ yes

_____ no

Basis for conclusion:

8. Will the proposed activity result in significant degradation (see Part IV 1.4.4 B. of the implementation procedure)?

_____ yes
_____ no - recommend approval of the activity
_____ significance test by-passed due to availability of a reasonable less degrading alternative

If significance test not by-passed, basis for conclusion:

9. Has the applicant completed an adequate evaluation of alternatives and demonstrated that there are not reasonable alternatives to allowing the degradation (see Part IV 1.4.4 C. of the implementation procedure)?

_____ yes

_____ no - recommend denial of the proposed activity

If no, basis for conclusion:

10. Has the applicant demonstrated that the proposed activity will provide important socio-economic development in the are in which the affected waters are located (see Part IV 1.4.4 D. of the implementation procedure)?

_____ yes

_____ no - recommend denial of the proposed activity

If no, basis for conclusion:

11. Will existing uses be fully protected consistent with the Tier 1 procedures outlined by questions 14-16 below (questions 14-16 must be completed)?

_____ yes

_____ no- recommend denial of proposed activity

12. Has compliance with required controls on point and non-point sources in the zone of influence been assured (see Part IV 1.4.4 F. of the implementation procedures)?

_____ yes

_____ no - recommend denial of the proposed activity

Basis for conclusion:

Tier 1 Questions

13. The basis for concluding that tier 2 requirements do not apply is as follows (see Part IV 1.4.5 A of the implementation procedure):

14. Are there uses that exist or have existed since November 28th, 1975 that have more stringent water quality protection requirements than the currently designated uses (see Part IV 1.4.5.C of the implementation procedures)?

_____ yes

_____ no

If yes, basis for conclusion:

15. If the answer to question 14 was yes, what water quality criteria requirements will ensure protection of such existing uses (see Part IV 1.4.5 D(1). of the implementation procedure)?
(Indicate parameters and applicable water quality criteria.)

16. Will existing uses be fully maintained and protected (see Part IV 1.4.5 D(2). of the implementation procedure)?

_____ yes
_____ no - recommend denial of the proposed activity

If no, basis for conclusion:

Preliminary Decision

17. Based on the above, can the proposed activity be authorized pursuant to the Tribes'

Antidegradation policy?

_____ yes

_____ no

Basis for conclusion:

Signature:_____

Date:_____

APPENDIX F

HABITAT ASSESSMENT AND PHYSICOCHEMICAL CHARACTERIZATION FIELD DATA SHEETS

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

Stream Name:		Location:	
Station #:	River Mile:	Stream Class:	
Lat.	Long.	River Basin:	
Storet #		Agency:	
Investigators:			
Form Completed By:		Date: Time: am pm	Reason for Survey

Weather Conditions	New	Past 24 Hours	Has there been a heavy rain in the last 7 day? ☐ yes ☐ no
	☐ Storm (heavy rain)	☐	
	☐ rain (steady rain)	☐	Air Temperature _____°C
	☐ showers (intermittent)	☐	
	☐ %cloud cover	____%	Other _____
	☐ clear/sunny	☐	
Site Location Map	Draw a map of the site and indicate the areas sampled (or attach a photograph)		
Stream Characterization	Stream subsystem ☐ Perennial ☐ Intermittent ☐ Tidal		Stream Type ☐ Coldwater ☐ Warmwater
	Stream Origin ☐ Glacial ☐ Spring-fed ☐ Non-glacial ☐ Mixture of Origins ☐ Swamp and bog ☐ Other _____		Catchment Area _____ km^2

PHYSICAL CHARACTERIZATION / WATER QUALITY FIELD DATA SHEET

Watershed Features	Predominant Surrounding Landuse ☐ Forest ☐ Commercial ☐ Field/pasture ☐ Industrial ☐ Agriculture ☐ Other _____ ☐ Residential	Local Watershed NPS Pollution ☐ No evidence ☐ Some potential sources ☐ Obvious sources Local watershed erosion ☐ none ☐ moderate ☐ heavy
Riparian Vegetation (18 meter buffer)	Indicate the dominant type and record the dominant species present ☐ Trees ☐ Shrubs ☐ Grasses ☐ Herbaceous Dominant Species present _____	
Instream Features	Estimated reach length _____m Estimated stream width _____ m Sampling Reach area _____ m Area in km2 (m2 x 100) _____ km2 Estimated stream depth _____ m Surface velocity _____ m/sec (at thalweg)	Canopy cover ☐ partly open ☐ partly shaded ☐ shaded High water mark _____ m Proportion of reach represented by stream morphology types ☐ riffle ___% ☐ run ___% ☐ pool ___% Channelized ☐ yes ☐ no Dam present ☐ yes ☐ no
Large woody debris	L W D _____M2 Density of LWD _____ m2/km2 (LWD reach area)	
Aquatic Vegetation	Indicate the dominant type and record the dominant species present: ☐ Rooted emergent ☐ Rooted submergent ☐ Rooted floating Free floating ☐ Floating algae ☐ Attached algae Dominant species present _____ Portion of the reach with aquatic vegetation _____%	
Water Quality	Temperature _____ °C Specific conductance _____ Dissolved oxygen _____ pH _____ Turbidity _____ WQ instrument used _____	Water odors ☐ Normal/none ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Fishy ☐ Other _____ Water surface oils ☐ Slick ☐ Sheen ☐ Globs ☐ Flecks ☐ None ☐ Other _____ Turbidity (if not measured) ☐ Clear ☐ Slightly turbid ☐ Turbid ☐ Opaque ☐ Stained ☐ Other _____
Sediment Substrate	Odors ☐ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ None ☐ Other _____ Oils ☐ Absent ☐ Slight ☐ Moderate ☐ Profuse ☐ Yes ☐ No	Deposits ☐ Sludge ☐ Sawdust ☐ Paper fiber ☐ Sand ☐ Relic shells ☐ Other _____ Looking at stones which are not deeply embedded are the undersides black in color? ☐ yes ☐ no

INORGANIC SUBSTRATE COMPONENTS
(should add up to 100%)

Substrate Type	Diameter	% composition in Sampling reach
Bedrock		
Boulder	>256 mm (10')	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2 mm (gritty)	
Silt	0.004-0.06 mm	
Clay	<0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS
(does not necessarily add up to 100%)

Substrate type	Characteristic	% composition in Sampling Area
Detritus	Sticks, wood, coarse plant materials (CPOM)	
Muck-mud	Black, very fine organic (FPOM)	
Marl	Grey, shell fragments	

HABITAT ASSESSMENT FIELD DATA SHEET- HIGH GRADIENT STREAMS

STREAM NAME			
STATION #	RIVERMILE	LOCATION	
LAT	LONG	STREAM CLASS	
STORET #		RIVER BASIN	
INVESTIGATORS		AGENCY	
FORM COMPLETED BY:	DATE _____ TIME _____ AM PM	REASON FOR SURVEY	

Parameters to evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal substrate/ available cover	Greater than 70% of substrate favorable for Epifaunal colonization and fish cover: mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to show full colonization potential (i.e. logs, snags that are not new fall and not transient.	40%-70% mix of stable habitat: well suited for full colonization potential; adequate habitat fro maintenance of populations: presence of additional substrate in the term of newfall but not yet prepared for colonization (may rate at high end of scale)	20%-40% mix of stable habitat: habitat availability less than desirable: substrate frequently disturbed of removed.	Less than 20% stable habitat: lack of habitat is obvious: substrate unstable or lacking.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
2. Embeddedness	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment: Layering of cobble provided diversity of niche space.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediments.	Gravel, cobble, and boulder particles are 75% surrounded by sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded fine sediment.
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
3. Velocity / Depth Regime	All four velocity depth regimes present: slow-deep, slow-shallow fast-deep, fast-shallow. (Slow is <0.3 mfs, deep is > 0.5 m.)	Only 3 of the 4 regimes present: (If fast-shallow is missing. Score lower than if missing other regimes.)	Only 2 of the habitat regimes present: (if fast-shallow or slow-shallow are missing, score low).	Dominated by velocity-depth regime (slow-deep).
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bas and less than 5% of the bottom affect by sediment deposition	Some new increase in bar formation, mostly from gravel, and or fine sediment: 5 – 30% of the bottom affected, slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars: 30-50% of the bottom affected: sediment deposits at obstructions. constrictions, and bends: moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development: more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel flow status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel: or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET – HIGH GRADIENT STREAMS

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category: Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern	Some channelization present; usually in areas of bridge abutments; evidence of past channelization; i.e., dredging (greater than 20 years) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach Channelized or disrupted.	Banks shored with gabion or cement; over 80% of the stream reach Channelized and disrupted; instream habitat greatly altered or removed entirely.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 and 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems; <5% of bank affected	Moderately stable, infrequent small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has area of erosion; high erosion potential during floods.	Unstable; many eroded raw areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE___(LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE___(RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of stream bank surface and immediate riparian zone covered by native vegetation; including shrubs or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the stream bank surfaces covered by native vegetation; but one class of plant is not well represented; disruption evident but not affecting full plant growth potential to any great extent; more than on-half of the potential plant stubble height remaining.	50-70% of the stream bank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the stream bank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has removed to 5 centimeter or less in average stubble height.
SCORE___(LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE___(RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
10. Riparian vegetative Zone Width (score each bank riparian zone)	Width of riparian zone .18 meters; human activities (i.e. parking lots, roadbeds, clearcuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6012 meters; human activities have impacted zone a great deal.	With of riparian zone <6 meters; little or no riparian vegetation due to human activities.
SCORE___(LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE___(RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0

Total score _____

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS

STREAM NAME	LOCATION
STATION#_____ RIVERMILE _____	STREAM CLASS
LAT _____ LONG _____	RIVER BASIN
STORET #	AGENCY
INVESTIGATORS	
FORM COMPLETED BY:	DATE_____ TIME _____ AM PM / REASON FOR SURVEY:

Parameters to be evaluated for sampling reach

Habitat Parameter	Condition Category: Optimal	Suboptimal	Marginal	Poor
1. Epifaunal substrate Available Cover	Greater than 50% of substrate favorable for Epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e. logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall; but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottoms; little or not root mats; no submerged vegetation.	Hard pan clay or bedrock; no root mats or submerged vegetation.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
3. Pool Variability	Even mix of large shallow, large deep, small shallow, small deep pools present.	Majority of pools large deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small shallow or pools absent.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected slight deposition of pools.	Moderate deposition of new gravel, sand or fine sediment; on old and new bars; 30-80% of bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of ine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET – LOW GRADIENT STREAMS

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization of dredging absent or minimal; stream with normal pattern.	Some Channelization present, usually in areas of bridge abutments; evidence of past Channelization, i.e., dredging, (greater than past 20 yr.) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both bank; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted; instream habitat greatly altered or removed entirely.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line (Note – channel braiding is considered normal in coastal plains and other low – lying areas. This parameter in not easily rated in these areas.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in straight line.	Channel straight; waterway has been channelized for a long distance.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas erosion; high erosion potential during floods.	Unstable, many eroded areas; "raw" areas frequent along straight section and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE ____(LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE ____(RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but on class of plants is not well represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE ____(LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE ____(RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative zone width (Score each riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts lawns, or crops have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone on minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.
SCORE ____(LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE ____(RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0

Total score _____