

## **Appendix C: Nutrient Standards Criteria**

### BEO Narrative Water Quality Standards

All Reservation surface waters must be:

- a) Free from pollution or pollutants (either alone or in combination with other pollutants and/or pollution) that are or may become injurious to public health, safety, welfare, or will cause or contribute to the violation of surface water quality standards (including existing and designated uses, numeric and narrative standards, and antidegradation provisions).
- b) Free from substances attributable to municipal, industrial, or other discharges or agricultural practices that may cause or contribute to the formation of decaying or otherwise objectionable sludge deposits or emulsions beneath the surface of the water or upon adjoining shorelines;
- c) Free from floating debris, oil, scum, and other floating materials attributable to municipal, industrial or other discharges or agricultural practices in amounts sufficient to be unsightly or deleterious. Floating oil is not to be present as a visible oil film or globules of grease (or in concentrations at or above 10 milligrams per liter)
- d) Free from material attributable to municipal, industrial, or other discharges or agricultural practices producing color, odor or other conditions in such a degree as to create a nuisance or render any undesirable taste to fish flesh, or in any other way, make food fish inedible or harm wildlife ingesting aquatic food organisms.
- e) Free from substances attributable to municipal, industrial or other discharges or agricultural practices in concentrations or combinations which are toxic or harmful to human, animal, plant or aquatic life except for Tribally approved pesticide application.
- f) Free from substances attributable to municipal, industrial or other discharges or agricultural practices in concentrations or combinations which produce or encourage undesirable populations or conditions of aquatic life.

In addition,

- g) No pollutants or pollution may be discharged that, either alone or in combination with other pollutants or pollution, will result in total dissolved gas pressure exceeding 110 percent of saturation relative to the water surface.

## State of Montana Ammonia Standards

(7) Freshwater Aquatic Life Standards for total ammonia nitrogen (mg/l NH<sub>3</sub>-N plus NH<sub>4</sub>-N). 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.

The one-hour average concentration of total ammonia nitrogen (in mg N/L) does not exceed the CMC (acute criterion) calculated using the following equations.

Where salmonid fish are present:

$$\text{CMC} = .275 / (1 + 10^{7.204 - \text{pH}}) + 39.0 / (1 + 10^{\text{pH} - 7.204})$$

Or where salmonid fish are not present:

$$\text{CMC} = .411 / (1 + 10^{7.204 - \text{pH}}) + 58.4 / (1 + 10^{\text{pH} - 7.204})$$

## Temperature Standards for B-2 classified streams (DEQ, 2006)

(e) A 1°F maximum increase above naturally occurring water temperature is allowed within the range of 32°F to 66°F; within the naturally occurring range of 66°F to 66.5°F, no discharge is allowed which will cause the water temperature to exceed 67°F; and where the naturally occurring water temperature is 66.5°F or greater, the maximum allowable increase in water temperature is 0.5°F. A 2°F per-hour maximum decrease below naturally occurring water temperature is allowed when the water temperature is above 55°F. A 2°F maximum decrease below naturally occurring water temperature is allowed within the range of 55°F to 32°F.