

**ANTIDEGRADATION REVIEW**  
**NPDES Permit # ID-002022-2**  
**City of Bonners Ferry Wastewater Treatment Facility**

Idaho Department of Environmental Quality  
August 8, 2011

In March 2011, Idaho incorporated additional sections addressing antidegradation implementation in the Idaho Code. The new antidegradation provisions are in Idaho Code §39-3603. At the same time, Idaho adopted antidegradation implementation procedures in its Water Quality Standards. The Department of Environmental Quality (DEQ) submitted the antidegradation implementation procedures to EPA for approval on April 15, 2011.

The Idaho Water Quality Standards (WQS) contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051). The first level of protection applies to all water bodies and assures that existing uses of a water body will be maintained (Tier 1 protection). A Tier 1 review is performed for all new or reissued permits or licenses. The second level of protection applies to those water bodies that are considered high quality and assures that no lowering of water quality will be allowed unless it is deemed necessary to accommodate important economic or social development (Tier 2 protection). The third level of protection applies to water bodies that have been designated outstanding resource waters and requires activities to not cause a lowering of water quality (Tier 3 protection).

DEQ is employing a waterbody-by-waterbody approach to implementing Idaho's antidegradation policy. This approach to antidegradation implementation means that any water body fully supporting its beneficial uses will be considered high quality. Any waterbody not fully supporting its beneficial uses will be provided Tier 1 protection for that use, unless specific circumstances warranting Tier 2 protection are met. The most recent federally-approved Integrated Report and supporting Data are used to determine support status and the tier of protection (Idaho Code §39-3603(2)(b)).

***Pollutants of Concern***

The City of Bonners Ferry Wastewater Treatment Facility discharges the following pollutants of concern: biological oxygen demand (BOD), total suspended solids (TSS), *E. coli*, pH, chlorine, ammonia and temperature. Effluent limitations have been developed for BOD, TSS, *E. coli*, pH and chlorine. The reasonable potential analysis completed by EPA and checked by DEQ, shows that there is no reasonable potential for the facility's discharge to cause or contribute to an exceedance of the acute or chronic criteria for ammonia, therefore, effluent limits are not required for this pollutant. The draft permit requires the facility to conduct temperature monitoring during the permit cycle.

***Beneficial Uses Applicable to the Kootenai River***

The Kootenai River (water body unit P-29) has the following designated beneficial uses: cold water aquatic life; salmonid spawning; primary contact recreation; domestic, agricultural and industrial water supply; special resource water; wildlife habitat; and aesthetics. There is no

available information indicating the presence of any existing beneficial uses aside from those that are already designated.

***Receiving Water Body Level of Protection***

Idaho has established a waterbody-by-waterbody approach for identifying the level of antidegradation protection which DEQ will provide when reviewing whether activities or discharges comply with Idaho's antidegradation policy. This approach relies upon Idaho's most recent federally-approved Integrated Report (IR) of water quality status and its supporting data.

The Bonners Ferry WWTP discharges directly into the Kootenai River (assessment unit ID17010104PN029\_08; Moyie River to Deep Creek). According to the 2008 Integrated Report, the cold water aquatic life and salmonid spawning beneficial uses in this assessment unit are not fully supported due to elevated temperatures. The primary contact recreation beneficial use has not been assessed. Because no data is currently available and the collection of necessary data to determine the support status of recreation uses would take considerable time, the applicant has agreed to consider this Kootenai River assessment unit a high quality water related to recreational uses for the purposes of this antidegradation review in order to prevent further delays in the issuance of this certification.

Based upon this information, DEQ will provide Tier 1 protection for aquatic life uses (Idaho Code §39-3603(20)(b)(iii)) and Tier 2 protection, in addition to Tier 1, for the recreation beneficial use (Idaho Code §39-3603(2)(b)(i)).

***Protection and Maintenance of Existing Uses for All Waters***

As noted above, a Tier 1 review is performed for all new or reissued permits or licenses, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires a showing that existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. The Kootenai River at this location has designated beneficial uses of domestic, agricultural, and industrial water supply; primary contact recreation; cold water aquatic life; salmonid spawning; wildlife habitats; and aesthetics. In order to protect and maintain designated and existing beneficial uses, a permitted discharge must comply with Idaho water quality standards (WQS), which contain narrative and numeric criteria as well as other provisions of the WQS such as Section 055 which addresses water quality limited waters. The numeric and narrative criteria are set at levels which ensure protection of existing and designated beneficial uses. The effluent limitations and associated requirements contained in the Bonners Ferry WWTP permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS. Because there is no available information indicating the presence of any existing uses other than the designated uses discussed above, the permit ensures that the level of water quality necessary to protect both designated and existing uses is maintained and protected, in compliance with IDAPA 58.01.02.051.01, IDAPA 58.01.02.052.05 and 40 CFR 131.12(a)(1).

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for any water quality limited water body. A central purpose of TMDLs is to establish wasteload allocations for point source discharges, which are set at levels designed to help restore the water body to a condition that supports existing and designated beneficial uses. Discharge permits must contain limitations

that comply with the approved TMDL. In the absence of a TMDL, Idaho WQS (IDAPA 58.01.02.055.04 and .05) stipulate that either there be no further impairment of the designated or existing beneficial uses or that the total load of the impairing pollutant remains constant or decreases. Discharge permits must comply with these provisions of Idaho WQS.

As previously indicated this assessment unit of the Kootenai River is not supporting its cold water aquatic life and salmonid spawning beneficial uses. This impairment is a result of temperatures above the temperature standards required to protect the cold water aquatic life and salmonid spawning beneficial uses as well as the Kootenai River sturgeon, an endangered species. To date, DEQ has not developed a temperature TMDL for this water body and per the 2008 Integrated Report, the Kootenai River is considered a medium priority water body for TMDL development. Based on this priority status, DEQ must ensure that discharges of pollutants of concern from point source discharges, do not further impair these beneficial uses. Because the facility is not increasing its design flow or altering its treatment practices, DEQ believes that this permit will not further impair the uses of the Kootenai River.

Furthermore, EPA has included a condition in the permit requiring continuous temperature monitoring of the effluent. The previous permit included only quarterly in-stream temperature monitoring upstream of the discharge and no monitoring of effluent temperature. Continuous monitoring data will be used to quantify whether the facility has the potential to cause or contribute to a violation of water quality standards.

In summary, the effluent limitations and associated conditions contained in the Bonners Ferry WWTP permit are set at levels that ensure compliance with the narrative and numeric criteria and Section 055 of the Idaho WQS. Therefore, DEQ has determined the permit complies with Tier 1 antidegradation requirements and protects existing and designated beneficial uses of the Kootenai River.

### ***High Quality Water (Tier 2 Protection)***

The Kootenai River assessment unit ID17010104PN029\_08; Moyie River to Deep Creek is not assessed for recreational use. Rather than wait for data to make an assessment of the recreational use, DEQ will, with consent of the discharger, consider the Kootenai River high quality for the primary contact recreation beneficial use. As such, the water quality relevant to recreational uses of the Kootenai River must be maintained and protected, unless a lowering of water quality is deemed necessary to accommodate important social or economic development.

In order to determine whether degradation will occur, DEQ must evaluate the effect on water quality of the issuance of the permit for each pollutant that is relevant to recreational uses of the Kootenai River (IDAPA 58.01.02.052.04). *E. coli* bacteria is the relevant pollutant for the Kootenai River. For pollutants that currently are limited and will have limits under the reissued permit, the current discharge quality is based on the limits in the current permit or license (IDAPA 58.01.02.052.04.a.i) and the future discharge quality is based on the proposed permit limits (IDAPA 58.01.02.052.04ii). The proposed effluent limits for *E. coli* bacteria are set at meeting criteria at end of pipe, and these limits are identical to the limits in the prior permit. Therefore, there will be no adverse change in water quality and no degradation resulting from the discharge of these pollutants and the requirements of IDAPA 58.01.02.052.06 are met.