

## Antidegradation Analysis Report – Tribal Hatchery

### Executive Summary

As required by Administrative Regulation Title 15, Subchapter B, Section 6.2.5, the Tribal DANR conducted an antidegradation analysis related to an expansion of the Tribe's trout hatchery (NPDES#NC0052451). The first step in the analysis was to determine if the expansion would use additional assimilative capacity for any of the chemical parameters of concern being discharged. It was determined that all chemical parameters would not use additional assimilative capacity and the analysis was concluded at this point. An additional analysis was done regarding the additional flow the hatchery is proposing to use for operations. It was determined that this was using assimilative capacity and an additional analysis was performed to determine if a) the increased withdrawal was in the Tribe's interests and b) if there were any alternatives to the proposed increased withdrawal. The increase was found to be in the Tribe's interest and no alternatives were found. Antidegradation has been satisfied and the expansion is acceptable.

### Chemical Parameter Analysis

Significant chemical parameters ie., ammonia nitrogen, total phosphorus, and total nitrogen, were examined using a simple mass balance approach to determine if any additional assimilative capacity was being used by the proposed expansion. The analysis determine that no additional assimilative capacity was being used for the following parameters: turbidity, TN, TP, TAN and DO. Consistent with regulation 6.2.5.2, the antidegradation analysis for these parameters was concluded at this point.

### Flow Analysis

The expansion proposes an additional withdrawal of 0.5 MGD from the Straight Fork of Raven Fork. The Tribe has determined that this will degrade the flow regime within Straight Fork and that an additional analysis must be done to determine if a) the increased withdrawal was in the Tribe's interests and b) if there were any alternatives to the proposed increased withdrawal.

### Tribal Interest Test

The EBCI Hatchery provides a substantial economic benefit to the Tribe due to the stocking of Reservation Waters and subsequent tourist income from fisher people. Additionally, fish reared in the Hatchery provide a food source for Tribal members. Expansion of the Hatchery is in the interest of the Tribe to continue these two important aspects.

### Alternatives Analysis

The Tribe examined possible alternatives to the expanded flow withdrawal with respect to flow in Straight Fork. The only identified alternative was to use groundwater as the source of the expansion. Groundwater tends to contain minerals that are not conducive to trout rearing. Removal of these minerals would entail additional treatment technology and costs. While these costs have not been explicitly calculated, the Tribe anticipates that such costs would be prohibitive.

### Conclusion

The EBCI Hatchery has met all antidegradation conditions for the proposed expansion of the facility. The Tribal Environmental Office recommends the permit contain a provision for annual instream biomonitoring to assure that flow is not being altered in a way that affects aquatic life in Straight Fork between the intake and the discharge.