

**Managing and Protecting Nez Perce Tribe Water Resources through Water Quality and Quantity  
Monitoring on the Nez Perce Reservation of 1863,  
Clearwater, Idaho, Lewis, and Nez Perce Counties, Idaho**

The Nez Perce Tribe Water Resources Division (WRD) will conduct water quality, water quantity, and algal toxin monitoring on the Nez Perce Reservation located within Clearwater, Idaho, Lewis, and Nez Perce Counties, Idaho. This project is for short-term water quality and quantity data collection and assessment to inform new management approaches and protect the health and well-being of the Reservation population. Requested funds will be used for sample collection, water quality laboratory analyses, and data analysis and reporting.

The WRD is proposing to 1) collect monthly water quality samples at 14 sites throughout the Orofino Creek Watershed for the first year of this grant cycle, and 2) revisit 12 previously established monitoring sites within the Lawyer Creek Watershed and collect monthly water quality samples during the second year of this grant cycle.

The overall goal of this monitoring is to evaluate water quality and establish baseline conditions and identify long-term trends that will be used to determine areas contributing to water and habitat degradation. These areas will then be prioritized for future habitat restoration and implementation of best management practices (BMPs) to protect and manage Tribal water resources. The WRD is also proposing to gather baseline water quantity data at the mouth of Orofino Creek and Lawyer Creek, which has an operational USGS stream gage. This data will be used to calculate pollutant loads and determine if Orofino Creek meets the minimum instream flows that were negotiated as part of the Snake River Basin Adjudication (SRBA) Settlement Agreement.

Since very little harmful algal bloom (HAB) data exists for ponds, lakes, or reservoirs on the Reservation, the WRD requests funds to monitor surface water for algal toxins (microcystin and anatoxin) and nutrients in six Reservation waterbodies to protect water resources and public health. Monitoring will be conducted monthly to gather baseline data, determine if, when, and how long the toxins are present in the water, and to guide the release of public health advisories as needed. The WRD is also proposing an experimental pilot study to collect whole fish samples from two of the waterbodies which have had detectable concentrations of toxins in the past. Collected fish will be sent to a laboratory to be processed and tested for microcystin and anatoxin to determine if these toxins accumulate in the fish tissue. Recent studies show low concentrations of microcystins have been found to accumulate in some fish muscle tissues, which means more significant concern should be given to this tissue as it is part of the human diet worldwide, but especially for tribal populations in the Columbia River Basin who eat a significant amount of fish through their subsistence lifestyle. This monitoring will help determine whether algal toxins are bioaccumulated or biomagnified in the muscle tissue of commonly eaten fish occurring in Reservation waterbodies to evaluate the need for new management approaches.

It is estimated that project completion will occur within two years after the award date. This project will contribute to the Bureau of Reclamation's Funding Opportunity Announcement (BOR-DO-20-F013) goal to provide tribes with financial assistance for activities that help manage and protect their water resources.