Water Resources Monitoring Strategy Developed for the Water Pollution Control Grant: CWA Section 106 Region 10 EPA: CFDA 66.419

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I. Monitoring Program Strategy

Introduction and Scope

The Environmental Protection Agency's (EPA) *Final Guidance on Awards of Grants to Indian Tribes under Section 106 of the Clean Water Act* (CWA) requires tribes to develop a Tribal Assessment Report (TAR). TARs are comprised of three elements: (1) a description of the monitoring strategy, (2) a water quality assessment, and (3) electronic copies of surface water quality data for nine basic parameters submitted in a STORET-compatible format. This monitoring strategy satisfies element (1) of the TAR and provides a long-term plan for meeting identified water resource objectives.

This strategy will also assist EPA in achieving the strategic goals of "Ensuring Clean and Safe Water for all Communities" through providing quality science and research, reporting valid data, assessing water resources, and implementing restoration and source protection projects to protect human health and water quality.

The Nez Perce Tribe (Tribe) is a federally recognized Indian Tribe with an aboriginal territory of more than 13 million acres extending from northeastern Oregon and southeastern Washington, through north-central Idaho, to southwestern Montana (Figure1). The Tribe's 1855 treaty with the United States acknowledged and guaranteed a variety of retained off-reservation fishing, hunting, and gathering rights. The current Nez Perce Tribal Reservation is approximately 770,483 acres in size, and many tribal members continue to practice a subsistence-based lifestyle to this day. Clean water is valued for its cultural, spiritual, and economic uses, and the Tribe has a vested interest in protecting water quality on the Reservation and throughout the Clearwater, Snake, and Columbia River Basins.

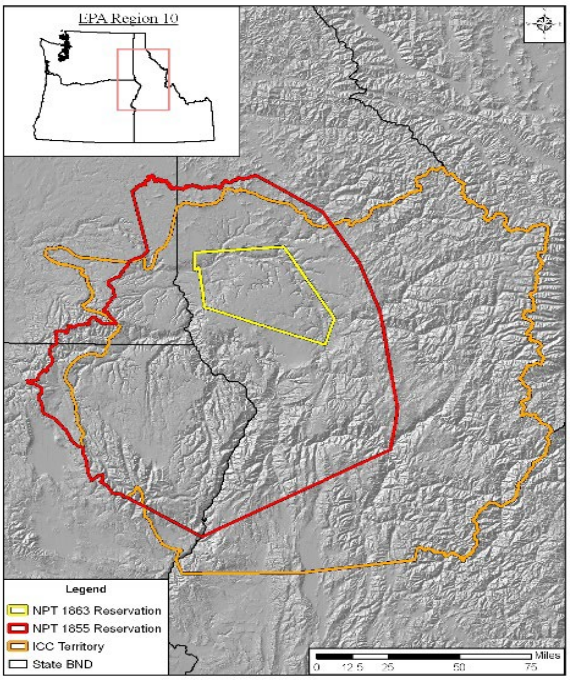

Figure 1. Map of Nez Perce Tribe aboriginal territory and reservation boundaries

Background

The present-day Nez Perce Tribe Reservation (Reservation) is located in the Lower Clearwater River Basin in north central Idaho and totals 770,483 acres, of which 16% is tribal allotment, fee, or trust land. The remaining land is privately held, with some managed by the United States and the State of Idaho.

The Tribe has traditionally relied on surface water and springs to provide water for domestic, cultural, and economic needs. These resources have been impacted by modern agricultural, industrial, silvicultural, hydropower, and municipal practices. Virtually all water resources within the Reservation boundary are water quality impaired, and there are indications that global climate change is shifting the hydrologic cycle of the region from a spring snowmelt-dominated cycle to a fall/winter rainfall-dominated cycle. The five dominant land uses on the Reservation are cultivated agriculture, shrubland, grassland, evergreen forest, and bare soil.

The primary water features on the Reservation are aquifers, springs, streams, and rivers, with groundwater serving as the primary source of drinking water for the Reservation population. To identify and quantify the water resources within the present-day reservation boundary, the U. S. Bureau of Indian Affairs (BIA) sponsored a comprehensive inventory of reservation waters in 1977 (Morrison-Maierle, 1977). The inventory included compiling existing groundwater data and monthly water quality data collected from surface waters in 18 watersheds. This inventory indicated that surface waters throughout the Reservation were impaired by fecal coliform, high summer temperatures, sediment, and localized high (1,120 g/l) iron concentrations (Morrison-Maierle, 1977).

The Bonneville Power Administration sponsored a biological and physical inventory of streams on the Reservation in 1983 (Kucera, 1983). In 1990 the EPA funded a groundwater pollution prevention project to assess the resource's vulnerability and contaminant loading capacity using the DRASTIC model (Nez Perce Tribe, 1992). The Tribe also participated in EPA's Clean Lakes Initiative and conducted a phase I study of one reservation impoundment, Mud Springs, in 1992.

Water Resources Division Historical Monitoring Activities

The Tribe applied for Treatment in the Same Manner as a State (TAS) in the early 1990s and has been actively developing and administering its' water quality program since 1993. Currently, the Tribe has a Water Resources Division (WRD) of 24 environmental professionals, has a strong relationship with the United States Environmental Protection Agency (EPA), and plays a crucial role in water resource management in the Pacific Northwest. In early 2022, EPA approved the latest iteration of the Tribe's Generic Quality Assurance Project Plan (QAPP) for all water quality monitoring projects.

The WRD collected water quality monitoring data from 1994 through 1996 in five streams (Lapwai, Mission, Sweetwater, Cottonwood, and Big Canyon Creeks) and three reservoirs (Mud Springs, Talmaks, and Winchester Reservoirs). These sites were selected to be representative of water bodies within the Reservation's boundaries. Monitoring was terminated in 1997 due to a reduction in staff. WRD staff suspended their water quality monitoring efforts and instead participated in the State of Idaho's Beneficial Use Reconnaissance Program (BURP) monitoring in response to jurisdictional concerns associated with state-established BURP sites on the Reservation.

In 1999, 48 long-term monitoring sites were established within the Reservation boundaries to develop a comprehensive water quality database for all Reservation water bodies. These sites were monitored

from 1999 through 2001. In 2004, the WRD began collecting water quality data for the Lower Clearwater River Total Maximum Daily Load (TMDL). Data were collected twice per month for one year at eight sites through 2006. The draft TMDL was submitted but was not approved by EPA because of the agency's jurisdictional concerns.

In 2008, the WRD began re-collecting water quality data at the long-term monitoring sites, starting with those in the Lapwai Creek watershed (Lapwai, Mission, Sweetwater, Webb Creeks, and their tributaries). The WRD also collected water quality data in the upper Lapwai Creek watershed, including Winchester Lake, for the five-year TMDL review.

As a part of the long-term monitoring goals set in 1999, the WRD will continue to monitor the predetermined, long-term monitoring stream segments on an annual rotation, watershed-by-watershed. The yearly monitoring will occur at least quarterly, depending on staff availability and funding. Parameters to be monitored will include physical (habitat and designated/existing use assessments), chemical (nutrients, dissolved oxygen, temperature, pH, total dissolved solids, turbidity, specific conductivity, and total suspended solids), and biological (chlorophyll-a, bacteria, macroinvertebrates, fish) components, as determined by the goals of the project, past data, and funding.

The WRD will establish new monitoring stations in waterbodies of interest that have not been previously monitored or to investigate areas where water quality impairment is suspected of occurring. A monitoring plan (sampling and analysis plan) will be developed for each new project that describes in detail: 1) the monitoring site locations; 2) the overall goals and objectives of the monitoring project; 3) the suite of parameters to be collected; 4) the lab to be used for analysis, and; 5) any additional information required. The primary sampling protocols outlined in this document will be used for each monitoring project unless expressly stated otherwise in the monitoring plan.

Hydrologic Background

There are 1,587 miles of streams and rivers in 19 sub-basins within or intersecting the reservation boundary that drain almost exclusively to the Clearwater River. The total drainage area of these basins is 9,500 square miles, with the most productive basins being the North Fork Clearwater, the Lochsa, and the Selway, which collectively produce up to 81% of the flow of the Clearwater River (Morrison-Maierle, 1977).

Lakes in the form of artificial impoundments on the reservation account for approximately 2,880 acres, which includes the portion of Dworshak Reservoir, managed by the Army Corps of Engineers (ACOE), within the reservation boundary. The Nez Perce Tribal Executive Committee (NPTEC) passed a resolution, NP 03-136, in 2002, designating all water bodies on the reservation for the beneficial use of primary contact recreation to protect water quality for ceremonial and religious contact.

There are numerous wetlands on the reservation. The WRD has an active wetland assessment program that has mapped, assessed, and inventoried hundreds of acres of wetlands within the reservation boundaries.

Springs and seeps are common within the reservation, and there are historical accounts of cold-water "fountains" and artesian wells throughout the basin. These resources are not well documented or assessed but have been used by the tribal community for domestic, cultural, and spiritual purposes since time immemorial.

Between 1956 and 1990, the Idaho Department of Water Resources (IDWR) approved the development of 1,058 groundwater wells within the reservation, and the Indian Health Services (HIS) contracted to drill at least 270 groundwater wells through 1982. The Lewiston Basin Aquifer and the Clearwater Uplands Plateau are the primary aquifers on the reservation. EPA designated the Lewiston Basin Aquifer as a sole source aquifer in 1988.

Table 1 is an Atlas of Tribal Water Resources found within the boundaries of the Reservation of 1863.

Table 1. Atlas of Tribal Water Resources

Topic	**Value**
Reservation Area (acres)	770,483
Reservation Population	12,256
Number of watersheds within or intersecting the Reservation boundary	19
Total Miles of Rivers and Streams - *Miles of perennial streams* - *Miles of intermittent streams (does not include unnamed streams)* *the remaining stream miles are unknown for perennial vs. intermittent	1,590 *602** *85**
Number of Lakes/Reservoirs/Ponds	8
Acres of Lakes/Reservoirs/Ponds	2,883
Number of Wetlands assessed	419
Acres of Wetlands assessed	1599.7

II. Monitoring Objectives

The Tribe's CWA Section 106 Water Quality Monitoring Program's primary goal is to conduct water quality investigations. These investigations will help to inform the Tribe about the ecological health of its water resources, assist in determining appropriate management strategies for those waters, identify the causes and sources of pollution, and advance efforts to protect both human and aquatic health.

Table 2. Monitoring Objectives.

Monitoring Objectives for WRD Program Areas	
Program Area	**Objectives**
Overall Water Quality Program	1. Establish baseline water quality conditions for all surface waters on the reservation 2. Reassess surface waters periodically to look at long-term trends 3. Determine whether water quality criteria are being met and designated uses are being supported for waterbodies on the reservation 4. Respond to emergency monitoring needs 5. Identify waters needing protection 6. Identify waters needing restoration 7. Identify sources of pollutants entering waters 8. Evaluate the effectiveness of restoration projects 9. Ensure that minimum instream flows are being maintained in adjudicated waterbodies 10. Collect data, analyze data, and develop Tribal Assessment Reports
Nonpoint Source Pollution Prevention Program	1. Identify waters needing protection or restoration 2. Identify sources of pollutants 3. Use monitoring data to inform restoration/protection plans 4. Develop partnerships with stakeholders to address nonpoint-source pollution 5. Work with partners to develop watershed improvement projects 6. Determine the effectiveness of overall restoration projects and individual best management practices (BMP) 7. Evaluate cumulative watershed impacts from BMP installation
Water Quality Standards	1. Continue to develop and refine Tribal water quality standards 2. Assess whether water quality standards are

	being met and designated uses are being supported in Tribal waters 3. Use water quality data to assist in EPA permitting efforts on the reservation 4. Assist the Idaho Department of Environmental Quality in the development of TMDLs
Wetlands	1. Continue to evaluate the extent and ecological functions of wetlands 2. Identify degraded wetlands and develop solutions 3. Work with stakeholders to improve the functions and values of wetlands 4. Catalog biodiversity, the presence of rare or endangered species, and items of cultural significance 5. Assist with the evaluation and implementation of compensatory mitigation projects 6. Develop wetland restoration plans 7. Evaluate wetland restoration projects
Harmful Algal Blooms (HABs)	1. Continue development of a Harmful Algal Bloom Monitoring and Reporting Program 2. Work with regional partners to assess waterbodies for HABs and issue warnings to protect human health
Emergency Monitoring	1. Develop an emergency monitoring program for waters impaired by oil or hazardous materials

III. Monitoring Design

The CWA §106 Program is the primary component in the overall effort of the WRD to protect, improve, and enhance water quality. Funding from this program enables the Tribe to participate in numerous local and regional water resource management activities, including water quality data collection, analysis, and assessment of tribal waters. Modifications in EPA's administration of the CWA §106 Program and distribution of future funds will determine the scope and frequency of future monitoring activities.

Funding for monitoring programs is often short-term and competitive, and the WRD must rely on multiple funding sources to meet its data-collection needs. Because of this, monitoring is often project-based, and there can be variability in the methods used to determine sites, parameters, frequency, or analytical techniques, depending on the overall goals of particular projects. For these reasons, probability-based design is not realistic for the CWA §106 Program.

The general approach for CWA §106 monitoring will be a rotating basin design. Monitoring sites will be located within a particular 5th field HUC watershed within the Nez Perce Tribal Reservation, with a new

watershed being monitored annually. This approach meets Tribal objectives for assessing waterbodies on or flowing into the Reservation, repeated at regular intervals while allowing resources to be focused in a smaller geographic area in any given year. Sites have been established within the Reservation watersheds, which will be revisited to allow for long-term trend monitoring.

Table 3. Monitoring Activities and Design

Summary of various monitoring activities and their design					
Program Area	**Design**	**# Sites**	**Frequency**	**Resources**	**Program Description**
Overall Water Quality	Rotating Basin with intensive targeted sites	12 (on average)	At least quarterly. Monthly, if funding allows.	2 FTE	A rotating basin design, with every watershed being revisited approximately every eight years.
Water Quality Status & Trends	Same as above	Same as above	Same as above	Same as above	Same as above
NPS Effectiveness Monitoring	Targeted design pre- and post-project implementation	Project dependant; typically one per year	Pre-implementation, and then five years after implementation	2 FTE	NPS water quality monitoring above and below BMP implementation projects. Designated use support monitoring at the project reach.
Wetlands	Fixed Station design	Project dependant; typically 12 wetland sites per year	Once per year, per wetland	1 FTE	Wetland Ecosystem Services Protocol – Nez Perce (WESP-NP) documents existing functions, values, and ecosystem services an individual wetland provides, and documents change over time.
HABs	Targeted Sites	6, with additional sites as needed in response to new algal bloom events.	Seasonally, as needed	1 FTE	Discrete grab samples and/or fish tissue samples will be collected as needed.
Contaminants of Concern (COCs)	Targeted Sites	Sites determined in response to suspected contaminated sites.	As needed	1 FTE	Discrete water soil, vegetation, or tissue samples will be collected as needed.

Emergency Monitoring	Targeted Sites	Dependant upon the nature and extent of contamination.	As needed, in response to incidents/releases of hazardous materials	2 FTE	Discrete water, soil, vegetation, and fish tissue samples will be collected as needed.

IV. Core and Supplemental Water Quality Indicators

Because the Tribe is still developing water quality standards, existing federal standards and criteria are used to determine the impairment status of water resources on the Reservation. Surface water impairment is determined by whether or not a waterbody supports its designated beneficial use. Groundwater impairment is determined by whether or not a groundwater resource is safe to drink per national primary and secondary drinking water standards.

The §106 Program requires that waters be monitored for nine key parameters: dissolved oxygen, water temperature, pH, turbidity, total phosphorus, total nitrogen, habitat, benthic macroinvertebrates, and pathogens. The process for determining the frequency of data collection and the scope of analysis for each resource area or type will be determined during the workplan development stage based on the results of activities completed as outlined in the "Monitoring Design" section of this strategy report. Generally, a workplan for a specific year or project will identify the issue of concern for a watershed or a resource type, define the scope of historical data review and analysis, explain the key constituents to be evaluated, and describe the method of data collection, analysis, and reporting. These workplans are developed in preparation for specific projects on an ongoing basis and implemented when funding is received.

Table 4. Indicator Categories

Indicator Categories Sampled by Water Resource Type and Program Area													
Program Area	Dissolved Oxygen	Water Temperature	pH	Conductivity	Turbidity	Nutrients (TP/TN)	Physical Habitat	Biological Communities	Pathogens	HABs	COCs	Discharge/flow	Wetland Function
Overall Water Quality	X	X	X	X	X	X	X	X	X	X	X	X	
Water Quality Status & Trends	X	X	X	X	X	X	X	X	X	X	X	X	
NPS Effectiveness Monitoring	X	X	X	X	X	X	X	X	X	X	X	X	
Wetlands	X	X	X	X	X	X	X	X	X	X	X		X
HABs	X	X	X	X	X	X		X		X			

COCs											X		
Emergency Monitoring									X	X	X		

V. Quality Assurance

Quality assurance/ quality control documents, such as Standard Operating Procedures (SOPs) and Quality Assurance Project Plans (QAPPs), have been developed for a number of methods, parameters, projects, and pieces of equipment, and the WRD requests similar documents from other Tribal Departments and outside agencies as cooperative projects are developed, or data is shared. These documents are used to populate metadata sources and as reference material to develop future programs. The SOPs for activities conducted by WRD personnel are developed for each data collection and processing activity and are very similar to the procedures used by the US Geological Survey described in the "*National field manual for the collection of water-quality data."* Many of these SOPs are included as addendums to approved QAPPs and will not be reflected in Table 5. These SOPs span several categories: field operating procedures; equipment operation, maintenance, and calibration; quality assurance; and chain of custody. QAPPs, QAPP Addenda, and Stand-alone SOPs are listed below. QAPPs and SOPs are continually revised to reflect corrections in previous revisions, updated methods, or new instrumentation and equipment acquisition.

Table 5. Existing QAPPs and SOPs related to Water Quality Investigations

QA System Documents			
Type	**Title and Grant Number**	**Completion Date**	**EPA Approval Date**
QAPP	Nez Perce Tribe Water Resources Division Generic Quality Assurance Project Plan, Revision 2	November 2021	February 2022
QAPP	Clearwater River (Idaho) Watershed Baseline Monitoring and Toxics Assessment-Phase I	April 2021	April 2021
QAPP Addendum	Clearwater River (Idaho) Watershed Baseline Monitoring and Toxics Assessment - Addendum	April 2022	May 2022
QAPP Addendum	Clearwater River (Idaho) Watershed Baseline Monitoring and Toxics Assessment – Addendum 2 – Phase III	April 2023	May 2023
QAPP	Programmatic Quality Assurance Project Plan, Nez Perce Tribe Brownfields Tribal Response Program	July 2020	August 2020
SOP	Nez Perce Tribe Water Resources Division 106 Water Quality Data Reporting using Central Data Exchange (CDX)/Water Quality Exchange (WQX) SOP	August 2016	NA

VI. Data Management

The WRD manages the data collected from water quality investigations and has a comprehensive and established data management system. The WRD maintains program-specific databases that integrate water quality information from various sources, including continuous monitoring data and discrete grab sample data. Program Coordinators and staff have secure access to the databases, allowing them to efficiently retrieve, analyze, and update water quality data. Water quality data generated from these investigations are managed by various means, outlined in Table 6.

The Tribe's Land Services Division maintains the framework for all mapping applications and administers a modern and robust GIS application. WRD works with Land Services to develop thematic maps for specific projects, using a variety of GIS layers, including the National Hydrography Dataset (NHD), to define assessment units and data collection locations.

Table 6. Data Management System for NPT WRD

Data Management				
Water Resource Type and/or CWA Program Area and/or Monitoring Objectives	**Data Management –on site**	**WQX**	**Land Use Data**	**Geo-referencing**
Overall Water Quality	Data is entered into a MS Excel database and stored both locally and on a Tribal server Files are backed-up regularly	All data, except continuous data, will be uploaded using the Water Quality Exchange (WQX) quarterly. Once submitted the data are available on the Water Quality Portal ((EPA, 2023). New staff are trained in using WQX, and an	The NPT Land Services Division manages land use data and administers a sophisticated GIS database. Scale/resolution: -National Hydrography Dataset, 1:24,000 -USGS Topographic Maps, 1:24,000 -Watershed Boundary Dataset, 1:100,000	Yes

		SOP is in place detailing submittal procedures.	-Digital Elevation Models, 30-meter resolution -LiDAR Data, 1-meter resolution	
Water Quality Status & Trends	Same As Above	Same As Above	Same As Above	Yes
NPS Effectiveness Monitoring	Same As Above	Same As Above	Same As Above	Yes
Wetlands	Same As Above	Same As Above	Same As Above	Yes
Biomonitoring	Same As Above	Same As Above	Same As Above	Yes
HABs	Same As Above	Same As Above	Same As Above	Yes
COCs	Same As Above	NA	Same As Above	Yes
Emergency Monitoring	Same As Above	NA	Same As Above	Yes

The WRD collects continuous monitoring data, including parameters such as dissolved oxygen, pH, water temperature, turbidity, specific conductivity, and depth, using data loggers. These data loggers store the initial data in the field and later transfer it to the workstation computer as an xlsx file on the dedicated server. At the end of the fiscal year, the data is combined, trimmed, and analyzed to be used in the annual §106 Tribal Assessment Report. The TAR is shared with partners and water quality stakeholders.

The WRD has a well-defined data plan for assembling water quality data in a WQX-compatible format. All relevant data, including continuous monitoring and discrete grab sample data, are prepared following EPA's guidelines for submission to the Water Quality Portal database.

The Water Quality Portal database stores a comprehensive set of water quality parameters that the Tribe monitors. This includes dissolved oxygen, pH, water temperature, turbidity, salinity, specific conductivity, depth, nutrients (e.g., total phosphorus and nitrogen), bacteria, and other key indicators. The Tribe ensures that data for these parameters are consistently recorded and uploaded to the Water Quality Portal database using WQX.

Assessment data, which includes water quality status (good or poor), compliance with designated uses, and results related to TMDLs (Total Maximum Daily Loads), is meticulously stored in the Tribe's data management system. The assessment results are appropriately linked to the corresponding water quality data, allowing for easy retrieval and analysis.

All water quality data and assessment results are geo-referenced. The Tribe's GIS capabilities are mature and well-developed, enabling advanced spatial analysis and visualization of water quality trends, land use relationships, and potential pollution sources.

VII. Data Analysis/Assessment

The WRD utilizes well-established procedures to assess water quality data collected from the field and laboratory. The assessment process involves analyzing the raw data to evaluate water quality conditions and determine compliance with relevant water quality standards and objectives. Our assessment procedures align with EPA Strategic Plan measures to ensure comprehensive evaluations.

In addition to the data collected through our monitoring efforts, we rely on various other sources of information for data analysis. These sources may include historical data from previous monitoring efforts, data from federal and state agencies, academic research, and reports from partner organizations. Combining diverse data sources enhances the accuracy and scope of our assessments.

While our analytical capabilities are well-established, we recognize the need for continuous improvement. Identified gaps in our analytical methodologies include the incorporation of emerging data analysis techniques, such as machine learning and spatial analysis, to extract deeper insights from the data. To address these gaps, we plan to invest in ongoing training for our staff to stay updated with the latest data analysis methodologies and software tools.

In addition to basic assessments, we employ more sophisticated data analysis processes to address specific objectives. These processes include trend analysis to identify long-term changes in water quality parameters and the use of statistical methods to assess the significance of those trends. For these analyses, we utilize a combination of specialized databases and software, including statistical software packages (SigmaPlot) and Geographic Information Systems (GIS) tools. The WRD is investigating the procurement of a robust data management software platform like WISKI. This advanced software offers comprehensive data handling, analysis, and visualization tools tailored to water quality and hydrological data.

The WRD has developed a robust methodology for assessing the attainment of water quality standards for all waterbody types. This methodology encompasses chemical, physical, biological, and land use data from various sources. It includes criteria for compiling, analyzing, and integrating all readily available and existing information, such as data from the United States Geological Survey (USGS), volunteer monitoring programs, and discharge monitoring reports. The assessment methodology ensures a comprehensive evaluation of water quality conditions and supports informed decision-making and management actions.

As part of our commitment to continuous improvement, we recognize the importance of ongoing training for our staff in data analysis. Our training needs include advanced statistical analysis techniques, geospatial analysis, and the use of specialized software for water quality assessments. We will work towards providing our staff with relevant training opportunities to enhance their data analysis skills and ensure the accuracy and effectiveness of our assessments.

VIII. Reporting

The WRD produces several important reports and products from the water quality data we collect, as detailed in Table 7.

Table 7. Nez Perce Tribe Water Resources Reports

Tribal Reports			
Report	**Timeframe**	**Entities receiving copies of the report**	**Comments**
Annual Water Quality Tribal Assessment Report (TAR)	Annually, with last year's TAR being submitted at the beginning of the new fiscal year (Oct. 1)	EPA, other Tribal Divisions, and stakeholders in the assessed watershed. Also posted on the WRD website for the public.	Summary of WQ data with comparisons to WQ criteria
Quarterly Performance Report	Quarterly	EPA	
Nonpoint Source (NPS) Project Summary Report	Annually	Posted on the WRD website for the public	
NPS Effectiveness Monitoring Report	5-years after project implementation	Posted on the WRD website for the public	An assessment of the effectiveness of BMPs in mitigation pollution. Includes data from monitoring efforts and presents recommendations for refining implementation strategies.
Wetland Inventory and Assessment Report	As needed	EPA Posted on the WRD website for the public	Includes data specific to wetland ecosystems and offers insights into the health and function of these critical habitats.
Harmful Algal Blooms (HABs)	When blooms are occurring	Public posting/warnings at waterbodies	Notifications detailing potential risks associated with primary contact in these waterbodies.

To ensure timely communication of monitoring results and reports, the WRD has established efficient dissemination mechanisms. Decision-makers, including the Tribal Council, receive periodic updates and summaries of key findings. Presentations are made during council meetings to inform them of water quality status, trends, and any actions required to protect tribal water resources.

Moreover, the WRD maintains a user-friendly online platform that offers public access to essential water quality data and reports. The general public can access comprehensive information about the health of local waterbodies, ongoing monitoring efforts, and the WRD's conservation initiatives.

Despite being a mature program, we acknowledge that there may be some gaps in our reporting processes. One such challenge is ensuring that the reports reach all interested stakeholders effectively. To address this, we plan to enhance outreach efforts and engage with community partners, local organizations, and neighboring tribes to expand the dissemination of water quality information.

Additionally, we are actively exploring opportunities to leverage advanced data visualization tools and technologies to make our reports more accessible and engaging to a broader audience. By incorporating data in interactive formats, we aim to foster a better understanding and awareness of water quality issues.

IX. Programmatic Evaluation

The WRD conducts an annual review of our monitoring program to assess its effectiveness and identify areas for enhancement. This review is a collaborative effort involving Program Coordinators, field technicians, and the WRD Director. The process typically includes the following steps:

1. Data Analysis: We analyze the data collected throughout the year to evaluate water quality trends, identify any emerging issues, and assess whether the monitoring program is providing the necessary information to support our needs, goals, and objectives.

2. Stakeholder Feedback: We engage with various stakeholders, including local communities, Soil and Water Conservation Districts, other Tribal Divisions, and other agencies, to gather their perspectives on the value and effectiveness of our monitoring efforts. Their input helps us tailor our program to regional water quality data collection needs.

3. Identification of Improvement Areas: We identify specific areas where our monitoring efforts can be enhanced. This may include exploring opportunities to expand monitoring to new waterbody types, introducing new indicators to address emerging concerns, or refining monitoring protocols for increased efficiency.

4. Resource Allocation: Given the reality of resource limitations, the annual review also involves discussions about resource allocation for water quality monitoring programs. This includes identifying opportunities for optimization, seeking potential collaborations, and exploring innovative approaches to maximize the impact of available resources.

5. Periodic Reviews: Beyond the annual review, we conduct regular evaluations at scheduled intervals (e.g., quarterly or biannually) to monitor the progress of the program and track any changes in water quality conditions.

6. Long-Term Review: To ensure the program remains aligned with our evolving needs and priorities, we undertake a comprehensive review every five years, as recommended by EPA. This comprehensive review allows us to assess the program's overall performance, explore innovative approaches, and plan for future improvements.

Through these ongoing evaluation efforts, the WRD aims to maintain a robust and adaptive monitoring program that consistently delivers reliable and relevant water quality information to support sustainable resource management decisions.

X. General Support and Infrastructure

1. Staffing: The WRD has a Water Quality Program Coordinator funded by §106, a Nonpoint Source Program Coordinator funded partially by §319 funding, a Wetlands Specialist funded by §104(3)(b), and two Water Resources Technicians. While these staff work collaboratively to achieve the goals of the Clean Water Act, limited §106 Program funding limits staffing to one Program Coordinator and half of a technician's salary. Additional funding to hire another professional-level staff member in the §106 Program would allow us to bring in more expertise and be more effective in conducting field monitoring, data management, and reporting activities.

2. Training: The existing staff has received training in various aspects of water quality monitoring, data management, and laboratory protocols. Ongoing training and capacity building are provided to enhance skills and keep up with advancements in monitoring techniques.

3. Equipment: The WRD has invested in essential monitoring equipment, including data loggers, water quality sensors, field data sheets, and data management software. Due to the expense associated with water quality monitoring equipment, much of the WRD equipment is quite old at this point. Having additional resources to procure state-of-the-art monitoring equipment, data loggers, water quality sensors, and field measurement devices would help to ensure accurate and reliable data collection.

4. Laboratory Resources: The WRD currently has the ability to run bacteriological samples. Other water quality analyses, such as chemical and physical parameters, are required, and it is often challenging to find funding for analytical costs. Additional funding support from the EPA to purchase in-house meters and equipment would reduce our reliance on external laboratories for certain types of analyses. This would lead to more frequent data collection, significant cost savings, faster results, and capacity building.

5. Data Management Software: Implementing a data management software platform like WISKI would greatly assist in storing and analyzing water quality data.

By addressing these resource needs, the Nez Perce Tribe will be better equipped to achieve its water quality monitoring objectives and improve the overall management of its water resources. A comprehensive and well-supported monitoring program will enable the tribe to make informed decisions, protect water quality, and preserve the health of its watersheds for future generations.

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