

Pyramid Lake Paiute Tribe's Water Quality Monitoring Program

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Located in western northern Nevada, approximately 35 miles north of Reno, is the Pyramid Lake Paiute Reservation, where the high-desert terminal Pyramid Lake sits at the bottom of the Truckee River watershed. Before Contact, the Tribe developed an identity and way of life that continues today. Presently, the Pyramid Lake Paiute Tribe (PLPT) operates a world class fishery that thrives by the use of rigorous conservational practices based on current scientific understanding. The Tribe established the Water Quality Program (WQP) in 1981 for the attainment of water quality standards, which were established for preserving and propagating wildlife and aquatic life, and protecting established cultural and recreational uses. Under the PLPT Natural Resources Department, the Tribe manages its water resources within the Pyramid Lake reservation through several programs and field activities including the following.

Monthly Truckee River Monitoring/Sampling

The WQP performs monitoring at 10 sites along the Truckee, measuring parameters like temperature, dissolved oxygen, pH, specific conductivity, salinity and turbidity with the multi-sensor YSI EXO1 sonde. Additionally, water samples are collected and taken to the Pyramid Lake Fisheries laboratory, where they are analyzed for phosphorus, ammonia, nitrates and total Kjeldahl nitrogen (TKN) content.

Annual Truckee River/Reservation Stream Bioassessments

The WQP also performs annual monitoring, sampling and bioassessments at 13 sites along the Truckee River, where the team assesses the riparian character by measuring riparian canopy cover, substrate composition, river embeddedness, and other metrics. Additionally, the team collects and analyzes the health of aquatic bugs as a leading riparian ecosystem indicator.



WQ Team members taking field measurements using the YSI EXO 1 sonde along the Truckee River



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The Pyramid Lake reservation contains many perennial and intermittent streams. The program performs monitoring, sampling and bioassessment activities annually in the springtime at 15 remote stream sites scattered across the Virginia, Pah Rah and Lake Range foothills.

Continuous Monitoring Stations

The Program maintains two continuous monitoring stations, located in Wadsworth and Nixon, which measure water quality parameters in 15 minute increments. Data is downloaded to YSI EXO3 sondes, which are configured similarly to the EXO1 sondes, and data are uploaded via telemetry to the Cloud. The sondes are intended for long term deployment and can store months of data.



WQ Team members taking field measurements for cyanobacteria monitoring at Pyramid Lake



WQP member taking a surface water sample for Truckee River monthly monitoring program

Annual Wetlands Monitoring and Bioassessments

Within the PLPT Natural Resources Department is the Wetlands Program. Typically, there is a total of 22 wetlands on the reservation that are monitored every year. Some of these wetlands are riverine wetlands, and due to the meandering nature of the Truckee River, along with large flood events, these wetlands can be lost or change from year to year. The Wetlands Program staff monitors these wetlands annually. The monitoring includes collecting water samples from each wetland for water quality analysis, along with conducting a California Rapid Assessment Method (CRAM) on each wetland. The Wetlands Program decided to use the CRAM on each wetland due to Nevada not having a finalized method. Using CRAM, the overall health of the wetland can be assessed every year by rating its ambient conditions, such as vegetation, topography, and buffers surrounding each wetland.

Continuous Hydrologic Monitoring on Wetlands

In 2018 the Wetlands Program installed continuous monitoring equipment for precipitation and groundwater level at two wetlands on the Reservation. One wetland is situated near the Truckee River corridor and the other is geographically isolated north of Pyramid Lake. These two wetlands were chosen as being representative for the wetlands on the Reservation; one is connected hydrologically to a river, and the other is isolated in a desert environment.

Cyanobacteria Monitoring

Pyramid Lake is subjected to extended droughts, increasing temperatures, wildfire smoke, and increasing nutrients from up river sources. The lake periodically experiences Harmful Algal Blooms, where *Nodularia spp.* releases a harmful toxin microcystin into the waterbody. Monthly activities include field monitoring with the YSI EXO1 sonde, and sampling for nutrient analysis and a qualitative determination of microcystin. Positive samples are further analyzed for microcystin quantification.

PLPT's Water Quality Monitoring Program (*continued*)

In Closing

Although the Lake Tahoe-Pyramid Lake watershed is highly regulated in recent years due to increased upstream population growth, and industrialization along the connecting Truckee River corridor have resulted in downstream ecosystem degradation. The Tribe coordinates with various federal, state, and local governments, along with inter-tribal agencies in improving environmental management armed with current scientific knowledge in order to protect threatened and endangered aquatic species endemic to the watershed, water quality, and to protect the health of its members, its cultural identity and way of life.



WQ members perform a wetlands bioassessment at a site overlooking dried Winnemucca Lake

For more information:

<https://plpt.nsn.us/natural-resources/>

Tribal Consultation and Public Comment Opportunities

Tribal Consultation Opportunity: Revising the Definition of the “Waters of the U.S.”

Ends: October 4, 2021

The EPA and the U.S. Department of the Army, (“the agencies,” hereafter) are conducting consultation and coordination with federally recognized tribes on the agencies’ effort to revise the definition of “Waters of the U.S.” On June 9, 2021, the agencies announced their intent to initiate a new rulemaking process that restores the regulations in place prior to the 2015 Clean Water Rule defining “waters of the United States,” amended to be consistent with relevant Supreme Court decisions.

“Waters of the U.S.” is a threshold term in the Clean Water Act that establishes the geographic scope of federal jurisdiction under the Clean Water Act. Since the 1970s, the agencies have defined “Waters of the U.S.” by regulation. The agencies most recently revised these regulations in 2020 with the Navigable Waters Protection Rule: Definition of “Waters of the U.S.”

The consultation ends on **October 4, 2021**. Please visit <https://tcots.epa.gov/> for the consultation materials. For additional information about the “Waters of the U.S.,” please visit: <https://www.epa.gov/wotus>.

Tribal Consultation Opportunity: EPA/AIEO Tribal Consultation on GAP Funding Allocation

Ends: November 17, 2021

The EPA’s American Indian Environmental Office (AIEO) initiated a 120-day tribal consultation with federally recognized tribes to receive input on how to improve the national allocation of the Indian Environmental General Assistance Program (GAP) funds. In the current national allocation methodology, EPA provides \$110,000 per federally recognized tribe. However, a 2008 OIG report included a recommendation that AIEO revise its allocation methodology to take into account tribes’ environmental needs and prior progress.

The consultation ends on **November 17, 2021**. Please visit <https://tcots.epa.gov> for more detailed information on the webinars/listening session and consultation materials.

NEW! EPA Total PFAS Analysis for Public Health Protection: Science, Applications, Benefits, and Challenges

October 27 and 28, 2021 | 12:00 P.M. - 4:00 P.M. EST each day

Non-targeted and other total PFAS analytic methods are being increasingly employed to more thoroughly characterize the total quantity and type of PFAS compounds that may be present in the environment. EPA is hosting this workshop to advance the transfer of state-of-the-art total PFAS methods and to gain a better understanding of state and regional needs regarding total PFAS methods. To register: <https://www.scgcorp.com/PFAS2021/Registration>

Inter Tribal Council of Arizona, Inc. - National Tribal Water & Wastewater Operator Training & Certification Program

The Inter Tribal Council of Arizona, Inc. National Tribal Water and Wastewater Operator Training and Certification Program is providing live online training. Each course consists of sequential lessons that are provided in a series of live online classes that are 3-hours in length.

Upcoming courses include, but are not limited to:

- Math for Wastewater Operators: October 18 to November 3, 2021
- Wastewater Treatment – Level 1: November 8 to December 15, 2021

For more information, training schedule, and to register, please visit: <https://itcaonline.com/programs/environmental-quality-programs/tws-tmap/tws-training-events/>

EPA CLU-IN Training & Events

- October 8, 2021: Risk Communication Strategies to Reduce Exposures and Improve Health – Session II – Combating Misinformation and Mistrust when Communicating Health Risks
- October 20, 2021: Risk Communication Strategies to Reduce Exposures and Improve Health – Session III – Engaging Communities and Tailoring Messages to Advance Equity and Justice
- October 22, 2021: Risk Communication Strategies to Reduce Exposures and Improve Health – Session IV – Communication Toolkits to Communicate Environmental Risks

For more information, please visit: <https://clu-in.org/training/>

U.S. EPA Office of Water

- September 30, 2021: Public Webinar on Ambient Water Quality Criteria to Address Nutrient Pollution in Lakes and Reservoirs

For more information, please visit: https://forms.office.com/Pages/ResponsePage.aspx?id=uuQPpMer_kiHkrQ4iZNkAFASQ4lUhl1Pmxx-bKgQ3NVUQ1ZHN01OSk5UR1JITkE1NkNMVTE1Q1dURC4u

U.S. Fish and Wildlife Conservation Office Webinar Series

- September 30, 2021: Conservation of Bull Trout in the Yakima Basin

For more information, please visit: [Event Information: Conservation of Bull trout in the Yakima Basin \(webex.com\)](https://www.fws.gov/webinars/conservation-of-bull-trout-in-the-yakima-basin)

Events and Webinars (*continued*)

EPA Tools and Resources Webinar Series

- October 20, 2021: Freshwater Explorer

For more information, please visit: <https://www.epa.gov/research-states/epa-tools-and-resources-webinar-series>

EPA Water Research Webinar Series

- September 29, 2021: Valuing Aquatic Ecosystem Health at a National Scale: Modeling Biological Indicators Across Space/Time
- October 27, 2021: Effects of Total Nitrogen and Total Phosphorous on Chlorophyll- α Concentrations in Flowing Waters

For more information, please visit: <https://www.epa.gov/water-research/water-research-webinar-series>

EPA Small Systems Monthly Webinar Series

- October 26, 2021: Tribal Community Water Systems

For more information, please visit: <https://www.epa.gov/water-research/small-drinking-water-systems-webinar-series>

EPA Technical Assistance Webinar Series: Improving CWA-NPDES Permit Compliance

- October 21, 2021: Optimize Your Wastewater Treatment Plant: Save Energy and Reduce Nitrogen Discharge
- November 18, 2021: Troubleshooting Sludge Problems in Wastewater Lagoon Systems

For more information, please visit: <https://www.epa.gov/compliance/technical-assistance-webinar-series-improving-cwa-npdes-permit-compliance>

Grant Opportunities

NOAA/NIDIS FY 2022 Coping with Drought Grants

Deadline: October 18, 2021

For Fiscal Year (FY) 2022, NIDIS is hosting two separate Coping with Drought competitions: Ecological Drought and Building Tribal Drought Resilience. Both competitions are currently open and accepting letters of intent.

1. The Ecological Drought competition is focused on research and tools to improve our understanding and management of drought risk in terrestrial and aquatic ecosystems to inform more deliberate and expanded decision-making that supports sustainable, healthy and resilient ecosystems.
2. The Tribal Drought Resilience competition is focused on the implementation of actions - together with research on those actions - to build tribal drought resilience contained in existing plans and strategies.

For more information, please visit: <https://www.grants.gov/web/grants/view-opportunity.html?oppld=334633> or <https://www.drought.gov/drought-research/coping-with-drought-competition#open-competitions>

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