



PYRAMID LAKE PAIUTE TRIBE

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WETLANDS PROGRAM

MAY FLORES

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**WETLANDS
SPECIALIST**





PYRAMID LAKE PAIUTE TRIBE - WETLANDS PROGRAM

- Summary and background
- Pyramid Lake Paiute Tribe – Natural Resources
- Wetland Program Plan (WPP)
- Monitoring activities
 - CRAM (California Rapid Assessment Method)
 - IBI (Index of Biological Integrity)
 - Amphibian surveys
 - Herbarium and seed collection
 - Water Quality analysis

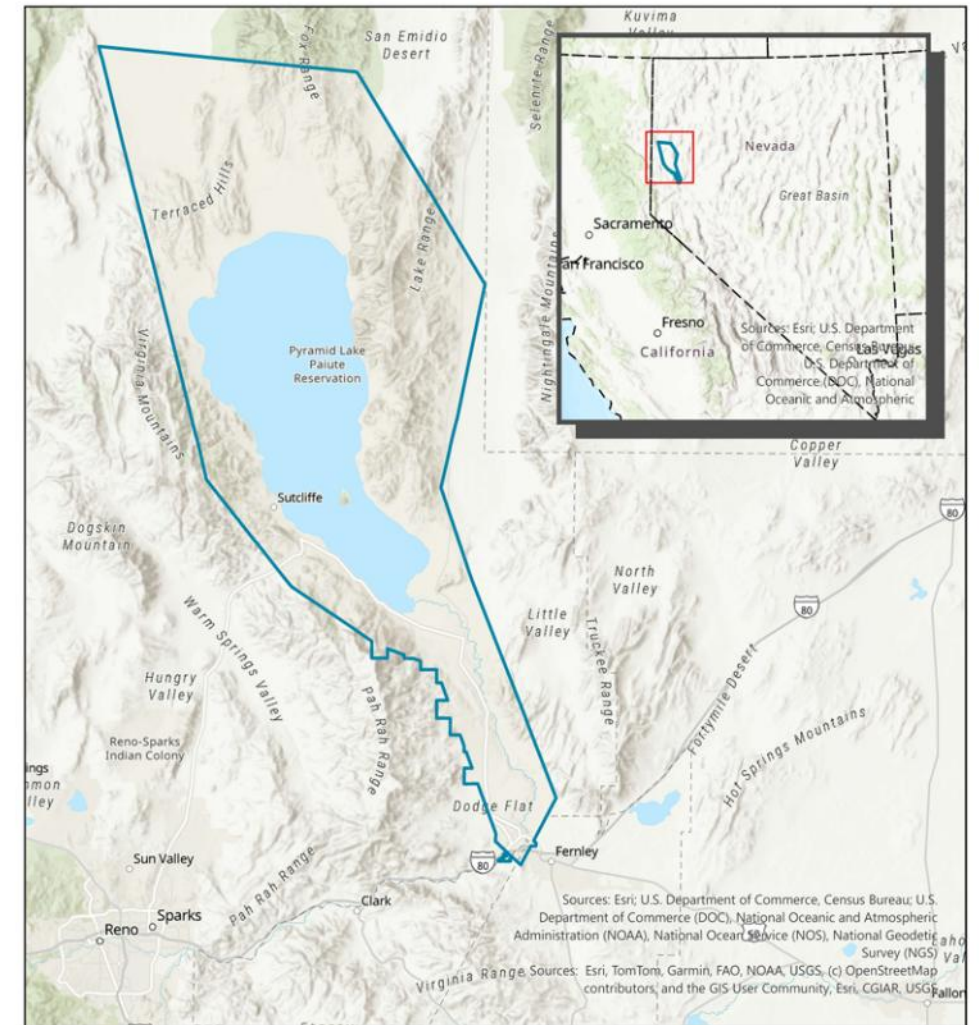


Guanomi Wetland

PYRAMID LAKE PAIUTE RESERVATION (PLPR)

- The Pyramid Lake Paiute Reservation (PLPR) is just under 750 square miles in area
 - Roughly one fourth is lake surface
 - Includes lower portion of the Truckee River
 - Cattle and agriculture are a major part of the Reservation's economy
- Wetlands are dispersed widely along river and in the surrounding mountains and deserts
- Some provide the last bits of habitat for the Northern leopard frog (*Lithobates pipiens*) in Nevada
 - Northern leopard frogs are a species of protection for the Tribe, and listed as threatened by the State and other local partner agencies
- The Reservation is also home to the endemic and federally endangered Cui-ui (*Chasmistes cujus*), and Federally threatened Lahontan Cutthroat Trout (LCT) (*Onchorhynchus henshawi*).
 - LCT support a world-famous fishery and major source of revenue for the Tribe

Pyramid Lake Paiute Reservation



Legend

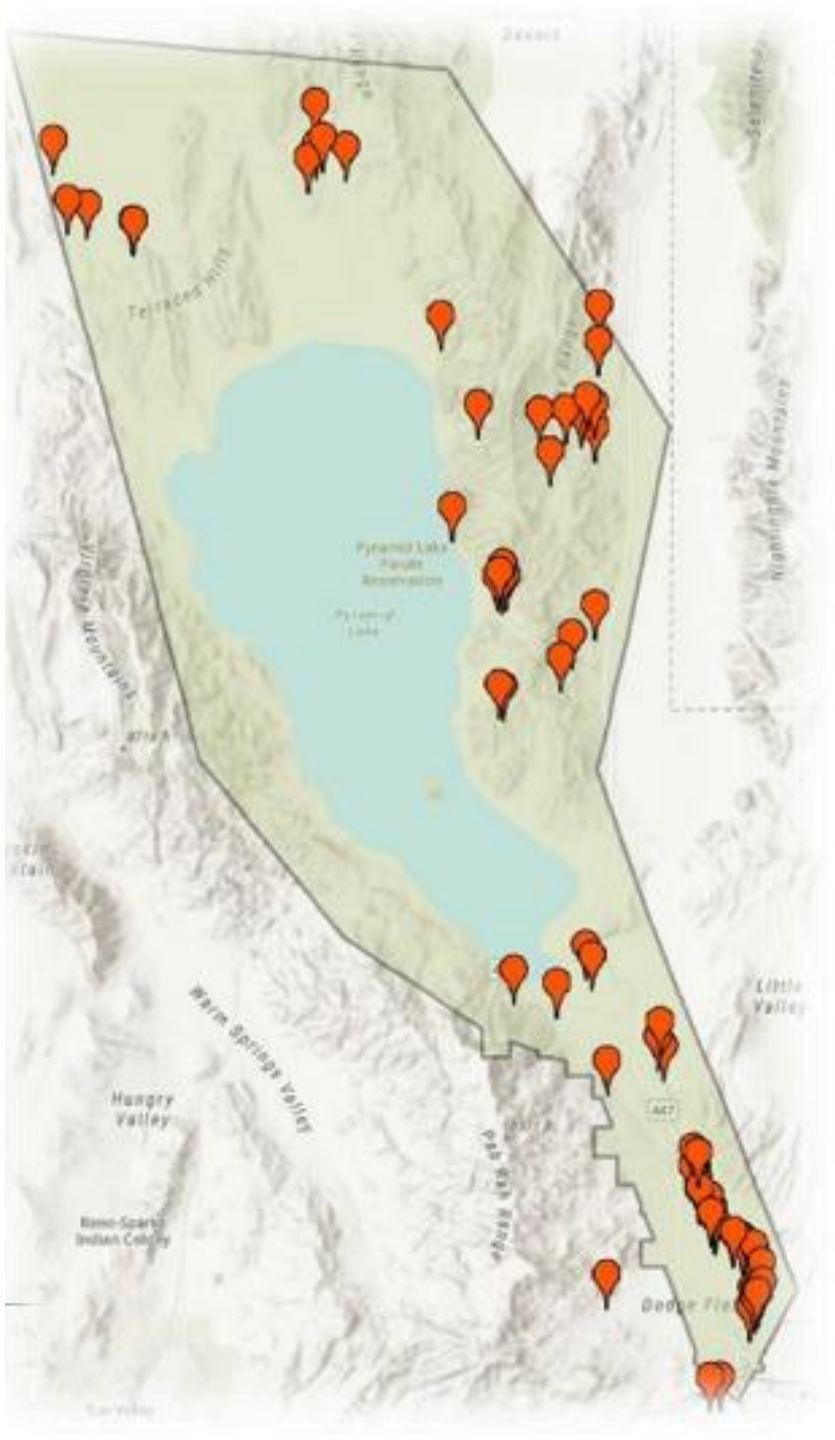
- USA State Border
 PLPR Tribal Boundary

MAPS



Legend

- USA State Border
- PLPR Tribal Boundary
- Truckee River
- Truckee River Watershed



NATURAL RESOURCES DEPARTMENT



- Seventeen employees working on a variety of projects including Water Quality, Air Quality, Water Resources, Wildlife, Range Management, etc., and Wetlands
- Wetlands Program works closely with other Tribal programs such as Water Quality, Water Resources, Wildlife, Aquatic Invasive Species, and the Inter-Disciplinary Team and Tribal Council
- Wetlands Program works from a Wetland Program Plan (WPP)
 - Current plan is written for 10/1/2024 - 9/30/2027
 - Uses a Core Elements Framework with four Core Elements
 - Monitoring and Assessment
 - Regulation
 - Voluntary Restoration and Protection
 - Water Quality Standards for Wetlands
- The Tribe's WPP has been developed using funds from an EPA Wetland Program Development Grant (WPDG)





WETLANDS PROGRAM

- Wetland functions
 - Clean water
 - Cultural resources
 - Traditional food items
 - Materials for building and tools
 - Habitat for threatened species and migratory birds
 - Northern Leopard frog
- Wetlands are widely dispersed across the Reservation
 - Playas
 - Isolated springs
 - River associated wetlands
 - Runoff and groundwater dependent streams

PL013 Wetland



WETLANDS PROGRAM - WETLAND PROGRAM PLAN



- Wetlands Program works from a Wetland Program Plan (WPP) written for 10/1/2024 - 9/30/2027
 - Objective outlined in the four Core Elements
 - Monitoring and Assessment
 - Identify sites and priorities for monitoring and ensure scientific validity of practices
 - Complete monitoring and maintain a database of data over time
 - Analyze and utilize data to inform other monitoring or restoration efforts
 - Make sure program objectives are met by monitoring activities
 - Regulation
 - Identify and review projects and new regulations that may affect wetlands within Reservation boundaries
 - Coordinate with other programs to reduce duplicative efforts
 - Perform outreach and education with the public and other agencies/programs
- Voluntary Restoration and Protection
 - Establish goals, plans and partnerships for restoration activities
 - Maintain and increase wetland acreage
 - Monitor changes over time
 - Modify restoration tactics and goals as needed
- Water Quality Standards for Wetlands
 - Collaborate with the PLPT Water Quality Program to ensure high water quality



Salt Marsh

WETLANDS PROGRAM - MONITORING AND ASSESSMENT METHODS

- California Rapid Assessment Method (CRAM)
- Index of Biological Integrity (IBI)
- Amphibian Monitoring
- Herbarium and native seed collections
- Water Quality



Potato Patch Wetland

MONITORING AND ASSESSMENT METHODS – CALIFORNIA RAPID ASSESSMENT METHOD

- Can be applied to various wetland types
- Provides a numerical score for overall wetland health and function
 - Uses four main attributes
 - Buffer and landscape context
 - Hydrology
 - Physical Structure
 - Biotic Structure
- CRAM scores can be compared year to year, or compared between wetlands
- Increasing scores indicate higher wetland function and habitat quality
- Also provides written records of human usage and disturbances
- Photopoints at regular locations provide a reference to previous conditions
- Nevada Rapid Assessment Method (NVRAM) has been developed, and tested by the Tribe



MONITORING AND ASSESSMENT METHODS - CALIFORNIA RAPID ASSESSMENT METHOD CONT.



- Wetlands associated with the Lower Truckee River have generally higher species diversity than more isolated wetlands
- Wetland scores over time allow us to track major disturbances and prioritize certain wetlands for restoration in the future



Norm's Wetland



Duck Lake Playa

MONITORING AND ASSESSMENT METHODS - INDEX OF BIOLOGICAL INTEGRITY



- Uses macroinvertebrate presence/absence to make inferences about environmental quality
 - In degraded systems, species sensitive to poor water quality should be absent
- Developed specifically for the Wetlands Program with the help of a graduate student from CSUMB
- Calls for a given threshold of invertebrates to be considered representative of the sample
- The Wetland Program is in the process of developing the capability for in-house analysis and bug identification



Quail Canyon



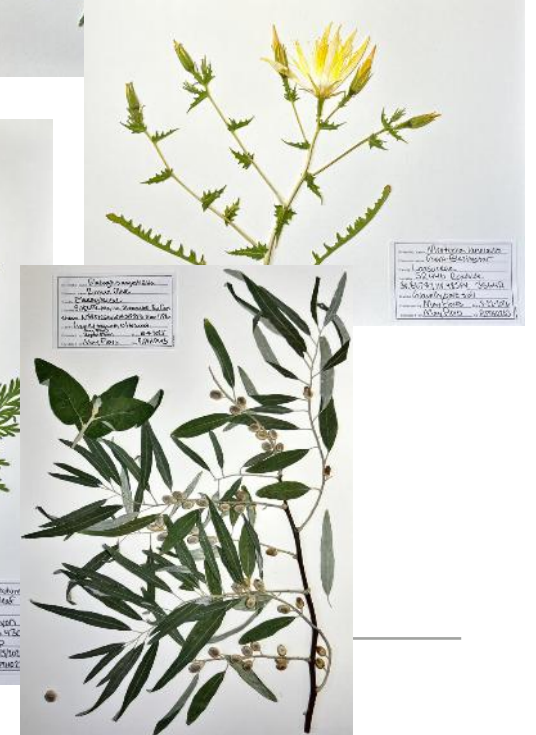
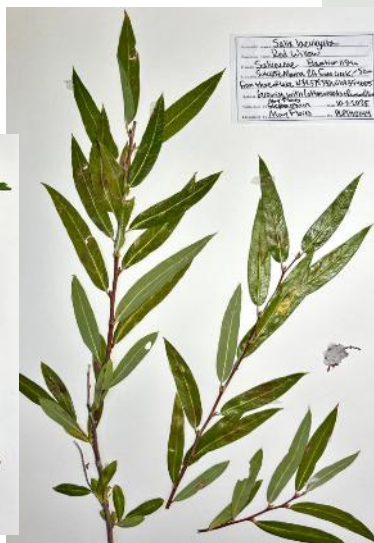
MONITORING AND ASSESSMENT METHODS - AMPHIBIAN MONITORING

- Northern leopard frogs were formerly the most common frog in the Truckee River watershed
- Northern leopard frogs face a variety of threats
 - American bullfrogs
 - *Batrachochytrium dendrobatidis* (Bd)
 - Habitat destruction
- Monitoring activities include acoustic surveys, visual and capture surveys, and Bd swabbing
 - Acoustic monitoring has provided new data on the timing and duration of calling activity
 - § Could confirm presence in locations where visual surveys are difficult or unsuccessful
- Control methods for bullfrogs are being explored
- Amphibian monitoring, along with CRAM and IBI constitute the Tribe's Monitoring and Assessment Core Element



HERBARIUM COLLECTION AND RESEEDING EFFORTS - VOLUNTARY RESTORATION AND PROTECTION

- The Pyramid Lake Paiute Tribe's Herbarium is used for outreach, as well as staff training
 - Currently contains 306 archived specimens and more currently processing
 - Multiple growth stages of each plant are taken where possible
 - Herbarium collection is scanned and uploaded to the Department's server
- Seed collection events occur across the Reservation
 - Used to reestablish native vegetation at disturbed sites
 - Seeds from native species collected near reseeded sites often have higher survival rates



MONITORING AND ASSESSMENT - WATER QUALITY STANDARDS



- Wetlands are sampled annually and water quality parameters are analyzed
 - YSI EXO Sonde
 - Dissolved Oxygen
 - Turbidity
 - Temperature and pH
 - Salinity
 - Samples are analyzed in-house at the Pyramid Lake Fisheries' Laboratory
 - Ammonia
 - Total Phosphorus
 - Dissolved Reactive Phosphorus
 - Total Kjeldahl nitrogen
- Data is shared with the Tribe's Water Quality Program

Numana Inlet



WETLANDS PROGRAM - THANK YOU!

