

Summer 2023



Pyramid Lake Paiute Tribe Natural Resources Department Newsletter



Greetings from the Natural Resources Department!

We have had a great year in the Natural Resources Department with the department finally getting back to normal after the COVID-19 pandemic. The Youth Camp and several other events were able to be held along with other public outreach activities. We conducted a fun Earth Day by having our event outside at the community garden. We had the Natchez Elementary students from the fourth grade and several community members learning how to compost with worms. The wiggly creatures were lots of fun for the kids. Each student took home a compost container full of worms and dirt for their homes. We were also able to hold a 2-day youth camp in June where everyone learned about many environmental issues, participated in activities, and squeezed in some summer fun too. Other outreach events included clean-ups, presentations and activities with the daycare, and recycling events. The Natural Resources department is committed to getting the youth and community involved in learning about the protection of our natural resources and helping clean up the reservation. The Natural Resources Department is compelled to promote public outreach and opportunities to get the community involved in environmental activities. We are planning next year's events, so if you have any suggestions please call or email us to let us know. (cont. pg. 2)

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The Natural Resources Department is entirely funded by grants. Our continuing grants help us to achieve our objectives in monitoring water and air quality, minimizing non-point source pollution, eradicating noxious weeds, evaluating Brownfields sites, assessing wetlands, scheduling water deliveries, overseeing the irrigation systems, exploring renewable energy projects, improving fish passage, supporting summer college interns, monitoring illegal dumping, restoration of river streambanks, and buying water rights for Pyramid Lake. The next program we are building in the department is a streambank restoration program that will help water quality in the river and prevent the erosion of the river banks. These tasks are very important in the protection of Tribal resources, but we are always building capacity within the department to include sustainable programs to address other environmental concerns. To help determine where the department will focus in the future, we are assessing and prioritizing the critical issues impacting the environment.

It has been a challenge this year as there is an abundance of funding available but only limited staff to execute the grant tasks. We have kept all our staff this year but are looking for technicians to help maintain our databases and environmental monitoring. A large portion of the grants are project oriented and not available for long term employment personnel. Some of these projects include fish passage, restoration, and recycling infrastructure. The department continues to apply for grants to protect the environment and ensure that our programs contribute financially to the Tribe through indirect costs.

Aquatic Invasive Species

The Aquatic Invasive Species program has really advanced this year. They have been inspecting and decontaminating boats in both Fishing season and this summer. The program is adding technicians this year to have the inspection station open more often. The program continues to monitor the river and lake to assess the invasive species present. The program is now charging for boat decontamination and working on the procedures for annual stamps for additional income to make the program sustainable.

Water Quality

The water quality program successfully completed the tri-annual review and updated the Tribe's water quality standards to further protect Pyramid Lake, Truckee River, and the ecosystem. The new standards updated the new contaminate standards promulgated by the EPA to protect the environment. The program continues to monitor water quality in the lake, river, streams, and wetlands on the reservation. The wetlands program was not funded this year but the specialist will be working on stream restoration projects to further the protection and development of riparian areas. (cont. pg. 3)

Fish Passage

Fish Passage projects continue to be designed and planned. The Numana Dam project is beginning to plan for the construction phase of the project and procurement of the tons of rock needed to complete the ramp in the river. The fish screen design is completed and we are applying for grants for funding the construction phase. The other fish passage project is Herman ditch where we are moving the point of diversion to Tribal lands and utilize an induction well to provide water to the agricultural fields. These grants and the development of this new program, has allow our department to grow without encumbering the current work being completed.

Water Management

Water management of the reservoirs and Truckee River flows were good this year after such a dry year in 2022. The ample snow pack has made for a great run-off through the month of July. The reservoirs are full which will provide water through any upcoming drought years. The flows were above ideal conditions with natural flows being able to provide excess water during fish spawning season. The closure of the Truckee Canal for the lining the Fernley reach provided more water to Pyramid Lake which will continue through the end of the year. Fish and Wildlife Service were able to monitor fish passage at Marble Bluff and the fry out migration with screw traps. The water in storage is full so we are prepared for any drought conditions in the future.

Groundwater

The groundwater issues persisted in the Wadsworth area as the Tribe reviewed the methods to be used to stabilize the pit wall in Area A on the CEMEX lease. The required de-watering will be monitored closely with new groundwater wells and ones that were monitored for the past 3 years. The EPA is working on a discharge permit for the dewatering that will prevent any discharge from violating the Tribe's Water Quality Standards. The permit is still in review by U.S. Fish and Wildlife Service and the Tribe with a projected issue date in November.

The groundwater and geothermal water on the reservation may be threatened by new geothermal plants developed by Ormat. The San Emidio plant expansion is under construction but the BLM and the Tribe ... (cont. pg. 4)



...required groundwater monitoring of the springs and new monitoring wells. The background data is being collected from the springs and the wells will be completed this year. The Juniper plant site under Black Warrior peak was withdrawn from the BLM. This could be due to the cultural issues at the site. The other threat is a geothermal lease sale that will be conducted this fall near the eastern boundary of the reservation. We will monitor the lease sales to see who purchases the land.

Fire Restoration

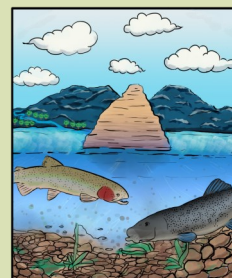
The Department is still working on the restoration of the Tule, Truckee, Tokahum, and Perry Fires. Most of the restoration and protection work was completed, but we are still working on the herbicide treatment to reduce the cheat grass and the final seeding of the treated areas. The follow up monitoring of the seeded areas will proceed for the next few years and be re-treated if necessary. We are also working on monitoring the boundary fence for all 4 fire areas. The boundary fence on the west side burned in the Perry Fire will be re-built if possible after it is professionally surveyed. Hardscrabble Creek within the Tule Fire footprint will be designed to function properly. This will prevent flooding and debris mobilization during high water events. We are focused on the restoration of these lands and protecting the water quality in the streams and lake. There is still much work to do and we will be completing the tasks as time, resources, and weather allows.


EPA Tribal Environmental Plan (ETEP)

The ETEP document was developed by the Natural Resources Department as a strategic planning tool to guide the workplans and scope of work we are developing for grants. This document is revisited every five years to review and include any new objectives within the department. The document was posted for input from Tribal Members to help guide and prioritize the important environmental work. The department wants to address any environmental issues the membership has so if you see an environmental problem please contact me and I will try to add it into a workplan, if possible.

The Natural Resources Departments mission is “to ensure clean air, water and lands to maintain healthy fish, wildlife, and plant populations for future generations to preserve the Pyramid Lake Paiute Tribe’s culture and way of life” and we take this mission seriously by thinking about it every work day with every decision made.

Respectfully,
Donna Marie Noel
Natural Resources Director



*Pyramid Lake
Paiute Tribe*

*Natural Resources
Department*

Air Monitoring Program

The Pyramid Lake Housing Authority and the Pyramid Lake Tribal Air Program have partnered to provide the tribal community with air purifiers/cleaners and information on ways to improve indoor air quality.

The most effective ways to improve your indoor air are to **reduce or remove the sources of pollutants** and to **ventilate with clean outdoor air**. In addition, research shows that *filtration* can be an effective supplement to source control and ventilation. *Upgrading the air filter in your furnace* or central heating, ventilation, and air-conditioning (HVAC) system and/or *using a portable air cleaner* can help to improve indoor air quality. Portable air cleaners and HVAC filters can reduce indoor air pollution; however, they cannot remove all pollutants from the air. Central furnace or HVAC filters are designed to filter air throughout a home. Portable air cleaners, also known as air purifiers, are designed to filter the air in a single room or area. (U.S. EPA)

An air cleaner/purifier is a device that moves air in a room through a filtration system to capture fine particles and or pollutants suspended in the air. By effectively trapping/filtering airborne particles, purifiers help clean the air you breathe and lessen the potential negative effects of certain air pollutants.

The high efficiency particulate air [filter] HEPA is the most effective at capturing fine particulates. According to the U.S. EPA, this type of filter can theoretically remove at least 99.97% of any airborne particles with a size of 0.3 microns. All air cleaners require periodic cleaning and filter replacement to function properly. Follow the manufacturer's recommendations on maintenance and replacement.



Where do indoor particles and or pollutants come from? Pollutants are generally grouped into the following categories: molds, solvents, pesticides, smoke, pet dander, and gases. Indoor pollutants can come from activities such as burning candles, smoking, cooking without properly ventilating, using air fresheners and aerosols, cleaning with chemicals that have a strong odor caused by volatile organic compounds (VOCs) being released, and using paints, glues, and adhesives.

If you are interested in a portable HEPA air purifier/cleaner for your home and or have questions about indoor air quality, please contact the PL Tribal Air Program. Priority will be given to the “sensitive group” which includes elders and children with respiratory issues such as asthma, COPD, and other underlying health conditions.

- Tanda Roberts 775-574-0101/ troberts@plpt.nsn.us

Aquatic Invasive Species Program

Aquatic invasive species are non-native to an ecosystem and whose introduction threatens the diversity and abundance of native species, the ecological stability of infested waters, or economic impacts to hatcheries, agriculture, and recreation. Prevention is the most cost-effective and ecologically protective approach to aquatic invasive species management. Once populations are established, they are very expensive to contain and often impossible to eradicate. The Aquatic Invasive Species Program prevents the introduction of aquatic invasive species through watercraft inspections, decontaminations, and public education. The Aquatic Invasive Species Program has been building capacity at the Watercraft Inspection and Decontamination (WID) Station and instated a decontamination fee in March 2023 that will offset some of the operational and maintenance costs of WID Station. Decontamination is required when watercrafts arrive at the station with any standing water, mud, plants, animals, or other conditions that may harbor aquatic invasive species. The WID station can deliver 140 °F water to hulls, trailers, and motors/engines and 120 °F to interior compartments and systems. These temperatures are hot enough to kill any aquatic invasive species that may be onboard without harming the boat. So far in 2023 (January 1 – June 30), AIS Program staff have performed 222 inspections and 86 decontaminations (Figure 1), and boaters have arrived from 8 States so far in 2023 including California, Florida, Idaho, Missouri, Montana, Nevada, Oregon, and Utah. (cont. pg. 7)

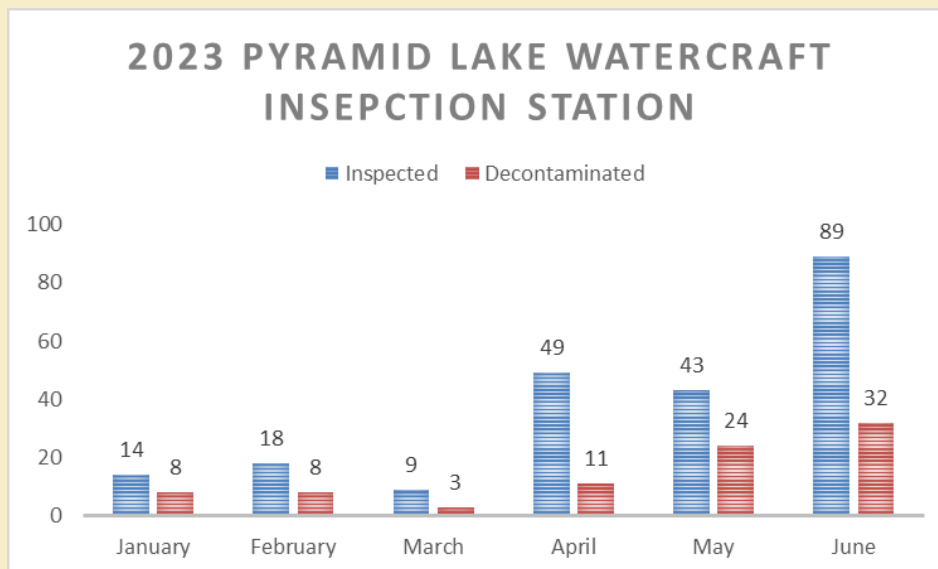


Figure 1: Monthly watercraft inspections and decontaminations performed by the Pyramid Lake Paiute Tribe's Aquatic Invasive Species Program at the Sutcliffe, NV Watercraft Inspection and Decontamination Station from January 1, 2023 – June 30, 2023.

When boaters arrive at the WID Station, information collected includes watercraft registration, boater zip code, and last waterbody visited to name a few. The questions allow Aquatic Invasive Species Program staff to conduct a risk assessment on that watercraft and determine the risk that specific boater poses to potentially transport aquatic invasive species to Pyramid Lake. The top waterbody visited prior to Pyramid Lake is Stampede Reservoir, which currently has a Self-Inspection program (Figure 2). The second most visited waterbody prior to Pyramid Lake is the Sacramento River/Delta, which is infested with New Zealand mudsnails. Other waters on the top list have aquatic invasive species including, Eurasian watermilfoil, curly-leaf pondweed, Asian clams, mysid shrimp, and crawdads. Boats that are not Clean, Drained, and Dry have the potential to be carrying invasive species from one waterbody to another.

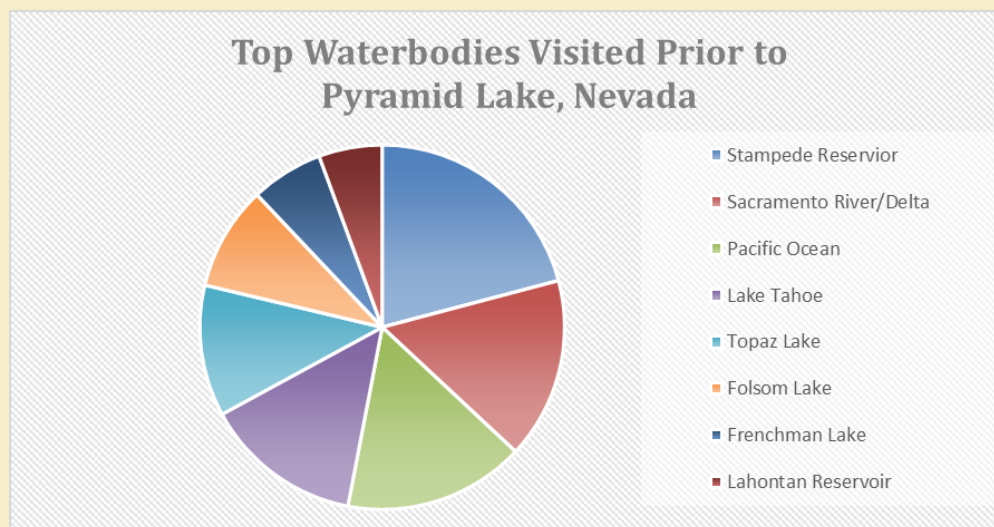


Figure 2: Top waterbodies that watercraft launched at prior to arriving at the Pyramid Lake WID Station in Sutcliffe, NV, which does not include Pyramid Lake, NV as a prior waterbody visited.

Aquatic Invasive Species Program staff noticed a shift from anglers to recreational boaters during Memorial Day weekend, which increased the opportunity for AIS Program staff to educate new boaters on aquatic invasive species and to ensure their boat and equipment are Clean, Drained, and Dry. There was an increase in jet propelled personal watercraft and wakeboard boats, which have the potential of holding a substantial amount of standing water based on the complexity of the watercraft and how they are designed. Many of the boaters had not been through an inspection before, which resulted in over 40% of the watercraft after Memorial Day weekend required a decontamination, which was an increase compared to just over 30% of anglers boating required a decontamination. (cont. pg. 8)

The Self-Inspection Form (SIF) is also part of the watercraft inspections and has boaters conduct a risk assessment on their watercraft to determine whether they could potentially be harboring and spread AIS and to ensure their vessel is Clean, Drained, and Dry prior to launching. So far in 2023, over 600 SIF's have been filled. Over 2,000 SIF's were filled in 2022, which was a substantial increase from 2021 in which just under 1,500 SIF's were filled (Figure 3). Increased outreach and assistance from Tribal Law Enforcement has resulted in increased boater cooperation in filling out the Self-Inspection Forms. The SIF's filled include motorized (when the WID Station is not open) as well as non-motorized, hand-launched watercraft, which are not required to stop at the WID Station because of the low risk they pose of spreading aquatic invasive species due to open hulls and typically are not capable of holding standing water.

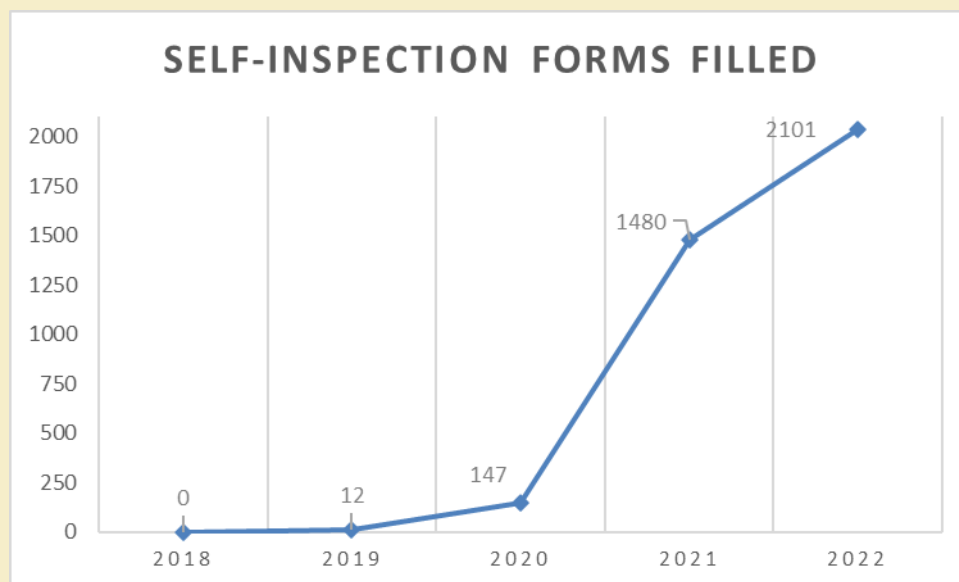
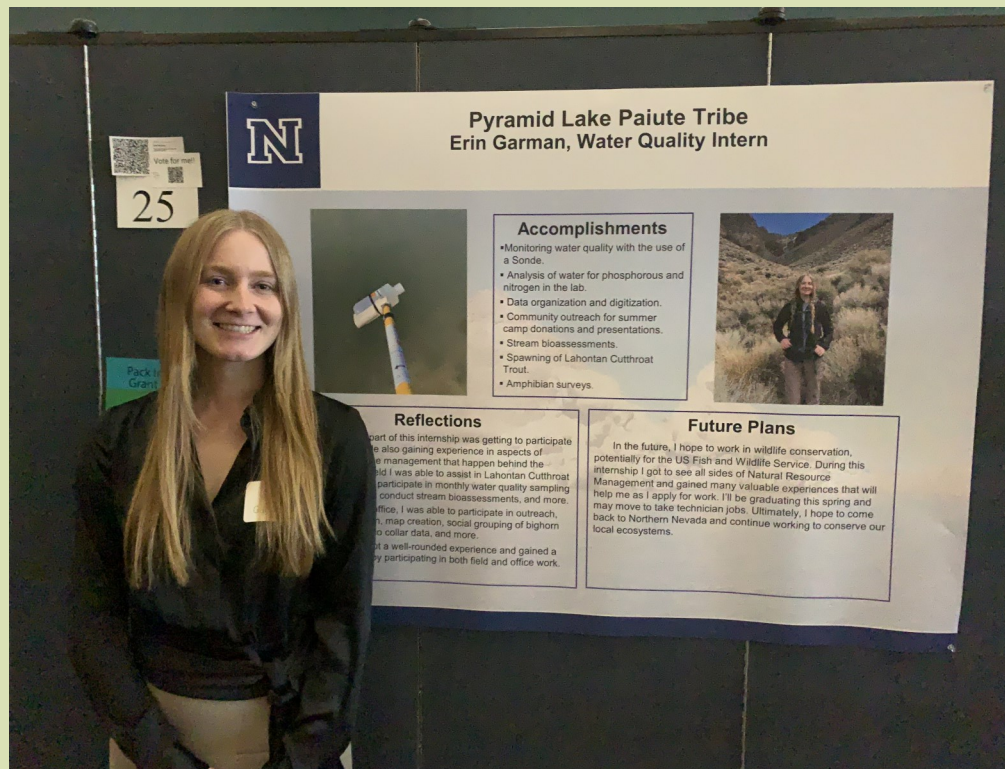


Figure 3: Self-Inspection Forms filled out over time by visitors to Pyramid Lake. The Aquatic Invasive Species Program was established in 2018 and the SIF was developed and approved by Tribal Council at the end of 2019. The low number of SIF's filled in 2020 was a result of COVID-19 and Pyramid Lake being closed to the public from March – November 2020. The increase from 2021 to 2022 can be attributed to increased public outreach and assistance from the PLPT Law Enforcement.



Pack Grant Internship Program - Erin Garman

The Natural Resources Department has participated in the Pack Grant Internship Program again this year. The program is funded both by the University of Nevada, Reno, and the participating organizations. Organizations receive interns from the school and in turn interns receive the opportunity to gain experience within the community. I was so grateful to be chosen as this year's Pack intern for the Natural Resources Department. I have learned so much from the staff! When the semester ended and I graduated from UNR with degrees in Biology and Wildlife Ecology, I was able to stay on as an intern and have continued working this summer. I have gained experience in water quality monitoring, lab analysis, wildlife management, air quality monitoring, invasive species watercraft inspections, and community outreach. These skills will help me in the future as I hope to continue to work in conservation. I have loved working here in your community! Pyramid Lake is such a unique and special ecosystem. Look out for future internship opportunities for your students interested in the environment.



Rangeland Program

How mu! My name is Brianna Merrill and I am work for both Water Quality and Rangeland Health. Water quality and rangeland health are closely related. Good quality of water means we can confidently harvest plants, swim, and fish. Healthy rangelands mean there are plants to hold down the soil which reduces flooding risk and soil blowing away in the wind. Our tribal cattle and native wildlife will also be very well fed! The Rangeland program has two projects underway at the moment. The Rangeland Trough Project will be restoring a minimum of 18 livestock and wildlife troughs throughout the reservation. There will be more troughs on the North End where water sources are rare and desperately needed. These troughs will encourage cattle and wildlife to spend less time on the streams and springs and improve water quality. When animals spend too much time grazing the plants along a water source, the plants get weaker and don't grow as well. However, grazing does stimulate their growth. Therefore, the troughs will be an important first step to ensuring that we graze at that sweet spot and don't overdo it, giving those plants time to regenerate. Another negative effect of too many animals in an area is bare patches of dirt. Animals compact the dirt and our native plants have a much harder time sprouting out of bare, compacted soil than weeds do. Therefore we get more cheatgrass, white top, mustard, and more. Our pollinators and birds are not adapted to those weeds, so they leave. This creates a ripple effect throughout the ecosystem, not just on tribal lands.

This relates to our second rangeland project that is about to begin. We will get trailers and fence panels to set up traps for horses and burros. These are very humane and involve luring animals into a corral with salt that they crave and remote triggering the gate to close once all of a herd is inside. This will greatly improve our rangelands and water ways. There is no one responsible for the horses or burros to make sure they don't overgraze an area. They graze 365 days a year, unlike cattle. Therefore, it is very important to make sure horse and burro herds don't get too large. There is no other financial support for tribes to manage their horses and burros, so we are delighted to be able to safeguard our rangelands for generations to come without having to wait for money for a helicopter round up. Any tribal members interested in a horse or burro will be able to request for one or more, depending on the number gathered.

Pyramid Lake is a beautiful, dynamic ecosystem that has so much to offer. It is great to work for such beautiful land and for its wonderful community of people. Poonedooa!



Recycling Program

Good day, I am the N/R Assistant Dehan Dominguez. I perform minor bookkeeping functions related to all our grants for the programs (i.e., mailing invoices, bills, recording or logs) and assist in the completion of a variety of department forms, reports, and correspondence. I do all the office duties, pay monthly bills, and make sure that all the invoices are copied and go to the proper departments. I also perform receptionist duties, receive visitors and phone calls, and refer to proper staff or provide appropriate information.

The recycling program has five sites for you to recycle your cans and plastic bottles: Nixon Gym, Tribal Offices inside and outside, and the Natural Resources Office inside and outside, and one bin for cardboard only outside the N/R building. The program is hoping for more money to buy more recycling bins to serve more areas.

I coordinate with the PLPT Food Distribution every month to pick up their pallets of recycled cardboard and take that to Reno for proper disposal. We are also working together on green waste for our composting hole at the community collar.

The Natural Resources Department invited all tribal departments to help with “Adopt A Beach” at Pyramid Lake on July 11th from 9:00am—12:00pm. With the PLPT Chairman’s approval the departments received a half-day of comp time. We had two departments sign-up, Victim Services and the Tax Department, as well as twenty-five of our Summer Youth Workers and all of the Natural Resources Department. We cleaned five beaches and picked up over sixty-five pounds of trash, debris from fireworks, wood, and metal that needed to be removed. Thank you all who participated, our help was appreciated. Congratulations to Victim Services who won the prize for picking up the most debris that day!!!!



If you have any questions or concerns, please contact me.

Natural Resources Department Assistant/Recycling Program Coordinator

Dehan Dominguez

ddominguez@plpt.nsn.us

775-574-0101 - ext. 17

Seasonal Workers

Christian Burke - College Intern

Hello,

I'm Cristian Burke, and I'm an undergraduate student at Oregon State University studying Fisheries, Wildlife, and Conservation Sciences. I have just wrapped up my first year, and so far, the classes and overall experience have been great. My first year at Oregon State has left me excited to see what's up next. In the meantime, I'm really looking forward to working further as a college intern with Environmental and its great team

Best,
Cristian Burke



Abby Shaw - Summer Youth Worker

Hello,

My name is Abby Shaw, and I am 18 years old. I am currently working in the Natural Resources Department as a part-time summer employee, I have already learned a lot from being here for a small amount of time. After working here, I plan to advance my education and learn more about this job field.

Tribal Response– Brownfields Program

Hello! My name is Emily Lamb and in early June I started as the Tribal Response – Brownfields Program coordinator. Last summer I interned with the Natural Resources department and after graduating from UNR with my bachelors degree in Wildlife Ecology and Conservation in May, I am excited to be back working for the tribe!



The Environmental Protection Agency (EPA) defines a brownfield as “...a real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant”. The main goal of the Brownfields Program is to inventory, assess, clean-up, and redevelop brownfield properties with funding for the program provided by the EPA under CERCLA Section 128 (a)(2)(B). We are currently assessing properties such as the Smith Site and Natchez Gym building in Wadsworth and have performed abatement activities at the Beasley Property in Wadsworth and Rock building in Nixon.



The program is also working on a Comprehensive Environmental Response Ordinance and accompanying Hazardous Substance Site Management Guide, which will soon be posted for a 30-day comment period. Community members are encouraged to review and provide feedback on the ordinance and management guide. The overall goal of these regulations is to provide further protection to humans and the environment.

For more information on inventoried and in-progress brownfield sites, check out our website at www.plptbrownfields.org or email me at elamb@plpt.nsn.us. Please remember that the properties listed on the site are suspected to contain or are confirmed to contain hazardous materials and you should refrain from entering.

Vehicle Cleanup Program

Environmental & Health Concerns Regarding Abandoned Vehicles

Abandoned vehicles contain fluids that can be hazardous when released to soil, groundwater, and surface water. These vehicles are often used as storage for garbage or other refuse which WILL attract pests and become disease vector breeding grounds.



Pyramid Lake Natural Resources is starting a new volunteer program that will help with getting rid of non-moving or abandoned vehicles for tribal members on their land assignment. If you are interested in being a part of the Vehicle Cleanup Program, there is a questionnaire that will need to be filled out in order to make sure that the vehicle is being removed properly.

This new vehicle program is free to tribal members, but it will take some time and help in getting the information needed for the removal of a vehicle.

VEHICLE REMOVAL WORK ORDER FORM

Requested By: _____ Today's Date: _____
 Phone Number: _____ Request By Date: _____
 Village/Location: _____ Alternative Contact: _____
 # of Vehicles Requested: _____ Alternative Contact Phone #: _____

VEHICLE INFORMATION
(Complete for Each Vehicle)

Make: _____ Model _____ Color: _____ Year: _____
 Vehicle Identification Number (VIN) _____ License Plate: _____

Reason for Removal (Circle As Appropriate)
 A. No longer want B. In way of construction C. Taking up space D. Does not work/run

Does the Requestor have a Title for the vehicle? Yes No
 Does the Requestor own the vehicle? Yes No If "No", please explain: _____
 Does the Requestor have permission or remove the vehicle? Yes No

Location/GPS: _____
Please provide a map of the vehicle location on the back of this Order Form

I, _____ [NAME], hereby give the [TRIBAL AUTHORITY NAME] the authority to remove the aforementioned vehicle(s), after having given the [TRIBAL AUTHORITY NAME] the proper documentation.

Authorization Signature: _____ Date: _____
 Tribal Authority Representative Signature _____ Date: _____

For more information contact:

Pyramid Lake Natural Resources

Dehan Dominguez

775-574-0101 ext. 17

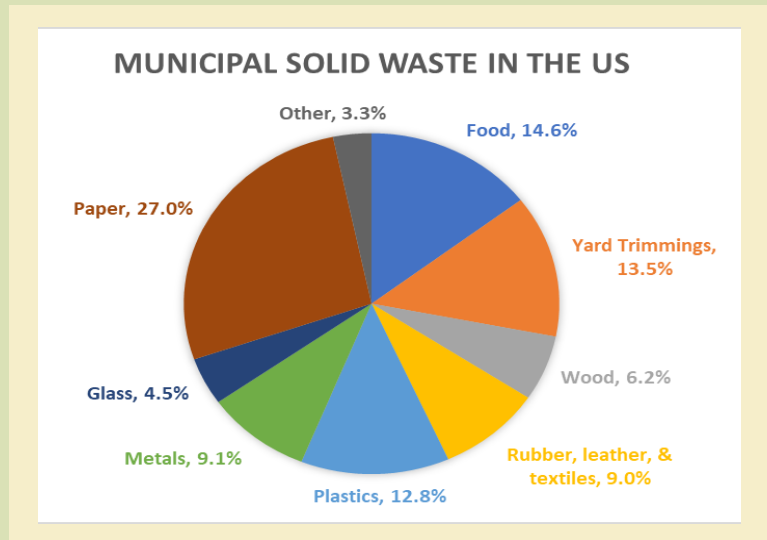
envassistant@plpt.nsn.us

Waste Reduction

Reducing Waste - If not you, then who?

One of the most important steps we can take to protect our environment is to find ways to minimize the waste we produce. Reducing waste prevents pollution, which makes your neighborhood and community a safer and healthier place to live. In the end you benefit, the environment benefits, and your community benefits.

Take steps to reduce your waste but remember, the best way to reduce waste is to simply consume less.



How you can help:



- Say No to Plastic Bags
 - purchase or make your own reusable bag and use it while shopping

- Go Reusable
 - stop purchasing bottled water and opt for a reusable water bottle and carry it with you wherever you go



- Go Paperless
 - take steps to stop junk mail, choose paperless billing, think before printing, and purchase recycled paper products

- Ditch Plastics
 - avoid single use plastics, look for products that aren't over-packaged, buy from bulk bins, and shop at farmers markets



- Reduce Food Waste
 - plan ahead and only purchase what is needed, eat leftovers or reinvent them in to new meals, compost what you can't eat

Water Quality Program - Patrick John

The water quality program collect monthly water samples from 10 different location along the Truckee River. We started doing Harmful Algae Bloom observations after Memorial Day along different beaches on the west side of the lake. Another work in progress we do is getting our continuous monitoring station in Nixon set back up and working properly. Every year we do bioassessments for our streams surrounding Pyramid Lake and Truckee River sites. An important tool we use to help collect the water chemistry is called a Sonde, which is a multiparameter machine that 5 different sensors to measure temperature, dissolved oxygen, pH, turbidity, and specific conductivity.



Our water quality program conducts annual assessments for our perennial mountain streams and lower Truckee River. These assessments measure biological and physical habitat conditions in their high desert environments. The type of data collected is canopy/tree cover and how it effects the temperature for macroinvertebrates and fish or water quality health. Collecting macroinvertebrates with a micro net to see what type of bugs we have in the water because they could be used as an indicator of how healthy the water quality is. The type of macroinvertebrates we would like to see in our sample are diverse and intolerant bugs. Macros that are sensitive to changes in the water will either die out of leave the area and these are the macros preferred because they cannot tolerate bad water quality. Some examples of good bugs can be stonefly's, caddisfly's, mayflies, and water penny beetles. An area that looks like it has bad water quality probably would have little to no macros in the water. Bad bugs can include leeches, worms, and crayfish. The type of vegetation that is currently growing is noted and this might change from year to year. Collecting all this data may differ from previous years due to wildfires or flooding and therefore it is important to assess correctly at the specific time of the event. The accuracy of properly characterizing the site in the present can help determine the long-term conditions of the site or identify critical habitat changes that can happen in the future.



Water Quality Program - Aaron Bill

Good morning! The Water Quality Program, within the Natural Resources Department, is busy with its current monitoring, assessment, and public outreach activities scheduled for this summer recreation season. Here is a report of what's happening, of what's about to happen and what's already happened!

In addition to our regular monthly Truckee River monitoring & sampling responsibilities, we are out at Pyramid Lake every week for our regular Harmful Algal Blooms (HABs) observation events, when we look for signs of *Nodularia spumigena*, the aquatic microorganism that exists within the Lake and produces the liver toxin Microcystin, which can damage the liver of humans and animals, especially fatal to dogs. We also gather field measurements and perform nutrient analysis on samples from Blockhouse, the Marina, and Pelican Point beach sites. We are excited to utilize our new water quality monitoring equipment for more reliable and confident datasets. When bloom conditions are suspected, we perform rapid qualitative analysis for a Presence/Non-presence determination of Microcystin. If the presence of Microcystin is indicated, we send the suspected samples to Sacramento for quantification using genetic analysis & identification via microscopy. At this point the Tribe may take action to limit beach access to protect public health, depending on the toxin concentration. We then take subsequent samples for toxin quantification every week until it is non-detected, when restrictions to Pyramid Lake beach access can be lifted. We will continue our monitoring activities throughout the season until Labor Day weekend. (cont. pg. 17)



Left picture of Marina beach with Harmful Algal Bloom occurring in September 2021. Picture at right shows the same location at Marina beach during normal conditions, June

These remaining weeks of summer, we will begin our repair projects of the continuous water quality monitoring stations at Nixon and Wadsworth, which have experienced different setbacks for gathering crucial data to determine how well our water quality standards are being met. Starting in August, we will install a new protective downpipe at Nixon to replace the pipe that was destroyed during a high flow event. The station in Wadsworth requires re-wiring of the system to allow for remote monitoring of current water quality conditions. Once these stations are fully restored, the Water Quality Program will be able to fully monitor and record the water quality character of the Truckee River on a continual basis.

We are proud to report that the Water Quality Program hosted the annual Natural Resources Department's Environmental Youth Camp at Big Bend, on June 20 & 21, 2023. Ten students participated in this year's camp, which featured guests from various backgrounds and scientific disciplines that presented various topics like Rocks, Gems, and Minerals; Insects, more specifically butterflies; Paiute Culture; current and ancient Pyramid Lake fisheries; Wildlife Conservation; Reptiles and Lizards; Cultural Uses of Native Plants; Forest/Tree Management; PLPT environmental programs; and other topics. (cont. pg. 18)





We want to thank Patagonia Stores, Big R Stores, Broadbent & Associates Inc., the Truckee Meadows Water Authority, Great Basin Land & Water, and the Logan Family for their generous donations. We also want to thank Steve Norman & Debbie Bush from the Reno Gem and Mineral Society; Matt Forister and Cynthia Scholl from UNR Entomology; Autumn Harry, tribal member and UNR graduate student; Heidi Barlese, tribal member & Cultural Officer; Ryan and Kiersten from the Nevada Department of Wildlife; Allison and Akhila Gopal, UNR reptile research graduate students; Dean Tonenna, US Bureau of Land Management; and, Melyssa Navis, US Forest Service, for all of donations of your time to attend. We further want to thank our Tribal Chairman James Phoenix & Tribal Administration, the Pyramid Lake High School, and other Tribal programs, such as the Water Resources Program, Pyramid Lake Operations program, the Realty Office, Tribal Maintenance, and the Tribal Cultural program for their contributions to our event. Finally, we want to thank our young attendees, their parents, and their families for their support and participation in the Youth Camp.

We will host 3rd through 5th graders for next year's NRD Youth Camp once again, in June 2024!

2023 Summer Youth Camp

This year saw the return of summer youth camp after a break due to covid—and it was a wonderful time! The Natural Resources Department put a lot of time and effort in to planning this camp so our tribal youth could have fun and learn something new. From tie-dye, to traditional Paiute games, to tasty bar-b-que this year's youth camp was jam packed with activities. Erin Garman, our Wolf Pack Internship top pick and recent graduate from the University of Nevada, Reno, headed the event and did a fantastic job organizing great presenters, awesome swag bags for the kiddos, and many other logistic details.

Our first group to share was Steve Norman and Debbie Bush from the Reno Gem and Mineral Society. They brought in the three types of rocks: igneous, sedimentary, and metamorphic as well as rocks that can be found in Nevada and rocks that are used in technology and material goods. The kids were all shocked to learn that their teeth are made up of the mineral Apatite! Most importantly, the kids learned about mine safety! We do not go near or into mines because they can be old, unstable, and leak out odorless but hazardous gases



The next group to share were entomologists from UNR Matt Forister and Cynthia Scholl. They brought a beautifully preserved butterfly collection comprised of Sierra Nevada butterflies. The fun didn't end there as the butterfly nets were brought out and the kids took on the challenge to capture butterflies! These champions raced tirelessly in pursuit of the yellow Tiger Swallowtail and successfully captured one! They were all very gentle with the butterflies even the one our master butterfly catcher caught just with his hands! (cont. pg. 23)

After lunch the kids went swimming and Autumn Harry taught the kids about how the lake formed and the 4 native species of fish that inhabit our beautiful lake: the threatened Lahontan Cutthroat Trout which was brought back from presumed extinction, the endangered Cui-ui, the Tahoe sucker, and the Tui chub. Even though the squirt wand battle was fierce, the kids were able to draft terms of peace and everyone lived to see what was in store for the next day!



The second day of camp began as every day should with Paiute language and story time thanks to Heidi Barlese. Heidi was so generous as to teach the kiddos some of her special Hand Game secrets! The kiddos sang the Paiute song Heidi taught them as they learned to play. They were having so much fun, they didn't notice the next group come in to share!

Our next presentation featured Ryan and Kiersten from the Nevada Department of Wildlife. They went over the wildlife we are proud enough to call state animals like the Vivid Dancer Damsel Fly, the Lahontan Cutthroat Trout, and of course the Desert Bighorn Sheep. They also went over animal population management strategies like radio collars and issuing hunting tags as well as practices that hurt population management efforts like poaching. But the main attraction were the animal skulls and pelts! NDOW brought a coyote, bobcat, skunk, spotted skunk, ringtail cat, otter, and muskrat.

We kept on the animal train with guest speakers Allison and Akhila Gopal from a UNR lab studying Western fence lizards. They taught the kids about native reptiles, and the kids learned how they can see temperature using a thermal camera and how humans knowing the reptiles' temperatures helps us learn about what habitats they like and how they manage changes in their environment. (cont. pg. 24)

Our next presenter was Dean Tonenna who shared some Traditional Ecological Knowledge (TEK) in the form of ethnobotany, which is the cultural use of plants. The kids learned about native plants and how they can be used, like willows for basket-making! Dean also taught the kids how to play a fun Paiute game which was put together with rocks and sticks the kids collected on their ethnobotany walk - they could easily make this game at home and continue playing!



The last guest speaker was Melyssa Navis from the US Forestry Service. Melyssa is a Tribal Liaison and she shared with the group how her job is to uplift native communities and make sure their voice is being heard. She shared the tools she uses for her job like maps and brought posters for the kids to take home! Most importantly, she did a beautiful job sharing how no matter what job you choose, it should be something that contributes to joy in your life. We have one life! Make sure it's filled with beauty, meaning, and smiles! (cont. pg. 25)



Finally, the Natural Resources Department each shared an activity that represents a part of what they do. Dehan shared her recycling skills and everyone was great about keeping Big Bend clean and beautiful. Pat, Kaylie, and Aaron went to the river to collect some macroinvertebrates that live in the water. The kids got to pick through the algae and twigs to hunt for macroinvertebrates and see what they could tell us about water quality. Aaron also created an awesome erupting volcano to demonstrate chemical reactions.



Next, Tanda shared with us how important it is for us all to have good air quality. We saw how our bodies move air thanks to our diaphragm that makes our lungs pump! Brianna taught us how healthy range land means healthy animals and people. To understand how plants grow, she shared some fruit and vegetable seeds which the kids planted in compostable toilet paper rolls and were able to take home to watch grow. Our tummies were rumbling but thankfully the barbecue for all was ready. The kids got their swag bags and went home to get a good nights rest after two great days of play and a lot of learning.

Wetlands Program

The wetland program has had a very busy and productive year! The current grant workplan has created a partnership with California State University at Monterey Bay and the Tribe in order to create an Index of Biological Integrity for our wetlands. This tool will allow the Wetlands Program to analyze the health of our wetland's water quality through the macroinvertebrates that can live in them. Through the creation of this IBI, the wetland program has been able to inventory and assess 19 new wetland sites across the reservation for a total of 60 inventoried sites.

The future of the program is somewhat uncertain at this time however, because of the lack of funding for tribal wetland programs and the recent federal ruling in the “Sacket v. EPA” case which substantially reduced the agencies ability to regulate wetlands and streams that do not have a continuous surface connection with navigable waters. This means that many of our isolated playa wetlands and other areas not connected directly to the lake or river are no longer protected under the Clean Water Act. The Natural Resources Department plans to continue to monitor and protect our wetlands across the reservation and is seeking other sources of funding.

The restoration activities at Numana have continued, with the completion of the sheet mulching and white top removal being finished in the Spring of 2023. The Wetland Specialist plan to begin seeding and planting on the berms this Fall and welcomes community input on species of plants they would like to see in the area. Additionally, the Numana nature walk trail signs are set to be replaced in the dry season of this year.

If you are interested in volunteering at one of our work days to continue restoring the area or have preferences for revegetation choices, please contact Kaylie Wilmot at kwilmot@plpt.nsn.us.



Wildlife Program

The wildlife program is now being supervised by Kaylie Wilmot who has been working with Emily Hagler for the last three years on the bighorn sheep reintroduction and the bat monitoring work. We are continuing to closely monitor the bighorn sheep population growth and they seem to be doing very well. The herds seem to be on track to reach sustainable numbers in the next year or two. A recollaring event occurred in the fall of 2022 to allow the department to continue to investigate mortalities and track movements.



The bat monitoring program is in its third year of deploying acoustic monitoring stations that use ultrasonic microphones to determine the species present across the reservation. Emily Hagler and Kaylie Wilmot had the opportunity to travel to Great Basin National Park in Fall of 2022 to attend a training session and become familiar with the software used to assign species to recorded bat calls. The colony of Mexican free-tailed bats that roost under the Nixon bridge is home to about 3,000 bats as of the last emergence count. This emergence count is an annual event done in the summer at dusk, previously by NDOW but now it is being conducted by the NR Department.

Get in Touch



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