



Environmental Protection Department Newsletter

22nd Annual Earth Day Thank You!!



The Environmental Protection Department would like to thank all of those in the community who came out to support our 22nd Annual Earth Day week and making it another huge success. We appreciate your continued interest and participation in this annual event.

Special thanks to the Housing Department for providing the dumpsters and for staff in assisting in the community clean-up day. Thank you to Land and Water, Wetlands Department, Public Works, Health Clinic, Youth and Family Services, Administration, Emergency Management, Education Department, and Senior Center volunteers for the hard work helping keep our community clean up and supporting our Earth Day activities.

A heartfelt thank you to Reverend Ernie Hooper for the 22nd Annual Earth Day Celebration blessing and to Chairman Cathi Tuni for her Earth Day welcome.



Also, a big thank you to the Pyramid Lake High School Pudu Nagudu dancers and to the Young Chief singers for their songs and performances at the Earth Day Celebration. Thank you for the great rocking music everyone enjoyed all day from the River Rogue Band and the Dock Six Band making their first appearance.

A big thank you to all the numerous vendors and organizations who participated and to all of those businesses and individuals who made donations for this year's Earth Day Celebration in Oats Park. A SUPER THANK YOU to Sonia Corleto, Ileana Henry, Safia Amimi, Robert Downs and Morgan Hale of the environmental staff for all of their hard work and extra effort that makes our Earth Day events so successful each year.

We look forward to seeing everyone again next year for our 23rd Annual Earth Day! Remember to conserve our natural resources for the future and to reduce, reuse, and recycle.



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Mosquito Abatement Program



Due to the abundance of water caused by snow melt this year, the mosquito season was expected to be much more intense. The increase of water being delivered to low valley areas for irrigation creates ideal breeding grounds for mosquitos. These areas can breed thousands of mosquitos with each water delivery. Each mosquito can lay a raft of a hundred eggs.

Thankfully, the Bureau of Indian Affairs has provided emergency flood funds to supplement tribal mosquito abatement expenses. With this funding the Tribe was able to purchase two additional backpack larvicide blowers and a Buffalo Turbine air blast sprayer for liquid or granule larvicide applications. The emergency flood funds also include the hiring of two temporary TERO workers to assist with larviciding to target mosquitos before they 'hatch off.'

The Tribal Mosquito Abatement Program provides these tips to help you avoid the bites and reduce the threat of the West Nile Virus.

Drain: Empty out water containers at least once per week and use pool covers.

Dress: Wear long sleeves, long pants, and light

colored, loose-fitting clothing.

Defend: Properly apply an EPA-registered repellent such as DEET, picaridin, or try a natural repellent like coconut oil.

To report high mosquito activity in your area please call or text our field cell number at **775-493-1700**. If you know of any areas where mosquitos may be breeding, we would like your input. Your message is important, so please leave your name, address, phone number and your concerns. You may also request to be put on the no-spray list and the department will try to honor those requests when possible.

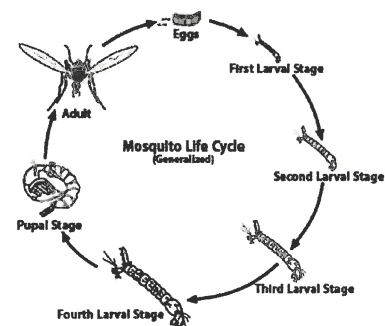
Please remember that mosquito fogging is dependent on temperature and wind speed and there may be times when we will be unable fog.



Welcoming Ezekiel Downs



We welcomed Ezekiel Downs onboard to fulfill our Environmental Specialist 1 position focused on mosquito abatement. Zeke's primary duties are fogging for mosquitos, larviciding for mosquito larvae, and establishment of a seasonal roadside weed management program. Welcome to our team!





Is your vegetable garden climate-resilient?

It takes a resilient garden and plants to survive extreme conditions from extreme heat, drought to flooding, all of which are becoming frequent in our area. One way is to choose plants that can tolerate these conditions. For example, plants originating in tropical or subtropical regions tend to tolerate heat better than those from a colder, northern climate. These are 10 common heat and drought tolerant vegetables:

Beans

Chickpeas, lentils, butter beans, yard-long beans (also called asparagus beans), black-eyed peas, cream peas, and purple hulls thrive in hot conditions.

Beets

Because of their deep roots, beets can be sown early to take advantage of the longer growing season. In addition, beets can withstand hot days when provided with plenty of water.

Carrots

Although carrots are slow-growing vegetables that need sufficient watering, they can still do well even during the hottest days. Avoid juicy varieties such as Nantes because they have less fibrous roots, which means the roots are more likely to split in dry conditions.

Eggplant

Native to southeast Asia and India, eggplants are heat-tolerant vegetables that require minimal watering once established. They grow successfully in warm climates with full sun exposure. Stick to varieties like Black Beauty, Thai Long Green, Blackbell Classic, Midnight, and Florida Hi Bush.

Okra

Native to tropical Africa, okra prospers in hot climates with soil temperatures at 80 degrees Fahrenheit and above. Okra should be watered and picked regularly. It is not frost tolerant, so plant seeds after the spring frost has passed. Some good varieties to try include Clemson Spineless, Cajun Delight, Emerald, and Burgundy.

Peppers

Originating in Central and South America, peppers are a tropical crop that does well in the heat. Peppers require warm soil to germinate, at about 80-90 degrees Fahrenheit. Plant sweet pepper varieties like Hungarian peppers, Shishitos, elongated Italian sweet peppers, Sweet Banana, Gypsy, and Pimento that thrive in the heat. Hot peppers, such as Anaheim, Jalapeno, Cal Wonder, Red Knight, Big Bertha, Sweet Banana, and Cubanelle, do even better in prolonged heat.

Potatoes

Between originating in the Andes and growing in the ground, potatoes are more tolerant of dry summers than many other vegetables. There is a wide choice of varieties; look for the more re-

silient types that mature slowly and can be harvested in autumn after they have time to recover from a drought.

Sweet Potatoes

Sweet potatoes are another tropical plant that grows well in the heat. They require a long growing season, regular and abundant watering, and to be harvested before the soil temperatures drop below 55 degrees Fahrenheit.

Swiss Chard

While many types of greens will turn bitter in hot weather, Swiss chard is quite tolerant of hot, dry conditions. Experiment with multiple varieties including the colorful Rainbow chard.

Tomatoes

As one of the most popular garden vegetables, tomatoes are native to the tropics of South America and are generally adaptable to varying climates including hot weather. However, extreme heat may prevent the flowers from producing fruit. They do best in up to 85 degrees Fahrenheit. Look for drought-resistant varieties including Roma, San Marzano, and Black Krim. Sungold and Jasper cherry tomatoes are recommended for hot weather. Finally, some heirlooms also do well in the heat, such as Arkansas Traveler and Brandywine.

Other tips:

Adopt a no till practice: tilling, the process of turning over the soil to loosen it, disrupts microorganisms that are vital for soil and plant health and breaks up the soil structure, which is what helps it hold water. Instead use mulch to suppress weed, add organic matter and improve water moisture in your garden.

Plant earlier : this way plants establish before the onset of hot weather and dry soils.

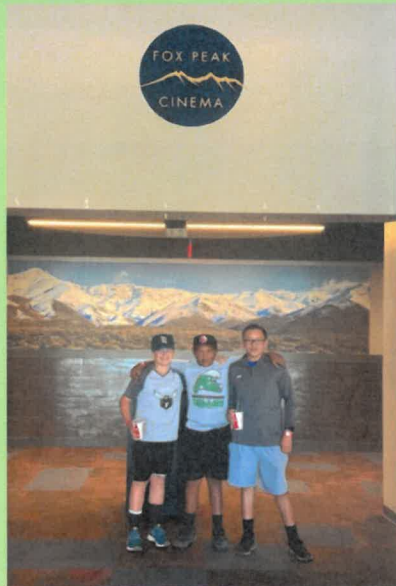
Minimize Water Waste: use ground covers and mulch to help improve water retention in the soil. Try to avoid bare ground because it dries easily in hot weather. Effective mulch materials include compost, straw, leaf mold, wood chips, grass clippings, and comfrey.

Earth Week 2023

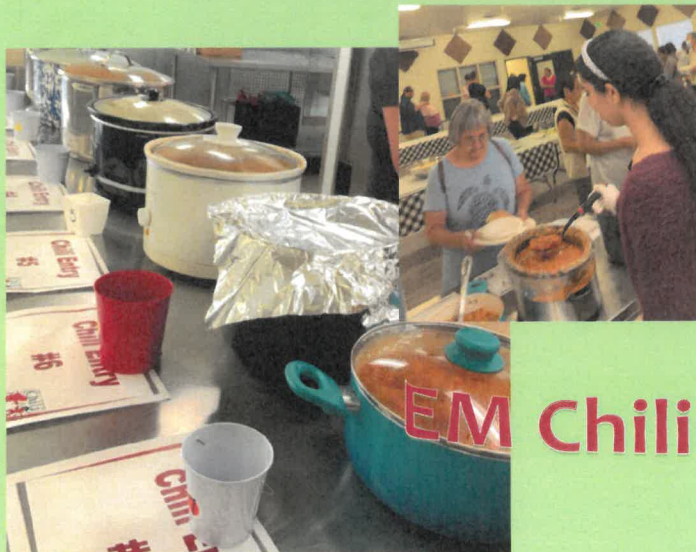


Community Clean-Up Day

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EM Chili Cook-Off



Earth Day Art Contest

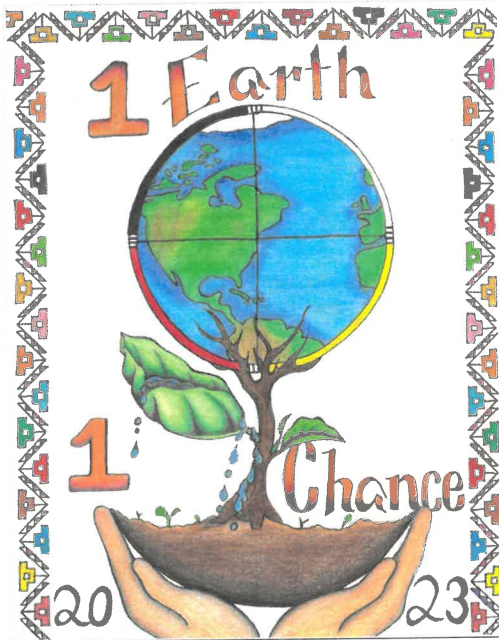
Thank you to all of the local artists who participated in this year's Earth Day Poster Contest. The winners of the 5 to 10 year old category were Autumn Kiltz 1st Place and Joel Delacruz 2nd Place. Winners of the 11 to 15 year old category were Katelyn Smith 1st Place and Jesse Marsh 2nd Place. Winners of the 16+ years were Tanner Allen for 1st Place and Amy Kennison 2nd Place. Congratulations to all and to Katelyn Smith for her winning artwork that was used for this year's 22nd Annual Earth Day tee shirts.



Autumn Kiltz, 1st place
winner 5-10 age group
category.



Katelyn Smith, 1st place
winner 11-15 age group
category.



Amy Kennison, 2nd
place winner 16+ age
group category.



Joel Delacruz, 2nd
place winner 5-10 age
group category.



Jesse Marsh, 2nd
place winner 11-15
age group category.

Tanner Allen, 1st
place winner 16+ age
group category.

TA

Water Quality Monitoring Program

The Environmental Department regularly monitors the water quality on surface waters on the reservation including in canals, drains, and the wetland area. The sampling events take place near the end of the month during the irrigation season. We sample for chemical and bacteria pollutants. The results of the sampling events are analyzed by Ileana Valenzuela, Program Environmental Specialist. Results will be compared to the EPA's recommended criteria for surface waters and be used to develop the water quality standards for the Tribe.

The goal of Tribe's surface water program is restoration and maintenance of the Tribe's water resources as reflected in the Federal Clean Water Act (CWA.)

Coliform Bacteria Warning

Coliform bacteria is a pollutant of particular concern based on current and historical sampling data on the Reservation. At times the level of bacteria in surface waters on the reservation is at a level that may cause illness or other infections. **People should avoid recreational contact (such as swimming) with waters on the Reservation (including canals, drains, and ditches) because of the bacteria.**

Coliform bacteria naturally live in soil, vegetation, and in the gastrointestinal tract of animals. The bacteria exists in

human and animal waste and indicates the presence of untreated or inadequately treated sewage. The bacteria can create a potential for diarrheal illnesses and other infectious diseases. Coliforms enter the water from the direct disposal of waste into streams or lakes, or from runoff from wooded areas, pastures, feedlots, septic tanks, and sewage plants into streams or groundwater. Coliforms are not a single type of bacteria, but a grouping of bacteria that includes many strains, such as E. coli. Not all coliforms are harmful, however, some can make you sick. Many variables such as the specific type of bacteria present and your own immune system determine if you will get sick.

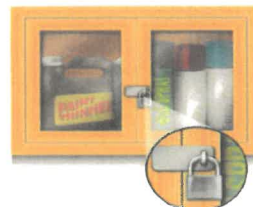


Keep Your Family Safe From Household Chemicals

Chemicals you use in your home can be dangerous to your health and the environment. To keep your family safe, follow these safety tips when you use, store or throw them out.

Use and storage tips:

- Follow the instructions on the label when you use and store household chemicals.
- Don't mix products. This can cause deadly gases or cause a fire.
- Store products in their original containers.
- Store anything that can catch on fire away from your home.
- Only fill portable gasoline containers outdoors in an airy area. Make sure to place the container on the ground when you fill it.
- Never store materials that can cause a fire in the sun or near an open flame or heat source.
- Store these materials out of the reach of children and pets.
- Use safety locks and guardrails on shelves and cabinets when you store materials. This will prevent them from falling or tipping.
- Wear gloves or goggles when you use these materials.



When you need to throw them out:

- Follow the instructions on the label.
- Aerosol cans might contain chemicals that can burn. If you put them in the trash, they can explode or start a fire.
- If you have a spill, clean the area and put the containers in an airy place. If you cannot control the spill, or are unsure about cleanup and disposal, call your local fire department.



FEMA



U.S. Fire
Administration



For more information and free fire safety resources, visit www.usfa.fema.gov

What is Pollution Prevention (P2)

Pollution prevention (P2) is any practice that reduces, eliminates, or prevents pollution at its source before it is created. As shown by the EPA Waste Management Hierarchy, P2, also known as "source reduction," is fundamentally different and, where feasible, more desirable than recycling, treatment or disposal. It is often more cost effective to prevent pollution from being created at its source than to pay for control, treatment and disposal of waste products. When less pollution is created, there are fewer impacts to human health and the environment.

Specific Pollution Prevention Approaches

Pollution prevention approaches can be applied to all potential and actual pollution-generating activities, including those found in the energy, agriculture, federal, consumer and industrial sectors. Prevention practices are essential for preserving wetlands, groundwater sources and other critical ecosystems - areas in which we especially want to stop pollution before it begins.

In the energy sector, pollution prevention can reduce environmental damages from extraction, processing, transport and combustion of fuels. Pollution prevention approaches include:

- increasing efficiency in energy use; use of environmentally benign fuel sources.
- In the agricultural sector, pollution prevention approaches include:

- Reducing the use of water and chemical inputs;
 - Adoption of less environmentally harmful pesticides or cultivation of crop strains with natural resistance to pests; and
- Protection of sensitive areas.

In the industrial sector, examples of P2 practices include:

- Modifying a production process to produce less waste
- Using non-toxic or less toxic chemicals as cleaners, degreasers and other maintenance chemicals

- Implementing water and energy conservation practices

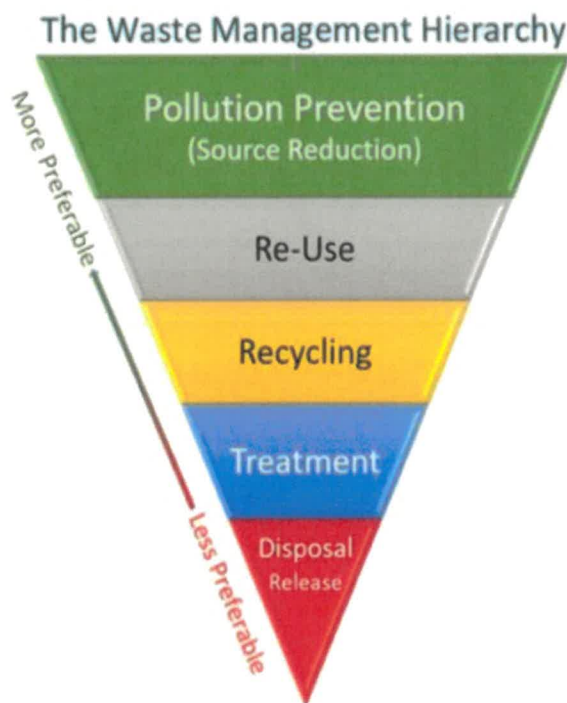
Reusing materials such as drums and pallets rather than disposing of them as waste

In homes and schools examples of P2 practices include:

- Using reusable water bottles instead of throw-away
 - Automatically turning off lights when not in use
 - Repairing leaky faucets and hoses
- Switching to "green" cleaners

Why is Pollution Prevention Important?

Pollution prevention reduces both financial costs (waste management and cleanup) and environmental costs (health problems and environmental damage). Pollution prevention protects the environment by conserving and protecting natural resources while strengthening economic growth through more efficient production in industry and less need for households, businesses and communities to handle waste.



How High Salinity is Harmful

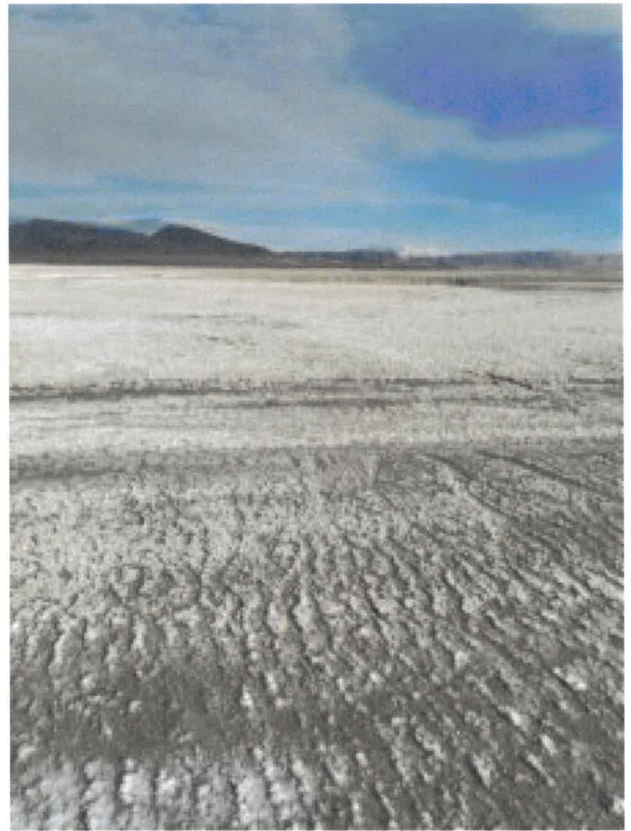
Many of you will recognize the photo to the right if you've traveled east of Fallon. These are the salt flats. As you can see the land is barren, which means it doesn't have adequate resources to produce vegetation. You may also notice that our area is high in salinity just by looking at the surface of the ground.

Salinity is the saltiness or amount of salt dissolved in a body of water and soil salinity is the salt content in the soil. The process of increasing the salt content is known as salinization.

There are many reasons why an area is high in soil salinity. Areas that have a shallow water table (which our area does) can develop saline soils due to excessive water evaporation and the concentration of salt left behind.

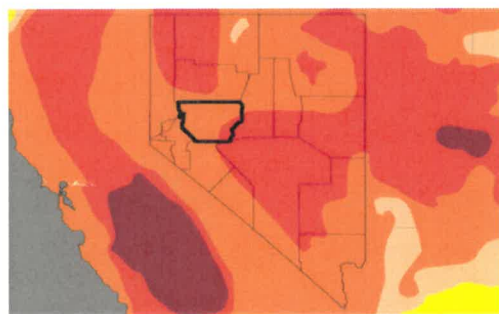
If the level of salts in the soil water is too high, water may flow from the plant roots back into the soil. This results in dehydration of the plant, causing yield decline or even death of the plant. Crop yield losses may occur even though the effects of salinity may not be obvious.

Soil salinization is a matter of concern in agriculture, as the excess of salt hinders crop growth by obstructing the ability to uptake water. In other sense, it causes loss in soil fertility and leads to desertification of agriland, which the picture to the right depicts.



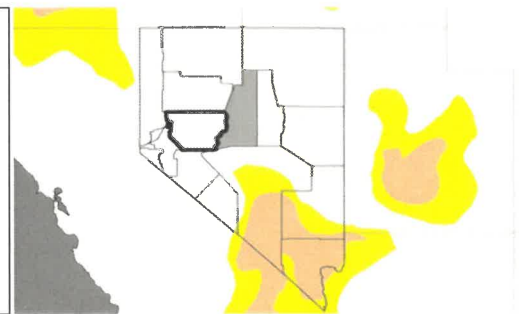
Drought Conditions Change From Severe Drought To None

Drought conditions have improved in much of the Southwest, in large due to above normal precipitation during the current water year. In the sierra Nevada, precipitation levels were 300% above-normal levels from October to June. Temperatures were also below normal in the winter and spring. Above normal precipitation and below than normal temperatures are good combination that brought much needed drought relief into the region. According to the July 4 U.S. Drought Monitor, only 10.3% of CA/NV is in drought, down from 99% at the start of the water year (October 2022). Churchill county was in severe drought at the start of the water year.



Drought conditions in 10/04/2023 (Churchill county highlighted in black).

Drought conditions in 07/11/2022. The county was in severe drought (light orange) in October and no drought in black.



Looking Forward

The 3-month outlook for temperature shows a high probability of above-normal temperatures in the summer. July temperatures were certainly consistent with the seasonal outlook. In fact, Fallon broke temperature records in July 15 and 16 at 104 and 105 F respectively. As for precipitation, there is still not a strong signal for a wet or dry summer. Across essentially all of Nevada, there are equal chances that summer will be dry, near normal or wet.

High soil and vegetation moistures, as well as a decent high-elevation snowpack, mean that significant wildfires are less likely than normal at higher elevations. However, at low elevations lush vegetation will dry under high temperature conditions which leads to high fire risk.