Fallon Paiute-Shoshone Tribe

Environmental Protection Department Newsletter

August 2011

Planting the Rain

By Carmen Gonzales

In July, the Nevada Division of Environmental Protection awarded a grant to the Tribe for the Low Impact Design Vegetated Swale Project. The Environmental Department applied for funding from the NDEP Bureau of Water Quality Planning through the Nonpoint Source Prevention Program 319(h) grant. The funding will be used to apply permaculture principals to the design of a swale for a Tribal subdivision.

Volunteers converting a roadside to a rainwater catchment rain garden in Tucson, AZ.

A swale is a type of rainwater catchment earthwork that allows surface water runoff to slow down, spread out, and sink back into the ground. The benefit of this type of designed rainwater catchment system is that it captures polluted stormwater runoff before it reaches nearby surface waters and allows the earth's natural filtration systems to clean the runoff and recharge the shallow groundwater aquifer. Because the system will be working to recharge the groundwater in the root zone of plants, we can then select trees and shrubs that we would like to grow with the many gallons of water that will be captured. A well designed swale can help turn water runoff and flooding problems into precious water resources in a dry desert.

We will be announcing public meetings to unveil a vision of what this rainwater catchment system could look like soon. We look forward to working with you to plant the rain!

Finished roadside rain gardens in Tucson, AZ. Photos courtesy of Brad Lancaster, rainwater harvesting guru and author of the book *Rainwater harvesting for Drylands and Beyond.*

Inside this issue:

Going Solar

By Gabby Centeno

You have probably noticed solar modules popping up at the Tribal Departments. Clean Path Renewables from Reno, NV has been installing solar modules for the Tribe under a project funded by Nevada's rebate system administered by NV Energy. The project is being built at no cost to the Tribe and will fund a little over 700 solar modules. They have already completed Fox Peak and are currently working on various departments including the Environmental Department. Nevada's Renewables Portfolio Standards (RPS) requires all utilities in the state to get at least 25 percent of the power from renewable sources by 2025. This is a great opportunity considering our state's consistent sunshine. Solar energy is a renewable resource and does not produce greenhouse gases. Solar panels have very low maintenance and are a huge money saver.

How Does Solar Energy Work?

The sun emits photons (energy) that travel to the Earth. The photons release electrons, charged particles, that the solar modules turn into a DC current, kind of like a battery. The DC current gets converted into an AC current, and can be sent to the grid.

Pressing News

By Michael Babcock

In August, we will be collecting and identifying plant species in the tribal wetlands. An example specimen of each plant will be collected from the wetlands and preserved by pressing and drying the plant. Plants will be preserved using the "sandwich-method" by placing them in between layers of newspaper and cardboard and pressing the layers between two pieces of plywood that can be tightened with a strap. Preserved and dried specimens will be mounted on large white cards and kept in a reference collection that can be used to help identify plants in the wetlands.

You can collect and preserve your own plants at home. When collecting plant specimens the entire plant should be harvested, including the roots. Plant features like leaves, fruits, and flowers should be spread out on the newspaper so that they don't overlap. Understanding the plant species present in the wetlands helps us to better know what the health of the wetlands is and helps us to make better management decisions in the future that will result in a better wetland environment.

Radiation, What's the Explanation?

By: Sonia Corleto

Everyday we are exposed to radiation wherever we go, and whatever we do. We are exposed daily to radiation through either man-made or naturally occurring sources.

Natural Radiation

Radiation is found in rocks and soils, lakes and rivers, and in the atmosphere that blankets our planet. Radiation is what geologists believe contributed to the warming of our planet that made life on Earth possible. As you bask in the rays of the sun, that warm feeling on your skin is due to your body absorbing radiation contained in the sun rays.

Radon Gas

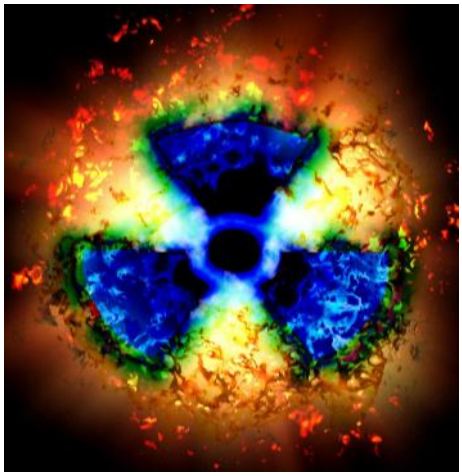
Radon is a gas that has no odor, color or taste. It occurs naturally due to the breakdown of uranium present in all soils. Uranium decays into radon gas and moves through the soil into the air where it is normally dispersed harmlessly into the outdoor air. Radon can enter buildings through openings in the foundation and get trapped inside. Over a long period of time (5-25 years), breathing in radon can increase your chances of developing lung cancer. It's the second-leading cause of lung cancer in the US. Not everyone exposed will develop lung cancer. Smoking greatly increases the risk of lung cancer when combined with radon exposure because smokers receive a dose of radiation from polonium-210, a radioactive element, and it's decay-products every time they take a puff.

Radiation Exposure

Exposure to any amount of radiation can be dangerous. Radiation exposure has the potential to affect normal cell processes and cause cancer. In this article we are talking about exposure to low-levels of radiation that are present naturally in the environment. Assuming you aren't living near a nuclear catastrophe or working in the nuclear industry, your main exposure to radiation is though radon exposure, medical procedures such as x-rays, and cosmic radiation. At low doses the body is able to repair any cell damage rapidly. Over time, however, your risk of developing cancer may be increased. There is no evidence that other respiratory diseases, such as asthma, are caused by radon exposure and there are no immediate symptoms from exposure to radon.

What Can You Do?

Radon exposure is completely preventable. If you are concerned about your lifetime exposure to



The risk of developing lung cancer from radon exposure if you are a smoker is about 8 times

radiation the most important thing you can do is to quit smoking. You will decrease your risk of developing lung cancer greatly and your lungs will thank you. The second thing you can do is test your building for radon and take steps to decrease the levels indoors. If your levels of radon are higher than the action level recommended by the EPA, you can take action to vent your spaces to reduce the accumulation of radon.

Arsenic Treatment Plant Notes

In August representatives from the USEPA and IHS Agency were invited to the Tribe's arsenic treatment plant for a site visit. The purpose of the visit was to gain insight into the operational and maintenance challenges associated with arsenic treatment and compliance challenges with the Safe Drinking Water Act. Several arsenic treatment plants are currently being built around the country with federal funding. Information shared will help future plants prepare for challenges when they come online.

From left to right: Dominique Wolf, IHS Reno ; Sara Ziff, EPA Region 9; Kevin Snodgrass, Public Works Manager; Kyle Carey, EPA Headquarters Washington DC; David Harvey, IHS Headquarters Washington DC; Cody Downs, Public Works; Roger Yates, EPA Region 9; Edwin Conway, Public Works .

Your Wetland Story

We are working on designing an interpretive self-guided tour of the Tribal wetlands. We would like to invite you to share any stories or memories you have of an experience you had in the wetlands. Stories, "what your wetlands mean to you," will be included in the tour that will be available for anyone to participate in. We are very excited about this project and would appreciate any feedback you have on the tour! To submit your story send and email to sonia@enviro-fpst.org or drop them off here at the Environmental Office.

By Sonia Corleto

Pollution Solutions

By Sonia Corleto

We know it's easy to just empty the pool out by pulling the plug and letting the water drain down the street and into the desert. Have you ever wondered what happens to all that water? (And possibly pool chemicals like chlorine, algaecides, alkalinity stabilizers, and oxidizers?) If you empty your pool before giving the chemicals a chance to dissipate, it is harmful to the environment and can kill plants and other important biology. A more environmentally friendly solution is to quit adding chemicals to the water and let it stand for at least a week before its drained. You can then use the water on your lawn, or better yet in your new permaculturally designed rain garden! By keeping it onsite, it prevents the water from becoming nonpoint source pollution. Be sure to discharge water in a way that will prevent excessive pooling to avoid un-neighborly odors, and fly/mosquito breeding conditions. Adding mulch to your garden is a great way to prevent excessive pooling. If you would like advice on how to build your own rain garden, give us a call!

Calling All Birders

By Michael Babcock

The Environmental Department has been working with the Audubon Society to set up a wetland bird survey program. Bird surveys are used to monitor the status of bird populations over time. Bird populations are an indicator of wetland health and provide clues about the state of the aquatic habitat due to water quality.

We will use a bird survey technique called the "Stationary Point Count." Information such as number of birds seen, species, if the birds were flying or resting, and distance are recorded at pre-determined monitoring locations in the Tribal wetlands.

The wetlands in the Lahontan Valley are a great birding area all year-round. There are many shorebirds to be seen from late April to mid May, and from July through September. Waterfoul arrive in the late fall. Some of the species that you may see are the American White Pelican, White-faced Ibis, and Wilson's and Red-necked Phalaropes. Birds that can be seen during the winter months are the Snowy Plover, Golden Eagle, and Prairie Falcon.

Red-necked Phalarope

If you are interested in learning more about birding, or are already an avid birder willing to help out during bird surveys, give us a call Office at 775-423-0590. Our next bird survey will take place later this summer. It is a great opportunity to get out and see the beautiful wetland areas while learning more about the wildlife that share our home.

Snowy Plover

Listening to Water

By Carmen Gonzales

Have you ever noticed how water seems to flow wherever it wants to? Even through mountains of stone. If you sit and watch water, it will tell you where it wants to go. When left to make it's own decisions, water will naturally meander back and forth creating beautiful land patterns such as oxbow lakes and beautiful wetland areas. When water is forced to move in straight lines it is not allowed to follow the path intended by nature. Incidentally, we tend to see the highest concentrations of pollutants in our waters when our straight lines of pavement and pipes collide with the will of water. One of my great teachers, Penny Livingston, says that our challenge with water is not a technological challenge, but a spiritual one. We know how to clean water. However, as a society, we often choose to pollute it. Our ancestors were very adept at listening to the will of water. That's how societies survived in a desert while also having plenty to sustain life. If we return to honoring water as a sacred force and begin to listen to what it's telling us as it flows, we can learn how to make a path for it to be as it wishes to be. What's water telling you?

Are You Ready for a Zombie Apocalypse?

By Jackie Conway

September is National Preparedness Month sponsored by the U.S. Department of Homeland Security The theme for this year's Preparedness Month is: "A Time to Remember. A Time to Prepare."

The campaign seeks to transform awareness into action by encouraging all Americans to take the necessary steps to ensure that their homes, workplaces and communities are prepared for disasters and emergencies of all kinds… including a zombie apocalypse. That's right, if you are prepared for a zombie apocalypse, then you'll be ready for any emergency you happen to find yourself in. With Halloween around the corner and the likelihood of increased zombie and ghoul activity, you can't be too prepared.

Get prepared by gathering supplies to make a disaster supply kit. Make a family disaster plan. Be informed by learning about the potential emergencies that could happen where you live and the appropriate way to respond to them. For more information you can contact us at the Environmental Department or check out the following resources:

- 1-800-BE-READY (1-800-237-3239)
- www.cdc.gov/features/beready
- http://www.bt.cdc.gov/socialmedia/zombies_blog.asp
- www.ready.gov
- www.fema.gov

HazMat Accident Guide

By Jackie Conway and Gabby Centeno

Would you know what to do if you came upon a hazardous materials accident? Any chemical substance that can make you ill or harm you is a hazardous material. Hazardous materials include industrial chemicals, toxic waste, and even household detergents and air fresheners in sufficient quantities. Hazardous materials incidents can range from a chemical spill on a highway to the contamination of a waterway from a flipped tanker truck. There are over 30,000 different hazardous materials with more being created every year. If you aren't sure if something is a hazardous material or not, it's better to be safe than sorry. If you see a spill or accident, call 9-1-1.

If You Witness an Accident:

1. Call 9-1-1 or the Fire Department immediately. Describe what you see and give a location.
2. Cover your mouth with a cloth or shirt and move away from the scene and help keep others away as well.
3. Do NOT attempt to inspect, touch, or inhale the substance. Remember, a hazardous material is exactly that, hazardous to your life or health.
4. If there are victims, stay away from them until help arrives and the material has been identified.
5. Stay upstream, uphill, and upwind from the accident.

If You Are Told to Take Shelter:

- Go inside and turn on your radio or television.
- Close all doors and windows. Seal gaps under doorways and windows with duct tape, wet rags, or towels.
- Turn off all ventilation systems and cover exhaust fans with plastic sheeting and tape.
- Close off non-essential rooms. Do not shelter in basement.
- It will be announced when the emergency is over. Only then should you open all doors and windows to let fresh air in your home.

If You Are Told to Evacuate:

- Stay calm and move to the area public officials tell you.
- Pack only the essentials such as medication, identification, cash and credit cards.
- Before leaving make sure to turn off all lights and ventilation systems. Lock doors.
- Use only one vehicle for transportation. Keep all vents shut off and closed. Stay on route.
- Listen to local radio stations for reports about your route.

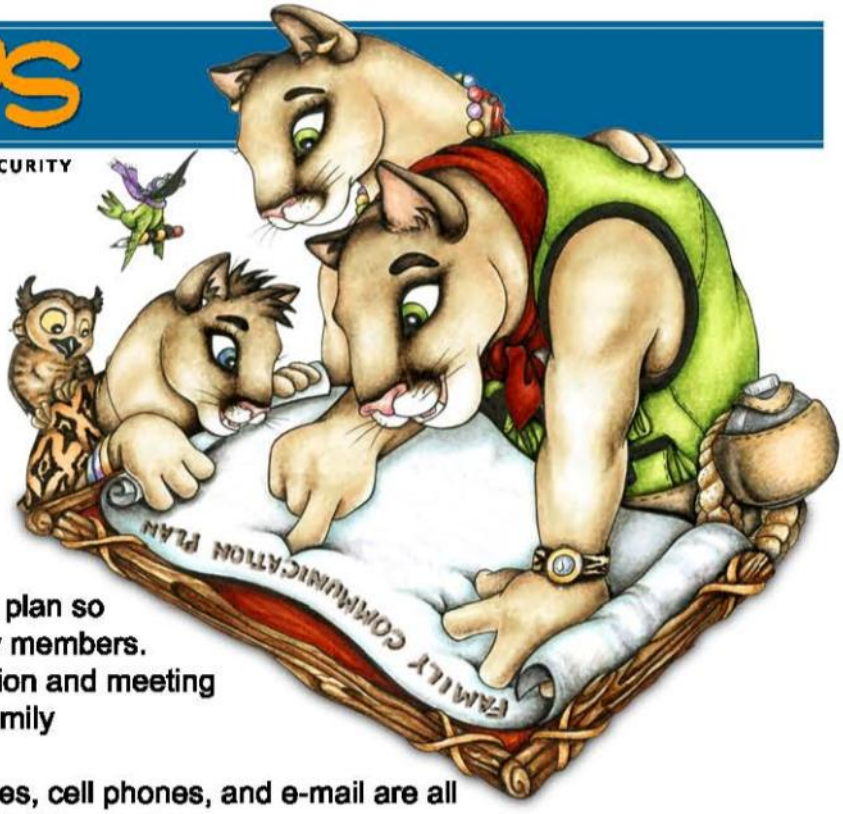
DOT Definition of Hazardous Material: A hazardous material is defined as any substance or material that could adversely affect the safety of the public, handlers or carriers during transportation.

If you have a hazardous materials question you can call the Hazardous Materials Information Center. The Information Center answers telephone calls between the hours of 9:00 am and 5:00 pm (Eastern Standard Time). If you call after-hours or on a weekend, they will call you back the next business day.
(800)HMR-4922 or infocntr@dot.gov
Call the National Response Center to report spilled or leaking hazardous materials. The National Response Center answers telephone calls 24-hours a day.
(800)424-8802

READY KIDS

U.S. DEPARTMENT OF HOMELAND SECURITY

COMMUNICATE!



C Create a family communication plan so you can get in touch with family members. Give copies of contact information and meeting locations to everyone in your family

O Options are available: telephones, cell phones, and e-mail are all great ways to get in touch with family members.

M Make sure you know the emergency plan at your child's school.

M Make a decision about where you will meet in case you can't get home during an emergency.

U Understand that it may take time to get through to everyone. Try to be patient.

N Needs of your pets should be kept in mind. Keep a pet carrier for easy transport.

I Inform yourself. Watch news broadcasts, read online news updates, or listen to a battery-operated radio for official guidance during an emergency, but also prepare in advance.

C Copies of your emergency plan should be in your emergency supply kit in case you need to leave in a hurry.

A Ask kids to discuss their concerns and feelings. Do they understand the family plan?

T Take the kids to visit the 'meeting spots' so that they are familiar and feel comfortable finding them on their own if necessary.

E Emergencies take many forms. Categorize different types of emergencies and discuss the level of concern related to each and how that is reflected in your family plan.

Protecting Human Health And The Environment

Fallon Paiute-Shoshone Tribe

Environmental Protection Department
1011 Rio Vista Drive
Fallon, NV 89406

Phone (775) 423-0590
Fax (775) 423-0593

ENVIRONMENTAL PROTECTION EMAIL CONTACT LIST

Richard Black, Environmental Director
richard@enviro-fpst.org

Jackie Conway, Environmental Specialist
jackie@enviro-fpst.org

Carmen Gonzales, Environmental Specialist
carmen@enviro-fpst.org

Sonia Corleto, Environmental Specialist
sonia@enviro-fpst.org

Mike Babcock, Environmental Specialist
mike@enviro-fpst.org

Gabby Centeno, Environmental Assistant
gabby@enviro-fpst.org

Printed on 100% recycled paper