

Enviro-News

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Carson City NV

Promoting recycling, watershed education and environmental stewardship for Nevada

A Publication for School and Community Educators

GREEN Team | Silver Stage Elementary

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Most people wouldn't expect a rural school without access to recycling pick-up services to be a model for recycling, reducing, and reusing, but Silver Stage Elementary School (SSES) in Silver Springs has defied that expectation. Two of NDEP's Bureau of Waste Management staff visited the school in October to take a look at how this school's GREEN Team is diverting so much waste from the landfill!

SSES sixth graders are the leaders of the gardening, composting and recycling efforts at the school, and they were enthusiastic, knowledgeable tour guides during our visit. They explained how during lunch time they manage a sorting station, where all students separate their waste liquids, empty cartons, uneaten food, unopened drinks, compostable food, non-compostable food and other recyclables into designated receptacles. The younger students need some extra guidance in the sorting process, but the older students know exactly what goes where.

The GREEN Team has implemented a variety of composting methods over the past few years, including trench composting (basically sticking food waste in the ground and later planting over it).

Food not suitable for composting goes to a community member's pigs! Milk cartons are dried out in black plastic bags, which are hung outside. The wax layer is melted away, making the dried cartons compostable.

Leftover food (e.g. whole bananas and full milk cartons) gets taken back to the classroom, so it becomes available for later snacking. The results: in the cafeteria, waste

has been reduced by over 85%!

Trash once filled 25 bags; now it only fills 2 to 3 bags. With the cost of a garbage bag at about 50 cents, that's a cost savings of about \$11 per day. Waste hauling costs also decrease as less service is required. While the cost savings

are important to school district staff, from the students' perspective their waste management efforts are all about making a positive environmental impact.

NDEP's Nevada Recycles program hopes to share SSES's practices with other schools interested in waste reduction. School cafeterias are often a huge source of waste, but the GREEN Team has shown how dedication, resourcefulness, and mother nature can make good use of waste. Even maintaining a simple paper recycling program on



NIGHTHAWKS

CONT. ON PAGE 2

What's
Inside

Green Team—SSES	1	Peggy Roefer receives Water Quality Award	4	Signs Help Keep Our Water Clean	7
Recycling Contest Highlights	2	Water Links Us Together	5	NEW Educational Resource	7
Christmas Tree Recycling	3	Pollutants: PS & NPS	5	Upcoming Workshops	8
LV Wash Green-Up	3	Connecting Weather to our Watersheds	6		

CONT. FROM PAGE 1

Silver Stage Elementary's GREEN Team

a school campus can be a challenge. SSES teachers, along with involved community partners, have created an excellent and evolving program to keep a sustainable recycling program that simultaneously facilitates student learning and leadership.

If you are interested in taking a tour at SSES, please contact teacher Rachel Leach at rleach@lyoncsd.org or call the school at (775) 577-5050.



SSES Garden at the end of the season
October 2014



Containers of sorted food and drink collected by students during lunch



Bags of recyclables (cans, bottles, Capri Sun pouches, chip bags) get shipped to TerraCycle

Recycling Art Contest Highlights!

Nevada's first state-wide recycled art contest wrapped up with over 100 entries! NDEP's Nevada Recycles program teamed up with the Las Vegas Sands Corp. and tasked artists to create artwork out of used, recyclable materials. Over 60 individual students and 15 classes (or similar groups such as an after school club) participated.



Paper Dog. 1st Place K-5: Andrea Lopez, Las Vegas



Plastic Footprint. 1st Place Class/Club: Incline High School (art class and Generation Green Club students).

We are thrilled with the positive feedback from teachers. Some projects involved recently taught math concepts, some were constructed in art class and others were completed purely for fun and the challenge of doing it.

Thanks to everyone who participated and helped build awareness for recycling, reusing, and reducing! All entries can be viewed via <http://nevadarecycles.nv.gov/>. Select artwork was displayed in Las Vegas at The Palazzo and First Friday. Additional pieces are displayed in Reno at the Washoe County Library's downtown Reno branch and in Carson City in the Bryan Building (901 S. Stewart) lobby.

Christmas Tree Recycling

About 25 to 30 million fresh Christmas trees are sold each year in the US. What do you do with your tree after the holiday season? Many Nevada communities offer Christmas tree recycling programs. Typically these trees get mulched and are used in local parks! Last year over 15,000 trees from the Las Vegas area and over 10,000 trees from the Reno area were recycled.

Las Vegas: Dec. 26-Jan. 16, accepts trees at over 30 drop-off sites listed [here!](#) And at [Cooperative Extension](#).

Reno/Sparks offered by Keep Truckee Meadows Beautiful (KTMB). Dec. 26-Jan. 11, 9am-4:30pm at these locations:

- * [Shadow Mountain Sports Complex](#) (Sparks)
- * [Bartley Ranch Regional Park](#) (Reno)
- * [Rancho San Rafael Park](#) (Reno)

Some communities offer curbside pickup through the local waste hauler. Though this is a very convenient service, not all haulers will chip or compost trees collected curbside. NDEP's [holiday recycling page](#) will be updated as Christmas tree recycling programs are announced.

Those who prefer artificial Christmas trees usually don't throw them out after one year. But when the time comes, there's a program to recycle them. [Polygroup](#), one of Walmart's largest suppliers of artificial Christmas trees, sends them — including lights and electric cords — to a recycling center in China where they are shredded and broken down for reuse in other products. Unfortunately, consumers must pack and ship the trees back to [Polygroup](#) themselves. However, you can send in any brand of tree and you only have to ship to Polygroup's Idaho facility, not to China.

Keep Truckee Meadows Beautiful is also seeking volunteers to help with tree recycling:

<http://ktmb.org/christmas-tree-recycling>

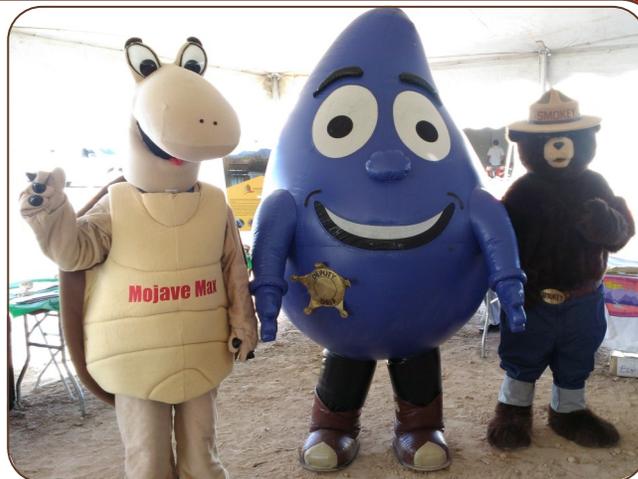


25th Las Vegas Wash Volunteer Green-Up

More than 400 Southern Nevada residents gathered this past October for the 25th Las Vegas Wash Green-Up. Since April 2001, the Green-Up has been part of an on-going effort to restore and protect the Las Vegas Wash ecosystem and has attracted more than 8,600 participants including local Scout troops, high schools, fraternities, sororities, church groups, casino groups and others to plant nearly 75,000 native trees and shrubs on more than 188 acres of native upland and wetland habitat.

These events have created wildlife habitat, helped stabilize the Wash's banks, reduced erosion and improved water quality into Lake Mead, the source of the Las Vegas Valley's drinking water.

The Las Vegas Wash Coordination Committee receives funding from the Nevada Division of Environmental Protection and the U.S. Environmental Protection Agency to organize the Green-Up events each spring and fall.



Mojave Max, Deputy Drip and Smokey Bear greeted residents and thanked them for their stewardship.

Peggy Roefer receives Wendell McCurry Excellence in Water Quality Award

The Nevada Division of Environmental Protection (NDEP) was honored to present the 2014 Wendell McCurry Award to Ms. Peggy Roefer in recognition of her long-term commitment and leadership role in efforts to protect and improve water quality in Southern Nevada.

Ms. Roefer has been a vital force in water quality protection programs centered on the Las Vegas Wash and Lake Mead for almost three decades. Over her career, Peggy has been instrumental in helping develop strong working relationships and sustaining partnerships between the Southern Nevada Water Authority (SNWA), wastewater dischargers, and other local, state and federal agencies, including the states of California and Arizona, which have greatly improved the ability to deliver clean water for the growing population of Clark County residents. *"Peggy's long-term leadership has been critical in bringing people and agencies together to form a basic understanding of the water quality issues facing Southern Nevada and take coordinated actions to improve and protect water quality,"* said Colleen Cripps, Administrator of NDEP.

In 1985 Peggy was hired by SNWA to expand the agency's microbiology laboratory. Over the ensuing years, she has been an integral part of SNWA's efforts to address emerging water quality issues including nutrients, pathogens, perchlorate, endocrine disrupting compounds and aquatic invasive species. In her current position as Water Quality Manager, she plays a leadership role in numerous collaborative water quality protection activities. With her guidance, agencies and people are talking



L to R: Colleen Cripps, NDEP Administrator; Peggy Roefer; and Dave Gaskin, NDEP Deputy Administrator.

face-to-face to optimize the area's water resources and to collaboratively improve and protect this limited resource.

Ms. Roefer is recognized for fostering interagency communication and serves as the Chairman of several committees and workgroups to coordinate water quality programs including the Lake Mead Water Quality Forum Selenium Subcommittee and the Ecosystem Monitoring Workgroup, both of which ensure interagency coordination in addressing the broad range of water quality issues. She serves on the Las Vegas Wash Coordination Committee Research and Environmental Monitoring Team; the Interagency Quagga Mussel Team Study and the Lower Colorado River Aquatic Invasive Species Interagency Sampling Group.

Congratulations Peggy!

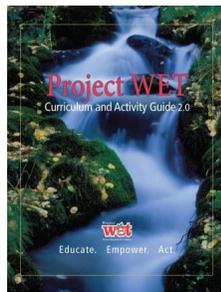
The Wendell McCurry Excellence in Water Quality Award was established in 1999 to honor Wendell McCurry and to memorialize his long-term commitment to water quality protection and improvement. This Award is presented annually to recognize individuals, agencies and other organizations for outstanding water quality protection efforts.

To find out more about Wendell McCurry and past recipients of this notable award, [click here](#).

Water Links Us Together

Nevada is the driest state in the nation and receives on average only nine inches of precipitation annually. As Nevada's economy and communities grow, so do demands on its water resources and the environment. *AS EDUCATORS, it is important to foster awareness and respect for our natural resources, especially water. Providing students of all ages with knowledge and skills to engage as watershed stewards is critical for building sustainable economies and healthy communities.*

Water is the unique compound that continually cycles through earth's systems (the hydrosphere, atmosphere, geosphere, and biosphere) and links us together with the environment in a complex web of life. Diverse ecosystems provide ecological, economic and societal benefits. Forests, wetlands, soils, plants and animals are all necessary to produce the goods and services we value; clean air and water, food, energy and healthy communities. Recognizing that changes to ecosystems and landscapes occur over time brings awareness to our reliance on water.



Changes in climate and land use influence the occurrence of natural hazards, like drought and flooding, and are driving forces that complicate water resource management. Understanding the water cycle along with the movement and delivery of this vital resource helps impart practices to prevent contaminants or adverse impacts from reaching our water supplies.

Water education is critical to maintaining healthy watersheds and developing solutions to manage this limited resource. Collaboration among all water users (communities, agriculture, industry, recreationists, preservationists and educators) is required to balance the demands placed our water. While we cannot be certain about the amount of future precipitation and usage trends, we can be certain that future generations must have sound water knowledge, skills and practices. Engage in the new [Project WET](#) experience, offering diverse ways to bring together resources and people with this exemplary water education methodology.

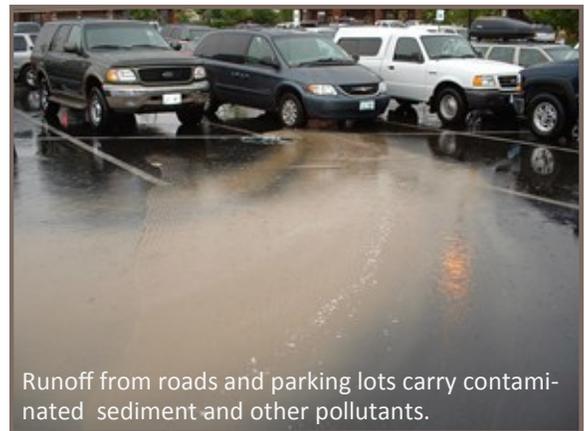
The following are important terms and concepts:

Pollutants: Point & Nonpoint Sources

One of the leading causes of water quality degradation in Nevada is "nonpoint source" pollution (**NPS**) which comes from many sources spread over a wide area. *NPS Pollution is runoff from urban areas, agricultural, residential and industrial sources.* Runoff occurs as rainfall, snowmelt, and irrigated water carries pollutants, such as nutrients, salts, motor oil, pesticides and sediments, to surface and groundwater locations.



In contrast, "point source" pollution (**PS**) originates from a distinct, identifiable source, including pipes, ditches, sewers, containers of various types, concentrated animal-feeding operations, or vessels. These discharges are controlled through state and federal permits.



Runoff from roads and parking lots carry contaminated sediment and other pollutants.

Surface water is water above the surface of the land, including lakes, rivers, streams, ponds, floodwater and runoff.

Groundwater is the water located beneath the earth's surface in soil pore spaces and in the fractures of rock formations. A unit of rock or an unconsolidated deposit is called an **aquifer** when it can yield a usable quantity of water for drinking and other uses.

Connecting Weather to our Watersheds

By Jeff Thompson

Understanding and following the water cycle in Nevada is amazing!

To learn more about local weather and watersheds, educators can begin with understanding the nature of Pacific storms, our source region, and some practical climatology and oceanography.



Governor Sandoval addressing the crowd during the Flood Awareness Campaign kickoff in Reno.

- ◆ Investigate what are the storm types and how orographic precipitation works to produce mountain snowfall. Learn about an atmospheric river and what the ARkStorm scenario is.
- ◆ Look up snow water equivalent, how is it measured and why it is important.

- ◆ Examine the different types of snow crystals and what type of snow is created in different temperatures and atmospheric regimes.
- ◆ What is a watershed and what watersheds do we have in our region?
- ◆ How is your watershed controlled and monitored and what measures are taken to store water and manage flood control. Why is watershed health important?
- ◆ How is streamflow measured?
- ◆ What is a flood hydrograph and how does it describe and provide a forecast for streamflow?

What are impacts of drought on watersheds and on your watershed specifically? How is drought determined?

These active links are resources for such a study that involves the National Weather Service, Desert Research Institute, NRCS, UNR, TMWA, the Federal Water Master, NDOW, Reno and Sparks, TRPA, and the Pyramid Lake Piute Tribe, just to name a few.



Lahontan reservoir has a storage capacity of 312,000 acre-feet when full and features fishing, boating, and camping.

"Water is the driving force of all nature."

— Leonardo Da Vinci (1452—1519)
* Author, Artist, Inventor
* Mathematician

"We forget that the water cycle and the life cycle are one."

Jacques Cousteau (1910—1997)
* Author, Explorer, Filmmaker
* Photographer, Military Leader, Scientist

Signs Help Keep Our Water Clean

Stormwater runoff does not flow to a water treatment facility. Any materials, such as trash, soaps, fertilizers, or oil, entering storm drains are carried by water to surface waters, untreated.



A primary pathway for pollution discharges into a local waterway is the storm drain system. Rainwater flows into storm drains located along streets, parking lots, industrial areas, and private property, and flows directly to our surface waters in Nevada. Polluted storm water discharges are harmful to ecosystems. During storm events, unclogged storm drains are also critical to protect against local flooding. To encourage responsible behavior and

to help reduce trash and other harmful pollutants from entering the Truckee River, several students from Clayton Middle School and Rainshadow Charter High School teamed up with employees from [Stantec](#), a local design firm, to stencil "No Dumping" signs near storm drains around the Reno community.



The signs are intended to help educate the public about protecting their local watershed.



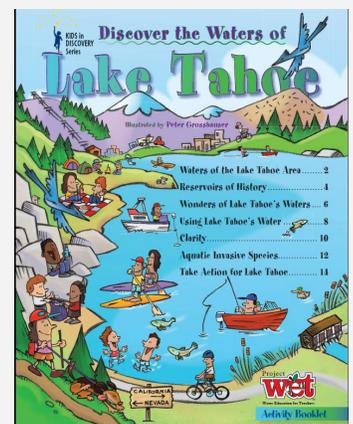
Jeff Curtis, Stantec Senior Water Resource Scientist, stated, "We stencil to let people know that what goes in the drain goes to the river. It's an easy reminder for people to **STOP** and **THINK**."

NEW EDUCATIONAL RESOURCE

A new resource to help children learn about the unique alpine ecosystem of the Lake Tahoe watershed is now available. A booklet, "[Discover the Waters of Lake Tahoe](#)," funded by the Nevada Division of Environmental Protection (NDEP), allows children ages eight to twelve to explore the waters of Lake Tahoe through interactive, hands-on activities created by the Project WET Foundation, a world leader in water education.

Field tested by educators and students, vetted by scientists and Lake Tahoe experts and correlated to Next Generation Science Standards and Nevada Academic Content Standards, this comprehensive activity booklet addresses the fascinating water science of this unique and important lake on the border of California and Nevada.

Topics include an overview of the Lake Tahoe Basin and Truckee River Watershed, the human history of the Tahoe Basin, climate change and Lake Tahoe, the many uses of Lake Tahoe's waters, Lake Tahoe's clarity, aquatic invasive species and actions children can take to protect Lake Tahoe's waters.



[Discover the Waters of Lake Tahoe Activity Booklets](#) will be offered to Nevada Educators as part of NDEP's Water Education Program.

Offer ends January 30, 2015 Quantities are limited

To request this educational resource, please contact Mary Kay Wagner mkwagner@ndep.nv.gov
775-687-9454.

Lighten your eco-footprint with these New Year's resolution ideas:

1. Stop buying bottled water
2. Buy organic, fair trade, local, or grow your own
3. Stop using plastic grocery bags
4. Choose alternative transportation when possible
5. Use renewable power sources
6. Keep chargers and power strips off or unplugged when not in use
7. Buy more in bulk
8. Reuse Ziploc bags
9. Make your own compost
10. Participate in community clean-up events

Upcoming Workshops

Water in Nevada is critical to our environment, our economy and our future. Provide your students with a deeper and more comprehensive understanding of the natural world and the local environment. Register for upcoming [water education workshops](#) here.



Lincoln County Educators

Friday, February 19th 4:30p.m.—9:30pm
AND Saturday, February 20 7:00a.m.—6:30p.m.

This *free* workshop will be taught at Lincoln County High School, Edwards St, Panaca, NV. Lessons are aligned with Nevada's Academic Content Standards in Science, NVACSS (NGSS). We also make connections to NVACS ELA and Math. Teachers will receive with over \$100.00 in science supplies for their classrooms. **Pre-registration is required.**

[Register Now!!](#)

World of 7 Billion - Student Video Contest

Bring technology and creativity into your high school classes. This contest challenges students to create a short (60 sec. or less) video illustrating the connection between world population growth and one of three global challenges. Students can win up to \$1,000 and teachers receive free curriculum resources. Contest deadline is February 19, 2015. Contest guidelines and more at www.worldof7billion.org/.



GreenPower is offering free teacher workshops in Reno (January 31st) and Las Vegas (February 21st). Participate in

hands-on activities, learn about the resources available from community partners, and explore science labs. Register at <http://www.dri.edu/workshops-and-training>.

The Nevada Division of Environmental Protection (NDEP) provides resources and funding for numerous educational and outreach programs and efforts throughout Nevada. NDEP sponsors and endorses Project WET and Recycling programs and curriculum through two Bureaus, Water Quality Planning and Waste Management.

Nicole Goehring (ngoehring@ndep.nv.gov)
 Northern Nevada Recycling Coordinator
 Rachel Lewison (rlewis@ndep.nv.gov)
 Southern Nevada Recycling Coordinator
 Bureau of Waste Management
 p: 1-800-597-5865 (Recycling Hotline)
NevadaRecycles.nv.gov



Mary Kay Wagner (mkwagner@ndep.nv.gov)
 Environmental Scientist
 / Project WET Coordinator
 Bureau of Water Quality Planning
 p: 775-687-9454
www.ndep.nv.gov/edu



For information on **Discover a Watershed: the Colorado River** and **PWET Workshops** in Clark County contact: Amanda j. D. Rowland, Education & Outreach Specialist
 Lake Mead National Recreation Area, 702-277-2770 amanda_rowland@nps.gov