



# Conservation Matters IN NEVADA

USDA Natural Resources Conservation Service • 1365 Corporate Blvd. • Reno, NV 89502 • [nv.nrcs.usda.gov](http://nv.nrcs.usda.gov)

**BRUCE PETERSEN**  
State Conservationist  
775-857-8500  
[bruce.petersen@nv.usda.gov](mailto:bruce.petersen@nv.usda.gov)  
[www.nv.nrcs.usda.gov](http://www.nv.nrcs.usda.gov)

## Who We Are

Inspired by a shared vision of agriculture as a valued component of the landscape, NRCS works to provide technical assistance to landowners that will improve, restore, and protect the nation's natural resources.

Working side by side with these partners, NRCS assists in sustaining and improving the quality of natural resources by developing conservation plans that meet the needs of the land as well as the landowners.

Farm Bill programs provide financial assistance that help with the cost of putting conservation on the ground.

Conservation easement programs authorized in the Farm Bill help to protect agricultural and natural resource values of the land over the long-term.

With our help, Nevada is balancing economic goals with a high quality environment – ensuring productive lands to supply food, fiber, forest, and energy products for the nation and the world.

## More Water, More Forage, More Sage-Grouse

Cattle ranchers Don and Sheila Phillips wanted to do something to help sage-grouse on their ranch near Ely, but Don wasn't convinced those new white vinyl markers he'd added to his fences would do anything to prevent bird collisions. A few weeks later, though, Don stopped in the Ely NRCS office with big news.

"I was headed out in the field and the sage-grouse took off and headed right for that fence, but sure enough, at the last minute, they went up and over those markers!"

The Phillips are participants in the NRCS's Sage-Grouse Initiative, a partnership program available to farmers and ranchers who want to make improvement on their private and public land. Conservation measures that enhance sage-grouse habitat have also been shown to improve grazing by increasing forage for livestock and reducing wildfire risk.

In Central Nevada, Louis Cole has seen dramatic benefits from the improvements he made with NRCS assistance. Cole removed pinyon and juniper trees, reseeded areas, and installed grade stabilization structures where the stream channel had downcut. After the first year, the creek flowed longer than Cole had seen in years and the meadows are wider and healthy. It appears that some planned reseeding won't be necessary as the native vegetation is returning on its own now that the trees have been removed.

The Bootstraps Program and NRCS partnered again in 2012 to remove pinyon-juniper on over 1,100 acres and install steel jack fences around meadows providing critical habitat for sage-grouse.

### SGI ACCOMPLISHMENTS IN FISCAL YEAR 2012\*

Sage-Grouse Initiative Contracts:	23
Sage-Grouse Habitat Restored:	328,964 acres (private and public)
Pinyon-Juniper Removed:	8,000 acres
Marked Fence:	80,226 feet
Sage-Grouse Initiative Obligations:	\$2,164,949



## Locally-led Conservation Keeps Toad Off Endangered Species List



David Spicer, a rancher in Beatty, Nevada and founder of the non-profit organization Saving Toads Though Off-Road Racing, Ranching and Mining in the Oasis Valley (STORM-OV), has successfully rallied his community to protect the Amargosa toad (*Bufo nelsoni*) and keep it off of the list of endangered species.

Partnering with the Natural Resources Conservation Service, other federal and state agencies, non-profit organizations, local government, fellow landowners, and by acquiring grants, Spicer and his STORM-OV partners have restored 11 springs, enhanced one mile of river, and created or enhanced 57 acres of toad breeding and foraging habitat mostly on private land.

## New Solar Watering Facility Saves Time and Money



Willow Creek Ranch owners Russell and David Fitzwater installed five energy efficient watering facilities on their private land and public allotments, thanks to a collaborative effort with the Bureau of Land Management and NRCS. The solar panel pumping plants, new pipeline, and water storage tanks and troughs have provided the Fitzwaters with an efficient and effective livestock watering system. “Solar energy has eliminated our gas bill, while giving us the ability to have fresh, dependable water every day,” said Russell Fitzwater.

## Stream Restoration Protects Bonneville Cutthroat Trout



When Bonneville Cutthroat Trout were reintroduced into Big Wash Creek in eastern Nevada, the owners of Hidden Canyon Ranch joined forces with Trout Unlimited, the Fish and Wildlife Service, and NRCS to restore the creek and ensure that the habitat was beneficial for the BCT, a species of concern for the FWS.

The landowners installed six grade stabilization structures in Big Wash Creek, with financial assistance from the Wildlife Habitat Incentive Program. The structures provide numerous environmental benefits by slowing the rate of water discharge during large water events, and reducing the velocity and energy responsible for creating down cuts and gullies. Sediment is caught and retained upstream to help restore stream grade, raise the water table, and stabilize eroded banks. The owners are now working to restore the stream habitat using WHIP funding.

## High Tunnel Farmers Help Families in Need



James and Barbra Hertz of Fallon were excited about the prospect of helping their local community by providing fresh produce to families in need. They applied for and received financial assistance under the NRCS Environmental Quality Incentive Program for a high tunnel in the spring of 2012. The Hertz's non-profit business, Lone Pine Farms, partnered with Icon International to grow vegetables and also help troubled youth.

This year, Lone Pine Farms grew a variety of crops to donate, including squash, pumpkins, tomatoes, green beans, potatoes and peppers. They are hopeful that this is only the beginning, and plan on continuing to grow produce to help feed families in Northern Nevada for years to come.

## Evaluating Irrigation Pumping Plant Efficiencies

In an effort to get a handle on pumping plant efficiency and associated operating costs, an increasing number of agricultural producers are taking advantage of the Conservation Stewardship Program. Irrigation Pumping Plant Evaluation is one of many enhancement activities available through CSP. Under this activity, an irrigation pumping plant performance test is conducted to measure power consumption and the volume of water produced in order to determine overall pumping plant efficiency. The Irrigation Pumping Plant Evaluation must be performed by a trained service provider using appropriate testing equipment. The service provider provides the producer with a report that includes information on present pumping plant efficiency, potential efficiency, present energy use, and an estimate of energy and cost savings if improvements are implemented. Recent evaluations show that improvements can increase efficiency up to 30 percent, saving up to \$6,000 each year on a single pumping plant.



## Managing for Livestock and Wildlife

A & B Paradise Enterprises owners Bob and Astrid Schweigert have been working to increase available forage for livestock while improving wildlife habitat on their rangeland in Pershing County. They signed up for a Wildlife Habitat Incentives Program contract in 2009 to fence off a spring and pipe the water to outlying areas to provide water for livestock and wildlife, drawing the livestock away from the riparian area.

With this project completed and operating perfectly, they decided to increase the available forage. The area around the spring and associated overflow had been invaded with rabbitbrush that started to choke out the native grasses in the area, and a large portion of the section burned in 2000 and came back with cheatgrass and some bluegrass. With help from the Environmental Quality Incentives Program, Bob and Astrid were able to reseed the burned area, and remove and chemically treat the rabbitbrush. Two years after the seeding, crested wheatgrass is spreading across the area and native grasses are growing along the riparian area. The fenced area is kept free of livestock throughout the growing season so the wildlife can utilize the area and is grazed in the fall after plant dormancy.



## Improvements Provide More Streamflow Forecasting Data for Water Users

The NRCS snow data network consists of manual snow course measurements, automated SNOw TELemetry (SNOTEL) sites, and aerial markers (AM) for winter time data collection. The AM's are measured 3 times a year by flying over them, usually with a helicopter, and getting a visual snow depth measurement from the air. The density of the snowpack is estimated and the snow water equivalent or water content of the snow is calculated. It was the best way to get snow water equivalent in remote parts of Nevada until Bob Nault from the NRCS office in Salt Lake City, Utah, came up with a design to put a snow depth sensor on existing AM's and use a satellite phone modem to transmit the data, snow depth and temperature 4 times per day. Not only will this provide additional data from these sites, it also eliminates the cost of helicopter time to collect the data and is a much safer option.

Sixteen sites have been upgraded. The data is available online at <http://www.wcc.nrcs.usda.gov/snotel/Nevada/nevada.html>.





## Helping Students Learn about the Environment

Taylor McKenzie, a 3rd grade student at Explore Knowledge Academy in Las Vegas, needed help with her school science experiment. Her question was, “What ground material filters dirty water better?”

McKenzie loves science projects and was very excited about doing one using soil. She read books and researched the topic, and contacted NRCS soil scientist Doug Merkler. Doug explained to her how water travels through soil and provided her with most of the soils she needed for her experiment, such as fine sand loam and silty clay loam.

To test her hypothesis that silty clay loam would do the best job of cleaning dirty water, she used empty water bottles and cheesecloth to make the filter containers and made dirty water using food coloring, oil, basil leaves, pepper and small pieces of paper. She filled each bottle with a different ground material (gravel, sand, fine sand loam, and silty clay loam). She then poured the dirty water into each one and watched to see which one came out the cleanest. Some of them filtered in minutes, one in hours, and another in two days. After reviewing the results, she realized her hypothesis was correct; the silty clay loam filtered the cleanest water.

Taylor put together a project board with pictures for her class presentation and gave a demonstration to her fellow students. Her weeks of hard work paid off — Taylor got 100% on her science project!



## 2012 Farm Bill Program Funding Helps Nevada\*

### QUICK FACTS

Sage-Grouse Initiative Contracts:	21
Sage-Grouse Habitat Restored:	328,964 acres (private and public)
Pinyon-Juniper Removed:	8,000 acres
Fence Marked:	80,226 feet
Sage-Grouse Initiative Obligations:	\$2,164,199
Land Restored by Improved Irrigation Efficiency:	184,841 acres
Improved Cropland Health:	23,993 acres
Improved Rangeland Health:	369,356 acres

PROGRAM	CONTRACTS	ACRES	DOLLARS OBLIGATED
AMA <sup>1</sup>	14	23	\$ 62,713
CSP	26	71,394	\$ 554,892
EQIP <sup>2</sup>	156	1,100,995	\$10,582,446
SGI	15	328,964	\$ 1,595,787
WHIP	8	4,367	\$ 133,853

PROGRAM	EASEMENTS	ACRES	DOLLARS
FRPP	1	4,196 <sup>3</sup>	\$5,400,000
GRP	1	1,269	\$ 501,377
WRP	2	1,863	\$1,928,114

The top five conservation practices planned in Fiscal Year (FY) 2012, by amount of dollars obligated:

1. Irrigation Pipeline, Low Pressure
2. Irrigation System, Sprinkler
3. Water Control Structures
4. Pumping Plant
5. Brush Management

Top Resource Concerns:

1. Water Quality-Inefficient Use
2. Plant Condition
3. Soil Condition/Quality
4. Water Quality-Nutrients/Sediment
5. Water Quantity

\*Financial Assistance (FA) is provided directly to producers. Fiscal Year (FY) 2012 data is preliminary as of Dec. 17, 2012, pending final data from NRCS REAP Division, and is subject to change. <sup>1</sup>High Tunnels Only; <sup>2</sup> Includes Sage-Grouse Initiative; <sup>3</sup> Acres Enrolled in 2012.