



## WESTERN SUSTAINABILITY & POLLUTION PREVENTION NETWORK

Arizona \* California \* Hawaii \* Nevada \* Tribal Lands \* Trust Territories

## Success Story

### Composting Partnership

# Northern Nevada Correctional Center Carson City, Nevada



*A wild horse auction at the NNCC. Photo from BLM.gov*

### KEY FINDINGS

- The Northern Nevada Correctional Center's ranch holds approximately 1,500 Mustangs for the BLM. The ranch is also home to a herd of cattle.
- A 1,000 pound horse can produce roughly 50 pounds of manure per day, or 9.1 tons of manure per year.
- NNCC rents 30 acres of land to an organic composting business called Full Circle Compost.
- Each year, NNCC and FCC recycle 3,700 cubic yards of horse and cow manure, along with excess, expired materials from local food distributors.

## Composting Business and Correctional Facility Form Unlikely Relationship

In 2008, the Nevada Department of Agriculture relocated their Saddle Horse and Burro Training Program to the Northern Nevada Correctional Center, a medium custody facility in Carson City, Nevada. Under this program, inmates care for a herd of 1,500 Mustangs that have been removed from overpopulated public lands by the Bureau of Land Management, and train 60-75 horses for public adoption each year. Initially, the program seemed beneficial to all parties: inmates received work experience, the NNCC profited from horse adoptions, and public lands were relieved of an excess of Mustangs. Two years later, however, the

NNCC was faced with an uncomfortable situation: an overabundance of horse manure.

Tim Bryant, a Saddle Horse Training Program coordinator at NNCC, approached Craig Witt of Full Circle Compost to negotiate a solution to this problem, in the hopes that Witt would purchase the manure and remove it from the site. The result of their discussion? Rather than taking the manure to the composting facility, the compost came to them; Full Circle Compost moved its entire business from Minden, Nevada to the correctional center in Carson City.



*Full Circle Compost's large-scale composting operation. Photo by Craig Witt.*

*"We are there to take lemons and make them into lemonade. Rather than create a pollution problem, we combine horse manure with other ingredients to make good compost."  
-Craig Witt, Full Circle Compost*

## Full Circle Compost

Craig Witt, owner of Full Circle Compost in Carson City, Nevada, has perfected the art of using leftovers. Witt recycles material that would otherwise be thrown into landfills and turns it into high quality compost. Pine needle green waste from the Lake Tahoe Basin is incorporated into a unique Full Circle Compost product called “Tahoe Pine Peat” and mixed into soils as a replacement for traditional peat moss. In Vermicompost, bacteria and worms reprocess nutrients into nutrient-rich soils. Thermal composting also occurs on site – an aerobic ten-week process in which bacteria energy and movement maintain the compost at an internal temperature of 135° F. Full Circle sells its compost to local farmers and gardeners in the region and beyond, shipping compost to locations as far away as New York. They also recycle green waste from the community, including grass clippings, sod, branches and weeds.



*Managing compost at the Northern Nevada Correctional Center.  
Photo from Craig Witt.*

Today, the NNCC rents out close to 30 acres of land to Full Circle Compost, where Witt has built an efficient composting facility and a 2,000 square foot greenhouse. Some of the compost is used to fertilize the NNCC’s 1,200 acres of farmland, and the rest is sold by Full Circle. “We are there to take lemons and make them into lemonade,” said Witt. “Rather than create a pollution problem, we combine horse manure with other ingredients to make good compost.”

### **A Solution to Pollution**

A 1,000-pound horse produces roughly 50 pounds of manure per day, or 9.1 tons per year. Horse manure is rich in nutrients such as nitrogen and phosphorus, which can act as pollutants if they reach waterways as surface runoff or by leaching into the groundwater. In waterways, excess nutrients can lead to eutrophication: algae growth, reduction in oxygen content, and eventually fish kills. The NNCC is located approximately 0.1 miles from a waterway called Clear Creek, and 1.1 miles from the Carson River. With 1,500 mustangs and a herd of cattle on site, nutrient pollution of

groundwater or nearby waterways posed a definite threat.

Full Circle helps the NNCC manage these manure-based nutrients properly, preventing pollution by incorporating 2,500 cubic yards of horse manure and 1,200 cubic yards of cow manure from the correctional center’s cow herds into its potent compost. The Atlantis, a local casino and hotel, contributed 1,500 cubic yards of food waste in 2012, which Witt mixed into his compost recipe along with expired Odwalla juice and other community green waste, in order to keep “happy” and healthy bacteria. This, Witt maintains, is the key to good compost.

### **Benefits of the Composting Partnership**

The revenue that NNCC receives from rent helps to finance the correctional center’s ranch, which is self-funded. Inmates, working under a state program called Silver State Industries, receive valuable work experience in horse training and exposure to the composting industry. Eighteen inmates work with the wild horse training program, and three to five inmates work with Witt, who insists

that they complete the extensive application process that he requires of any employee. After completing the hiring process, inmates are taught the various methods of composting that Witt employs, and then put to work.

An ideal circle of benefits has formed between the Northern Nevada Correctional Center, the Bureau of Land Management, and Full Circle Compost – one which Witt hopes will inspire the community to be more environmentally conscious with their waste. By incorporating creative thought, all three parties have succeeded in not only meeting the goals of their organizations, but providing a community model for effective collaboration in sharing resources.

**For more information, contact:**

**Nevada Department of Corrections**  
<http://www.doc.nv.gov>

**Full Circle Compost**  
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