



## Turning Livestock into Land Management Tools at Grant-Kohrs Ranch National Historic Site

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Socks, Spackle, and Ginger Snap are only a few of the newest weed control managers at **Grant-Kohrs Ranch NHS**. They successfully completed a seven-step program that modified their preferred cuisine and made them effective rangeland stewards. These new weed control managers dutifully spend their days grazing in the pastures, working toward the eradication of exotic invasive weeds. Oh, by the way, they're cattle, affectionately termed "smart cows."

### Not Your Average Method

According to Kathy Voth, owner of Livestock for Landscapes and former Bureau of Land Management employee, Canada thistle, leafy spurge and spotted knapweed are examples of exotic invasive weeds commonly found in pastures and rangelands and are generally avoided by cattle. Weed control methods typically consist of employing goats, which are hard to manage, or applying expensive chemicals. Voth theorized that since animals tend to vary their diet based on their nutritional needs, cattle might consume alternative, yet equally or more nutritious plant species – they would simply need to be trained to do so.

### Seven Steps to Success

Voth's seven steps to success include:

- 1) Knowing the weed's nutrient content and toxins.
- 2) Choosing the animals. The younger the cattle, the more easily they can be trained. Also, the more they are familiar with the trainer, the more successful the training will be.
- 3) Building on how animals choose what to eat. Voth states that, "Scientists at Utah State University have discovered that animals choose what to eat based on feedback from nutrients and toxins in

the foods. The more nutritious a weed is, the more likely the animal is to eat it."

- 4) Reducing the fear of new things. Cows aren't much different than humans in this capacity, they aren't necessarily quick to try new foods. The trainers try to create positive experiences with new foods by giving them alfalfa and rolled grains twice a day for four days.

- 5) Creating familiarity. The trainers try to give the new food a familiar taste or smell. This is done by mixing a little molasses in with the new foods.

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Trainers preparing pots with a variety of Canada thistle, leafy spurge and spotted knapweed to feed heifers



Julee and her calf in 2006. Julee was in the original 2004 trained herd; The young heifer will be having her first calf this spring

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7) Lastly, like any new program, the trainers and managers observe the cattle's actions and responses and then adapt management protocols as necessary.

## Mooove Over Alfalfa

The behavioral training project began in February 2004, and **Grant-Kohrs Ranch NHS** was chosen as the official training ground. Over the span of 18 months, Voth and her cadre of partners who include Utah State University, the City of Deer Lodge, two neighboring ranches, and a handful of interns successfully trained 17 heifers and one steer to consume Canada thistle, leafy spurge and spotted knapweed. In 2006, Voth implemented the project in Marin, California, and successfully trained cattle to consume Distaff and Italian thistle.

## Cows-Benefit Analysis

Weed-eating cattle can be quite an asset for farmers and ranchers. According to Voth, once properly trained, these cows can be used to reduce weeds and herbicide use,

improve pastures and wildlife habitat, increase profitability, and protect organic certifications.

## Trial and Error

According to Voth, research continues in order to address some frequently asked questions such as "Can cows eliminate weeds? Once cows learn to eat weeds, will they focus on weeds alone? How much of a weed can a cow eat? Are there long-term effects on meat, longevity, and reproduction?" The park will continue to keep records and observe the effects on the herd to help determine long-term effects and any program or management changes that might need to be implemented for future success.


## Weeds be Gone!

So far, the training has proven successful. According to Ben Bobowski, Chief of Resource Management at **Grant-Kohrs Ranch NHS**, "To date, 300 pasture acres have been effectively 'treated' for knapweed and Canada thistle. Visual observations of approximately ten of those acres confirm that each weed has been eaten, fewer flowers were produced, and that there were other potential value-added benefits (e.g., apparent reduced plant/weed competition in irrigated pastures,

learned behaviors by the breeding bull) to this program. At minimum, the assumption is that fewer flowers equates to fewer seeds and consequently reduces potential for spread by seed."

## Graduating Class of 2010

Make room for the second group of smart cows, graduating in 2010. With 2009 funding, the park will bring team members back to train another 16-18 healthy heifers on the wisdom of weeds. With 24 head (nine offspring of the original mothers have been keepers) now munching on knapweed, adding a new group, begins to tip the scales towards achieving the park's Centennial Goal of having a complete herd, 85-100 cow/calf pairs, trained or descended from trained mothers who eat to help park resource goals. These smart cows are well on their way!

For more information, visit the Livestock for Landscapes website: <http://www.livestockforlandscapes.com/projects.htm> 



Cows at work at Grant-Kohrs Ranch NHS managing land resources