

# City of Fort Collins Natural Areas Department

## Resource Management 2016

### Restoration of Native Grasslands

Techniques for restoring native plants continue to evolve in the Natural Areas Department. In 2016, an experimental seeding involving a seed mix of 50 species was planted at Running Deer Natural Area. An additional 35 species were broadcast by hand in a smaller portion of this site, bringing the total number of species planted to 85. The diversity of plant seeds seeks to increase native forbs, which in turn increases grassland diversity for wildlife. Many of the seeds in the new mix were collected by volunteers the previous year. In total, 378 acres were seeded or planted with native species in 2016. Previous restoration units were also amended with native forbs to increase habitat diversity for native wildlife.

#### Total Acres Under Active Restoration:

**2294**

Current Condition of Restoration	# of Acres	% of Total Acreage
> 75% native plants	1163 acres	51%
25%-75% native plants	546 acres	24%
> 25% native, weedy plants dominant	585 acres	25%

### Wetland Restoration

On-going wetland restoration continued on several natural areas including, Ridgen Reservoir, McMurry, Running Deer, Springer, Topminnow, and North Shields Ponds natural areas. More than 14 acres of wetlands were enhanced through additional supplemental plantings of native wetland species. Several natural areas received transplanted willow stakes, including McMurry Natural Area where the stakes were successfully used to prevent erosion at a site previously susceptible to erosion. The Department also installed 100 (9' x 3') wetland mats at North Shields Ponds consisting of native sedges, rushes, and grasses to augment aquatic and riparian habitat. Ridgen Reservoir and Topminnow Natural Area received 20,000 native wetland plug plantings.



### Goats Lend a Helping Hoof

Goats can help with restoration of native grasslands by grazing on invasive exotic broadleaf weeds. In September, a herd of 400 goats grazed across much of Kingfisher Point Natural Area in order to reduce infestations of kochia and prickly lettuce, recycle nutrients, and lightly break up the soil. Temporary fences were used to move the goats around and get just the right amount of grazing at a particular spot. Staff is monitoring these areas for results and to determine if expansion of goat grazing supports grassland restoration. Grazing alone will not completely eradicate exotic plants, however, in an integrated use with herbicide and mechanical applications, the combination of treatments can reduce the prevalence of weeds while stimulating native vegetation.

### Treating More Weeds With Less Herbicide

The Natural Areas Department has been actively reducing the amount of herbicide used for treating invasive weeds. In addition to using innovative weed treatments such as timed grazing and mowing, the Department has reduced the amount of herbicide used per acre, while maintaining the effectiveness of the treatment. In 2016, the Department used 23% less herbicide than the annual average. However, 1,966 acres of invasive weeds were treated, the most in Natural Areas history. As part of the effort to reduce the use of herbicides, the Department released 400 thistle rosette weevils to help control musk thistle at Coyote Ridge and Pineridge, while experimenting with goat grazing on Kingfisher Point. Overall, we are doing more with less and making great progress toward weed reduction!

## Aerial Cheatgrass Treatments

Cheatgrass is a State-listed noxious weed that is highly invasive to our native grassland and shrubland ecosystems. This aggressive species forms broad monocultures choking out native grasses and forbs while presenting serious fire risks as it dries early in the summer months. While herbicide application is effective at controlling the species, one challenge for the Natural Areas Department is treating cheatgrass on steep-sloped foothill properties inaccessible by ground-based equipment. The Natural Areas Department tested an aerial application of the herbicide Imazapic in 2015 with very good results, including a nearly 95% reduction and no visible damage to non-target vegetation. In the fall of 2016, approximately 1200 acres of cheatgrass were aerially treated at Reservoir Ridge, Coyote Ridge, Bobcat Ridge, and Soapstone Prairie natural areas. These areas will continue to be monitored throughout 2017 and beyond.



Photo showing treatment area bottom and untreated area top

## Foothills Breeding Bird Survey

Behind the scenes, Natural Areas staff are keeping a close eye on plants and wildlife in natural areas. For example, breeding bird surveys are done bi-annually in the foothills and along the Poudre River corridor. The 2016 foothills bird survey is a way to evaluate the success of the grassland restoration project at Coyote Ridge Natural Area, east of Taft Hill Road (~150 acres). The western portion of the restoration area was in winter wheat production less than 10 years ago. Now it's home to rare grassland birds that have experienced sharp population declines in portions of their ranges. It's great news because it means that conservation goals are being accomplished! The bird survey results are evidence that restoration efforts to support wildlife are successful.



## Prescribed Fire and Wildfire in 2016

A prescribed burn was conducted on a small wetland to improve habitat for Ute ladies'-tresses a federally threatened orchid in May of 2016. The Natural Areas Fire Crew also responded to two wildfires at Bobcat Ridge Natural Area in 2016. The first fire occurred after a lightning strike in June but only grew to four acres after a quick response from natural area rangers and fire crews. The Natural Areas Fire Crew responded the following day with a hand crew for mop-up assistance. The second wildfire occurred in December 2016 and grew to 189 acres after starting from a powerline replacement project. Multi-agency crews, including natural areas, responded the following day and were able to contain the fire with the help of some snow the following night.

## Crack Willow Removal in the Poudre River Riparian Corridor

Crack willow is an introduced species and it crowds out other native willows and cottonwood trees in riparian habitats. Crack willows do not provide quality habitat for wildlife. For example, primary cavity nesters like woodpeckers prefer native trees and are not as likely to construct cavities in crack willows. This, in turn leaves fewer cavities for secondary cavity nesters (those that use existing cavities) like wood ducks and screech owls. The Natural Areas removed 2.5 acres of crack willows along the Poudre River in the Kingfisher Point Natural Area in 2016. This removal opened up about 8 acres of the forest canopy to allow native willows and cottonwood trees to take root this spring.

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