City of Fort Collins Natural Areas Department

Resource Management 2017

Restoration of Native Ecosystems

In total, 175 acres of grasslands were seeded or planted with native species in 2017. Previous restoration units were also amended with native forbs to increase habitat diversity for native wildlife. To improve wildlife habitat at Homestead and Cathy Fromme Prairie natural areas, volunteers planted 450 native trees and shrubs. A Stormwater outfall project restored 1,000 feet of riverbank at Udall Natural Area, including bank stabilization and plantings of native cottonwoods, native grasses, and hundreds of native willows.

Total Acres Under Active Restoration: 2535

Current Condition of Restoration	# of Acres	% of Total Acreage
> 75% native plants	1163 acres	46%
25%-75% native plants	550 acres	22%
> 25% native, weedy plants dominant	822 acres	32%

Ponderosa Pine Restoration at Bobcat Ridge

In 2000, the Bobcat Gulch wildfire burned 1,000 acres and severely altered two-thirds of the ponderosa pine forest here. Few pine seedlings have established, particularly in areas far from the seed-producing adult trees that remain on the edges of the burned area. Ponderosa pine seed disperses only a short distance from the adult tree and factors such as drought and non-native plant invasion can hinder natural ponderosa pine regeneration. In 2017, with the help of volunteers, the Natural Areas Department planted 210 ponderosa pine trees within the burned area (*photo right*).

Foothills Breeding Bird Survey

Breeding bird surveys are done bi-annually in the foothills and along the Poudre River to document the benefits of habitat restoration on natural areas grasslands and riparian areas. Data compiled from the foothills breeding bird survey has documented 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 grassland birds that have experienced sharp population declines in portions of their breeding ranges. It's very encouraging to see that our vegetation goals are now supporting wildlife that are in need of suitable habitat for breeding and migration.

Planning

In 2017, the Wildlife Conservation Guidelines and the Bobcat Ridge Management Plan Updates were completed. Final actions for Bobcat Ridge include a new trail, added parking spaces, a closer look at the elk population, and an increase in restoration efforts. The Wildlife Conservation Guidelines summarize the overall strategy for wildlife on natural areas. The most significant changes were made to prairie dog management.

Bat Surveys

Bat populations have declined due to habitat loss, pesticide exposure, and disease. Natural areas provide valuable foraging and roosting habitat for bats in the Fort Collins area and surveys provide a better understanding of the bats that depend on natural areas. In 2017, acoustic detectors were used to record bat calls and mist nets were used to capture bats, record biological data, and test them for white-nose syndrome. Nine natural areas were surveyed and ten species were detected including four species listed as "Species of Greatest Conservation" need by Colorado Parks and Wildlife. Findings also include large numbers of bats using Reservoir Ridge, high species diversity at Bobcat Ridge, and a sizable little brown myotis maternity roost at Gateway Natural Area. *Little brown myotis* (*photo right*).

Prescribed Fire and Wildfire in 2017

A 780-acre prescribed burn was conducted on Soapstone Prairie in November of 2017 (*photo right*). The burn will provide ideal habitat for nesting mountain plover, a sharply declining grassland bird that prefers to nest in grasslands with very little vegetation. The Natural Areas Fire Crew also responded to the Spring Glade wildfire at Coyote Ridge Natural Area in July of 2017. The crew assisted other agencies for four days with suppression of the 370-acre fire.

Advances in Data Collection

In 2017, the Department began to collect data using an app on iPads and smart phones. This method provides intuitive data collection in the field and improved data management workflow in the office. Data collected using the new app included: Bell's twinpod plots, rare plants, Bobcat Ridge grazing transects, 86 management units, over 100 restoration units, prairie dog colonies, raptor nests, and 2,000 observations during the foothills bird surveys. The Restoration Management Information System, or RMIS for short, got a next generation upgrade from an outdated custom application. RMIS is used to store management unit and restoration unit conditions and status, and tracks the work that has been completed on the units.

Raptor Nest Monitoring

Raptor nests are monitored throughout the breeding season to mitigate any disruption to their nesting attempts and to monitor for any ecosystem disturbance. Because raptors are apex predators, they are excellent indicators of environmental quality and health. In 2017, there were 11 known active nests on urban natural areas, including eight Red-tailed hawk nests, two bald eagle nests, and one great horned owl nest. We will continue to monitor and protect raptor nests and we share our data with Colorado Parks and Wildlife for inclusion in the state-wide data set. *Great-horned owl nestlings* (*photo left, by Mark Yoder*).

Treating More Weeds With Less Herbicide

The Natural Areas Department treated a record breaking 2,120 acres of weeds in 2017 including everything from annual weeds like kochia to perennials like hairy willow herb. All this, while still using less herbicide per acre than average (2016 and 2017 show the lowest use on record). Treatments included 1,400 acres of cheatgrass, including 1,175 acres by helicopter at Coyote Ridge and Bobcat Ridge. Other types of weed treatments included a week of goat grazing at Cattail Chorus and mowing 1,000 acres in order to control annual weeds. Hundreds of Russian olive, Siberian elm, and common buckthorn were removed from 11 different natural areas with the goal of promoting the establishment of native trees and shrubs.

Rare Plants

Rare plants monitored in 2017 included Bell's twinpod, northern spleenwort, Colorado butterfly plant, and Ute's ladies-tresses. It was a banner year for Colorado butterfly plant with 27,576 bolted plants at Soapstone Prairie and 2,719 bolted plants at Meadow Springs Ranch. Northern spleenwort is a new rare plant discovery on natural areas. Currently, the Department has only recorded it at Bobcat Ridge Natural Area. *Northern spleenwort* (*photo right, by Crystal Strouse*).

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City of Fort Collins Natural Areas — naturally yours