

## WHO/WHERE WE ARE

**Lakewood, CO:** Pam Sponholtz, Project Leader; JoAnn Wise, Budget Admin

**Buckley Air Force Base, Aurora, CO:** Krystal Phillips, Wildlife Biologist, Dustin Casady, Fish and Wildlife Biologist

**Peterson, Schriever, Cheyenne Mtn Air Force Bases, Colorado Springs, CO:** Max Canestorp, Wildlife Biologist

**Peterson AFB, Colorado Springs, CO:** Shelly Crook, Assistant Fire Management Officer

**US Air Force Academy, Colorado Springs, CO:** Brian Mihlbachler, Biological Scientist; Diane Strohm, Biological Scientist; James Donahey, Forester; Melissa Whittingslow, Wildlife Biologist

**Rocky Mountain National Park, Estes Park, CO:** Chris Kennedy, Fish Biologist

**Warren Air Force Base, Cheyenne, WY:** Alex Schubert, Fish and Wildlife Biologist

**McConnell Air Force Base, Wichita, KS:** Laura Mendenhall, Fish and Wildlife Biologist

**Pueblo Chemical Depot, Pueblo, CO:** Clark Jones, Wildlife Biologist

# Colorado Fish and Wildlife Conservation Office



FEBRUARY 2016

## Partnerships and Accountability

**Firewise Community Planning.** The USAFA's recognition as a Firewise Community resulted in some local media interest in early-February. Diane Strohm was interviewed by local station KRDO as to what the designation means for the Academy and what work the team has been doing (<http://www.krdo.com/news/Air-Force-Academy-is-Firewise/37901932>). Strohm also coordinated with the Academy Public Affairs office to draft a press release on this recognition.

**Turkey Hunting.** Brian Mihlbachler and Melissa Whittingslow are working with Colorado Parks and Wildlife (CPW) to reinstitute spring turkey hunting on the Air Force Academy in support of the Rookie Sportsman Program. CPW staff and their volunteers will serve as hunter escorts if the activity is approved by the Academy commanders.

**Wildlife Meetings.** Clark Jones and Dustin Cassidy attended the annual meeting of the Colorado Chapter of the Wildlife Society in Colorado Springs in February. Presentation topics at this meeting covered a range of subjects relevant to Department of Defense (DoD) installation management including Bird Aircraft Strike Hazard issues, habitat restoration ecology, silvicultural management effects on avian communities, and occupancy modeling for wildlife on DoD training lands. Clark also attended the known-fate survival workshop led by Peter J. Mahoney (Utah State University) and Dr. John Benson (UCLA) to learn how to conduct Cox proportional hazards analysis in the R statistical environment.

Laura Mendenhall attended the 2016 Kansas Natural Resources Conference in Wichita, KS. Highlights included a talk by Colorado rancher Russell Davis who spoke of his groundbreaking collaboration with USFWS Region 6 on Mountain Plover conservation. Other topics of relevance for McConnell AFB included presentations



**Before fuel reduction treatment around historic Academy Scout Huts.**



**After fuel reduction treatment around historic Academy Scout Huts.**

on the use of social media to market conservation, grassland bird monitoring, zebra mussel management, and long-term monitoring of freshwater mussels.

**Bird Airstrike Hazard (BASH) Activities.** A monthly stakeholders meeting was held in February at Buckley AFB. This month Krystal Phillips worked with BASH stakeholders and the grounds contractor to designate a site footprint for Cottonwood tree removal, an identified BASH risk, at the southern end of the runway. Additionally, Krystal reviewed the BASH plan and recommended twelve substantive changes be made to ensure accuracy and continuity with federal and state

wildlife laws and the approved installation Integrated Natural Resource Management Plan.

**Boreal Toad Recovery Team.** Pam Sponholtz attended the Boreal Toad Recovery Team meeting. Topics discussed included further spread of chytrid fungus and reduced population numbers range-wide. However, promising research on chytrid resistance and chytrid-specific bacteria that fights off the fungus may help stabilize populations in the future.

# Species Conservation and Management



**Pronghorn on F.E. Warren AFB.**

*Pronghorn Survey.* Alex Shubert and Dustin Casady conducted a pronghorn survey on F.E. Warren Air Force Base. The survey was conducted in the same manner as in the past, so results can be directly comparable to past surveys and long term trends can be evaluated. During the survey, 235 pronghorn were counted (125 bucks and 110 does). This was a lower number than had been documented in recent surveys, but still above the "social carrying capacity" of the base --determined to be 150-175 pronghorn. It is uncertain at this time

why there was a lower number counted as compared to recent surveys. Speculated explanations include more winter kill this past season or the possibility that pronghorn have moved off base. During the survey, pronghorn were observed outside of the base fence near the city of Cheyenne. Also pronghorn were observed west of the base in the surrounding private rangeland after the survey.

**"The sighting at Pueblo Chemical Depot may be yet another indication of how climate change is altering the migratory behavior of birds across the globe."**

*Colorado's State Bird Makes Rare Winter Appearance at Pueblo Chemical Depot.* Clark Jones documented a flock of approximately 20 Lark Buntings (*Calamospiza melanocorys*) at Pueblo Chemical Depot in early February. The Lark Bunting is the state bird of Colorado, but only resides within the state during the breeding season. Like other many other grassland birds, populations of Lark Buntings are precipitously declining (>4% decline per year in Colorado). According to the Cornell Lab of Ornithology's eBird database, Lark Buntings have only been documented in Colorado three times between December and February over the past 10 years, and none of the previous sightings were of flocks of this size. The sighting at Pueblo Chemical Depot may be yet another indication of how climate change is altering the migratory behavior of birds across the globe.

*Prairie dog/burrowing owl surveys reporting:* Max Canestorp prepared a report on the 2015 prairie dog and burrowing owl surveys on Schriever AFB. Prairie dogs occupied approximately 248 acres on the base, although about 171 acres were subject to control measures due to safety and security reasons.

Three burrowing owl nest sites were found on the installation.

*Invertebrate Survey.* Buckley Air Force Base (BAFB) is located in the Colorado Front Range, which is a region known to support a diverse terrestrial and aquatic Arthropoda fauna. In order to ensure timely delivery of the much anticipated invertebrates report, suspense 30 March 2016, Krystal reached out to researcher, John Sovell, and it was determined that a thirty-day no-cost extension was necessary due to the high volume of species being processed by the surveys last field season.



**Hops Azure Butterfly on native hops plant.**

*Journal of Insect Conservation Publication.* Brian Mihlbachler reviewed a draft publication by Rob Schorr and C. Puntteny (Colorado Natural Heritage Program) on "Patch occupancy and habitat of the hops

azure (*Celastrina humulus*), a rare North American endemic butterfly: insights for monitoring and conservation". This research, conducted on the Air Force Academy, was recently published in the Journal of Insect Conservation (25 Feb 2016, online).

*Aquatic Species Conservation.* Chris Kennedy reviewed draft research article entitled "Conservation Implications of Relatedness, Deformity, and Reproductive Variance in the Hatchery Stock of Greenback Cutthroat Trout." This article is co-authored with genetic researchers from the University of Colorado-Boulder lead by Sierra Love Stowell. The research characterized the inbred greenback cutthroat trout broodstock at the Leadville National Fish Hatchery and describes the results of spawning in 2015. Some results include; 46% of fish in the broodstock had deformities due to the inbreeding, a hormone treatment did not increase fertilization success, and only 0.11% of eggs survived to eight weeks past hatching

# Southern Rockies Seed Network and USFWS Cross Pollinate

*Demand for Ecotypes Unmet.* The demand for ecotypes has been a welcome shift in the industry, though this demand has been largely unaddressed in the Southern Rockies Ecoregion. Given the rate and extent of ecological disturbance in our ecoregions—extractive industries, wildfires, floods, urbanization, habitat loss, and other anthropogenic disturbances—and knowing well the desire for ecotypic seed among land management agencies and industry, developing reliable sources of ecotypic seed is critical to maintaining the integrity of ecosystems and native flora of the Southern Rockies Ecoregion and adjacent Ecoregions in Colorado and Wyoming.

The unmet demand for ecotypic seed, cuttings, and containerized plant materials within our ecoregion exists in large part due to a historic reliance upon mass-produced plant cultivars, a lack of consistent and focused demand for ecotypic plants, and a scarcity of proper production and storage facilities. Furthermore, adequate investment in research and development for ecotypic plant materials has failed to keep pace with a rapidly evolving restoration industry. To address these challenges, the Southern Rockies Seed Network formed in 2014, thanks to the dedication of over 40 agency and industry partners in Colorado and Wyoming. The SRSN 2015 annual meeting attracted 95 federal, state, and local partners to learn more about ecotypic plant materials development and hone strategies for advancing the development of such plant materials in our region. The USFWS has been an important support of this program from the beginning. The seed network is working to develop ecotypic *work horse* plant materials (i.e., those most common-

ly used in ecological restoration) as well as *niche* ecotypic seeds to meet targeted partner needs (i.e., pollinator plants, shrubs for mine-land reclamation, or propagation of rare species for conservation). Following the 2013 floods, the development of ecotypic plant materials for to meet the substantial riparian restoration needs has become a high priority.



**Zach Clark-Lee gazes proudly upon 3,000 ecotypic Chokecherry seedlings.**

*In Search of Remnants.* Addressing the post-flood restoration needs, an important first step was the identification of where desirable source populations (i.e. remnants) still exist. Many of the remnant plant populations (e.g., the wild sources of ecotypic plant materials) that might have existed Colorado Front Range streams were destroyed by the flood, have been substantially reduced in extent via historic floodplain disturbances, or are suspected to be genetically impacted by cross-pollination with nearby cultivars (e.g., similar to Rainbow Trout hybridizing with Greenback Cutthroat Trout). With demand from partners evaluated, and understanding the distri-

bution of riparian species across the flood-impacted area prior to the flood (e.g., using reference sites), staff and volunteers located remnant plant communities believed to represent ecotypic variation across the Front Range. In the process of identifying over 170 remnant plant populations, collection authority was obtained from federal and local agencies, and some private land owners for the collection of seeds, berries, and hardwood cuttings (i.e., stems of willows or cottonwoods). These propagules are in the process of being grown into container stock and seed by several local partners.

#### *Plant Materials YellowPages Available.*

Thanks to the dedication of SRSN partner growers, over 15,000 ecotypic plant materials (mostly shrubs and trees) are coming on line beginning in spring 2016 and continuing through the fall. Many of these species will be grown in stooling blocks to provide a long-term source of cuttings and seed for flood recovery and other restoration needs. Grass seed is in the process of production in agricultural fields, and is estimated to be available in the spring of 2017. Recognizing the current availability of ecotypic plant materials is not sufficient to meet all of the needs in the flood-impacted area, these *YellowPages* provide a list of native plant growers and distributors who carry a variety of native plants in the form of seed or container stock. The *YellowPages* can be found at [www.synergy3.org](http://www.synergy3.org).

***“The USFWS has been an important support of this program from the beginning.”***

*Intriguing Questions.* A great richness of fascinating research questions also provide an opportunity for USFWS and other partners to be engaged in the seed network’s research arm. While there is much the industry has learned from the poor performance of cultivated native trees moved too far from one portion of their range to where they are planted, there is

much to learn with respect to the genetic variation among populations of native grasses and forbs across their geographic distribution. Research by the USFS on the adaptability of cultivated trees to reforestation sites distant from the source populations found observations on poor growth and survival, and that maladaptation took time to develop. These observations led to the development of the first “seed movement” guidelines in 1939. These guidelines were further revised in 1966, including general seed movement guidelines such as a maximum of 1,000 feet in elevation, and a maximum of 500 miles in latitude, between “source of plant stock” and the “site to be restored.”

More recently, Bower *et al*, 2014 (Generalized Provisional Seed Zones for native plants. *Ecological Applications*, 24(5), pp 913-919) developed a map of provisional seed zones for all of North America, based on an aridity factor and minimal annual temperatures, overlain atop Level III ecoregions. While this work is helpful to the industry, much region- and taxa-specific work remains to be done. Such genetic research is essential to help understand “how local is local.” In other words, much research is needed to better understand if the Western wheatgrass (*Pascopyrum smithii*) collected in Boulder County can be used for restoration only in Boulder County, or if it is “genetically appropriate” to use that species throughout eastern Colorado, or even into Wyoming. Place your bets...

*Interested in Learning More?* A seminal program of Synergy Ecological Restoration, the Southern Rockies Seed Network is working to raise funds and is seeking out assistance with website and database development, marketing, research, etc. Myriad of interesting opportunities exist for passionate plant enthusiasts to help make this seed network grow. If you are interested in learning more about this network, or in growing seed, providing funding, conducting research, volunteering on seed collection projects, and the like, please contact John Giordanengo at 970-420-7346 or [john@synergy3.org](mailto:john@synergy3.org). With some light lifting by many hands, we can get this budding network off the ground!

# Habitat Conservation and Management

**Noxious weed surveys and planning:** Max Canestorp initiated coordination for noxious weed surveys to be conducted on Cheyenne Mountain Air Force Station (AFS) and Schriever AFB. Development of noxious weed management plans will follow surveys.

**Wetlands Sampling.** Laura Mendenhall and the McConnell AFB Natural Resources Manager accompanied a Wichita State University student and local herpetology expert, Dexter Mardis, to sample for salamanders in wetland areas on McConnell AFB. Though the group did not turn up any salamanders, Mardis made recommendations on when and how to sample again this spring and the group noted the presence of Prairie Crayfish in one of the wetlands.

**Dalmatian Toadflax Control.** On a frigid winter day, Pam Sponholtz (USFWS), Brian Mealor (U. Wyoming), Dan Tekiela (U. Wyoming), Beth Fowers (U.

Wyoming), and Alex Schubert met at F.E. Warren AFB to discuss sheep grazing/dalmatian toadflax (*Linaria dalmatica*) control. Bobby Johnson (FE Warren AFB) gave a tour of the potential area of the project. Beginning in 2016, F.E.



Warren AFB is planning to experimentally control invasive weeds through livestock grazing alternated with chemical herbicide use. The proposed project seeks to improve the manager's ability

to reduce invasive weed impacts, Dalmatian toadflax in particular, on F.E. Warren AFB by evaluating different management approaches. This project seeks to expand upon existing knowledge for strategically managing problematic invasive plant species in rangeland ecosystems, while providing locally-relevant recommendations for F.E. Warren AFB.

**Pest Management.** Dustin Casady attended the 2016 Western Colorado Pest Management Workshop. The Colorado Department of Agriculture requires pesticide applicators to take continuing education every 3 years in order to

maintain a Certified Operator pesticide applicators license.

**Western Spruce Budworm & Urban Tree Management.** James Donahey performed a field review of trees within improved areas that are susceptible to the western spruce budworm. Using recent urban tree inventory data, he located all fir and spruce and performed a walk-thru to assess budworm damage. Overall damage in the urban environment is low, with a few exceptions that may be treated with pesticides this spring. Firs on the western slopes of the Academy and at Farish are experiencing minor defoliation from the budworm, but fortunately no damage has been detected from the Douglas fir tussock moth which has caused extensive recent mortality in nearby areas.

## Habitat Conservation and Management: Fire



**Prescribed Fire Program.** From February 15 to March 1<sup>st</sup> Melissa Whittingslow was a part of a fire module that detailed at Eglin Air Force Base and Tyndall Air Force Base in northern Florida to assist with their prescribed fire

program. Whittingslow was able to work on her burn boss task book and creating prescribed burn maps using ArcGIS for burn plans. This opportunity is a great way for employees from different regions to improve their red card qualifications and get experience burning in a different fuel type.

**Pikes Peak Fire Learning Network & Pikes Peak Wildfire Prevention Partners.** In February, Diane Strohm and James Donahey participated in monthly meetings with two local organizations. Both are planning their spring public event to provide education to the public on wildfire prevention, fuel hazard mitigation and prescribed burning efforts. Academy NR will help plan and host these upcoming events.

**Smooth Brome Burn Plan.** James Donahey completed an 813 package for the smooth brome prescribed burn, designed to knock back aggressive smooth brome grass from a small population of the CO Species of Concern Plains ironweed. This one-acre burn has been implemented twice, but needs to be retreated numerous times to effectively impair the brome grass. James presented the information at an EIAP meeting, along with Diane and Brian. He also revised the 2013 prescribed fire burn plan to fit an updated template, and submitted this to Shelly Crook for review. Estimated burn window is late April to mid-May.