

The Field Press



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From the Desk of the Coordinator

By Raquel Wertsbaugh, CNAP Coordinator

It seems that 2019 came and went in a flash, and it is hard to believe we’ve entered a new decade already. It has put a smile on my face to reflect on all that CNAP has accomplished over the past several years and what we have to look forward to in 2020 and beyond. I’m thankful for an outstanding CNAP crew (who I truly couldn’t live without), amazing volunteer stewards, top-notch Council members, strong partnerships, and supportive leadership within Colorado Parks and Wildlife (CPW).

One of the most exciting highlights for CNAP this past year is that we now have a stable operating budget. We’ve gotten by for years on “soft \$”, but we can breathe easier and plan better knowing we’ve now got added stability. I’m also energized about the strides we’ve taken in strengthening our Natural Areas System (more about this on the following page), which is a major goal in CNAP’s strategic plan. The results include a comprehensive review of our current system, prioritization of current and future designations, new tools for evaluating our sites, and a plan for moving forward.

We’ll be starting the year off by reviewing our program’s strategic plan which believe it or not was written five years ago already. Our steadfast Natural Areas Council will be helping to update the plan and we look forward to further integrating our goals with the broader CPW strategic plan.

On behalf of the CNAP crew, we look forward to seeing our wonderful volunteer stewards and partners this upcoming field season while we’re out and about doing natural area field monitoring. Here’s to an exciting 2020!



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Sunset at Two Buttes Natural Area, Prowers County

CNAP Staff Update: Who's Who on the Crew?

CNAP is fortunate to retain our same excellent staff from last season, plus we have a new addition! Raquel Wertsbaugh is still the program coordinator, going on six years now. Jessica Smith remains our program's botanist and volunteer manager extraordinaire (on contract through the Colorado Natural Heritage Program). We're fortunate that Savanna Smith has returned for another full season with us, this time as the lead field technician. We were able to hire an additional field technician this season, Lindsey Conrad, who will start in early March. Just FYI-Raquel will be on maternity leave from April through July.

Program Update: Recognizing Important Places on the Eastern Plains

CNAP created a new strategic plan in 2016 including a main goal of strengthening our state's natural areas system. For the past several years, our staff and Council have been working tirelessly on just that. We thoroughly evaluated our current natural areas system through a system analysis, created new ranking criteria, and have ranked and prioritized all properties in our current system. Through this process we have de-registered 11 sites that no longer met our criteria and have begun updating and prioritizing a new identified site list. Our initial emphasis for moving forward on new designations is on the eastern plains, a region with some of our state's most significant natural places and deserving of greater representation in our Natural Areas System.

After thorough review and discussions with partners and the Council, our next proposed designation will be Fox Ranch. The Colorado Natural Areas Council registered Fox Ranch in 2010 and we're excited to finally be moving forward on the designation process. Just shy of 14,000 acres, the property is located along the Arikaree River in Yuma County and is owned and managed by The Nature Conservancy. The property includes over 8,000 acres of outstanding sandsage prairie habitat supporting greater prairie chickens and numerous other grassland-dependent bird species. It also includes over 9 miles of Arikaree River, home to a myriad of rare plains little fishes, amphibians, and excellent riparian habitat. The property serves as a crucial recharge zone for the groundwater-dependent Arikaree River. We're fortunate to be working with The Nature Conservancy on this gem of a property. Stay tuned for additional updates!



Colorado Natural Areas Program

Jared Polis, Governor

Dan Gibbs, Executive Director
Department of Natural Resources

Dan Prenzlów, Director Colorado
Parks and Wildlife

Colorado Natural Areas Council:

Ken Strom, Chair

Dina Clark, Vice Chair

Julia Kintsch, Member

Denise Culver, Member

Lynn Riedel, Member

John Shaw, State Board of
Land Commissioners

Charles Garcia, Parks and
Wildlife Commissioner



CNAP staff and U.S. Forest Service botanist Steve Olson at Comanche Lesser Prairie Chicken Natural Area, Baca County



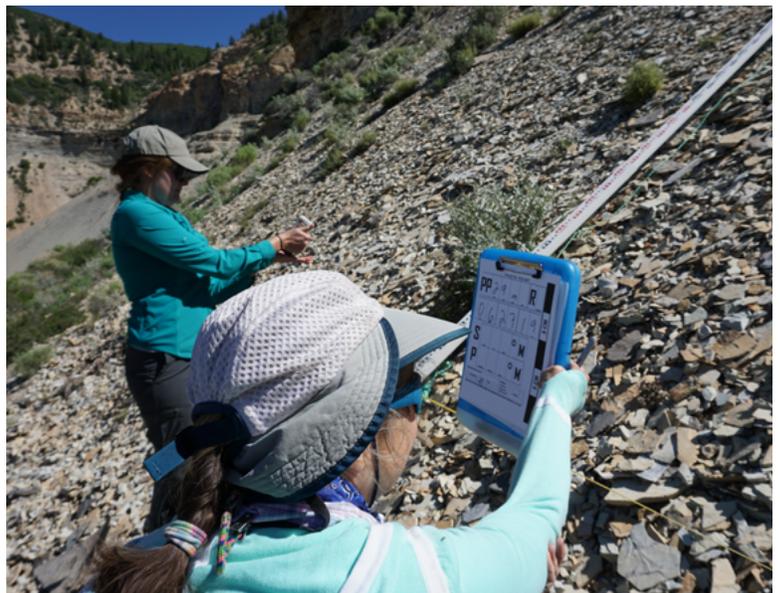
Parachute penstemon (Penstemon debilis), federally threatened plant species, at Mount Callahan and Logan Wash Mine Natural Area

Project Highlight: Innovative Monitoring of the Federally Threatened Parachute Penstemon

CNAP continues to contract with the Colorado Natural Heritage Program (CNHP) to monitor the federally threatened Parachute penstemon (*Penstemon debilis*) at the Mount Callahan & Logan Wash Mine Natural Area in Garfield County. Steep slopes and fragile shale soils have made survey and monitoring work challenging, being potentially hazardous for staff and the sensitive plant habitat.

Innovations at the Logan Wash Mine parcel include using telescoping measuring rods and photography to capture images of monitoring plots from the toe of the slope instead of physically walking through the plots. Plants are tallied from photographs in the office and photos are retained as a visual record. Local consultants Western Water and Land, on contract with the landowner, Occidental Oil Shale, Inc. (OOSI), have experimented with transplanting plants out of the access road at Logan Wash in advance of required remediation work, with an impressive survival rate of over 50% five years after transplantation.

Innovations continued in 2019 with a test of a new monitoring and survey tool: drones. CNHP, joined by U.S. Fish & Wildlife Service staff, flew ten flights in eight hours along the slopes of Mount Callahan, to test the detectability of Parachute penstemon with three different types of drones and cameras. Survey and monitoring at Mount Callahan is more difficult than Logan Wash, with plants growing on steep slopes accessed from the top of the mountain and a 2,500 foot drop below. Methods piloted in 2019 will be used in an expanded project in 2020, funded by the National Fish & Wildlife Foundation, with CNHP partnering with private consultants Aridlands, LLC and EcoloGIS to expand surveys to other inaccessible slopes across potential habitat within the species range.



CNHP staff monitoring for Parachute penstemon at Logan Wash Mine Natural Area, Garfield County

Did You Know?

There is current federal legislation called Recovering America's Wildlife Act that if passed could bring over \$27 million annually to Colorado Parks & Wildlife to protect and conserve our state's Species of Greatest Conservation Need.

CNAP helps monitor over 150 state species of greatest conservation concern including both plants and wildlife.

Learn more here: <http://ournatureusa.com/>.

Colorado Natural Area Highlight: Indian Spring Trace Fossil Locality

Indian Springs Trace Fossil Natural Area chronicles the movements of ancient animals that lived in an estuary 450 million years ago. Located in Fremont County at the lower end of Phantom Canyon, the site is famous for its outcrops of pink Harding Sandstone that show hundreds of tiny walking tracks, fin marks, foraging patterns, and burrows of early fish and aquatic invertebrates. Fossil traces are preserved in such incredible detail that it is easy to imagine they were made recently. Yet, these tracks date to the Ordovician period, before animals had even begun to live on land.

Although very few body fossils have been found at the site, paleontologists identified the ancient track-makers by comparison with the tracks of modern animals and body fossils found elsewhere. Trilobites, ancient horseshoe crabs, crustaceans, and carnivorous eurypterids (called sea scorpions due to their small pincers) left distinguishing marks as they crawled or swam across sandy coastal deltas like those of the modern Florida panhandle. The remains of the earliest known vertebrates, ostracoderms, have also been found here. Ostracoderms are jawless fish-

with armor-plated heads that fed by sucking and filtering like their living relatives, lampreys and hagfishes. This particular site stands out from other fossil exposures in the area because it records an unusually diverse brackish community. Scientists suggest that like today's estuaries, this locality may have had abundant nutrients or a variety of niches that attracted many kinds of animals.

Fremont County has long been famous for exceptionally old fossils. The first discovery of jawless fish in the Harding Sandstone pushed the origin of vertebrates roughly 40 million years earlier than previously thought, and Fremont County held the record for the oldest known vertebrate fossil for nearly a decade. In 1979, Indian Springs Trace Fossil was designated a National Natural Landmark for being the best trace fossil locality of its kind in North America. The property was subsequently designated a state natural area a year later, in 1980. The site is the type locality for eight kinds of trace fossil (ichnogenera) and has added to our understanding of vertebrate evolution and early animal behavior.



Landowner Carly Henry at Indian Spring Trace Fossil Natural Area, Fremont County



Trace fossil evidence at Indian Spring Trace Fossil Natural Area



Volunteer steward Denise Wilson at Unaweep Seep Natural Area, Mesa County

2019 CNAP Volunteer Accomplishments

Volunteers contributed well over 1,300 hours in 2019 to the program, visiting 40 natural areas. Together staff and volunteers made sightings of 58 plants or wildlife species of greatest conservation need, as listed in the [Colorado State Wildlife Action Plan](#). Over 100 occurrences of rare features were revisited by staff and volunteers, with the feature relocated over 90% of the time, and fifty updated or new records of tracked features were submitted to the Colorado Natural Heritage Program for inclusion into the statewide database of tracked elements. The Natural Areas Program values our dedicated volunteers, just over half of which have been with the program over 10 years. We look forward to another great season coming up in 2020!



CNAP volunteer field tour of Trinidad K-T Boundary Natural Area, Las Animas County, in April 2019

New Faces/New Places:

CNAP would like to thank the following volunteers who retired this year. Our success was thanks to you!

- Janet Potter, Slumgullion and formerly Wheeler Geologic Natural Areas, 19 years of service
- Curt Cole and Nan Daniels, Saddle Mountain Natural Area, 10 years of service
- Tony Romano, Mount Emmons Iron Fen Natural Area, 4 years of service

We are also looking forward to working with new volunteers and old volunteers at new sites. Thank you for stepping up!

- Larry Allison, Escalante Canyon Natural Area
- Gay Austin, Mount Emmons Iron Fen Natural Area
- Chelsea Beebe, Paradise Park Natural Area
- Melissa Dozier, Paradise Park Natural Area
- Jeremy Felder, Wheeler Geologic Natural Area
- Don Parker, Cross Mountain Natural Area



Volunteer steward Tyler Johnson and CNAP staff Savanna Smith stop to identify a plant at High Creek Fen Natural Area, Park County



Volunteer stewards at Gateway Palisade Natural Area, Mesa County



Volunteer steward Larry Morandi at Hoosier Ridge Natural Area, Park County



Volunteer steward Rebecca Heisler at Treasurevault Mountain Natural Area, Park County

Volunteer Steward Vacancies

If you are a current steward looking to take on a new or additional site, a potential new volunteer steward, or have a friend which you would like to refer to the program, please contact: dnr_cnap@state.co.us or check out our [volunteer resource webpage](#).

CPW/CNAP Resources for Volunteers

CNAP volunteers are also CPW volunteers. Check out these resources to enhance your experience:

- [CPW Volunteer Handbook](#)
learn more about CPW and volunteer policies.
- [CNAP Current Volunteers webpage](#)
access CNAP field forms, training manual, and more.

If you haven't seen it yet, check out CNAP's new story map!



<https://cpw.maps.arcgis.com/apps/Cascade/index>

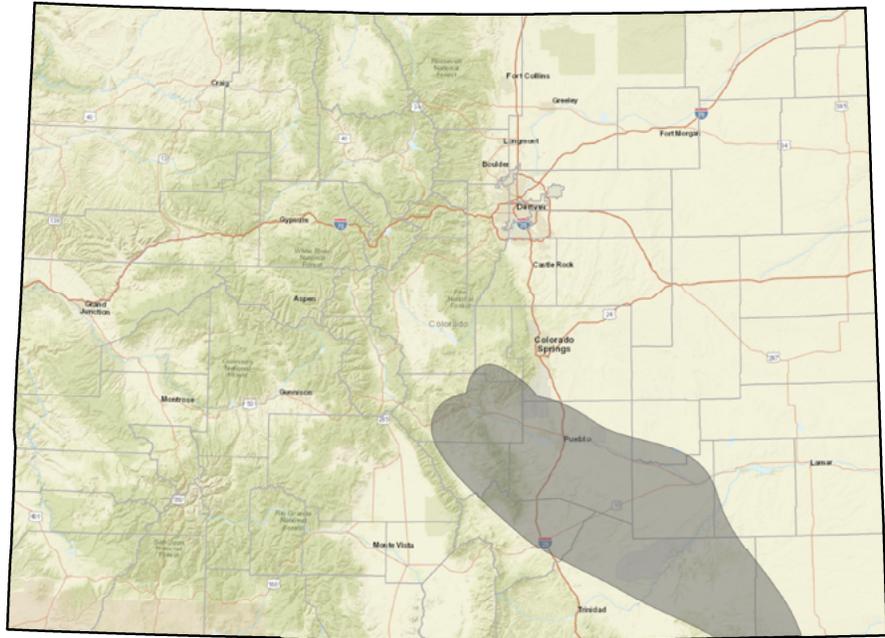
State Wildlife Action Plan (SWAP) Species Highlight: Colorado Checkered Whiptail

Talk about a species with a complicated past! The Colorado checkered whiptail (*Aspidoscelis neotesselata*), formally known as the triploid checkered whiptail, is one of only a few vertebrate species in Colorado that is all-female and reproduces by parthenogenesis (egg develops without fertilization). How cool is that? The species is only known to exist in Colorado, and its distribution is spotty, found in localized parts of the southeastern region of the state.

So how did this all-female species originate you ask? The species was first described by researchers not too terribly long ago in 1997 (Walker, Cordes, and Taylor, 1997). Researchers

have cited that the species originated through hybridization between a female marbled whiptail and a male plateau spotted whiptail (creating a species called the common checkered whiptail, formally known as the diploid checkered whiptail), followed by hybridization between one of these hybrids with a male six-lined racerunner (Wright 1993; Walker, Taylor, and Cordes, 1995). Like I said, it's complicated! It is very similar in looks to the common checkered whiptail, but the Colorado checkered whiptail includes three dorsal color patterns instead of two, evidence of its extra step in hybridization.

If you're in the right location, it's not too hard to spot this sleek lizard with its long whip-like tail and distinctive mottled stripes. They can be seen zipping around habitat associated with rocky arroyos, canyon-grassland transition zones, and juniper-grassland associations in valleys, canyons, and arroyos. CNAP staff has observed this species at Aiken Canyon Natural Area, owned and managed by The Nature Conservancy, in southwestern El Paso County. Along with Aiken Canyon, which is open to the public, a few other good places to try and spot this unique whiptail are Lake Pueblo State Park, Pueblo Nature Center, and Beaver Creek State Wildlife Area (Fremont County). The Colorado checkered whiptail is a Tier 1 (highest conservation priority) species on the Colorado State Wildlife Action Plan.



Date: 5/21/2019

Colorado Checkered Whiptail Range Map



Colorado Checkered Whiptail

Natural Areas Council News

By Ken Strom, Council Chair

The stories in this edition of *The Field Press* make it clear that this has been an amazingly productive year for the Colorado Natural Areas Program, thanks to all our hardworking staff, volunteers and partners who ensure its ongoing success. It's also been a year of transition, particularly for the Natural Areas Council. First, our long-time Council Chair, Tom Nesler, completed his final term on the Council, including five impressive years as Chair. We celebrated his service at our June 2019 Council meeting. With Tom's departure, I was elected to succeed him as Chair, and botanist Dina Clark became Vice-chair. On behalf of the Council and the entire CNAP family, I want to again express to Tom our appreciation and gratitude for his wise, skillful leadership through a period of major growth and change for the Colorado Natural Areas Program.

In June we also received the welcome news of the appointment to the Council of plant ecologist Lynn Riedel and the re-appointment of ecologist/botanist Denise Culver. Charlie Garcia, representing the Parks & Wildlife Commission, also came onboard this year, joining applied ecologist Julia Kintsch and John Shaw, representing the Board of Land Commissioners, to round out the 7-member Council. Congratulations to all, including Dina on her new role as a Council officer.

For the past year, a focus of the Council's efforts has been working with the staff to refine our list of potential Natural Areas on the eastern plains as part of our Natural Area system re-alignment to fill gaps in our portfolio of designated sites. This culminated in December with guidance to the staff to work with partners to pursue the designation of a new site in 2020. We've also focused on improving communications with various audiences in order to raise CNAP's profile. We made major progress on this front, with increased attention paid to the program and firmer funding secured for CNAP as part of the overall Parks & Wildlife operating budget.

A year ago, Tom Nesler expressed in these pages that a major accomplishment on the road to building a stronger foundation for CNAP was the development of our 2015 strategic plan. That 5-year plan is due for a major update right now. The good news is that a recent progress report indicates that most plan objectives have either been completed or are being successfully addressed as ongoing objectives. A major task before the Council in 2020 is the establishment of an even more ambitious plan for the next 5 years. Thanks to our hardworking coordinator Raquel Wertsbaugh and her very talented staff, along with an incredibly dedicated corps of volunteers and supportive partners, we know we can take on bigger challenges to build an even more impressive Colorado Natural Areas Program that all Coloradans will take pride in.



CNAC field tour of Dinosaur Ridge parcel at Dakota Hogback Natural Area, Jefferson County, in September 2019