

Review of Previous Meetings

Colorado Rare Plant Symposia

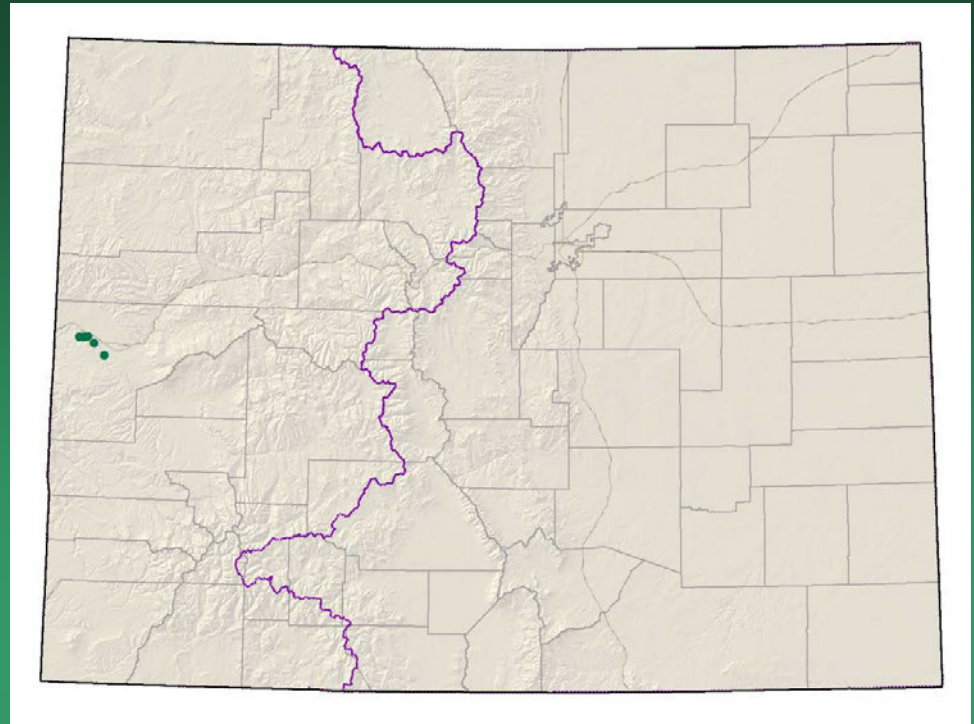
Statewide G1 (2005/2010)

SE Colorado G2 (2006/2012)



2005/2010
Pagosa Springs/Denver
Statewide
G1 species
(excluding T,E&C species)

Aletes latilobus=
Lomatium latilobum
Canyonlands biscuitroot

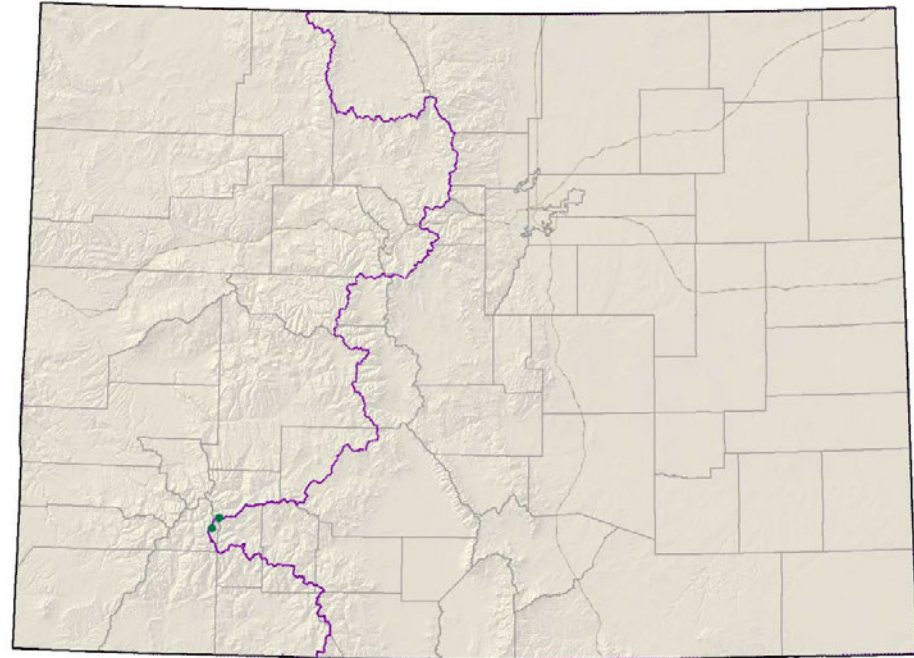


- Federal status: BLM sensitive
- Heritage ranks: G1 **G2**/S1
- Global distribution: Utah (Grand and San Juan counties) and Colorado (Mesa County-- Colorado National Monument and Rattlesnake Canyon)
- Last observed in Colorado: 2009
- Colorado occurrences: 5
- Colorado individuals: >5,000
- Primary threats: Habitat disturbance, Park developments, trampling by hikers
- Land ownership/management: Colorado National Monument, BLM, possibly on adjacent private

Aletes latilobus



Aliciella sedifolia
=*Gilia sedifolia*
Stonecrop gilia



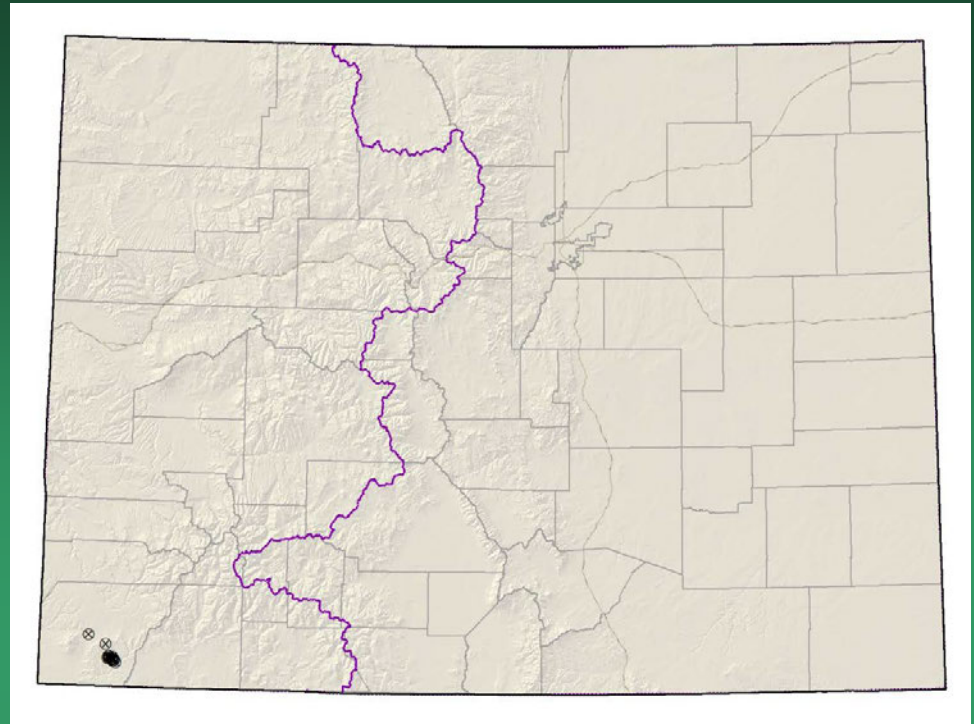
- Federal status: BLM & USFS
- sensitive
- Heritage ranks: G1/S1
- Global distribution: Colorado endemic, San Juan Mountains, Hinsdale County
- Last observed: 2007
- Occurrences: 2
- Individuals: 1,100
- Primary threats: non-motorized recreation
- Land ownership/management: Gunnison and Rio Grande National Forest

Aliciella sedifolia



Astragalus deterior

Cliff Palace milkvetch



- Federal status: None
- Heritage ranks: G1G2/S1S2
- Global distribution: Colorado endemic (Montezuma County)
- Last observed in Colorado: 2012
- Colorado occurrences: 11 (6 historical)
- Colorado individuals: ~5000
- Primary threats: Non-motorized recreation, exotics
- Land ownership/management: BLM, Mesa Verde NP, tribal (Southern Ute and Ute Mountain Ute), and private lands

Astragalus deterior



Astragalus lonchocarpus var.
hamiltonii
= *A. hamiltonii*
Hamilton's milkvetch

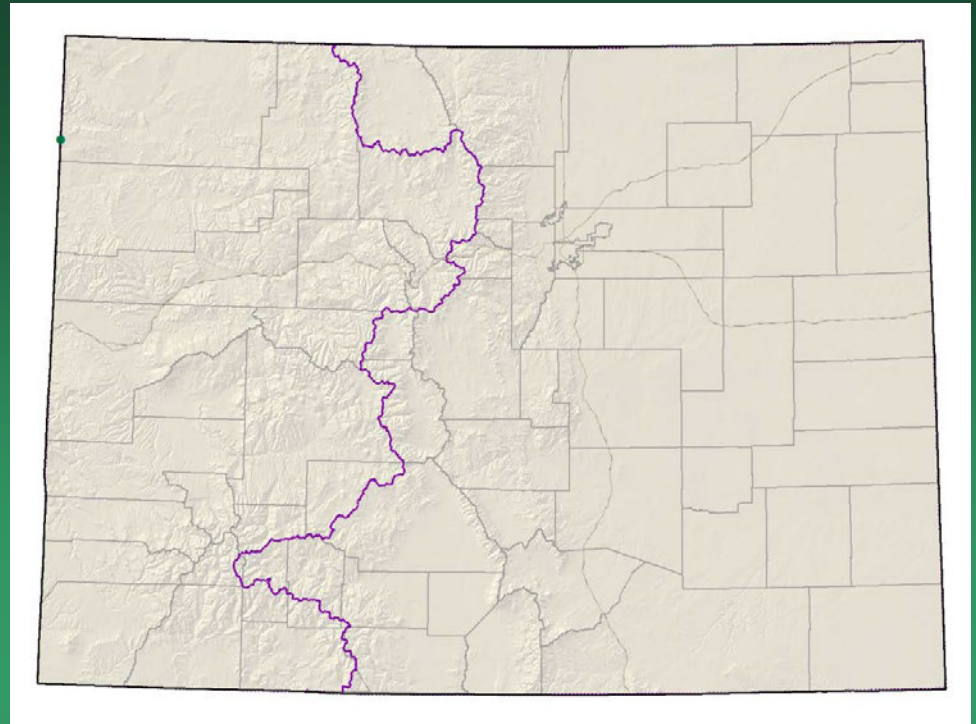
As a result of 2011
surveys the occurrence
in CO was determined to
be *A. lonchocarpus*

- Federal status: none
- Heritage ranks: G4T1/SNA
- Global distribution: Uintah County, Utah
- Last observed in Colorado: 1991
- Colorado occurrences: 0
- Colorado individuals:
- Primary threats: unknown, area heavily grazed in past, OHV and oil & gas development for UT occurrences.
- Land ownership/management: Dinosaur NM in UT; National Wildlife Refuge, Ute, BLM, State, and private in UT

Astragalus lonchocarpus
var. *hamiltonii*



Boechera glareosa snowbasin rockcress



- Federal status: none
- Heritage ranks: G1/S1
- Global distribution: Utah and Colorado (Moffat county)
- Last observed in Colorado: 2002
- Colorado occurrences: 1
- Colorado individuals: unknown
- Primary threats: unknown
- Land ownership/management: BLM

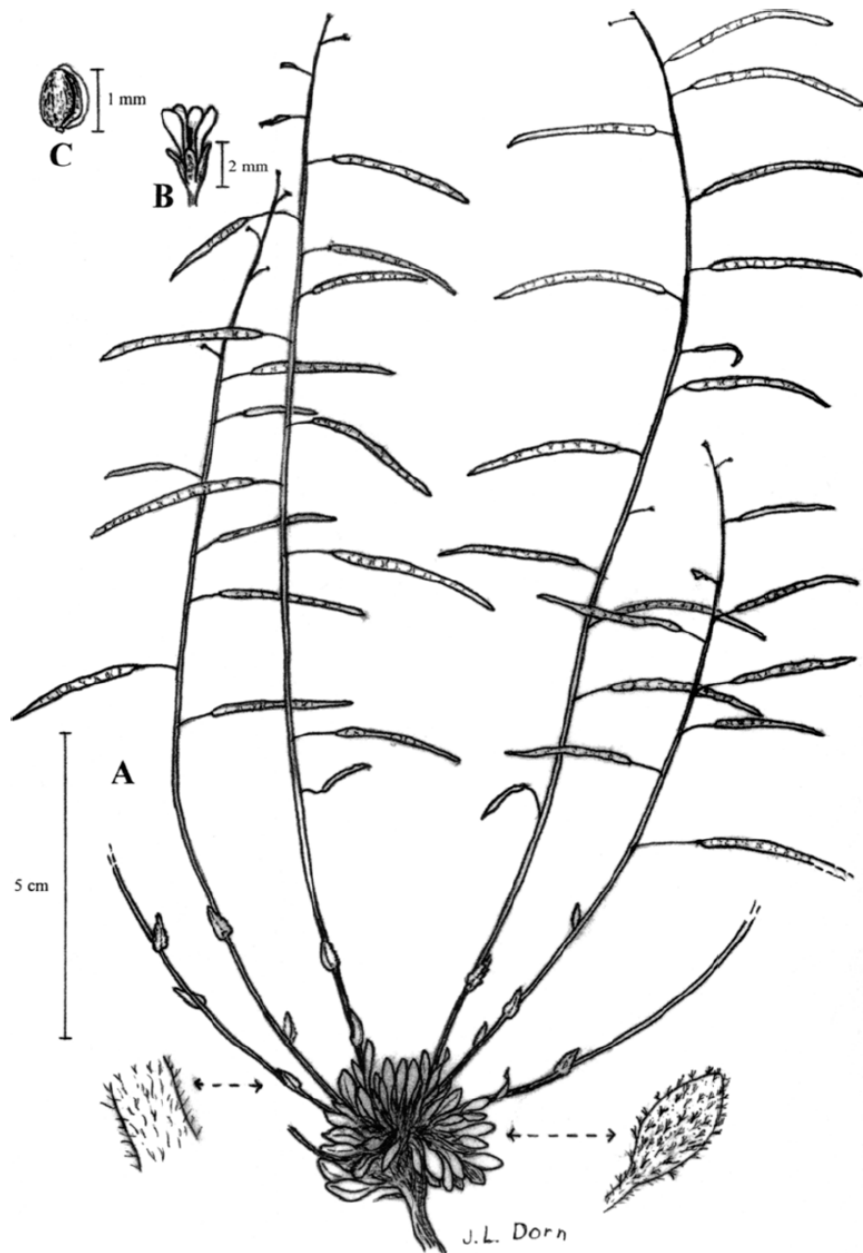
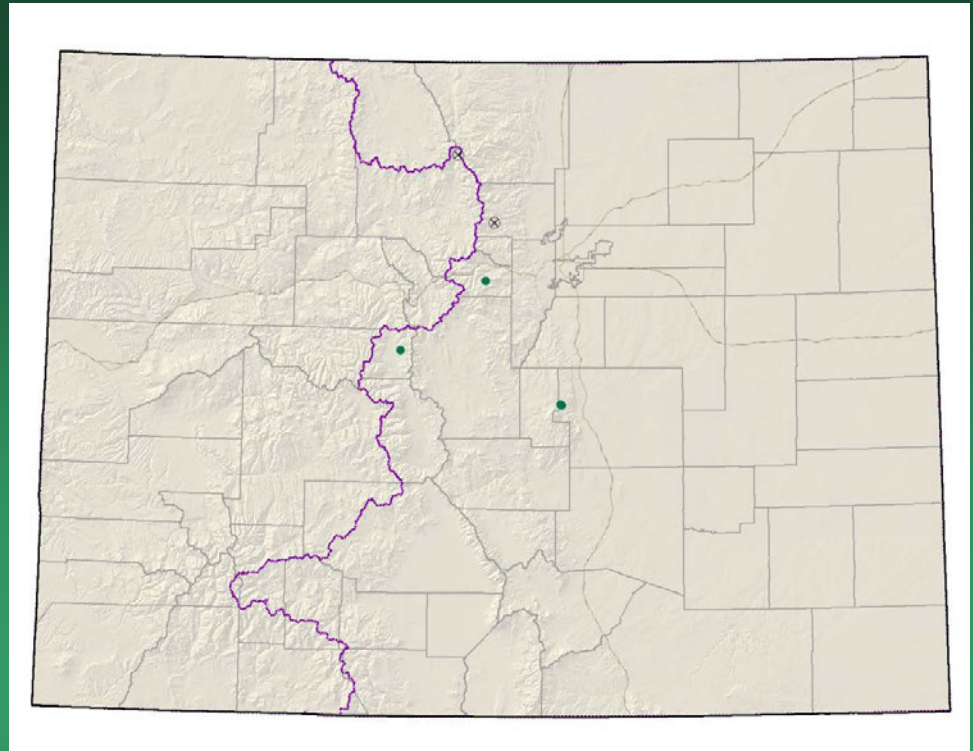


FIG. 1. *Boechera glareosa*. A. Fruiting plant. B. Flower. C. Seed. (From Dorn 8734 & 9106, RM.)

Boechera glareosa

Botrychium lineare? Narrowleaf grapefern

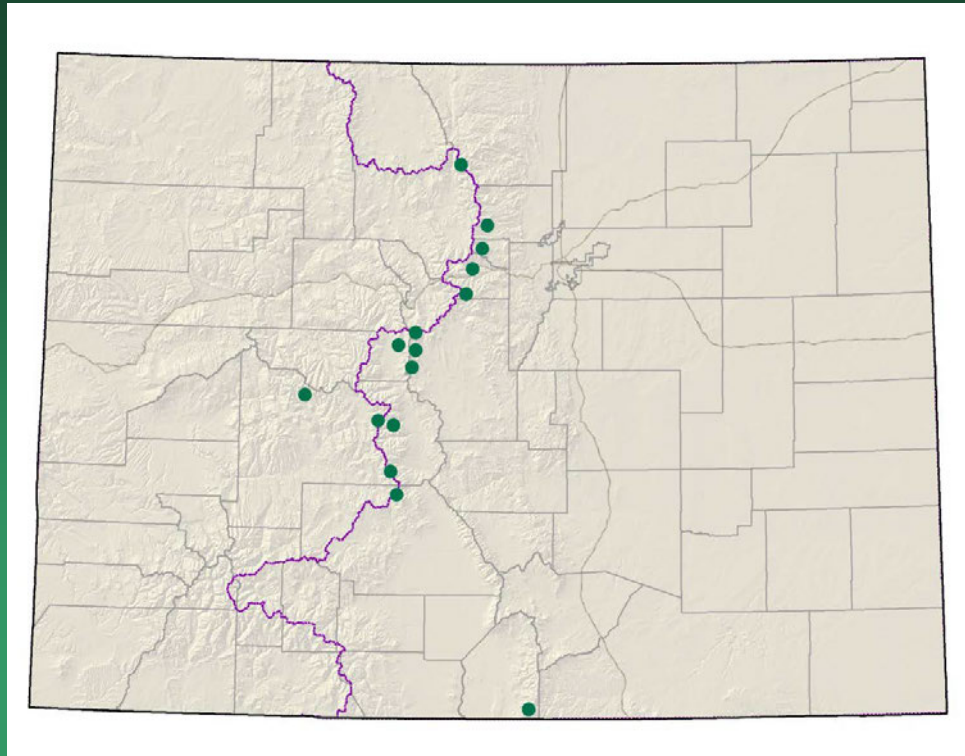
- Federal status: Removed;
USFS Sensitive
- Heritage ranks: G2? /S1
- Global distribution: New Brunswick, Quebec, Idaho, Montana, Oregon, California, Wyoming, and Colorado
- Last observed in Colorado: 2005+
- Colorado occurrences: 5 or more (2 are historical)
- Colorado individuals: 60
- Primary threats: road maintenance, weeds
- Land ownership/management: USFS, private, city of Denver



Botrychium lineare



Botrychium tax. nov.
“*furcatum*” ?
forkleaved moonwort



- Federal status: **USFS Sensitive**
- Heritage ranks: G1G2/S1S2
- Global distribution: Colorado (Boulder, Chaffee, Clear Creek, Costilla, Grand, Gunnison, Lake, Park, and Saguache counties), New Mexico (Wheeler Peak, Taos County, pending genetic verification)
- Last observed in Colorado: 2009
- Colorado occurrences: 18 sites totaling 47 populations or subpopulations
- Colorado individuals: ~1200
- Primary threats: maintenance and improvements of roads and earthen dams
- Land ownership/management: USFS, NPS, Private

Botrychium tax. nov. "furcatum"



Cirsium scapanolepis

Mountain slope thistle

No longer tracked.

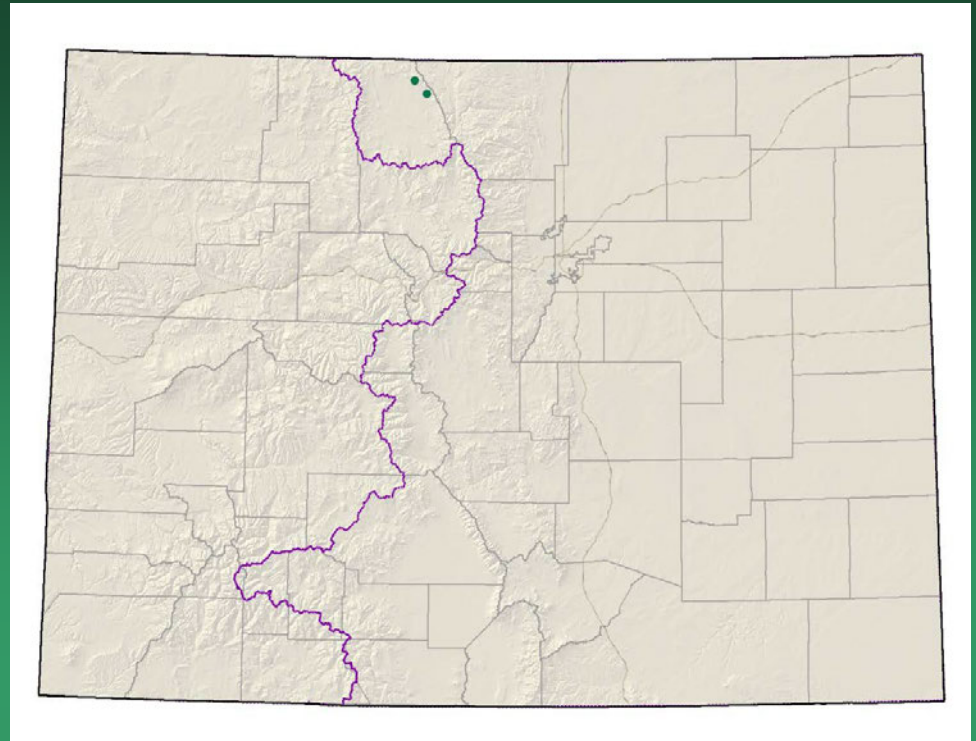
- Federal status: none
- Heritage ranks: G1G2Q/S1
- Global distribution: Colorado endemic
- Last observed in Colorado: 1900-1983?
- Colorado occurrences: unknown, obscure
- Colorado individuals: unknown
- Primary threats: weevils, unknown
- Land ownership/management: unknown

Cirsium scapanolepis



Corispermum navicula

Crescent bugseed



- Federal status: BLM sensitive
- Heritage ranks: G1?/S1
- Global distribution: Colorado endemic (Jackson County), possibly Oklahoma?
- Last observed: 2006
- Occurrences: 2 principal occurrences
- Individuals: common locally
- Primary threats: off-road vehicle use
- Land ownership/management: BLM, Kremmling Field Office

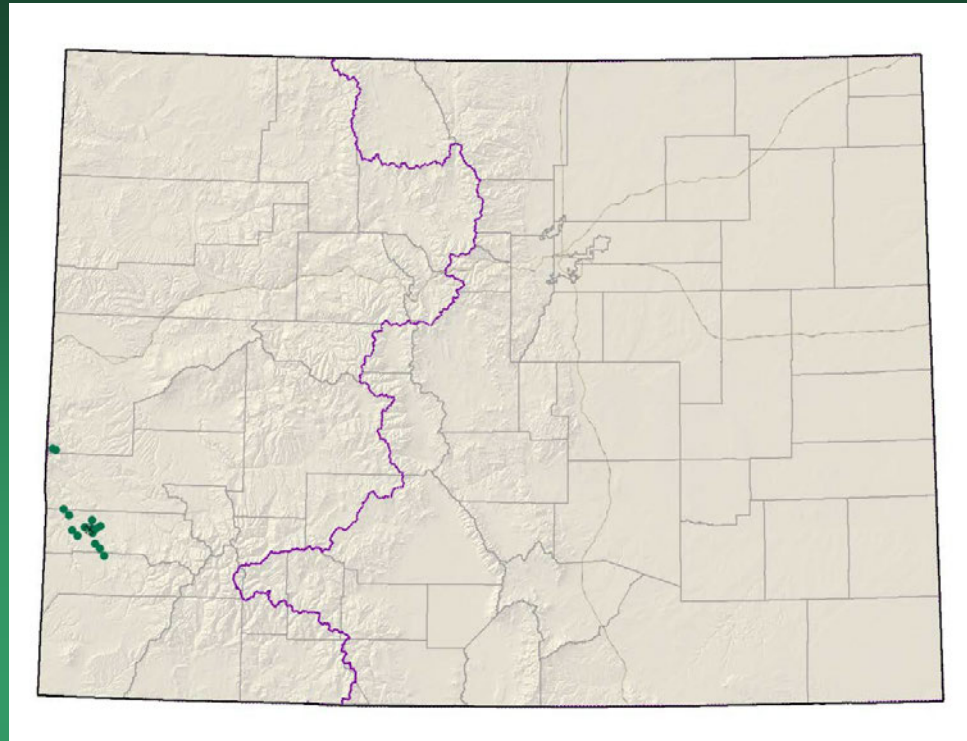
Corispermum navicula

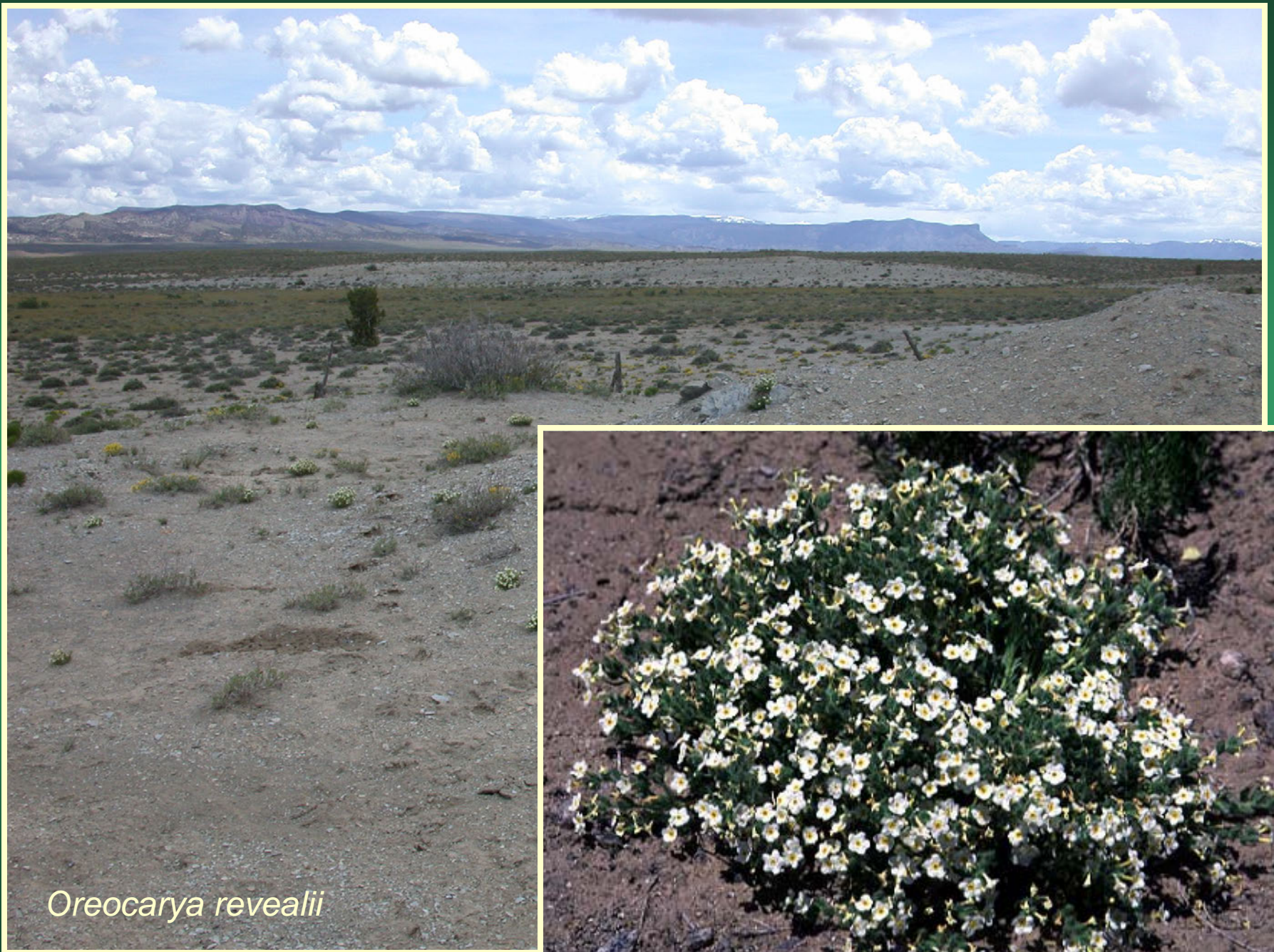


Oreocarya revealii=
Cryptantha gypsophila
Gypsum Valley Cat-eye

Conservation Action Plan

- Federal status: BLM Sensitive
- Heritage ranks: G2/S2
- Global distribution: Colorado endemic, Mesa, Montrose & San Miguel Counties
- Last observed: 2012
- Occurrences: 16 (1 historical)
- Individuals: 25,100+
- Primary threats: oil and gas development, grazing, ATVs, recreation, roads
- Land ownership/management: BLM, Private, State (CDOW)

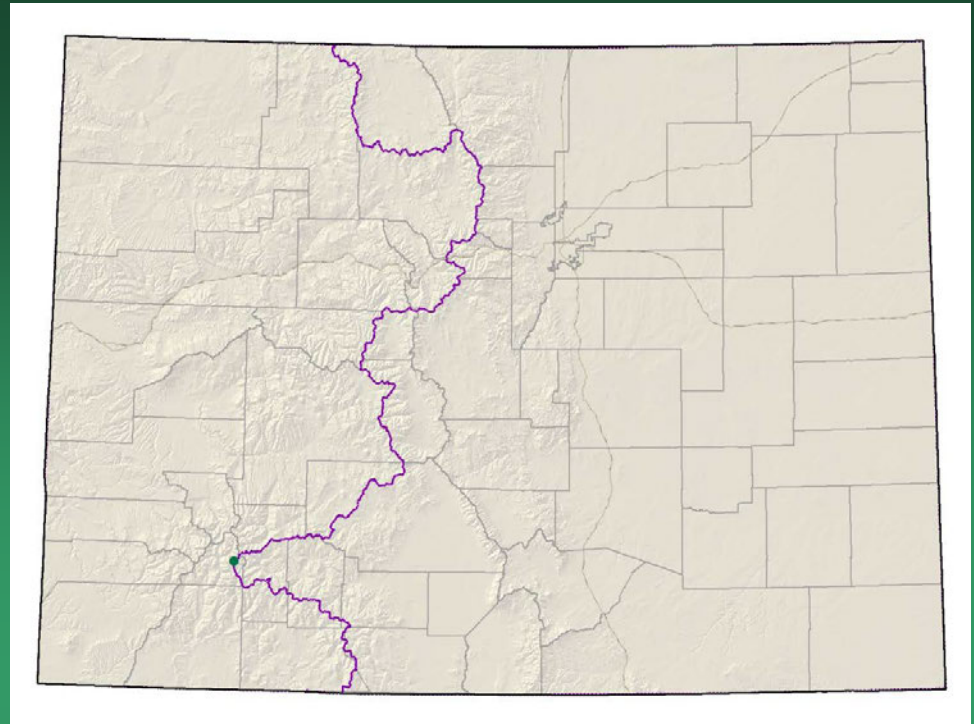




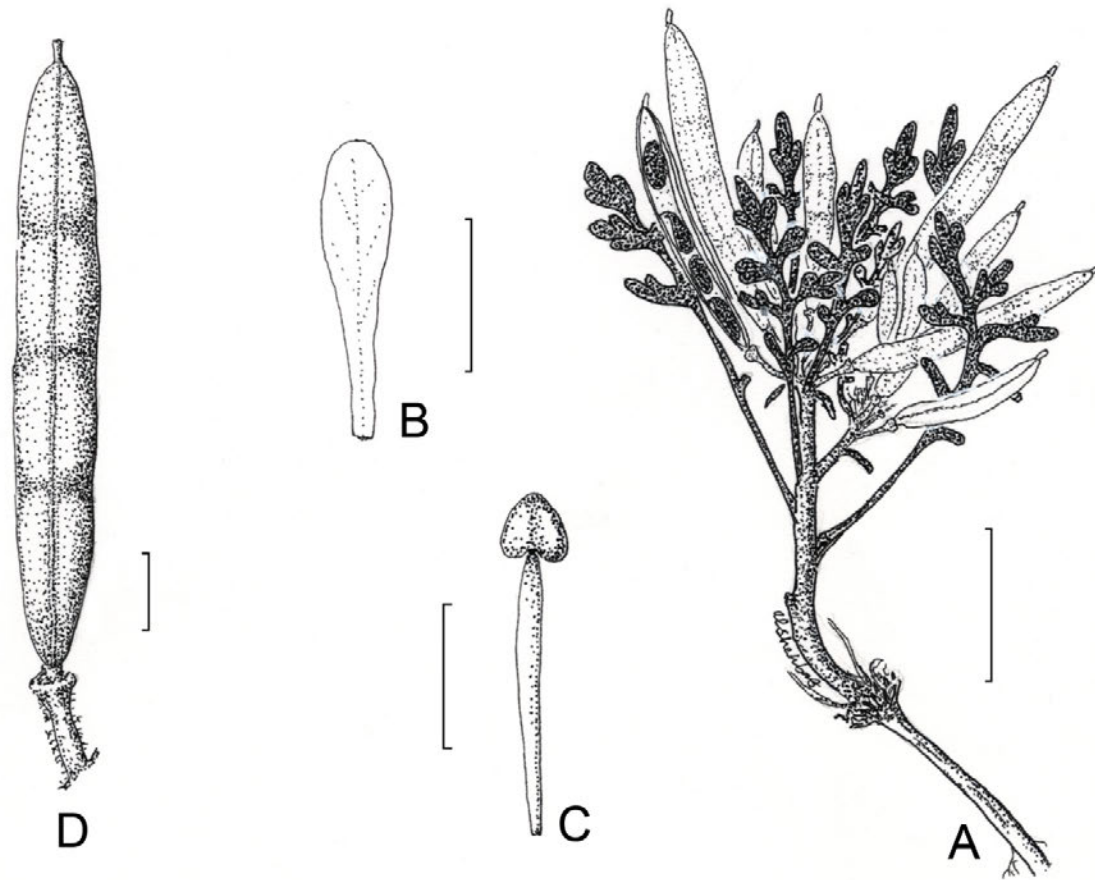
Oreocarya revealii

Descurainia kenheilii

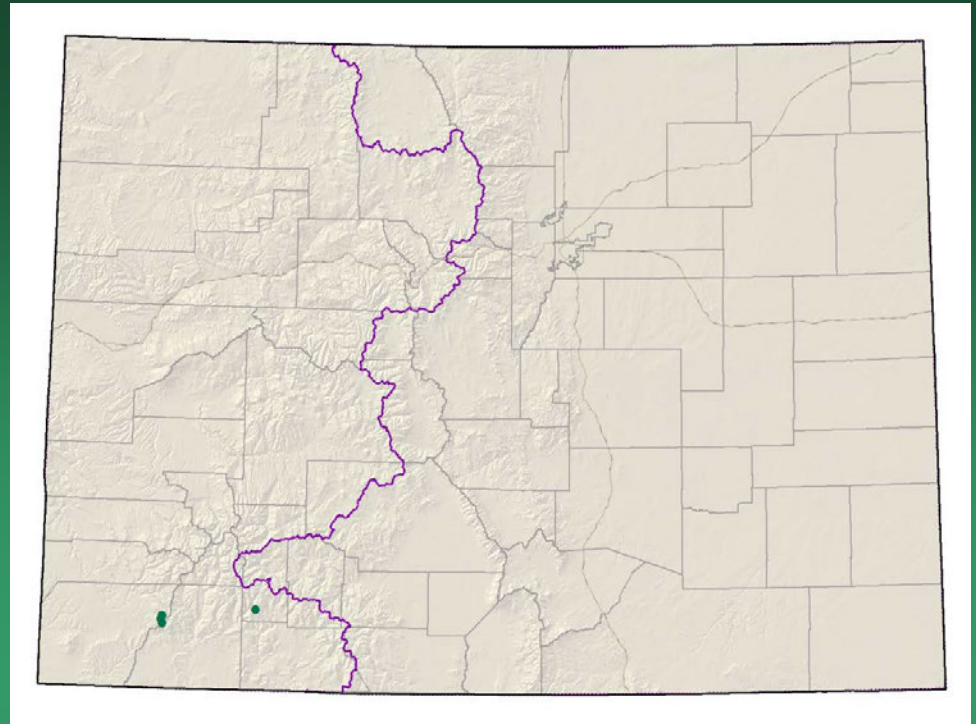
Heil's tansy mustard



- Federal status: none
- Heritage ranks: G1/S1
- Global distribution: Endemic to CO; San Juan County
- Last observed in Colorado: 1997
- Colorado occurrences: 1
- Colorado individuals: unknown
- Primary threats: unknown
- Land ownership/management: Rio Grande NF; BLM, private



Draba malphigiaceae whitlow- grass



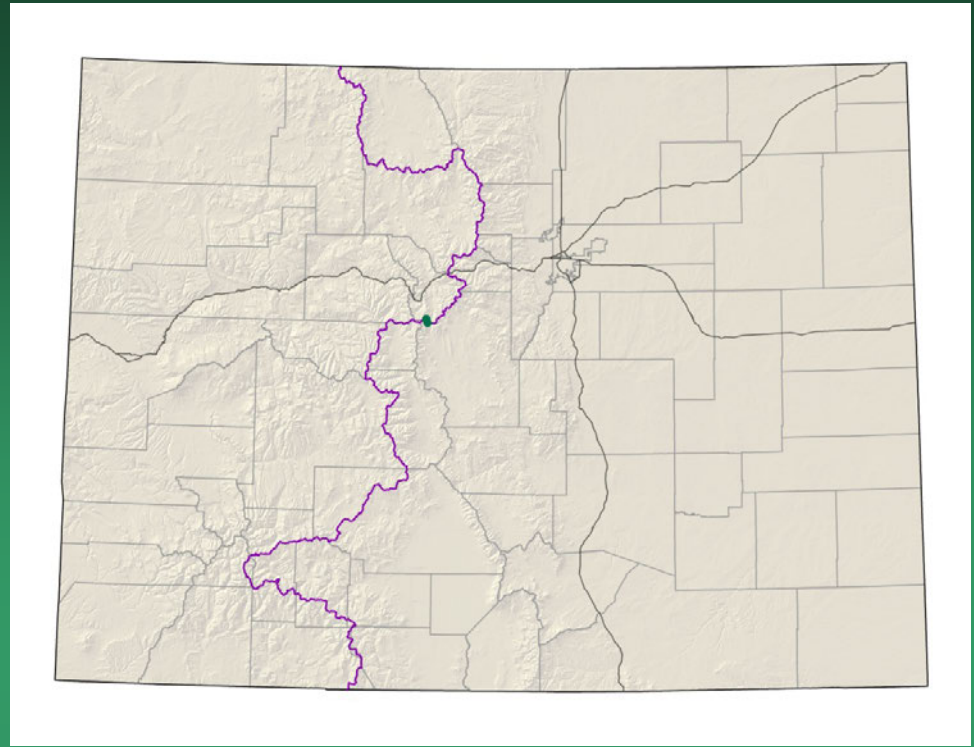
- Federal status: none
- Heritage ranks: G1?/**S1?**
- Global distribution: Endemic to CO; Hinsdale, La Plata and Montezuma counties
- Last observed in Colorado: **2012**
- Colorado occurrences: 4
- Colorado individuals: unknown
- Primary threats: unknown
- Land ownership/management: San Juan NF, private

Draba malphigiaceae



Draba weberi

Weber's draba



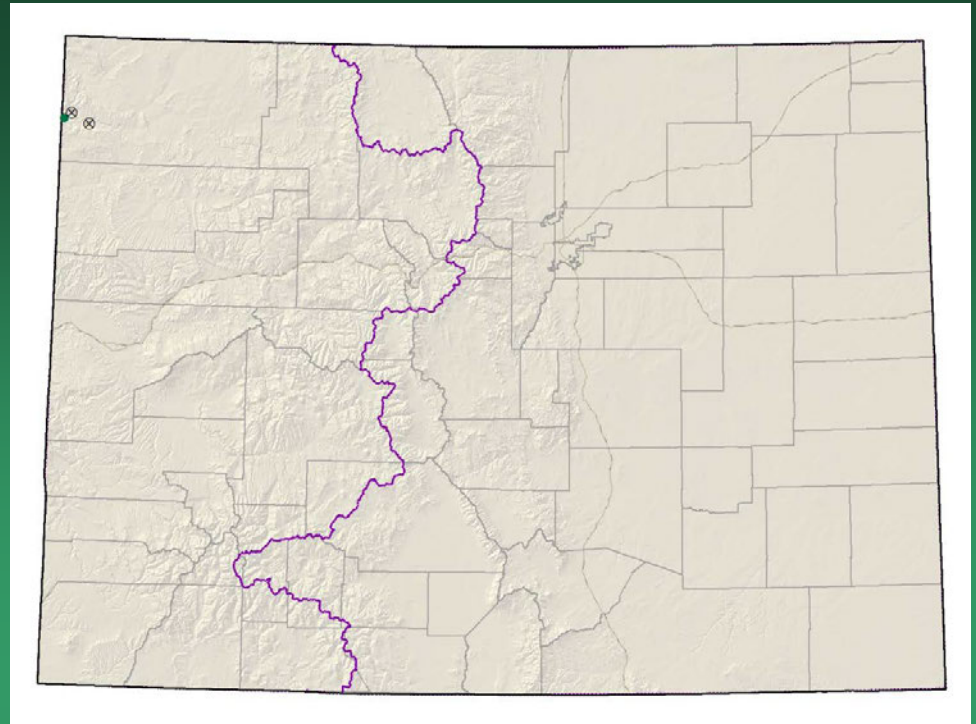
- Federal status: USFS sensitive
- Heritage ranks: G1/S1
- Global distribution: Colorado endemic, Park and Summit counties
- Last observed: 2012
- Occurrences: 4
- Individuals: 20-100
- Primary threats: road and dam construction and maintenance, environmental stochasticity, recreation, mining, noxious weeds, climate change
- Land ownership/management: private (Colo. Spgs. Utilities), USFS

Draba weberi



Erigeron wilkenii

Dieter's fleabane



- Federal status: none
- Heritage ranks: G1/S1
- Global distribution: endemic to Colorado (Dinosaur National Monument, Moffat County)
- Last observed: 2012
- Occurrences: 4
- Individuals: 1,000-3,000
- Primary threats: no specific threats known
- Land ownership: Dinosaur NM

Erigeron wilkenii

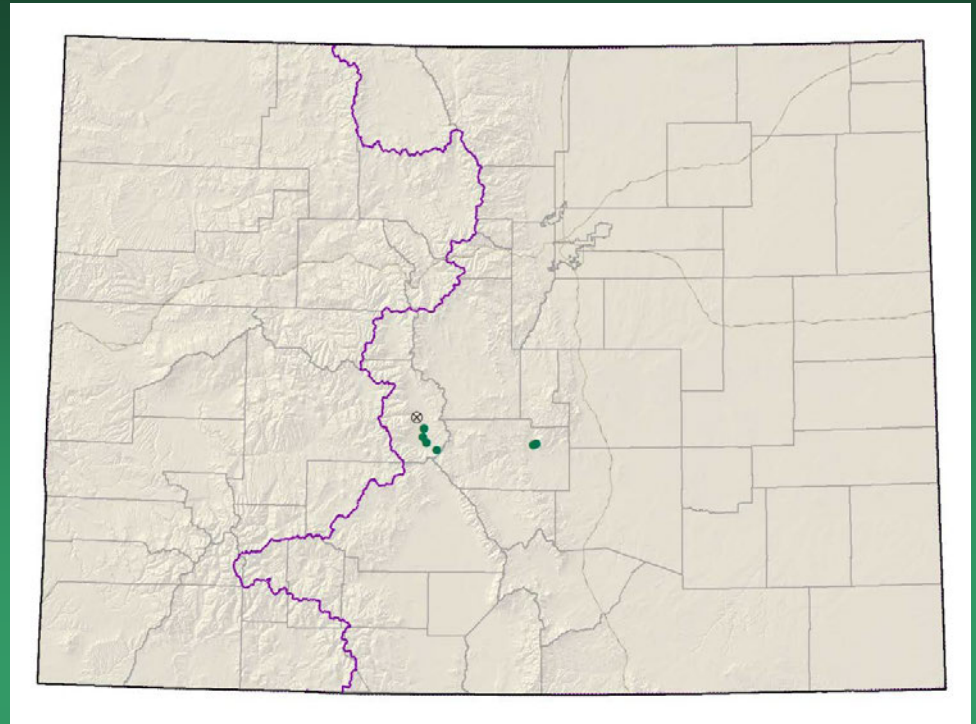


Eriogonum brandegeei

Brandegee's buckwheat

Conservation Action Plan

- Federal status: USFS & BLM
- sensitive
- Heritage ranks: G1G2/S1S2
- Global distribution: Colorado endemic, Chaffee and Fremont counties
- Last observed: 2013
- Individuals: 35,000-several million
- Occurrences: 8 (3 are historical)
- Primary threats: off-road vehicle use and other recreation, residential and commercial development, timbering, mining, highway maintenance, weeds, grazing
- Land ownership/management: BLM (some within ACECs), state, private, highway right of way





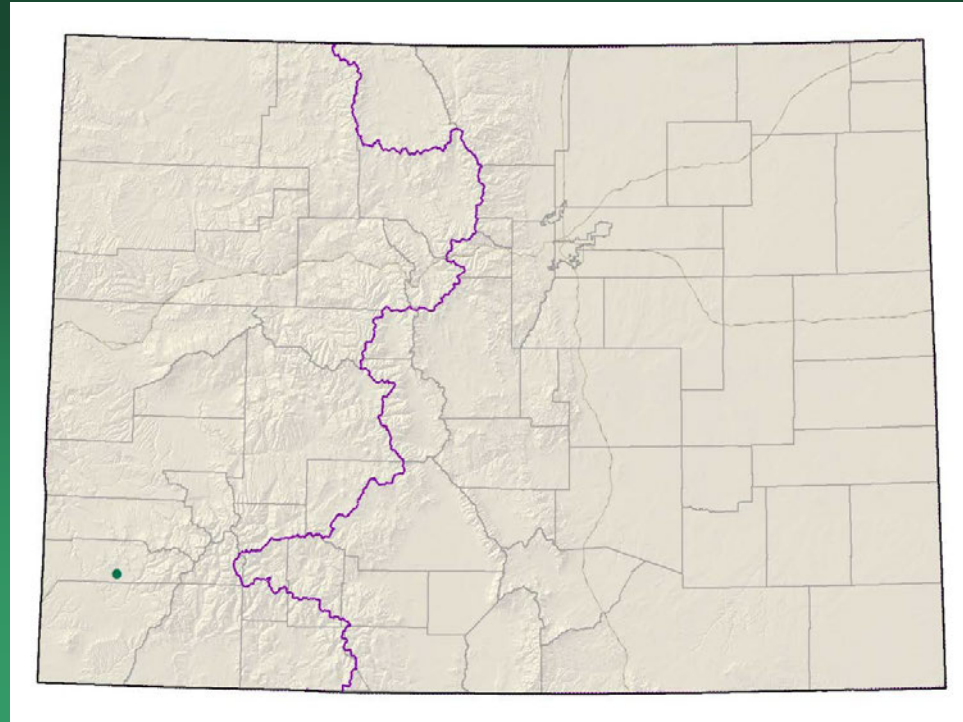
Eriogonum brandegeei



Gutierrezia elegans

Lone Mesa snakeweed

Conservation Action Plan



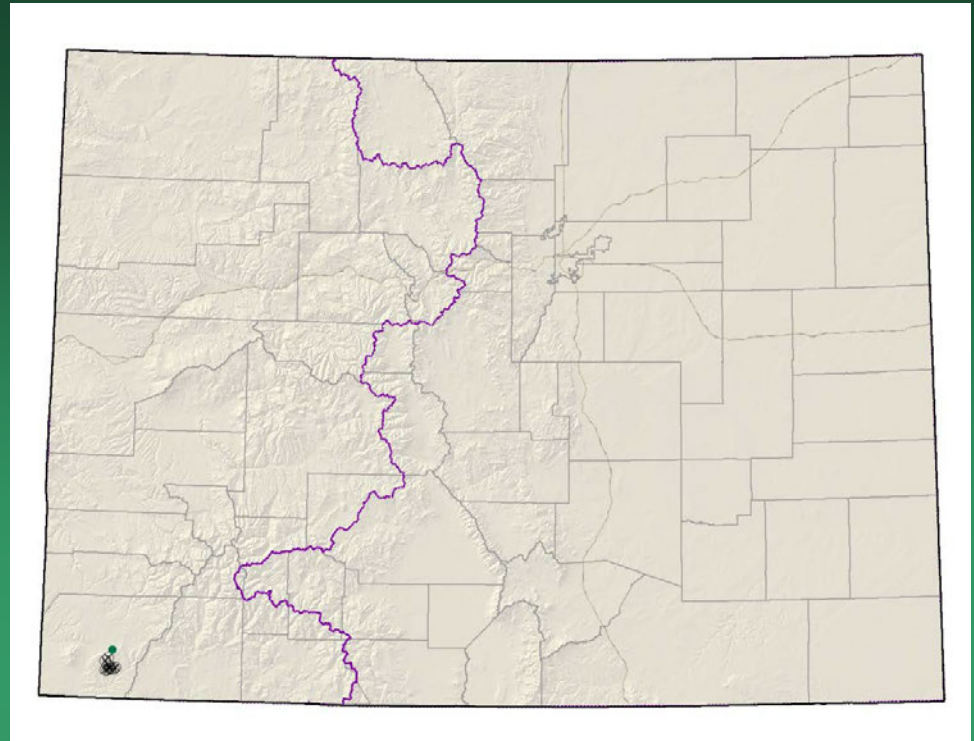
- Federal status: BLM & USFS
- sensitive
- Heritage ranks: G1/S1
- Global distribution: Endemic to Colorado; Dolores County
- Last observed in Colorado: 2012
- Colorado occurrences: 1
- Colorado individuals: 30,000
- Primary threats: grazing, recreation
- Land ownership/management: BLM, San Juan NF, State, private



Gutierrezia elegans

Hackelia gracilenta

Mesa Verde stickseed



- Federal status: none
- Heritage ranks: **G1G2/S1S2**
- Global distribution: Colorado endemic, Mesa Verde National Park, Montezuma County
- Last observed: **2012**
- Occurrences: **12** (9 are historical)
- Individuals: unknown, may be <1000
- Primary threats: Unknown, possibly recreation, and/or developments in the Park, such as trails or roads. Fires may have had an impact on this species.
- Land ownership/management: Mesa Verde NP

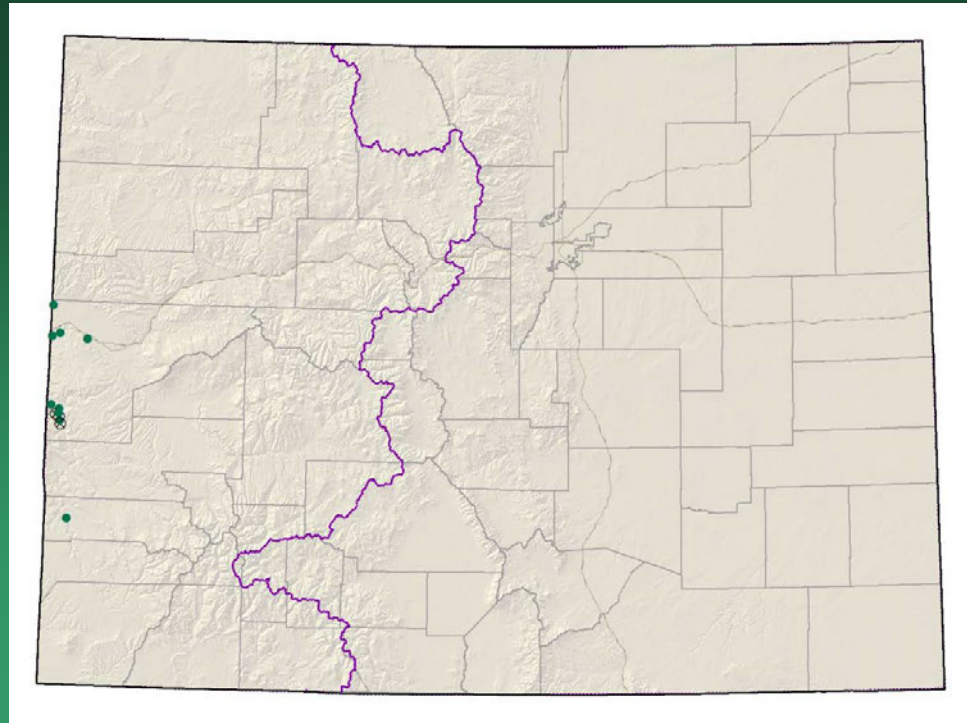
Hackelia gracilentia



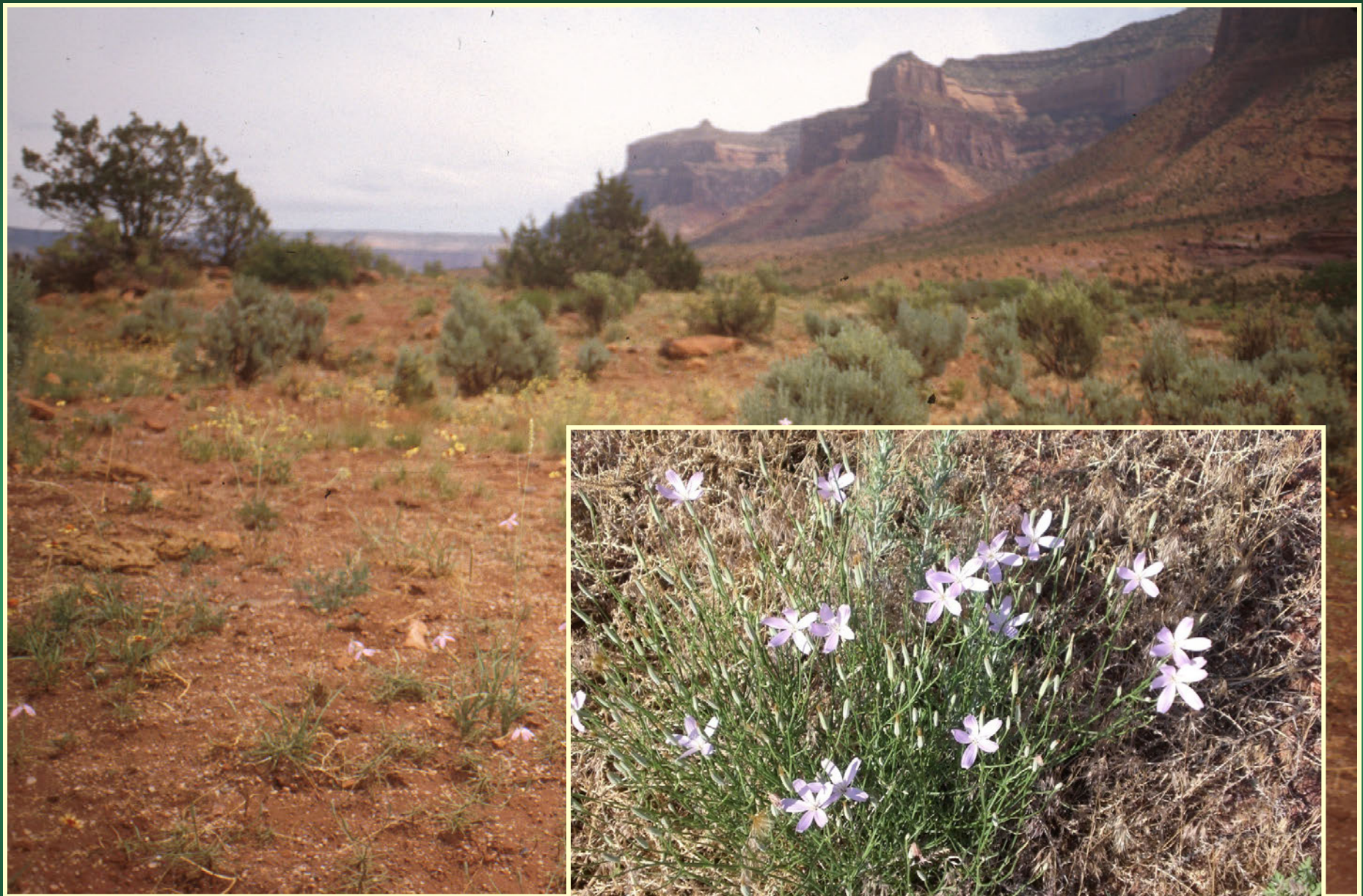
Lygodesmia doloresensis

Dolores River skeletonplant

Conservation Action Plan



- Federal status: BLM sensitive in CO
- Heritage ranks: G1G2/S1S2
- Global distribution: Utah and Colorado (Mesa county)
- Last observed in Colorado: 2012
- Colorado occurrences: 11 (4 are historical)
- Colorado individuals: 3700
- Primary threats: deer, rabbit, and cattle grazing, private land development, road maintenance, weeds
- Land ownership/management: private, BLM

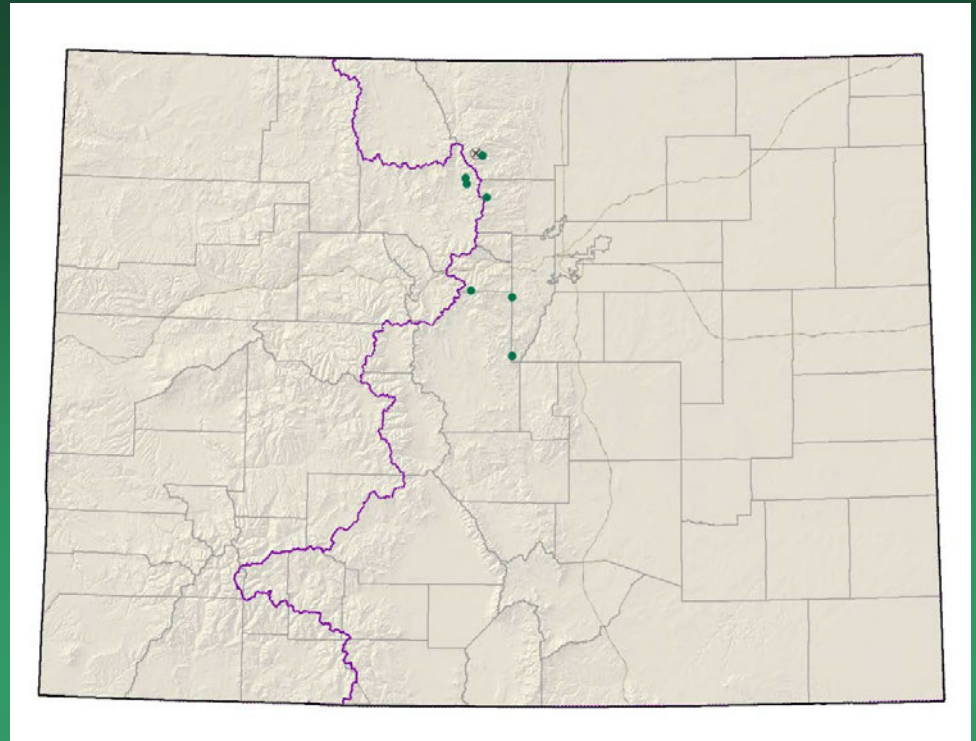


Lygodesmia doloresensis

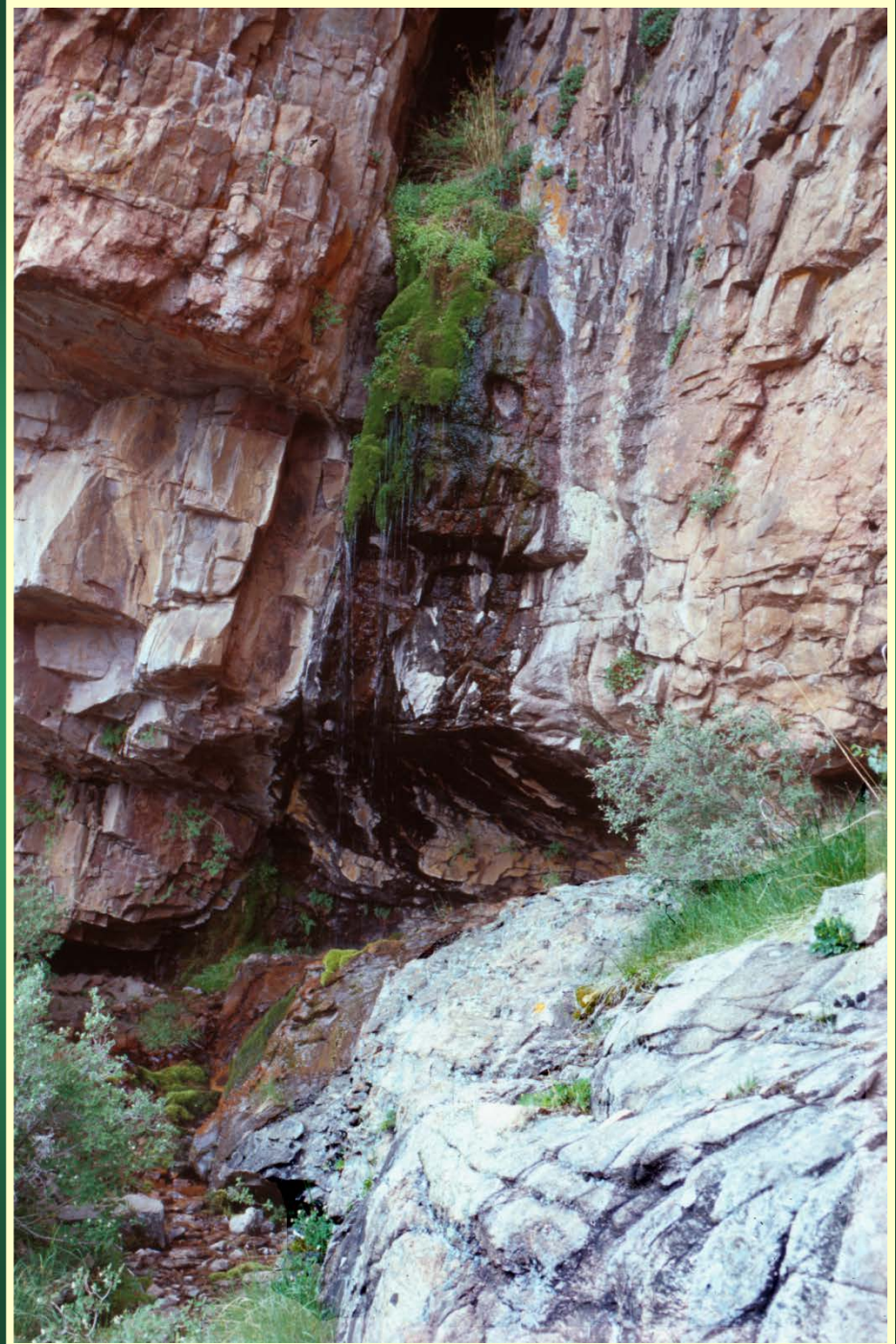
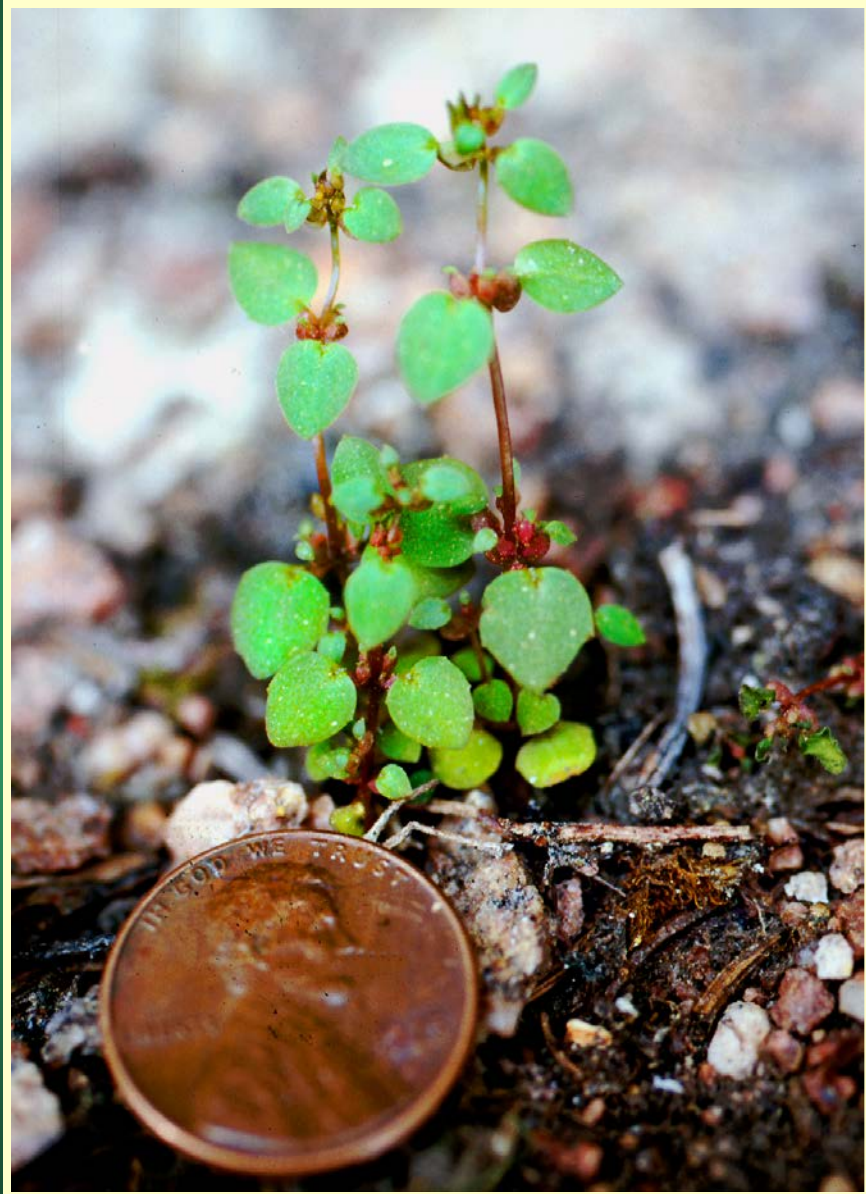
Mimulus gemmiparus

Budding monkeyflower

- Federal status: USFS sensitive
- Heritage ranks: G1/S1
- Global distribution: Colorado endemic, Boulder, Clear Creek, Jefferson, Grand, and Larimer counties
- Last observed: 2013
- Occurrences: 9 (1 historical)
- Individuals: >125,000
- Primary threats: recreational activities, trampling, competition from other plants, interference with hydrology
- Land ownership/management: Rocky Mountain NP, Pike and Arapaho Roosevelt National Forests, State Parks



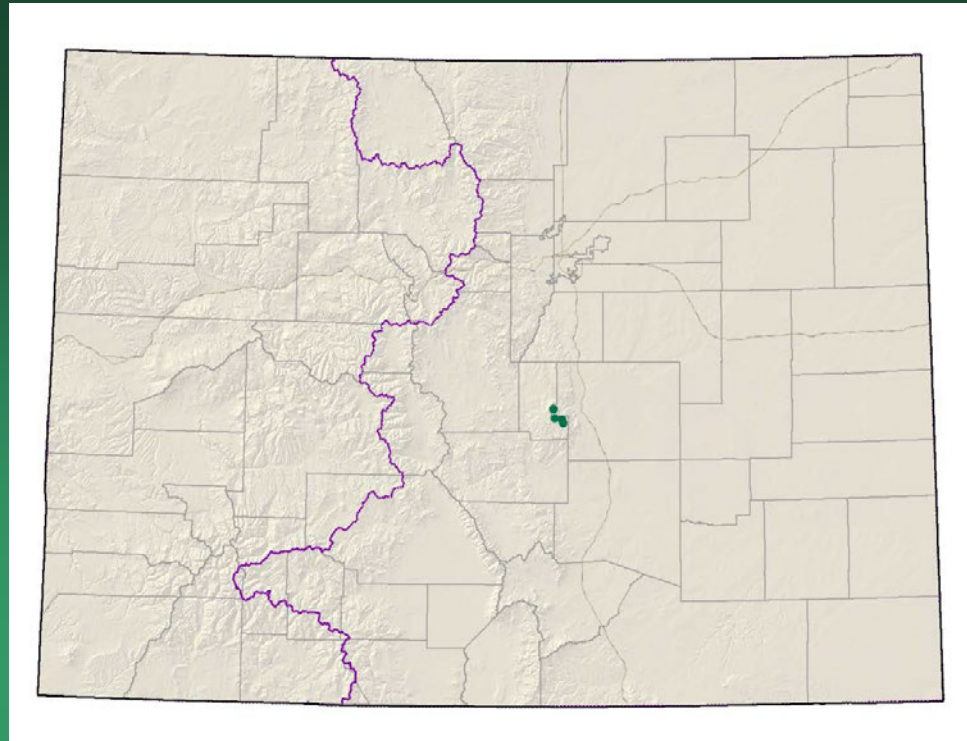
Mimulus gemmiparus



Oreoxis humilis

Pike's Peak alpine parsley

- Federal status: USFS sensitive
- Heritage ranks: G1/S1
- Global distribution: Colorado endemic (El Paso and Teller counties)
- Last observed: 2010
- Occurrences: 3 principal occurrences
- Individuals: 4,340 (tens of thousands estimated)
- Primary threats: road erosion and construction, structure maintenance, motorized and non-motorized recreation, herbivory, weeds
- Land ownership/management: Pike National Forest, private (Colorado Springs Utilities)

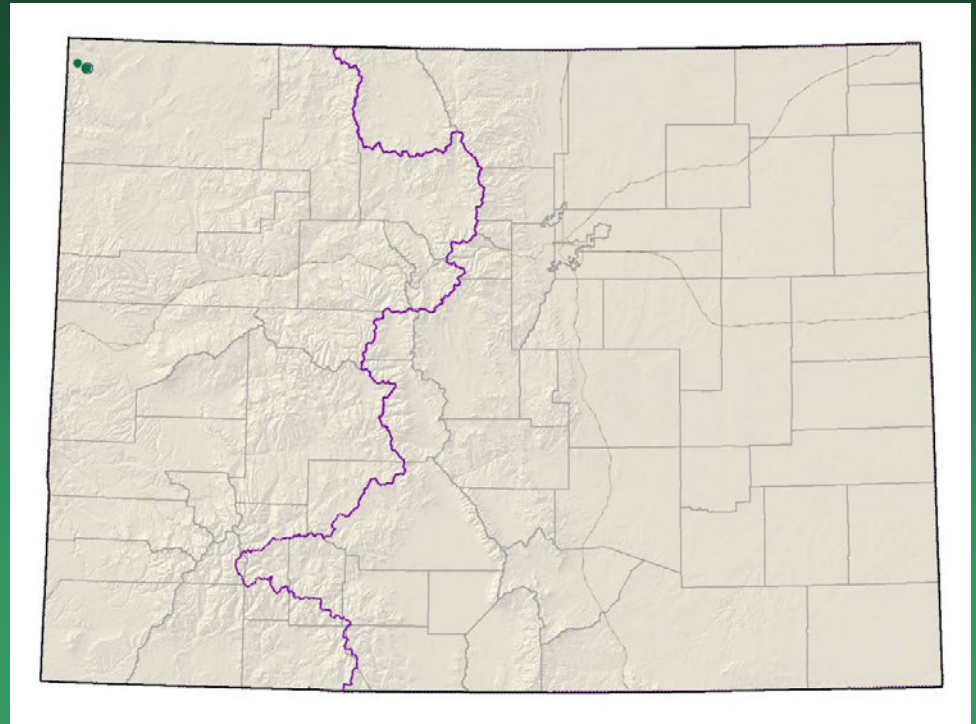


Oreoxis humilis



Penstemon gibbensii

Gibbens' beardtongue



- Federal status: BLM sensitive
- Heritage ranks: G1G2/S1
- Global distribution: SC Wyoming, NE Utah, and NW Colorado (Moffat County)
- Last observed in Colorado: 2010
- Occurrences: 2 in CO; 7 total
- Individuals: 5200 in Colorado; 17,000 individuals total
- Primary threats in CO: noxious weeds, grazing, recreational activities, and uranium mining
- Land ownership in CO: BLM, National Wildlife Refuge

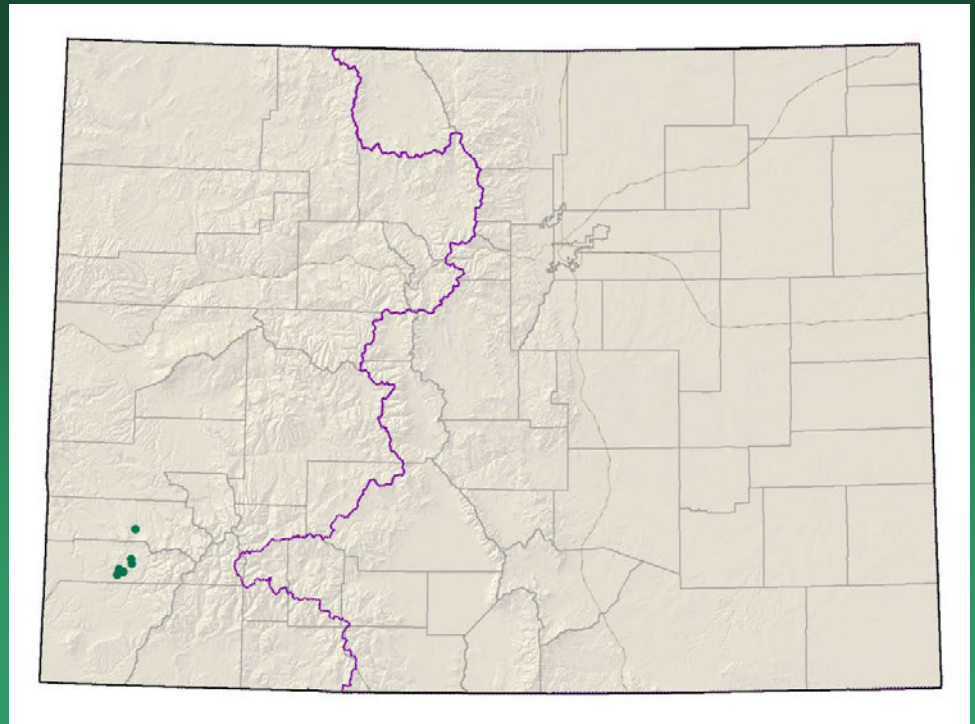
Penstemon gibbensii



Physaria pulvinata

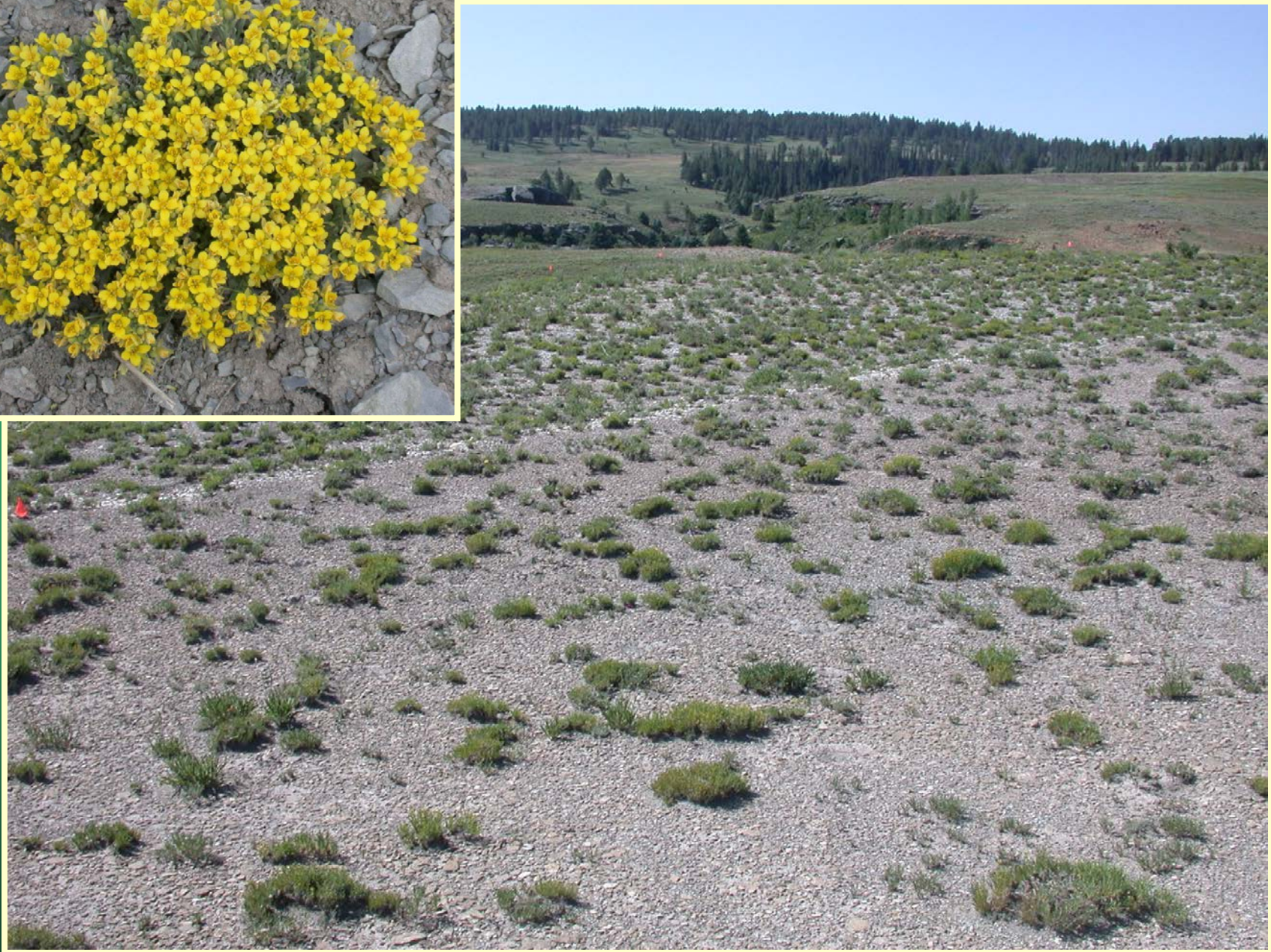
Cushion bladderpod

Conservation Action Plan



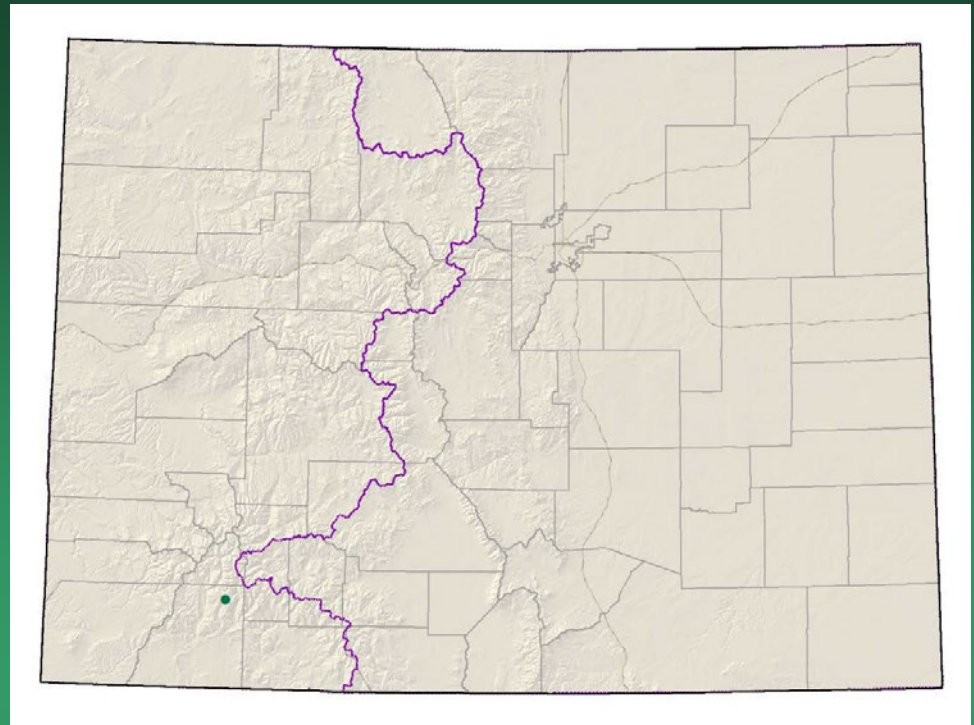
- Federal status: BLM & USFS sensitive
- Heritage ranks: G1/S1
- Global distribution: Colorado endemic, San Miguel and Dolores counties
- Last observed: 2012
- Occurrences: 6
- Individuals: 22,000
- Primary threats: recreation, livestock trampling, weed control, habitat modification for sage grouse management, roads
- Land ownership/management: Colorado: Miramonte SWA and Lone Mesa State Park, San Juan NF; BLM, private

Physaria pulvinata



Physaria scrotiformis

West Silver bladderpod



- Federal status: USFS sensitive
- Heritage ranks: G1/S1
- Global distribution: Colorado endemic, La Plata County
- Last observed in Colorado: 2006
- Colorado occurrences: 1
- Colorado individuals: unknown
- Primary threats: unknown
- Land ownership/management: San Juan NF

Physaria scrotiformis



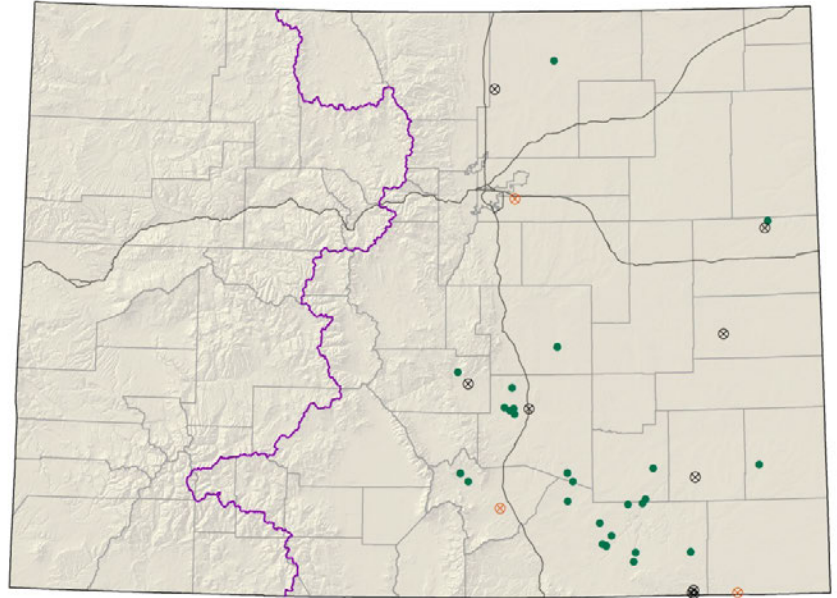
2006/2012

SE Colorado
G2G3 species

Asclepias uncialis ssp. *uncialis*

Dwarf milkweed

- Federal status: BLM/USFS sensitive
- Heritage ranks: G3G4T2T3/S2
- Global distribution: Arizona, Texas, New Mexico, Wyoming, Oklahoma, Utah, and Eastern Colorado (Las Animas, Weld, Kit Carson, Huerfano, Pueblo, Otero, Prowers, Fremont, and El Paso counties); 3900-7700 ft.
- Last observed in Colorado: 2012
- Colorado occurrences: 38 (13 are historical or extirpated)
- Colorado individuals: ~500
- Primary threats: Population limitation by unknown biological requirements, altered disturbance regime, habitat loss, spread of exotic species, global climate change
- Land ownership/management: BLM, Military, Forest Service, Private, and State lands





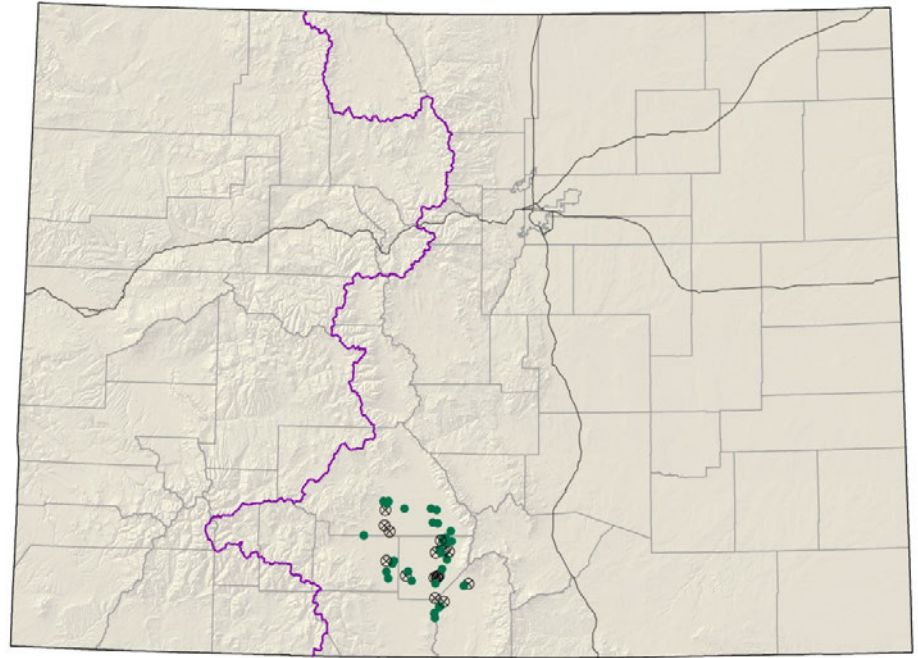
Asclepias uncialis ssp. *uncialis*

Cleome multicaulis=

Peritoma multicaulis

Many-stemmed spider-
flower

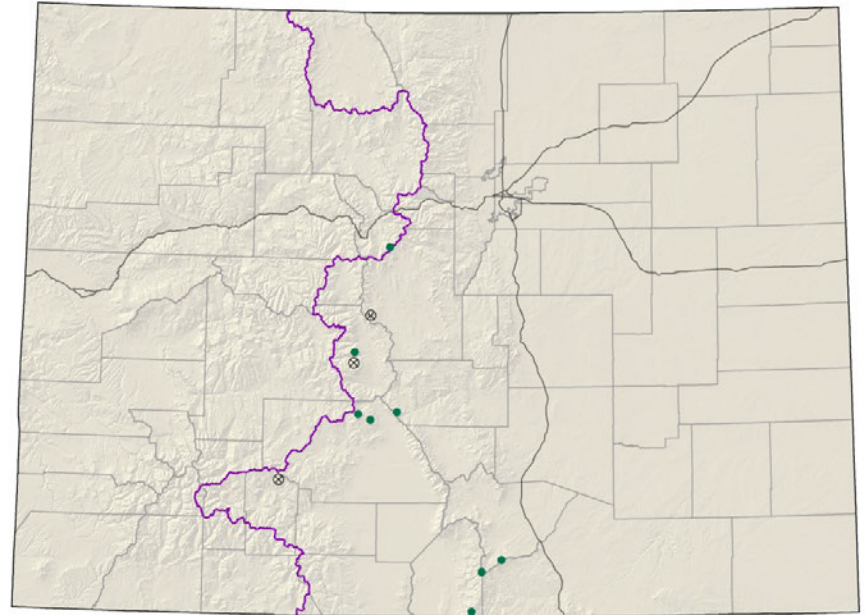
- Federal status: BLM sensitive
- Heritage ranks: G2G3/S2S3
- Global distribution: Mexico, Texas, Arizona, New Mexico, Wyoming and Colorado (Alamosa, Conejos, Costilla, Rio Grande, and Saguache counties); 7500-8200 ft.
- Last observed in Colorado: 2009
- Colorado occurrences: 35 (11 are historical)
- Colorado individuals: ~5,132,000
- Primary threats: draining of wetlands
- Land ownership/management: BLM, National Wildlife Refuge, Private, State, and Wilderness



Cleome multicaulis



Delphinium ramosum var.
alpestre
= *Delphinium alpestre*
Colorado larkspur



- Federal status: none
- Heritage ranks: **G4T2/S2**
- Global distribution: New Mexico and Colorado (Costilla, Chaffee, Fremont, Huerfano, Las Animas, Mineral, Park, Saguache, and Summit counties); 10,800-14,200 ft.
- Last observed in Colorado: 2005
- Colorado occurrences: 11 (3 are historical)
- Colorado individuals: 100+
- Primary threats: Trampling from recreational activities
- Land ownership/management: Forest Service, Private and Wilderness Areas

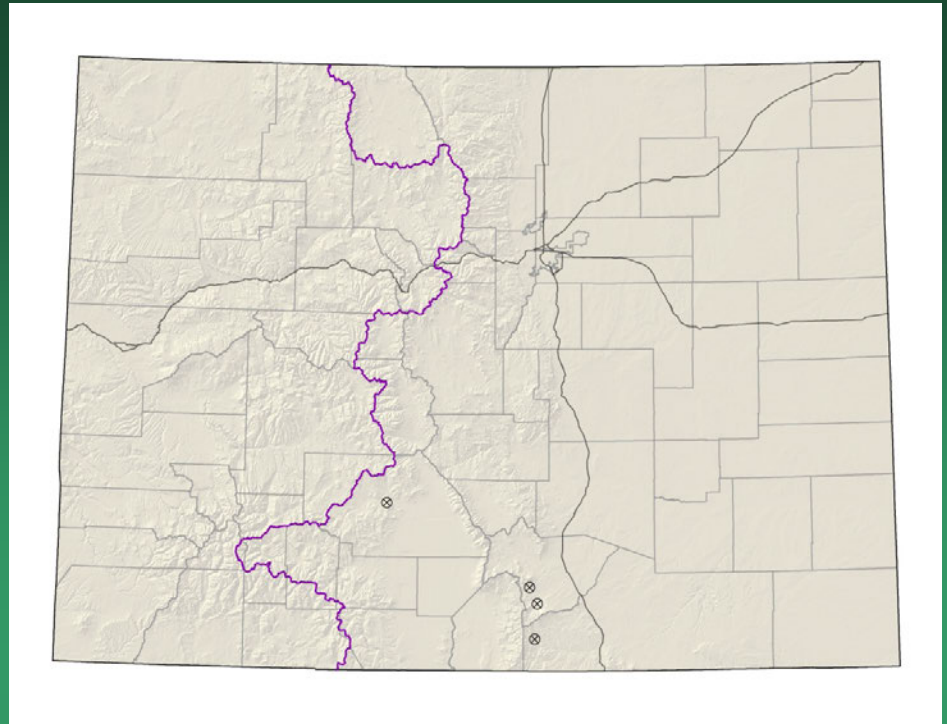
Delphinium ramosum var. *alpestre*



Delphinium robustum

Wahatoya Creek larkspur

- Federal status: none
- Heritage ranks: G2?/S2?
- Global distribution: New Mexico and Colorado (Huerfano, El Paso, Las Animas, and Saguache counties); 7000-8500 ft.
- Last observed in Colorado: 1969
- Colorado occurrences: 4 – all historical
- Colorado individuals: unknown
- Primary threats: Some species of *Delphinium* are poisonous to cattle, so the genus as a whole is sometimes targeted for poisonous weed control
- Land ownership/management: BLM, Forest Service, Private and State



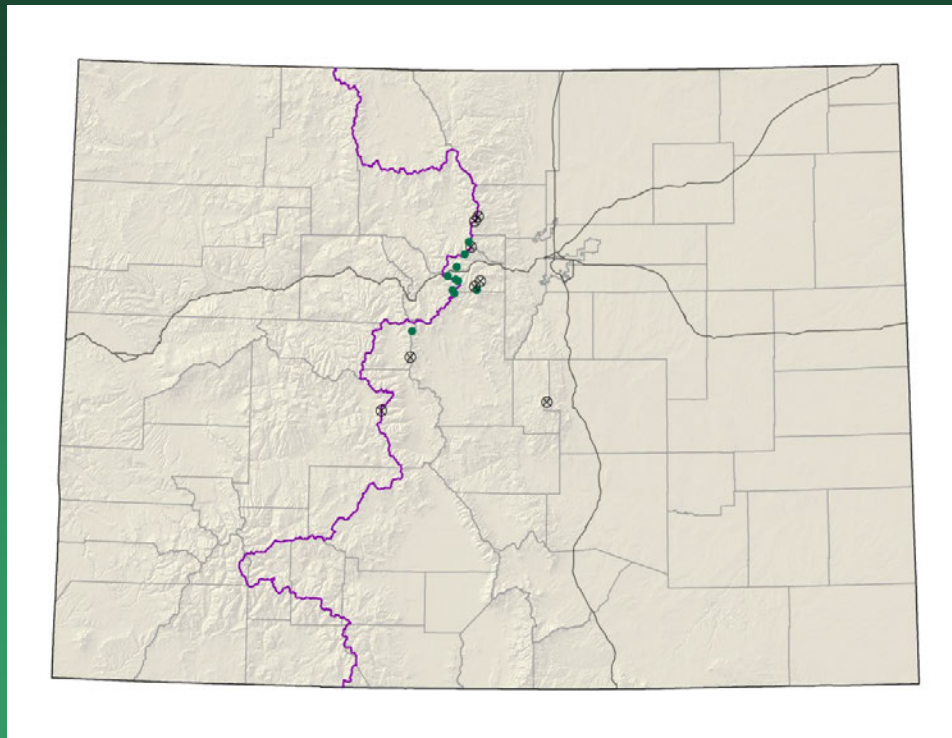
Delphinium robustum



J. Stewart

Draba exunguiculata

Clawless draba



- Federal status: USFS sensitive
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Boulder, Chaffee, Clear Creek, El Paso, Gilpin, Grand, Lake, Park and Summit counties); 10,800-14,100 ft.
- Last observed in Colorado: 2012
- Colorado occurrences: 18 (8 are historical)
- Colorado individuals: ~250
- Primary threats: Trampling from hikers and mountain goats, over-collection for gardens, acid rain, air pollution, and global warming
- Land ownership/management: BLM, Forest Service, Private, State and Wilderness Areas

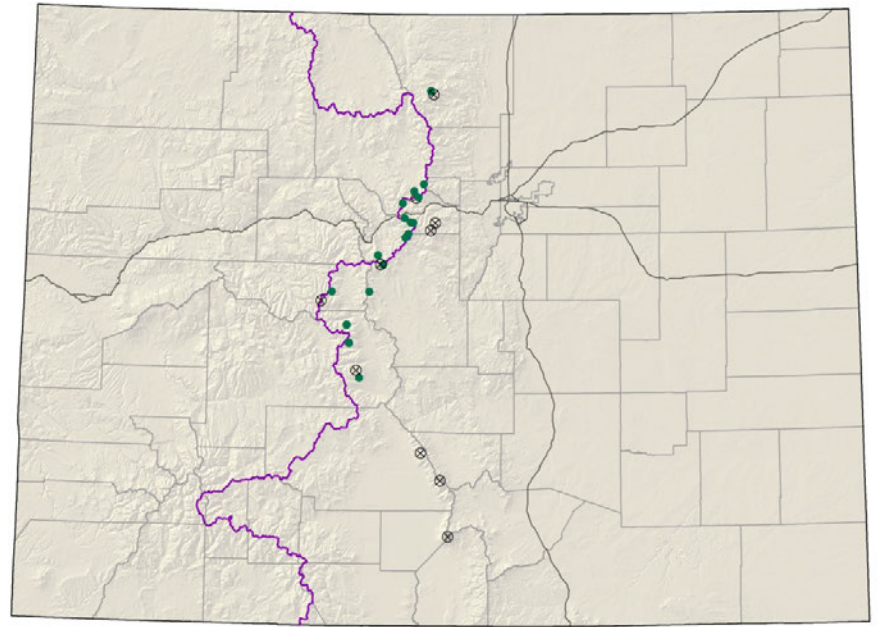


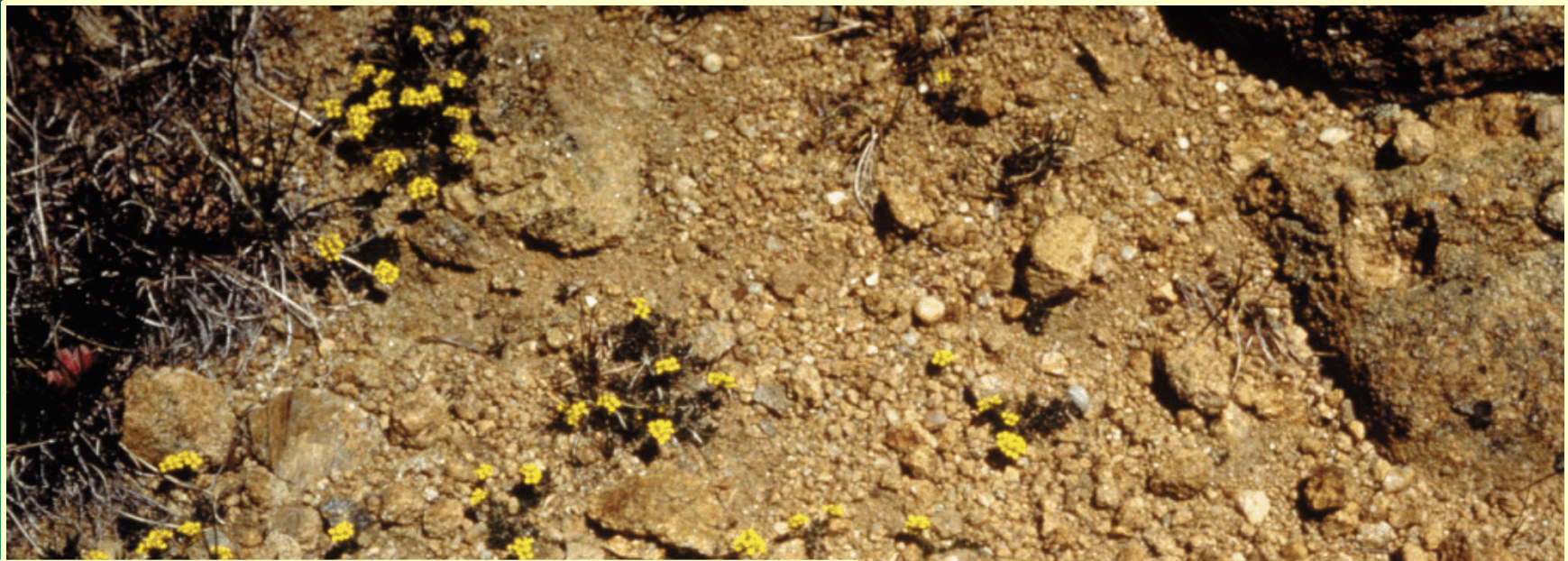
Draba exunguiculata

Draba grayana

Gray's Peak whitlow-grass

- Federal status: USFS sensitive
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Chaffee, Clear Creek, Grand, Huerfano, Larimer, Park, Pitkin, Saguache, and Summit counties)
- Last observed in Colorado: 2006
- Colorado occurrences: 27 (9 are historical)
- Colorado individuals: ~200
- Primary threats: Trampling from hikers and mountain goats, over-collection for gardens and global warming
- Land ownership/management: Forest Service, National Parks and Monuments, Private and Wilderness Areas

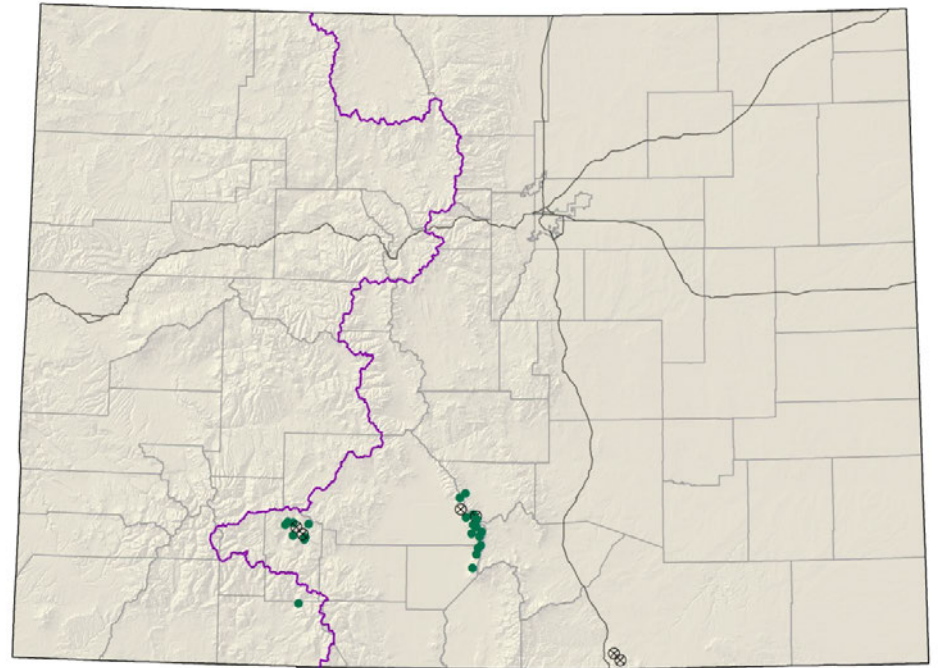




Draba grayana

Draba smithii

Smith's whitlow-grass



- Federal status: USFS sensitive
- Heritage ranks: G2/S2
- Global distribution: Colorado (Alamosa, Archuleta, Custer, Las Animas, Mineral, and Saguache counties), and NM; 7400-13,400 ft.
- Last observed in Colorado: 2009
- Colorado occurrences: 28 (6 are historical)
- Colorado individuals: ~3200
- Primary threats: Habitat modification from hiking and construction
- Land ownership/management: Forest Service, Private and State

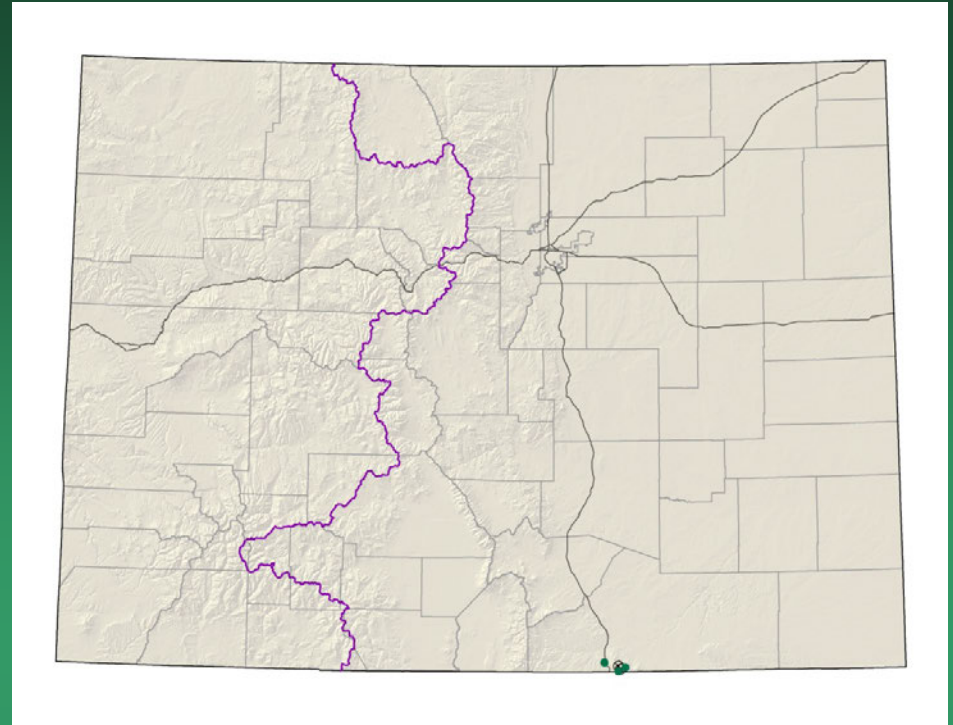
Draba smithii



Herrickia horrida

= *Eurybia horrida*

Canadian River spiny aster or
Horrid herrickia



- Federal status: none
- Heritage ranks: G2?/S1
- Global distribution: New Mexico and Colorado (Las Animas County); 7900-9300 ft.
- Last observed in Colorado: 2010
- Colorado occurrences: 5 (2 historical)
- Colorado individuals: 500+
- Primary threats: unknown
- Land ownership/management: Private, State

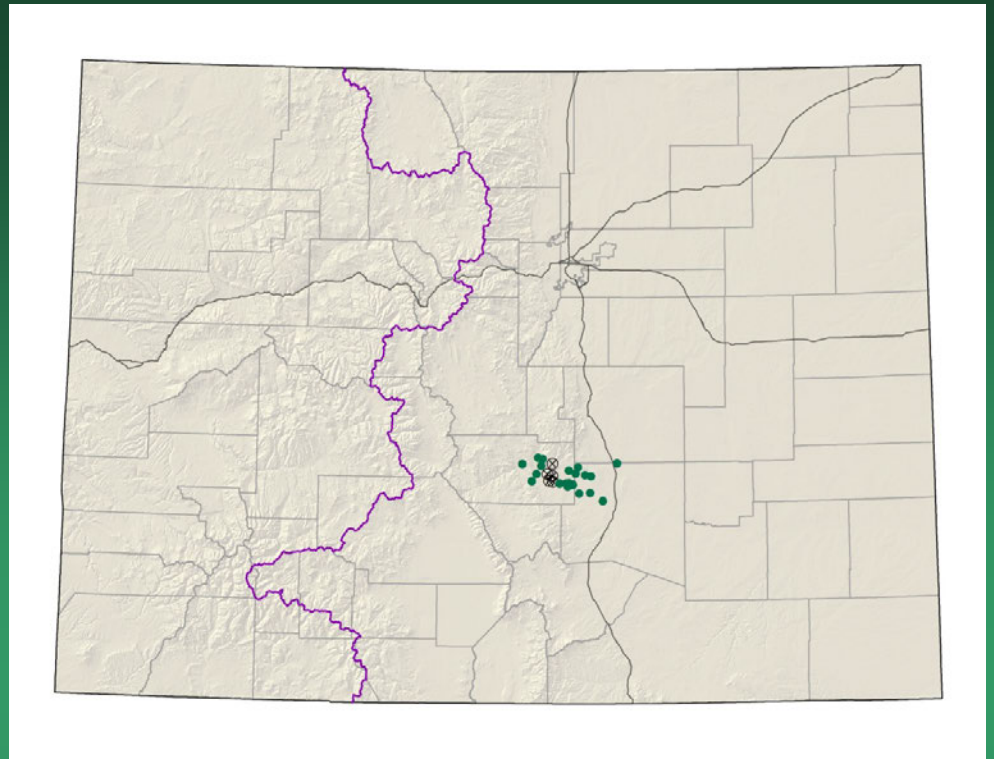


Herrickia horrida

Nuttallia chrysantha
= *Mentzelia chrysantha*
Golden blazing star

Conservation Action Plan

- Federal status: BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Fremont, El Paso, and Pueblo counties); 4700-6800 ft.
- Last observed in Colorado: 2010
- Colorado occurrences: 26 (5 are historical)
- Colorado individuals: ~4100
- Primary threats: Grazing, quarry activities, and subdivision and road construction
- Land ownership/management: BLM, Military, Private and State

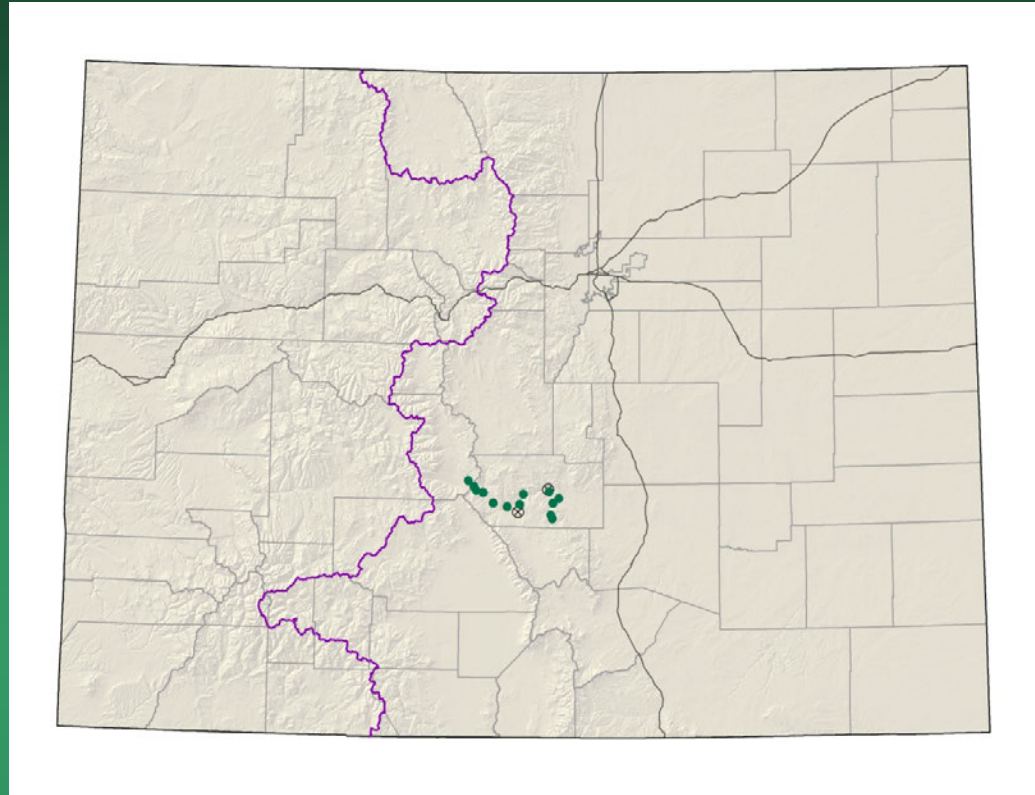




Nuttallia chrysantha

Nuttallia densa
= *Mentzelia densa*
Arkansas Canyon stickleaf

- Federal status: BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Fremont County); 5400-7700 ft.
- Last observed in Colorado: 2009
- Colorado occurrences: 16 (2 are historical)
- Colorado individuals: ~13,500
- Primary threats: Recreational development and road construction
- Land ownership/management: BLM, Forest Service, Private and State



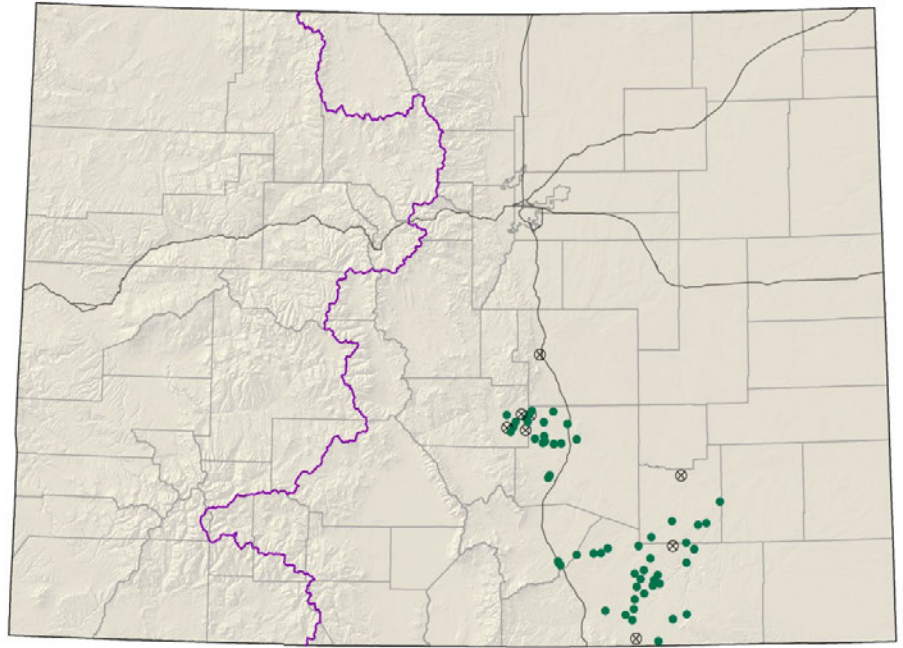


Nuttallia densa

Oenothera harringtonii

Arkansas Valley evening primrose

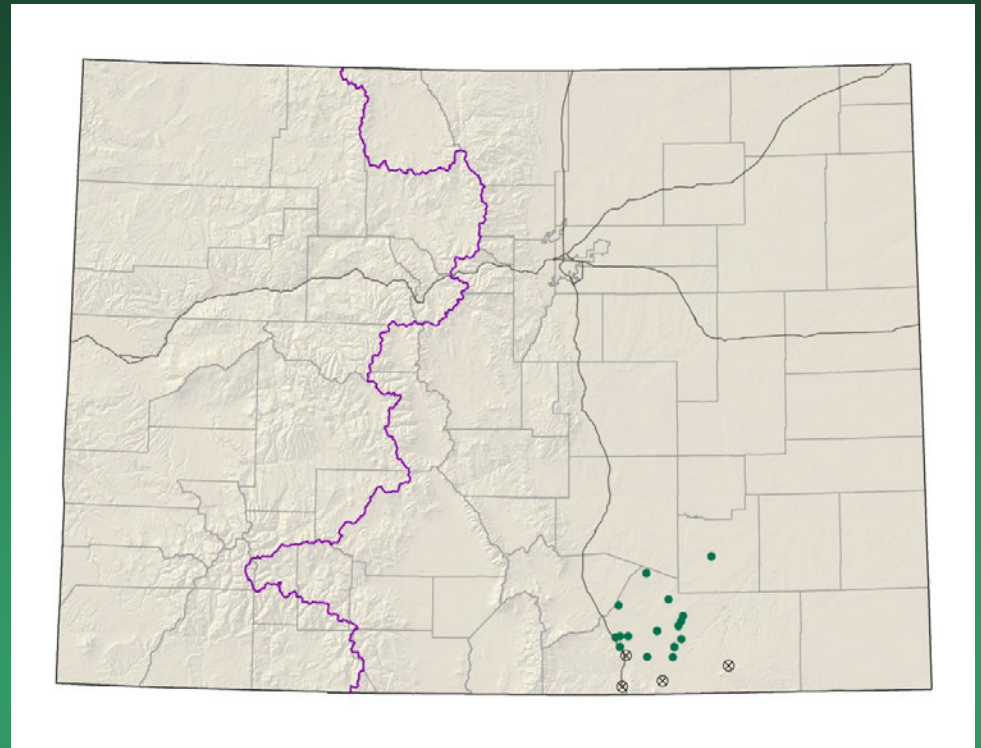
- Federal status: none
- Heritage ranks: G3/S3
- Global distribution: endemic to Colorado (El Paso, Fremont, Huerfano, Las Animas, Otero, and Pueblo counties); 4100-6400 ft.
- Last observed in Colorado: 2010
- Colorado occurrences: 62 (8 are historical)
- Colorado individuals: 12,000+
- Primary threats: Habitat loss due to urbanization, road development projects, and resource extraction activities, especially quarrying and surface mining
- Land ownership/management: BLM, Military, Forest Service, Private and State





Oenothera harringtonii

Oenopsis foliosa var.
monocephala
Rayless goldenweed



- Federal status: none
- Heritage ranks: G3G4T2/S2
- Global distribution: endemic to Colorado (Las Animas, Pueblo, and Fremont counties); 4300-7900 ft.
- Last observed in Colorado: 2009
- Colorado occurrences: 16 (4 are historical)
- Colorado individuals: 400,000+
- Primary threats: Maintenance on current roads or further developments may disturb or destroy individuals
- Land ownership/management: BLM, Military, Private and State

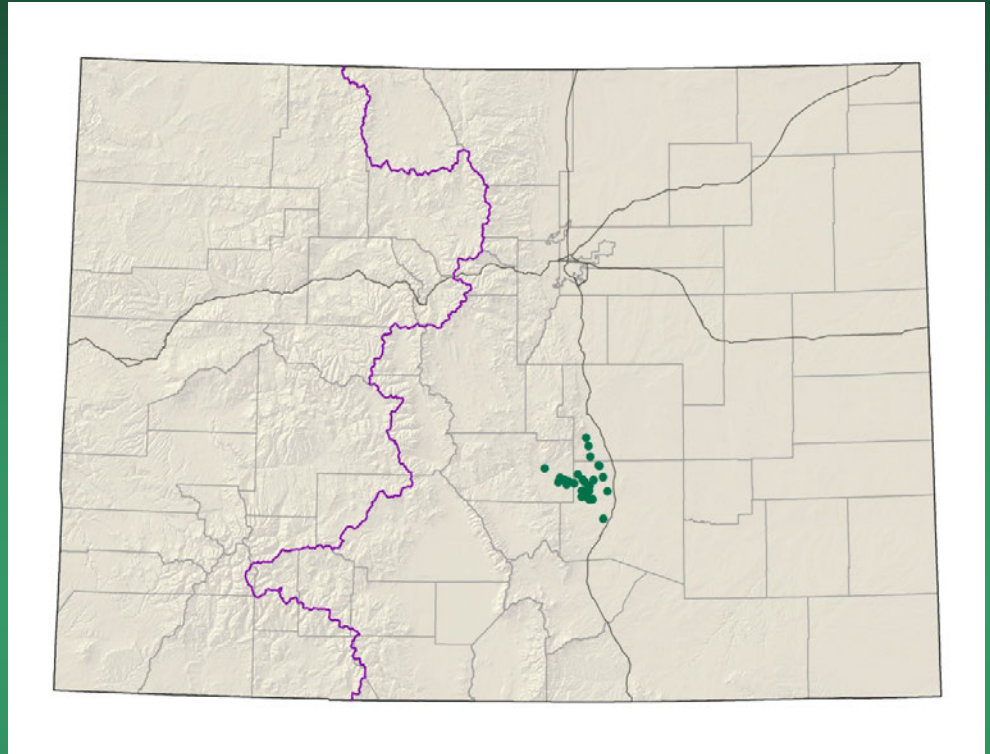


Oonopsis foliosa var. *monocephala*

Oonopsis “puebloensis”
= *Oonopsis* sp. 1
Pueblo goldenweed

Conservation Action Plan

- Federal status: none
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (El Paso, Fremont and Pueblo counties); 4800-6100 ft.
- Last observed in Colorado: 2009
- Colorado occurrences: 28
- Colorado individuals: ~11,000 or more
- Primary threats: Shale extraction by cement plants
- Land ownership/management: Private, State and Military



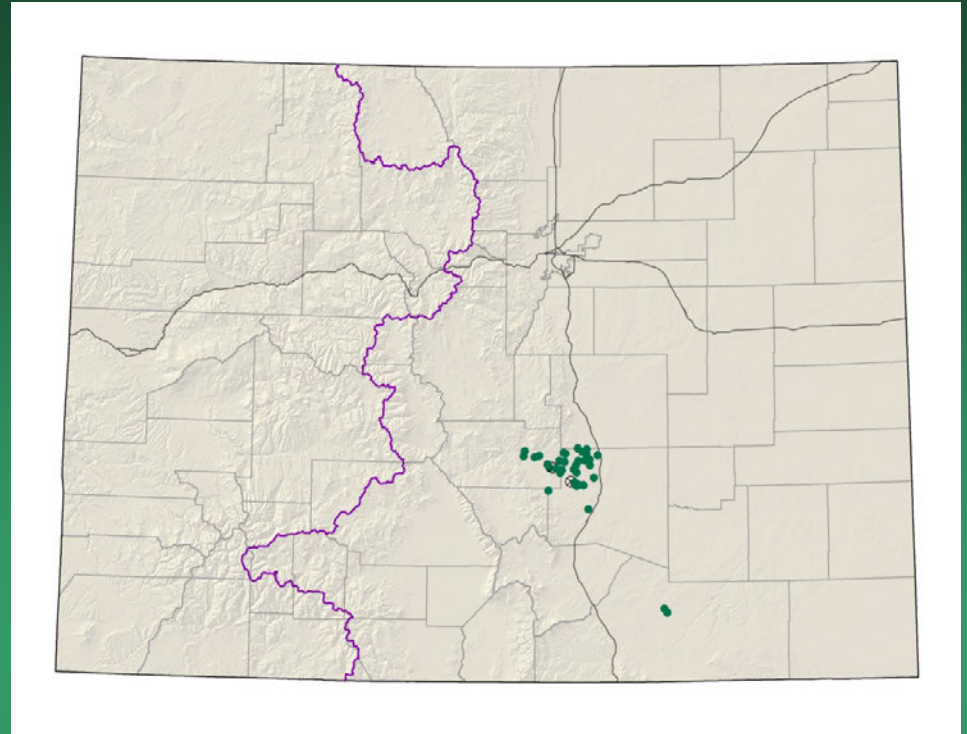


Oenopsis "puebloensis"

Oxybaphus rotundifolius
= *Mirabilis rotundifolia*
Round-leaf four-o'clock

Conservation Action Plan

- Federal status: none
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Fremont, Las Animas, El Paso and Pueblo counties); 4900-5900 ft.
- Last observed in Colorado: 2009
- Colorado occurrences: 38 (2 are historical)
- Colorado individuals: ~6200
- Primary threats: Highly threatened by residential and recreational development
- Land ownership/management: BLM, Military, Private and State



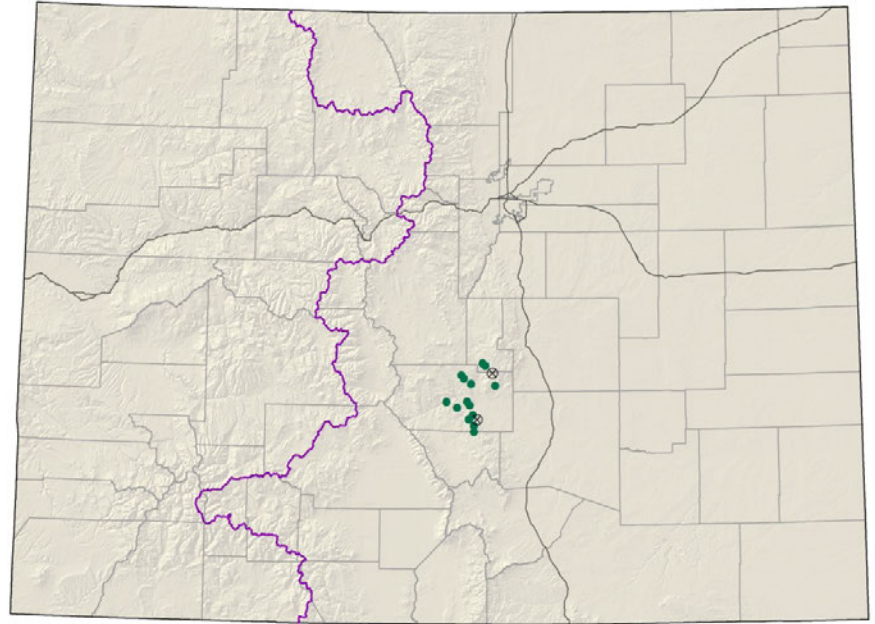


Oxybaphus rotundifolius

Penstemon degeneri

Degener beardtongue

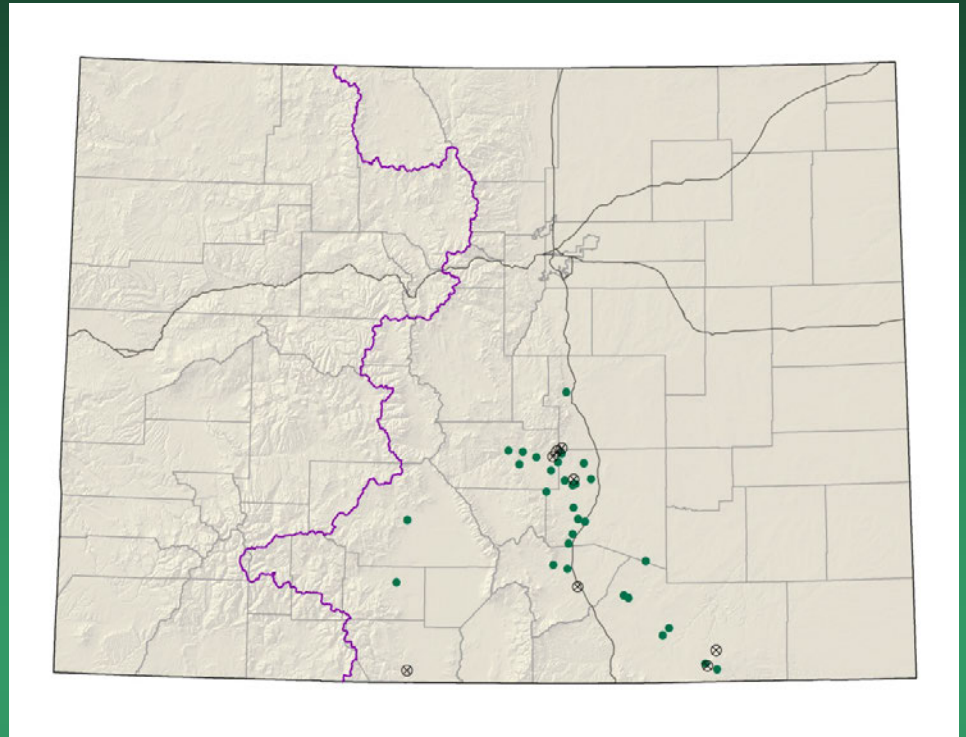
- Federal status: USFS & BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Chaffee, Custer and Fremont counties); 6000-9400 ft.
- Last observed in Colorado: 2010
- Colorado occurrences: 16 (2 historical)
- Colorado individuals: ~1500
- Primary threats: Motorized and non-motorized recreation, non-native plant invasion, grazing and trampling, extensive herbivory, succession, and global environmental changes
- Land ownership/management: BLM, Forest Service, Private and State



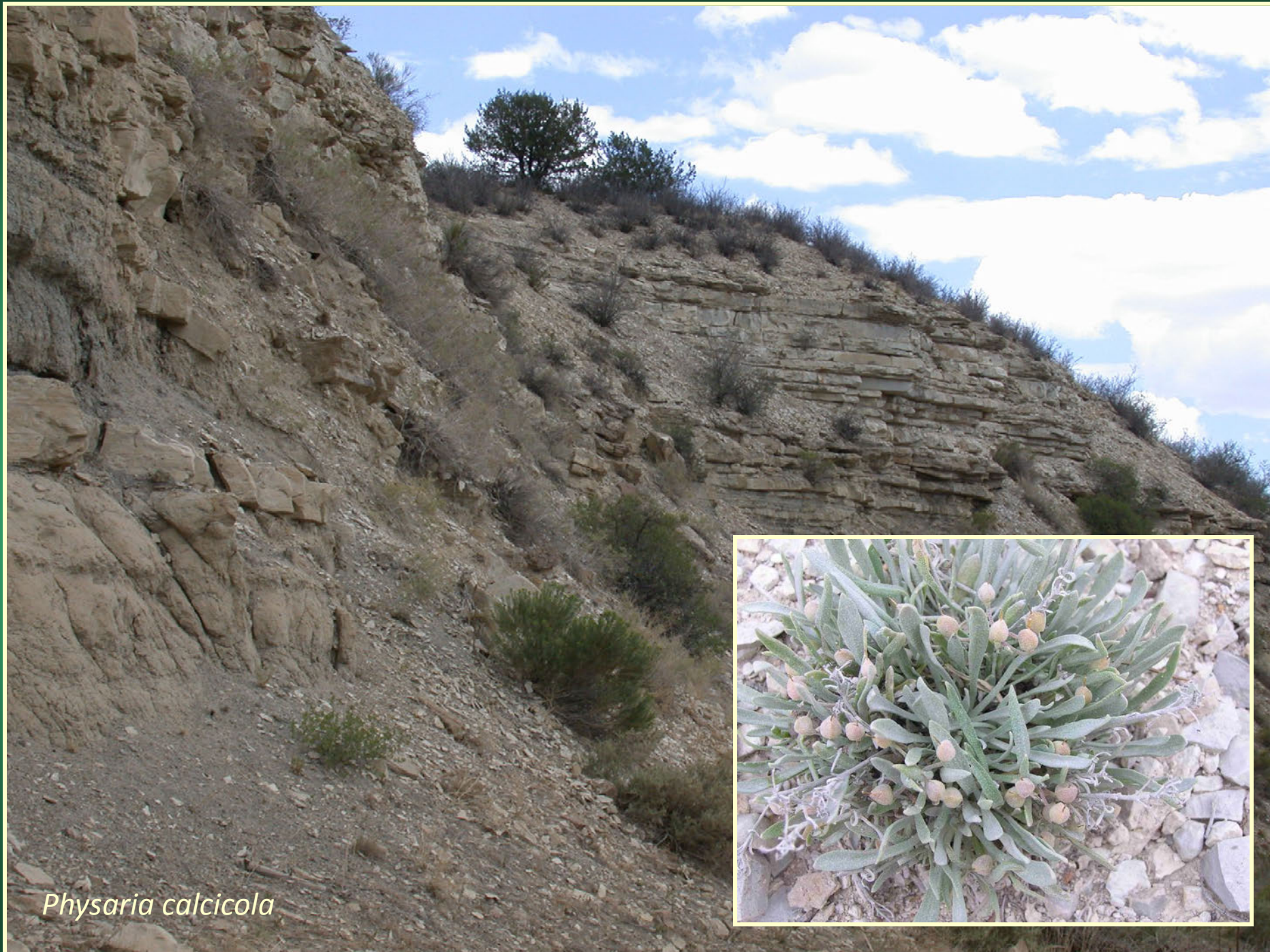


Penstemon degeneri

Physaria calcicola
= *Lesquerella calcicola*
Rocky Mountain
bladderpod



- Federal status: none
- Heritage ranks: G3/S3
- Global distribution: New Mexico and Colorado (Conejos, El Paso, Fremont, Huerfano, Las Animas, and Pueblo counties); 4800-9800 ft.
- Last observed in Colorado: 2011
- Colorado occurrences: 38 (8 are historical)
- Colorado individuals: 24,000
- Primary threats: This species occurs in areas that are experiencing rapid development pressures
- Land ownership/management: BLM, Military, Private, and State



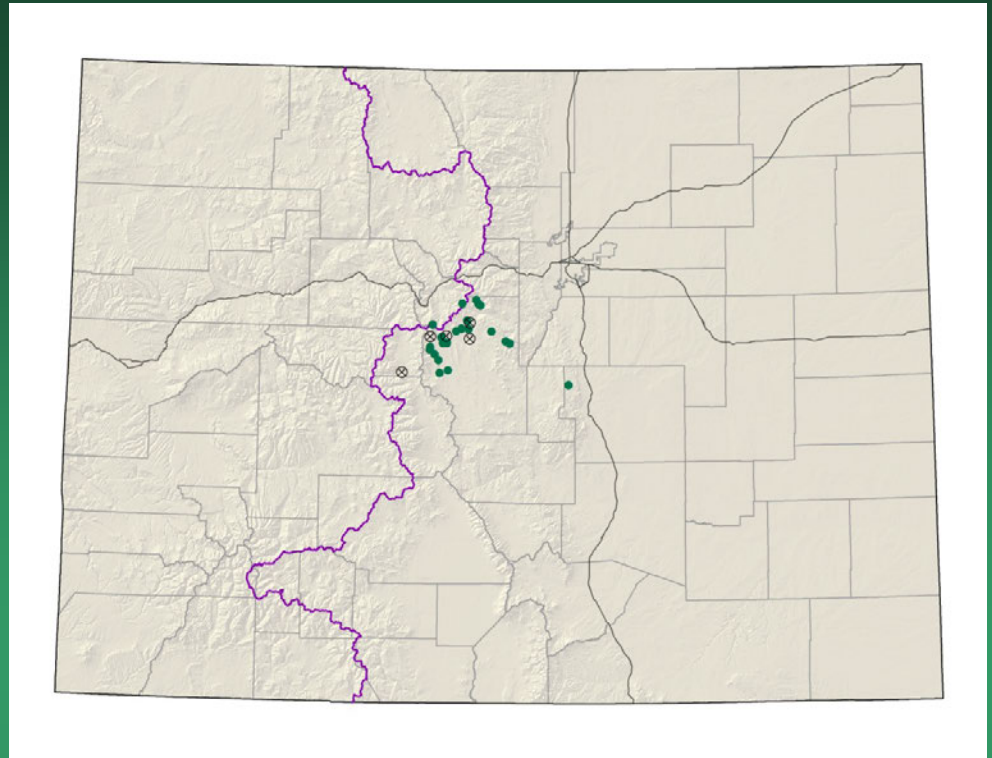
Physaria calcicola



Ptilagrostis porteri

Porter feathergrass

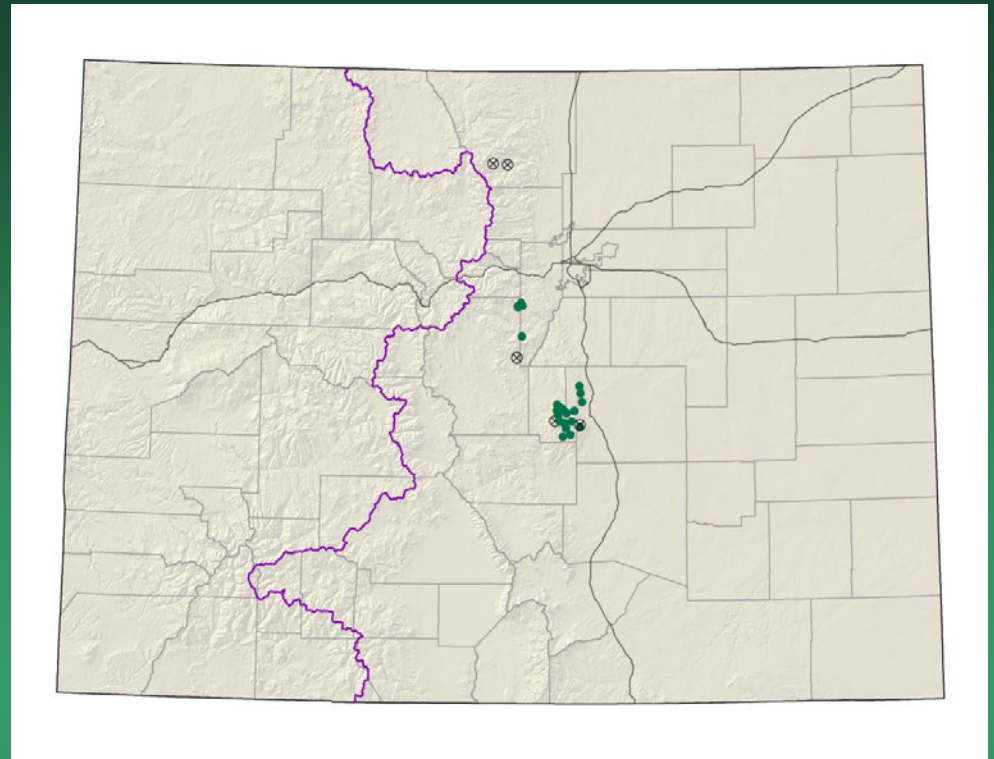
- Federal status: USFS sensitive
- Heritage ranks: G2/S2
- Global distribution: Colorado (El Paso, Lake, Park and Summit counties); northern NM; 9000-12,500 ft.
- Last observed in Colorado: 2011
- Colorado occurrences: 26 (5 are historical)
- Colorado individuals: ~408,000
- Primary threats: Alterations to the water table resulting from increased diversion and pumping for the metropolitan front range
- Land ownership/management: BLM, Forest Service, and Private





Ptilagrostis porteri

Telesonix jamesii James' telesonix



- Federal status: none
- Heritage ranks: G2/S2
- Global distribution: New Mexico and Colorado (El Paso, Jefferson, Larimer, Park, and Teller counties); 6700-13,700 ft.
- Last observed in Colorado: 2012
- Colorado occurrences: 28 (5 are historical)
- Colorado individuals: ~20,000
- Primary threats: Motorized and non-motorized recreation, trail or road construction and maintenance, invasive species introduction, and horticultural collection
- Land ownership/management: BLM, Military, Forest Service, Private and State



Telesonix jamesii