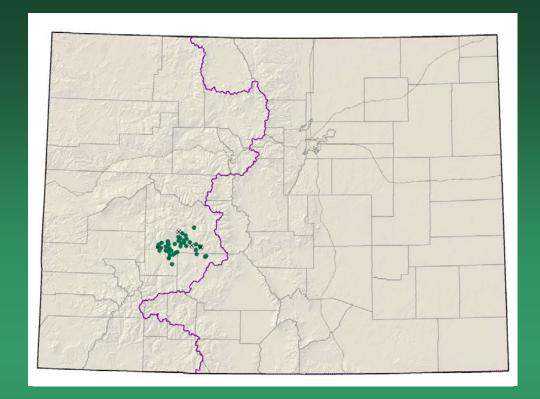
2008

SW Colorado G2G3 species

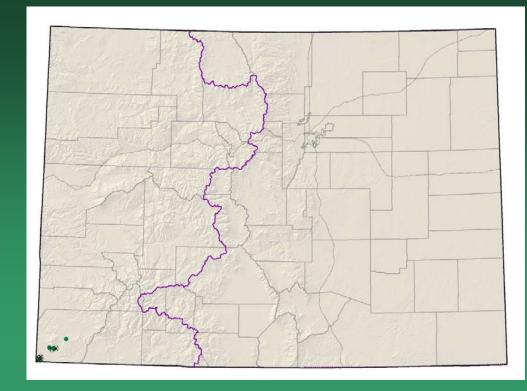
Astragalus anisus Gunnison milkvetch



- Federal status: BLM sensitive
- Heritage ranks: G2G3/S2S3
- Global distribution: endemic to Colorado (Gunnison & Saguache counties)
- Last observed in Colorado: 2010
- Colorado occurrences: 40 (3 are historical, 1 extirpated)
- Colorado individuals: 5000-10,000?
- <u>Primary threats</u>: road building, off-road vehicle use, non-motorized recreation, non-native species invasion, grazing, residential development, fire suppression, resource extraction, and global climate change.
- Land ownership/management: BLM, USFS, NPS, state, private



Astragalus cronquistii Cronquist's milkvetch



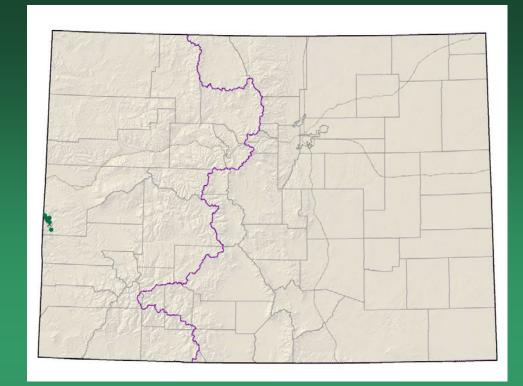
- <u>Federal status</u>: none
- Heritage ranks: G2/S2
- Global distribution: Utah and Colorado (Montezuma County)
- Last observed in Colorado: 1993
- Colorado occurrences: 13 (8 are historical)
- Colorado individuals: ~1500
- Primary threats: roads, unknown
- Land ownership/management: Tribal (Ute Mountain Ute)



Astragalus cronquistii

Astragalus equisolensis (= A. desperatus var. neeseae) horseshoe milkvetch

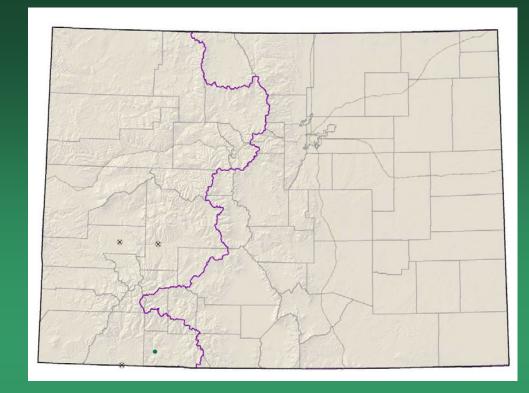
Conservation Action Plan



- <u>Federal status</u>: BLM sensitive
- Heritage ranks: G5T1/S1
- Global distribution: Utah and Colorado (Mesa County)
- <u>Last observed in Colorado</u>: 2012
- Colorado occurrences: 8 (2 are historical)
- Colorado individuals: 2670
- Primary threats: unknown
- Land ownership/management: BLM, private



Astragalus iodopetalus violet milkvetch

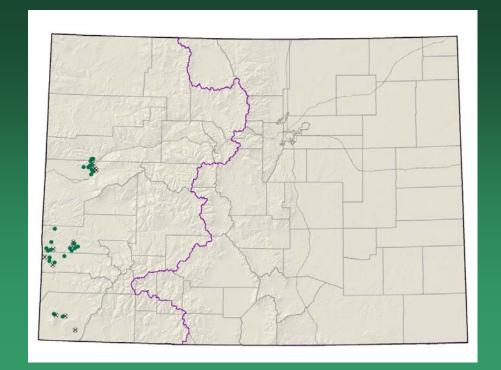


- Federal status: USFS sensitive
- Heritage ranks: G2/S1
- <u>Global distribution</u>: New Mexico (historical) and Colorado (Archuleta, Gunnison, La Plata and Montrose counties).
- Last observed in Colorado: 2012
- Colorado occurrences: 4 (3 are historical)
- Colorado individuals: unknown
- Primary threats: unknown
- Land ownership/management: USFS, Chimney Rock Archeological Area

Astragalus iodopetalus

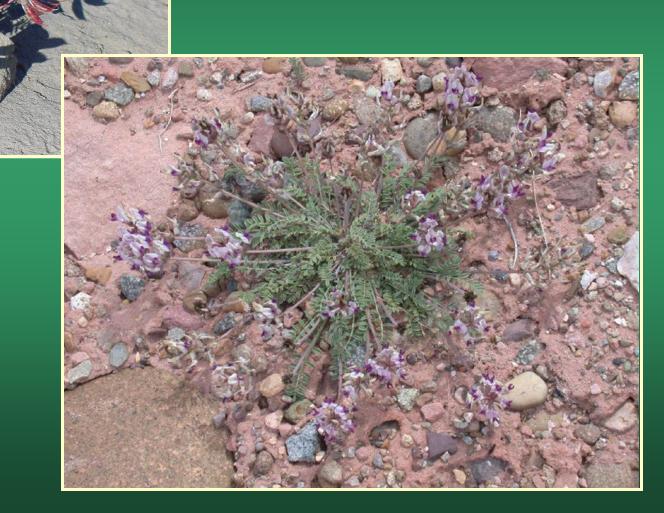


Astragalus naturitensis Naturita milkvetch



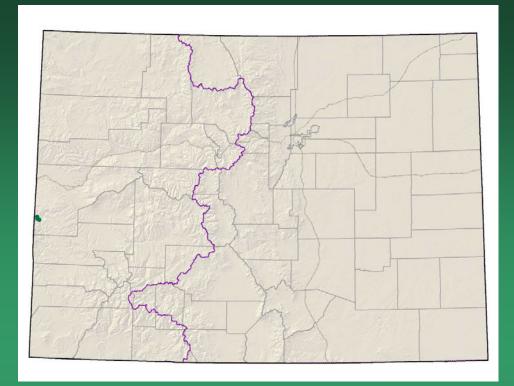
- Federal status: BLM sensitive
- Heritage ranks: G2G3/S2S3
- Global distribution: New Mexico, Utah, the Navajo Nation and Colorado (Garfield, Mesa, Montezuma, Montrose and San Miguel counties)
- Last observed in Colorado: 2012
- Colorado occurrences: 47 (11 are historical)
- Colorado individuals: 650 in 2011, + prev. ~ 6500 estimate
- Primary threats: Recreation, Oil and Gas development, Uranium claims
- Land ownership/management: BLM, USFS, private





Astragalus piscator Fisher Towers milkvetch

Conservation Action Plan

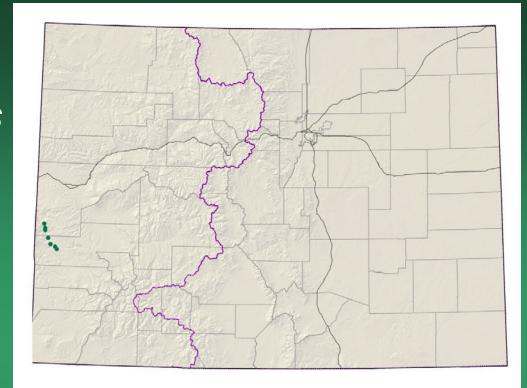


- <u>Federal status</u>: BLM sensitive
- Heritage ranks: G2G3/S1
- Global distribution: Utah and Colorado (Mesa County)
- Last observed in Colorado: 2012
- Colorado occurrences: 3
- Colorado individuals: 3000-5000
- Primary threats: recreation, roads
- <u>Land ownership/management</u>: BLM

Astragalus piscator



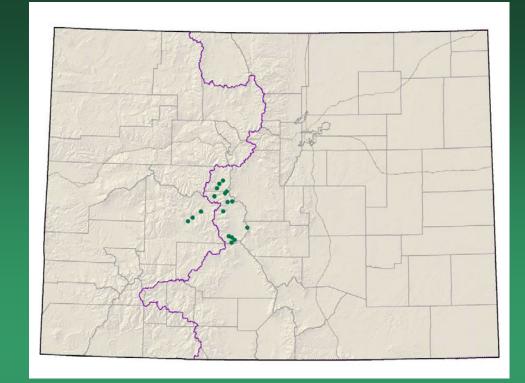
Astragalus rafaelensis San Rafael milkvetch



- Federal status: BLM sensitive
- Heritage ranks: G2G3/S1
- Global distribution: Utah and Colorado (Montrose and Mesa counties)
- Last observed in Colorado: 2008
- Colorado occurrences: 7
- Colorado individuals: >1000
- Primary threats: unknown
- Land ownership/management: BLM, private

Astragalus rafaelensis

Boechera crandallii = Arabis crandallii Crandall's rockcress



- <u>Federal status</u>: BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: Wyoming and Colorado (Gunnison, Chaffee, and Lake counties)
- Last observed in Colorado: 2008
- Colorado occurrences: 17+
- Colorado individuals:
- Primary threats: habitat loss/degradation, road construction
- Land ownership/management: USFS, BLM, private

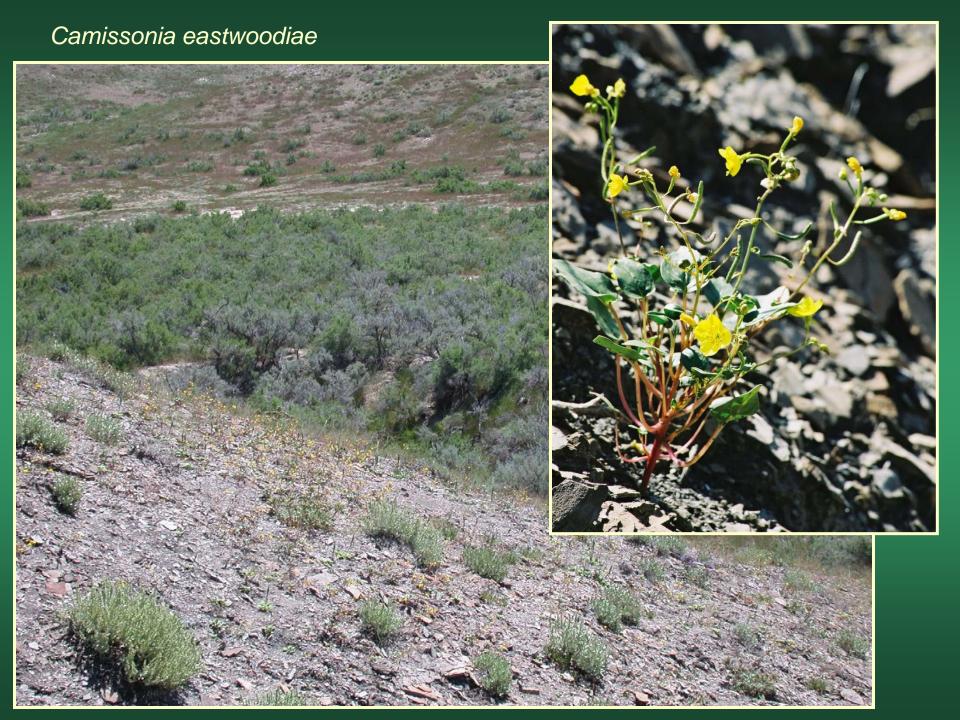
Boechera crandallii



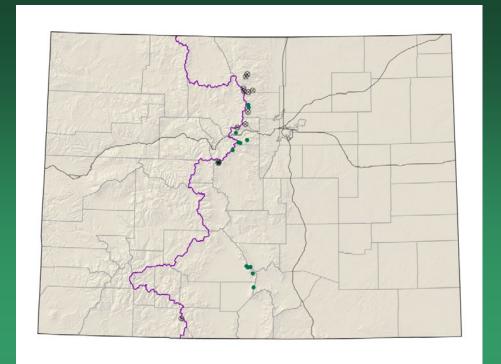
Camissonia eastwoodiae Eastwood evening primrose



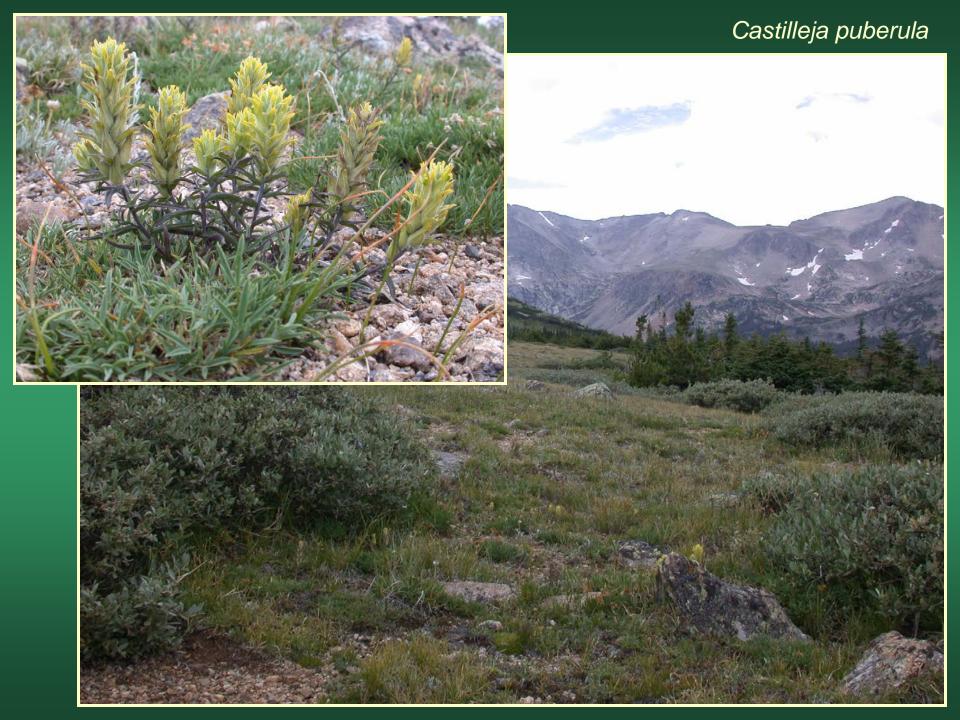
- <u>Federal status</u>: BLM sensitive
- Heritage ranks: G2/S1
- Global distribution: Utah and Colorado (Delta and Mesa counties)
- Last observed in Colorado: 2013
- Colorado occurrences: 4 (2 are historical)
- Colorado individuals: several thousand
- Primary threats: unknown
- Land ownership/management: BLM, private



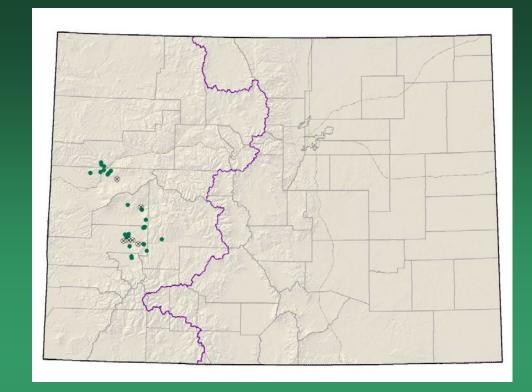
Castilleja puberula downy indian paintbrush



- Federal status: none
- Heritage ranks: G2G3/S2S3
- Global distribution: Colorado endemic (Alamosa, Boulder, Clear Creek, Grand, Larimer, Park, and Saguache counties)
- Last observed in Colorado: 2011
- Colorado occurrences: 25 (12 are historical)
- Colorado individuals: >250
- Primary threats: May be threatened by off-road-vehicle use
- Land ownership/management: USFS, private



Cirsium perplexans adobe thistle



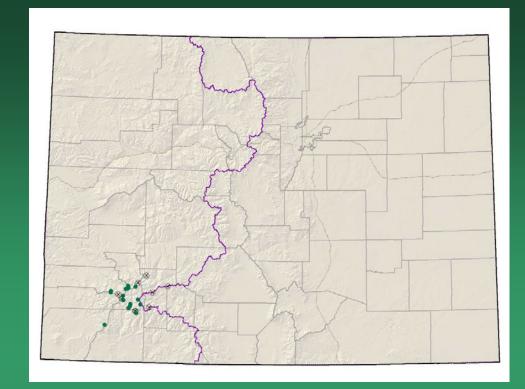
- Federal status: None
- Heritage ranks: G2G3/S2S3
- Global distribution: Colorado endemic (Delta, Mesa, Montrose, Gunnison, Garfield, and Ouray counties)
- Last observed in Colorado: 2011
- Colorado occurrences: 48 (5 are historical)
- Colorado individuals: 10,000+
- Primary threats: Bio or other control for non-native thistles
- Land ownership/management: BLM, private, USFS, NPS, state

Cirsium perplexans





Draba graminea San Juan whitlow-grass

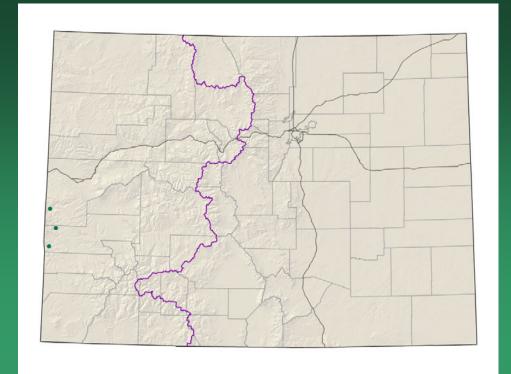


- <u>Federal status</u>: none
- Heritage ranks: G2/S2
- Global distribution: Colorado endemic (Dolores, Hinsdale, La Plata, Montezuma, Ouray, San Juan, and San Miguel counties)
- Last observed in Colorado: 2011
- Colorado occurrences: 25 (9 are historical)
- Colorado individuals: >8000
- Primary threats: Non-motorized recreation
- <u>Land ownership/management</u>: USFS, private

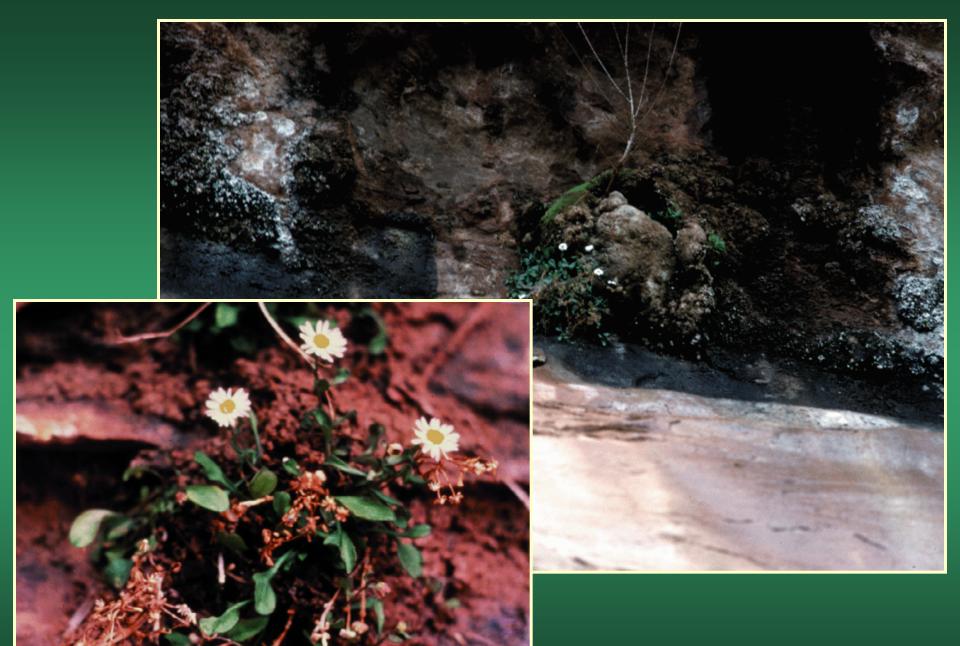
Draba graminea



Erigeron kachinensis kachina daisy

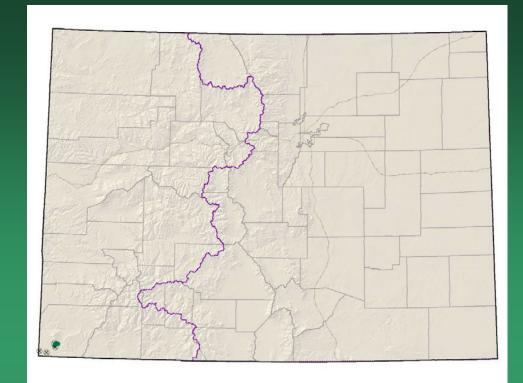


- Federal status: BLM sensitive
- Heritage ranks: G2/S1
- Global distribution: Utah and Colorado (Montrose county)
- Last observed in Colorado: 2010
- Colorado occurrences: 3
- Colorado individuals: est. 7,600
- <u>Primary threats</u>: mining, energy development, or water projects could affect water supplies to habitat
- Land ownership/management: BLM, Colorado Natural Area, ACEC



Erigeron kachinensis

Eriogonum clavellatum Comb Wash buckwheat

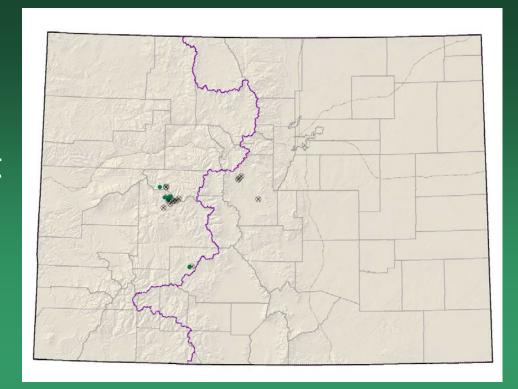


- Federal status: BLM sensitive
- Heritage ranks: G2/S1
- Global distribution: Utah and Colorado (Montezuma County)
- Last observed in Colorado: 1990
- Colorado occurrences: 8 (all are historical)
- Colorado individuals: unknown
- <u>Primary threats</u>: road construction, exploration for oil and gas, and a proposed system of irrigation canals on the Reservation
- Land ownership/management: Ute Mountain Ute

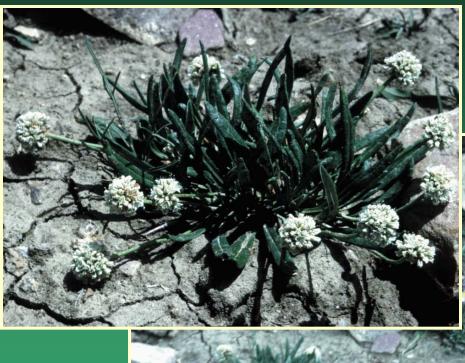
Eriogonum clavellatum



Eriogonum coloradense Colorado wild buckwheat



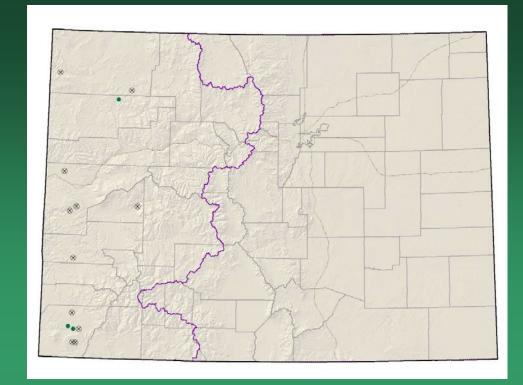
- Federal status: BLM sensitive
- Heritage ranks: G2/S2
- <u>Global distribution</u>: Colorado endemic (Gunnison, Park, Pitkin, and Saguache counties)
- Last observed in Colorado: 2012
- Colorado occurrences: 22 (16 are historical)
- Colorado individuals: ~5000
- Primary threats: recreation
- Land ownership/management: USFS, BLM, private



Eriogonum coloradense



Lepidium crenatum alkaline pepperwort



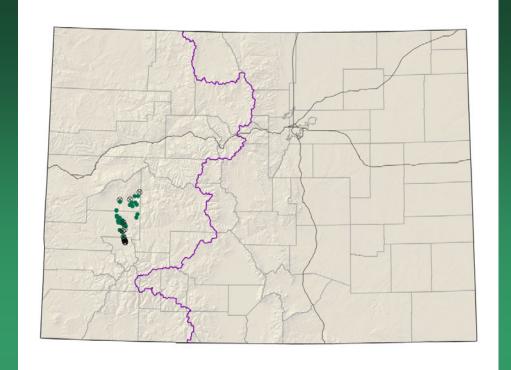
- <u>Federal status</u>: none
- Heritage ranks: G2/S2
- Global distribution: documented from Moffat, Rio Blanco, Mesa, Delta, Montrose and Montezuma counties in Colorado, may be present in Utah and New Mexico.
- Last observed in Colorado: 2012
- Colorado occurrences: 16 (13 are historical)
- Colorado individuals: thousands
- Primary threats: unknown
- Land ownership/management: BLM, private

Lepidium crenatum

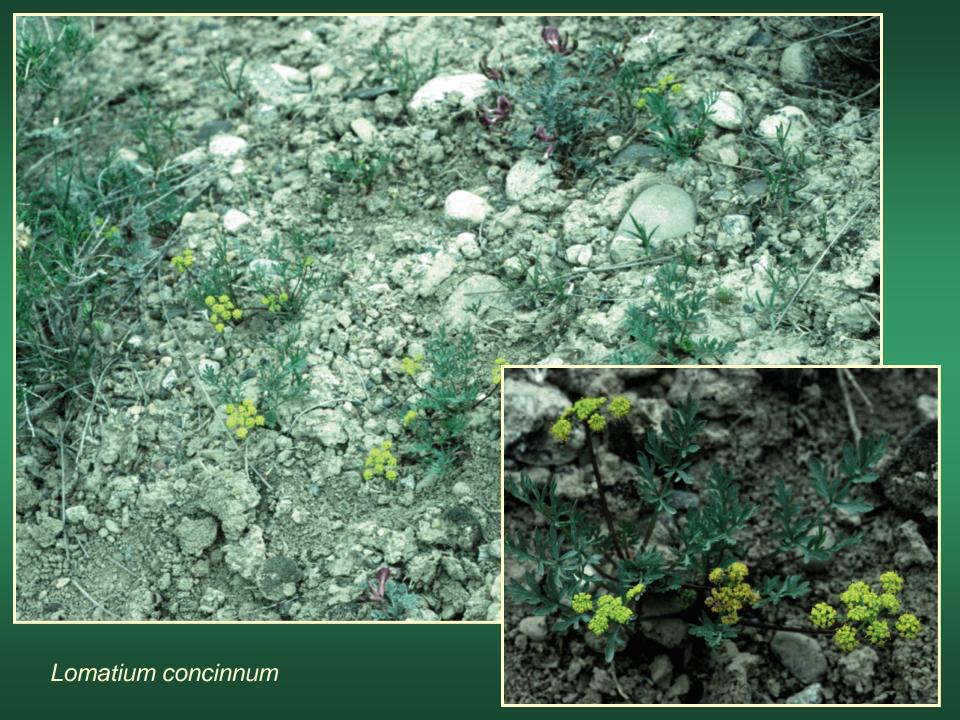




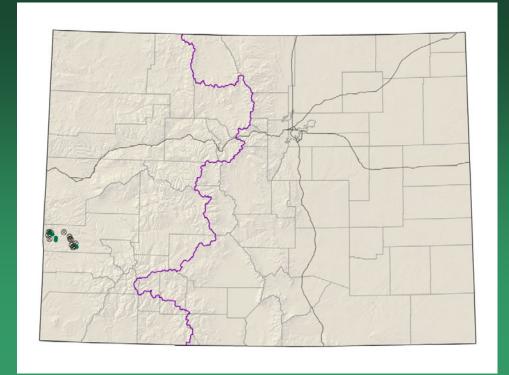
Lomatium concinnum Colorado desert-parsley



- <u>Federal status</u>: BLM sensitive
- Heritage ranks: G2G3/S2S3
- Global distribution: Colorado endemic (Delta, Montrose, and Ouray counties)
- Last observed in Colorado: 2008
- Colorado occurrences: 38 (4 are historical)
- Colorado individuals: >70,000
- Primary threats: Motorized recreation
- Land ownership/management: BLM, private



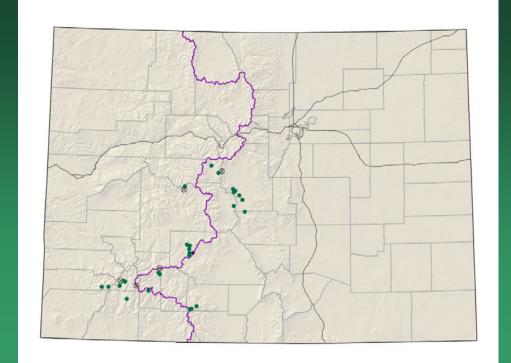
Lupinus crassus Payson lupine



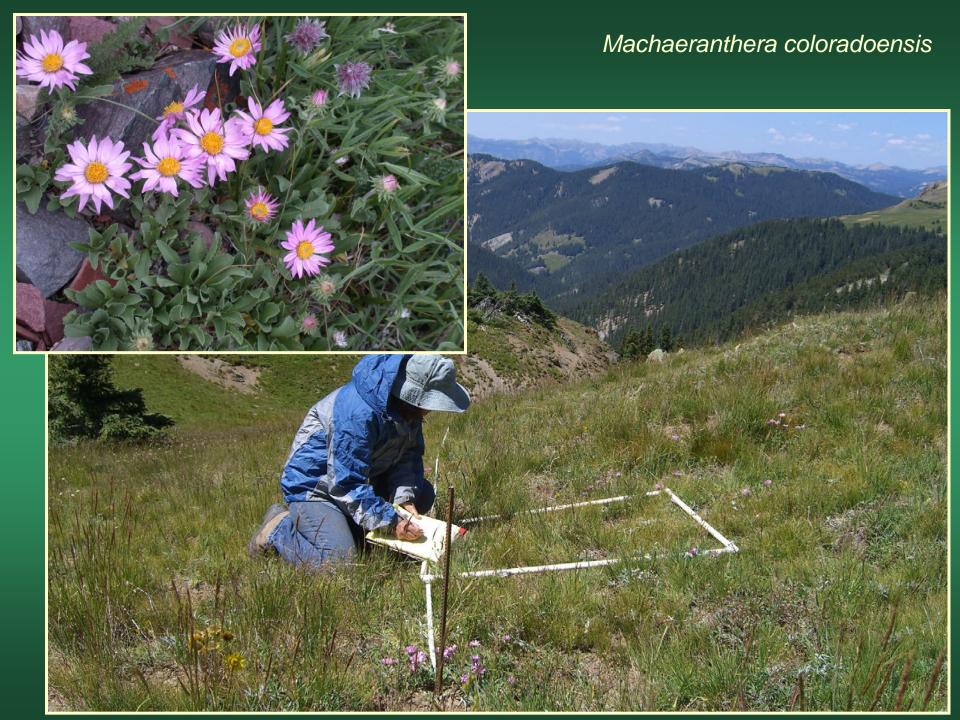
- Federal status: BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: Colorado endemic (Montrose county)
- Last observed in Colorado: 2013
- Colorado occurrences: 18 (12 are historical)
- Colorado individuals: >100,000
- Primary threats: Incompatible grazing
- Land ownership/management: BLM, private



Machaeranthera coloradoensis Colorado tansy-aster

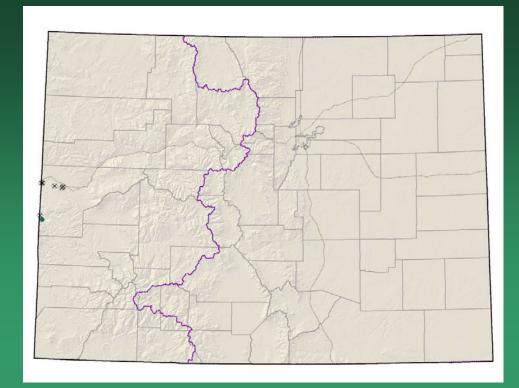


- <u>Federal status</u>: USFS sensitive
- Heritage ranks: G3/S3
- Global distribution: Wyoming and Colorado (Chaffee, Dolores, Fremont, Gunnison, Hinsdale, La Plata, Lake, Park, Pitkin, Rio Grande, Saguache, San Juan counties)
- Last observed in Colorado: 2011
- Colorado occurrences: 33 (5 are historical)
- Colorado individuals: unknown
- Primary threats: unknown
- Land ownership/management: USFS, private



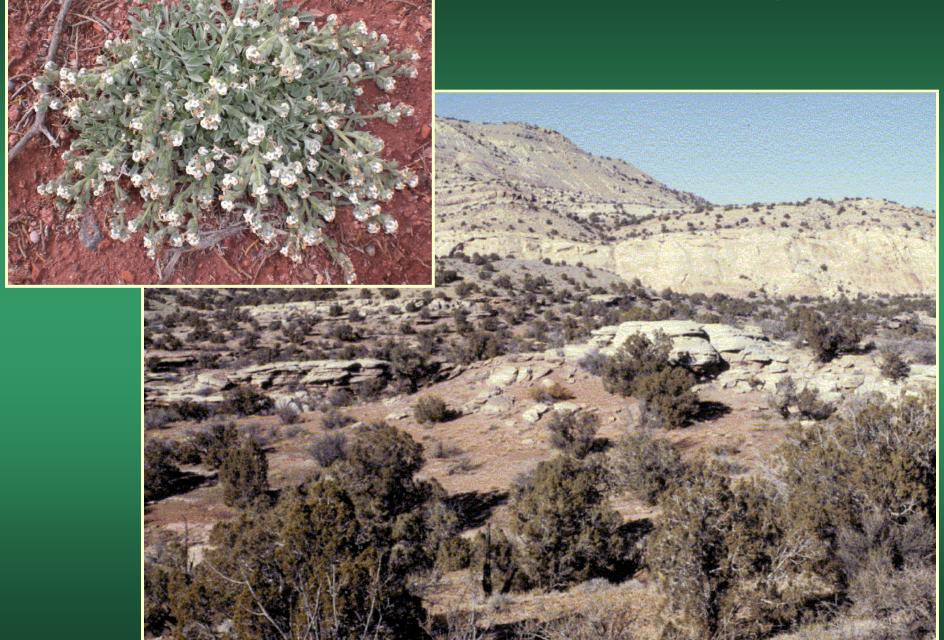
Oreocarya osterhoutii= Cryptantha osterhoutii Osterhout cat's-eye

Conservation Action Plan

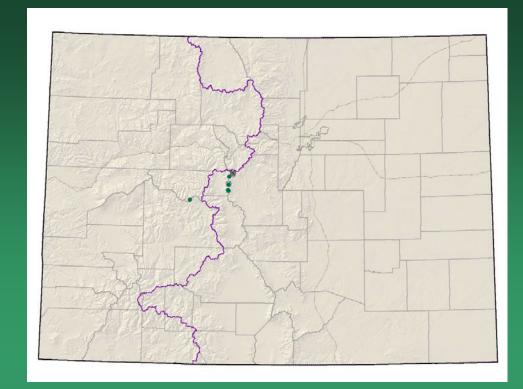


- <u>Federal status</u>: BLM sensitive
- Heritage ranks: G2G3/S2
- Global distribution: Utah and Colorado (Mesa County)
- Last observed in Colorado: 2011
- Colorado occurrences: 7 (6 are historical)
- Colorado individuals: ~1500?
- Primary threats: unknown
- Land ownership/management: BLM, private

Oreocarya osterhoutii



Physaria alpina Avery Peak twinpod

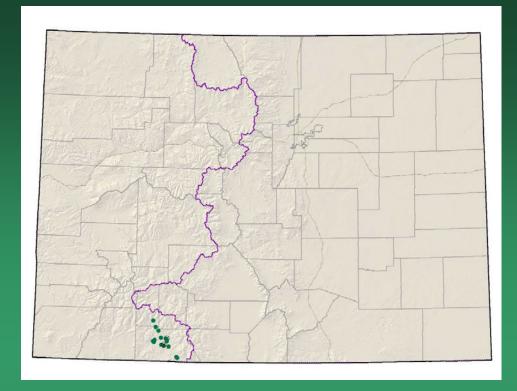


- <u>Federal status</u>: none
- Heritage ranks: G2/S2
- Global distribution: Colorado endemic (Lake, Gunnison, Pitkin and Park counties)
- Last observed in Colorado: 2013
- Colorado occurrences: 7 (3 are historical)
- Colorado individuals: >4000
- Primary threats: off-road vehicle use
- Land ownership/management: USFS, private

Physaria alpina



Physaria pruinosa= Lesquerella pruinosa Pagosa bladderpod

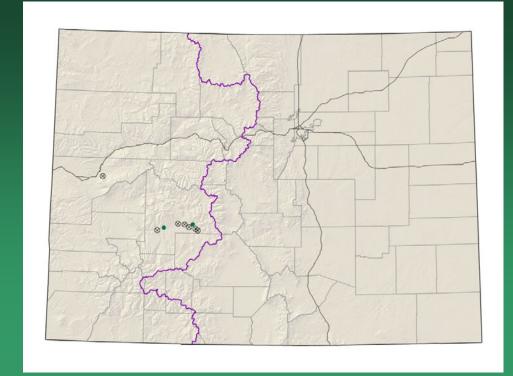


- <u>Federal status</u>: USFS and BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: New Mexico and Colorado (Archuleta County, and the extreme southern portion of Hinsdale County)
- Last observed in Colorado: 2009
- Colorado occurrences: 17 (2 are historical)
- Colorado individuals: 5,000 to 20,000
- Primary threats: Residential and commercial development
- Land ownership/management: USFS, private, BLM

Physaria pruinosa



Physaria rollinsii Rollins' twinpod

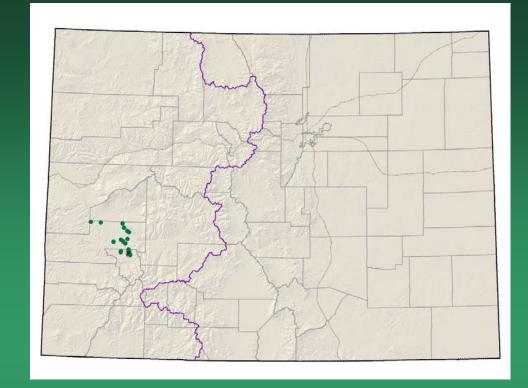


- Federal status: none
- Heritage ranks: G1/S1
- Global distribution: Colorado endemic (Mesa and Gunnison counties)
- Last observed in Colorado: 2011
- Colorado occurrences: 9 (7 are historical)
- Colorado individuals: unknown
- Primary threats: unknown
- Land ownership/management: Forest Service

Physaria rollinsii



Physaria vicina= Lesquerella vicina Montrose bladderpod



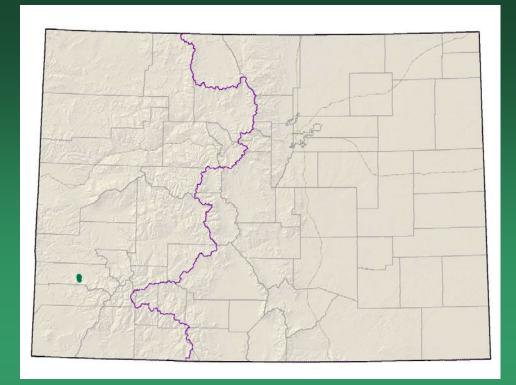
- <u>Federal status</u>: BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: Colorado endemic (Montrose and Ouray counties)
- Last observed in Colorado: 2008
- Colorado occurrences: 22 (one is historical)
- Colorado individuals: >9,000
- Primary threats: Roads and recreational uses
- Land ownership/management: BLM, state, private



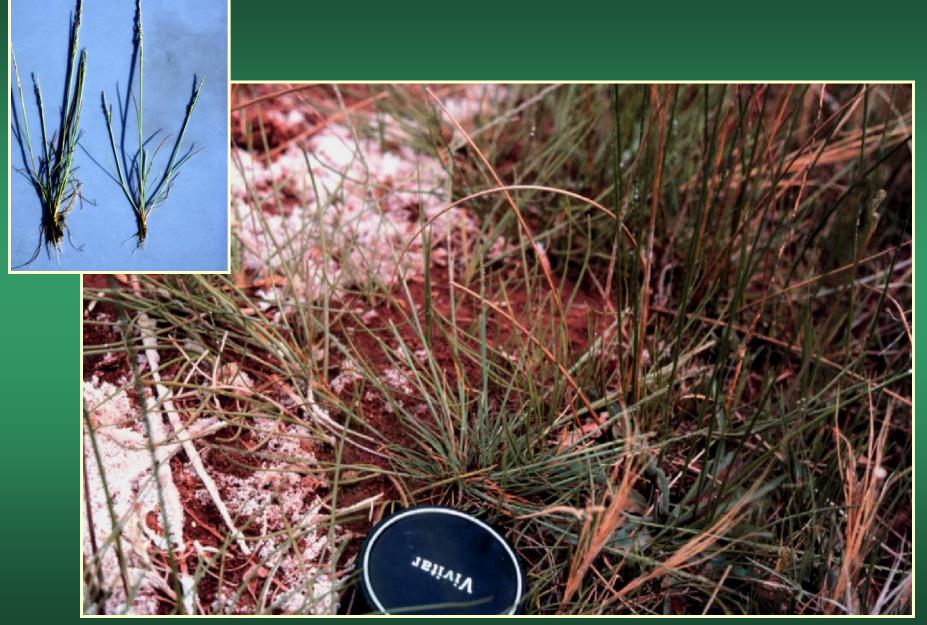
Physaria vicina

Puccinellia parishii Parish's alkali grass

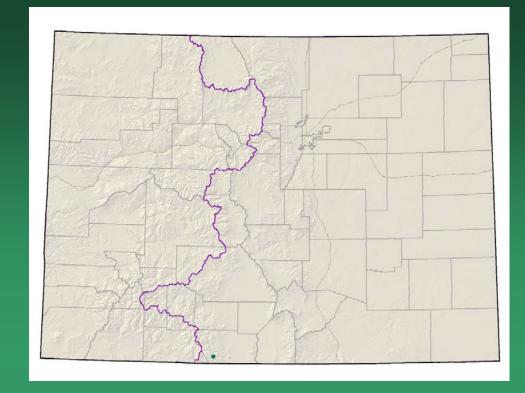
Conservation Action Plan



- <u>Federal status</u>: none
- Heritage ranks: G2G3/S1
- Global distribution: New Mexico, Arizona, California, and Colorado (San Miguel County)
- Last observed in Colorado: 2009
- Colorado occurrences: 2
- Colorado individuals: 20,000-35,000
- Primary threats: altered hydrology
- Land ownership/management: private, state



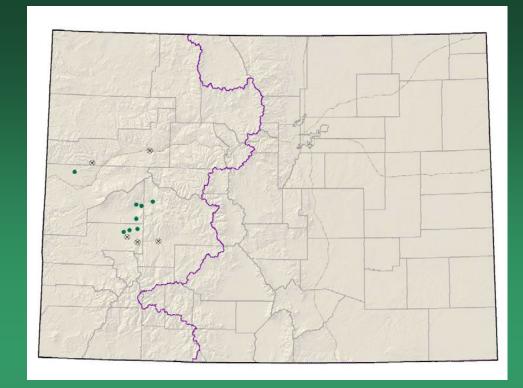
Salix arizonica Arizona willow



- Federal status: USFS sensitive
- Heritage ranks: G2G3/S1
- Global distribution: Arizona, New Mexico, Utah, and Colorado (Conejos Co.)
- Last observed in Colorado: 2004
- Colorado occurrences: 1
- Colorado individuals: unknown 2 dense clumps
- <u>Primary threats</u>: incompatible grazing, hydrologic alteration
- Land ownership/management: USFS Rio Grande NF



Thelypodiopsis juniperorum juniper tumble mustard

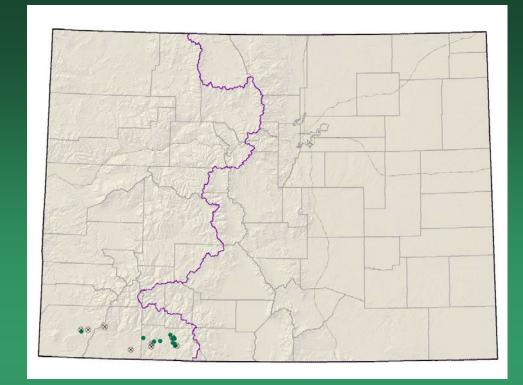


- <u>Federal status</u>: none
- Heritage ranks: G2/S2
- Global distribution: Colorado endemic (Montrose, Gunnison and Delta counties)
- Last observed in Colorado: 2012
- Colorado occurrences: 13 (5 are historical)
- Colorado individuals: 100's
- Primary threats: grazing, off-road vehicle use, non-native species invasion
- Land ownership/management: BLM, NPS, USFS, State, private

Thelypodiopsis juniperorum

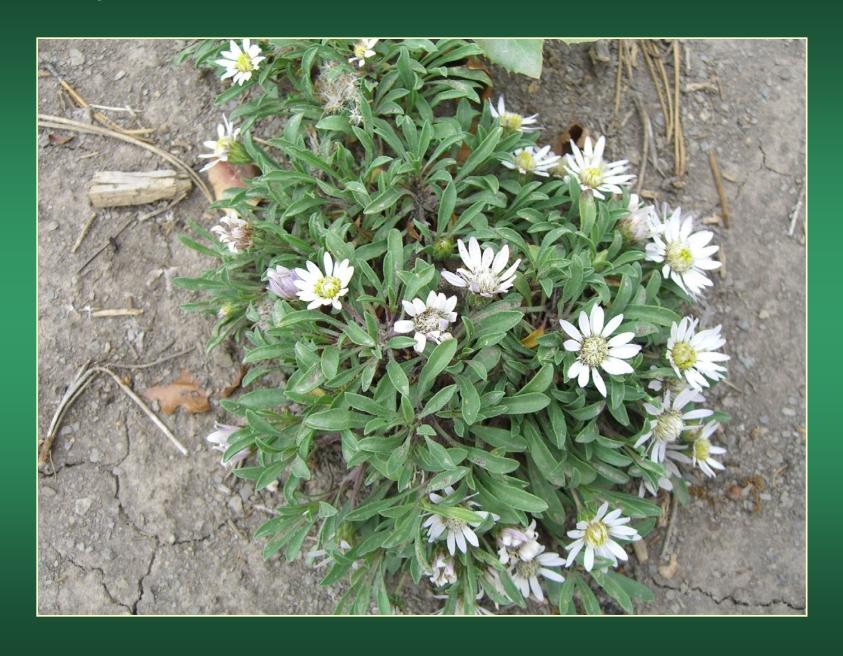


Townsendia glabella Gray's townsend-daisy

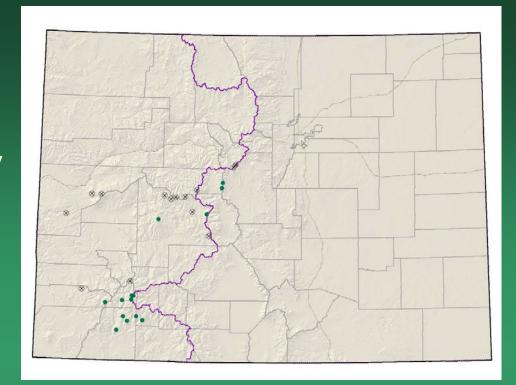


- Federal status: none
- Heritage ranks: G2/S2
- Global distribution: Colorado endemic (Archuleta, La Plata and Montezuma counties)
- Last observed in Colorado: 2012
- Colorado occurrences: 19 (9 are historical)
- Colorado individuals: >1,250
- Primary threats: Residential development
- Land ownership/management: USFS, private

Townsendia glabella



Townsendia rothrockii Rothrock townsend-daisy



- <u>Federal status</u>: none
- Heritage ranks: G2G3/S2S3
- <u>Global distribution</u>: Colorado endemic (Dolores, Gunnison, Hinsdale, La Plata, Lake, Mesa, Ouray, Park, Pitkin, San Juan, and Summit counties)
- Last observed in Colorado: 2011
- Colorado occurrences: 28 (14 are historical)
- Colorado individuals: >4300
- Primary threats: motorized recreation
- Land ownership/management: USFS, private

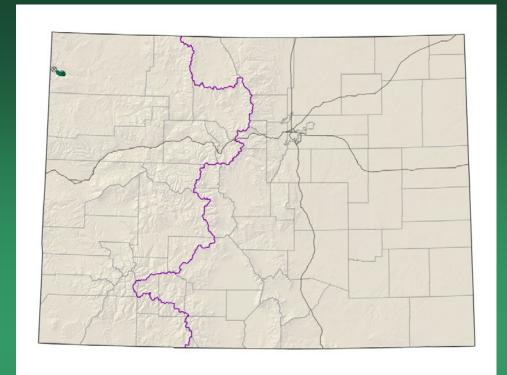
Townsendia rothrockii



2009

NW & Central Colorado G2G3 species

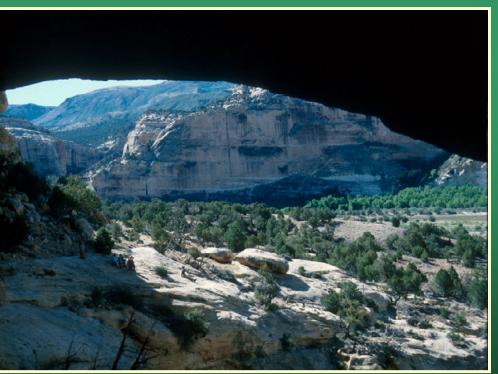
Anticlea vaginatus = Zigadenus vaginatus sheathed deathcamas



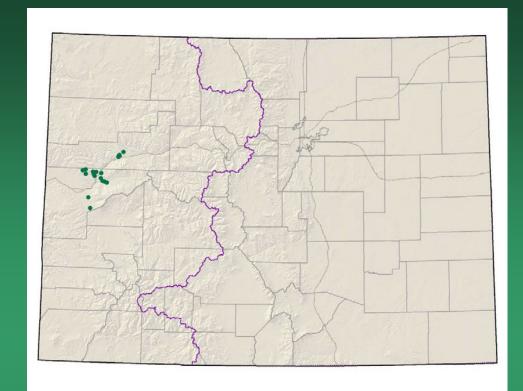
- Federal status: none
- Heritage ranks: G2/S2
- Global distribution: Utah and Colorado (Moffat county)
- Last observed in Colorado: 2012
- Colorado occurrences: 7 (2 historical)
- Colorado individuals: 1100+
- Primary threats: hydrologic alteration
- Land ownership/management: NPS





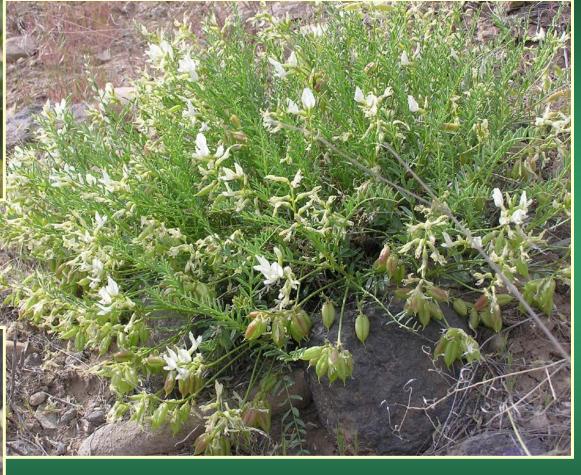


Astragalus debequaeus Debeque milkvetch



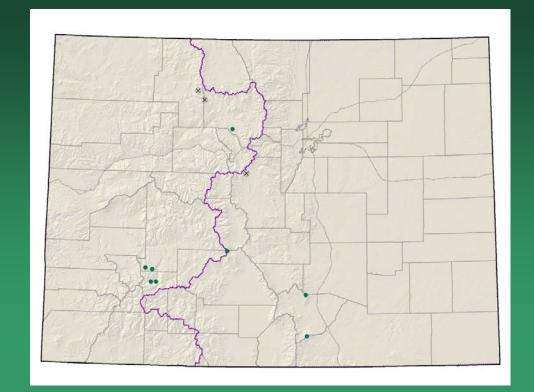
- Federal status: BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: Colorado endemic (Garfield and Mesa counties)
- Last observed in Colorado: 2012
- Colorado occurrences: 17
- Colorado individuals: >62,000
- Primary threats: Disturbance by oil and gas development
- Land ownership/management: BLM, private





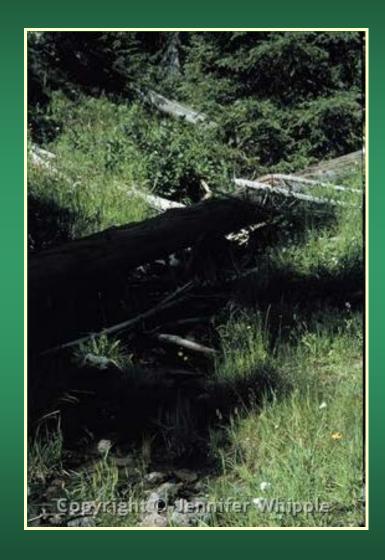
Astragalus debequaeus

Carex stenoptila small-winged sedge



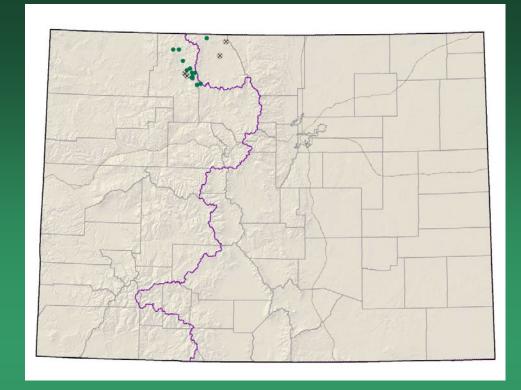
- <u>Federal status</u>: none
- Heritage ranks: G2/S2
- <u>Global distribution</u>: Montana, Wyoming, and Colorado (Park, Routt, Grand, Gunnison, Hinsdale, Saguache, and Huerfano counties)
- Last observed in Colorado: 1999
- Colorado occurrences: 11 (3 are historical)
- Colorado individuals: unknown
- Primary threats: none known
- Land ownership/management: USFS, BLM, private

Carex stenoptila

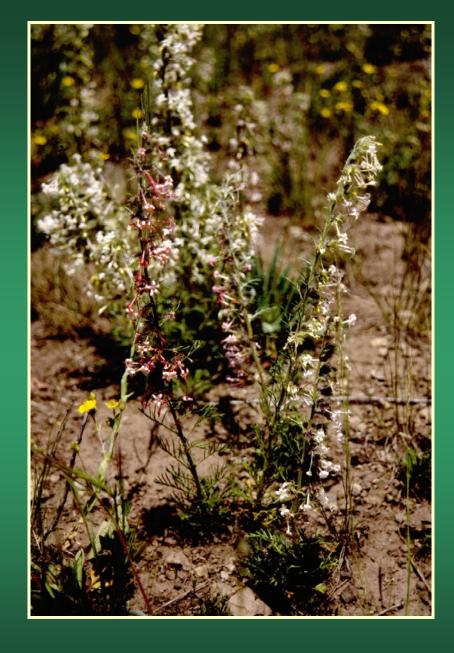




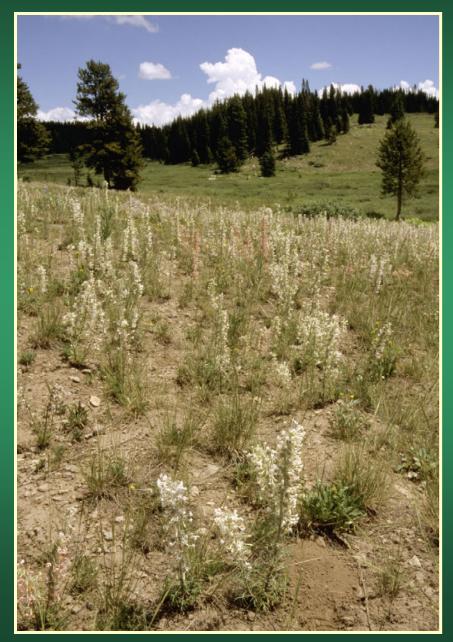
Ipomopsis aggregata ssp. weberi Weber's scarlet gilia



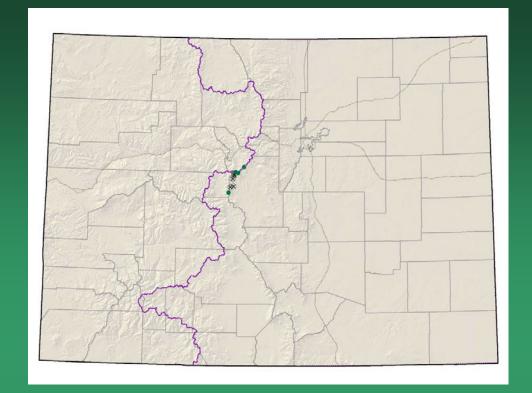
- <u>Federal status</u>: USFS sensitive
- Heritage ranks: G5T2/S2
- <u>Global distribution</u>: Regional endemic of northern Idaho, south-central Wyoming, and north-central Colorado (Grand, Routt and Jackson counties)
- Last observed in Colorado: 2009
- Colorado occurrences: 17 (4 are historical)
- Colorado individuals: >5300
- Primary threats: recreational use of habitat
- <u>Land ownership/management</u>: USFS, state, private



Ipomopsis aggregata ssp. weberi



Ipomopsis globularis globe gilia

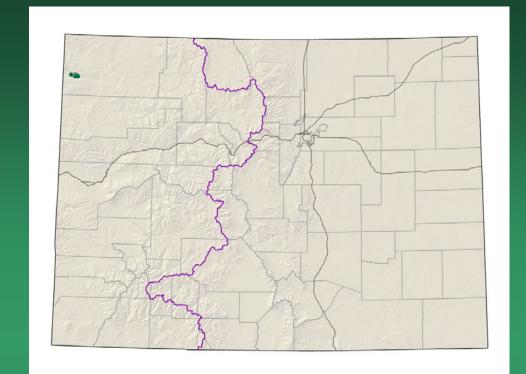


- Federal status: none
- Heritage ranks: G2/S2
- Global distribution: Colorado endemic (Lake, Park, and Summit counties)
- Last observed in Colorado: 2013
- Colorado occurrences: 9 (2 are historical)
- Colorado individuals: estimated 6,000 11,000
- Primary threats: motorized recreation, mining development
- Land ownership/management: USFS

Ipomopsis globularis



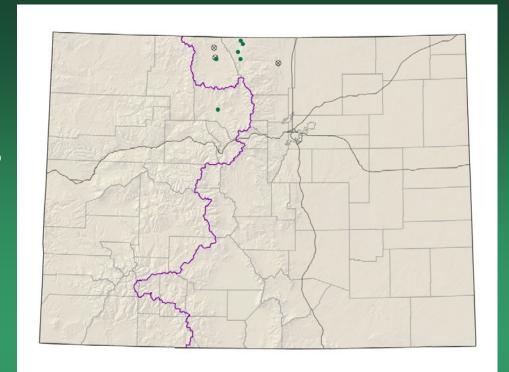
Limnorchis zothecina (=Platanthera zothecina) alcove bog orchid



- Federal status: none
- Heritage ranks: G2/S1
- Global distribution: Utah, Arizona, and Colorado (Moffat County)
- Last observed in Colorado: 2012
- Colorado occurrences: 4 (1 is historical)
- Colorado individuals: ~250
- Primary threats: none known
- Land ownership/management: NPS

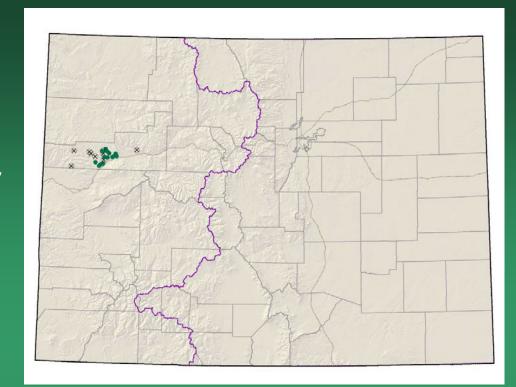


*Mertensia humilis*Rocky Mountain bluebells



- Federal status: none
- Heritage ranks: G2/S1
- Global distribution: Wyoming and Colorado (Jackson and Larimer counties)
- Last observed in Colorado: 2011
- Colorado occurrences: 9 (3 are historical)
- Colorado individuals: unknown
- Primary threats: none known
- Land ownership/management: private, USFS

Nuttallia (Mentzelia) rhizomata Roan Cliffs blazing star

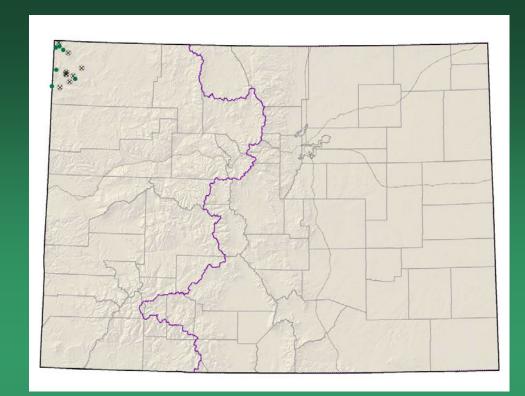


- Federal status: BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: Colorado endemic (Rio Blanco County)
- <u>Last observed in Colorado</u>: 2011
- Colorado occurrences: 24 (9 are historical)
- Colorado individuals: >24,500
- Primary threats: Oil shale mining and oil and gas development
- Land ownership/management: BLM, private

Nuttallia rhizomata



Oenothera acutissima narrow-leaf evening-primrose



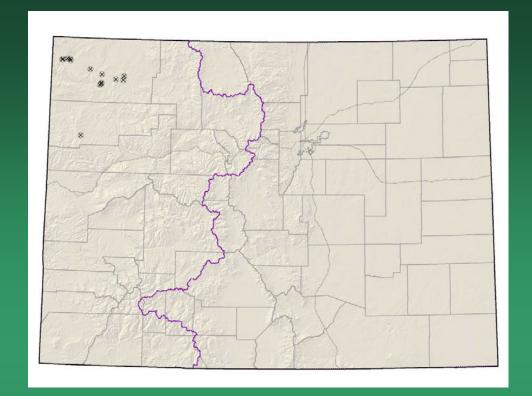
- Federal status: BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: Utah and Colorado (Moffat County)
- Last observed in Colorado: 2012
- Colorado occurrences: 15 (9 are historical)
- Colorado individuals: >4,000
- Primary threats: hydrologic alteration, habitat degradation from livestock use
- Land ownership/management: BLM, state, private, NPS







Oxytropis besseyi var. obnapiformis Bessey's locoweed

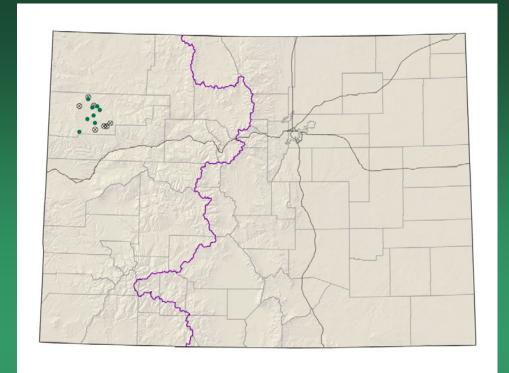


- <u>Federal status</u>: none
- Heritage ranks: G5T2/S2
- Global distribution: Utah, Wyoming, and Colorado (Moffat and Rio Blanco Cos.)
- <u>Last observed in Colorado</u>: 2012
- Colorado occurrences: 14 (most are historical)
- Colorado individuals: unknown, perhaps in the 100s
- Primary threats: oil and gas development
- Land ownership/management: BLM, NPS, private

Oxytropis besseyi var. obnapiformis



Penstemon fremontii var. glabrescens Fremont's beardtongue



- <u>Federal status</u>: none
- Heritage ranks: G3G4T2/S2
- Global distribution: Colorado endemic (Rio Blanco County)
- Last observed in Colorado: 2010
- Colorado occurrences: 15 (6 are historical)
- Colorado individuals: unknown
- Primary threats: oil and gas development
- Land ownership/management: BLM, state

Penstemon fremontii var. glabrescens



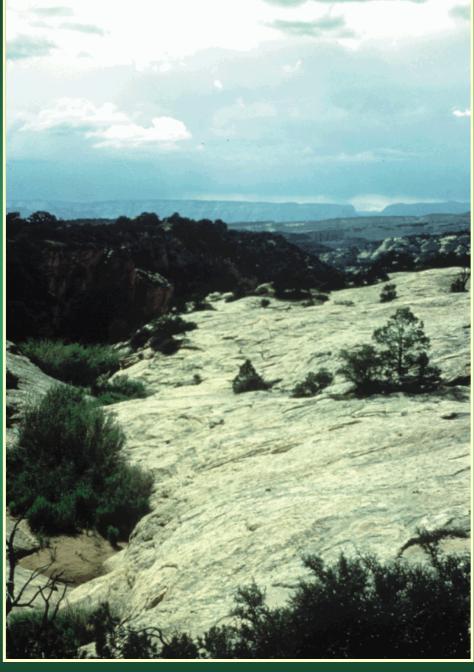


Penstemon scariosus var. cyanomontanus Blue Mountain beardtongue



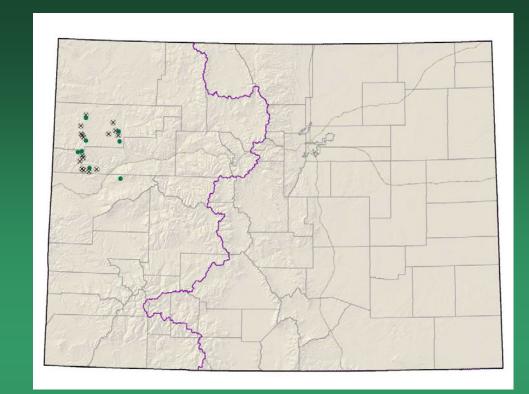
- Federal status: none
- Heritage ranks: G4T2/S2
- Global distribution: Utah and Colorado (Moffat County)
- Last observed in Colorado: 2011
- Colorado occurrences: 6 (2 are historical)
- Colorado individuals: >19,000
- Primary threats: incompatible grazing
- Land ownership/management: NPS, BLM





Penstemon scariosus var. cyanomontanus

Physaria parvitlora= Lesquerella parviflora Piceance bladderpod



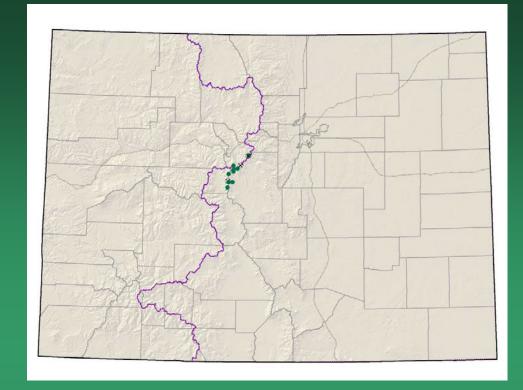
- Federal status: BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: Colorado endemic (Rio Blanco, Garfield, and Mesa counties)
- Last observed in Colorado: 2010
- Colorado occurrences: 24 (16 are historical)
- Colorado individuals: >230,000
- Primary threats: Oil shale mining and oil and gas development
- Land ownership/management: BLM, private, state, USFS



Physaria parviflora



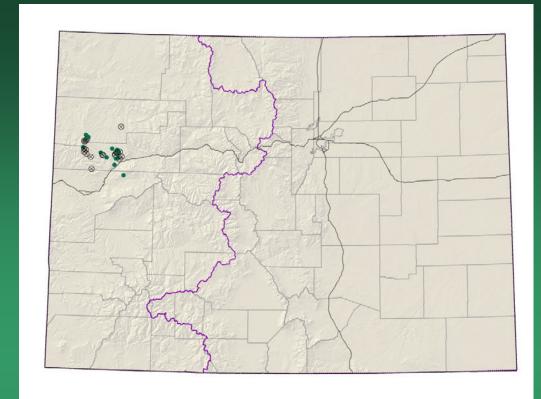
Saussurea weberi Weber's saw-wort



- Federal status: none
- Heritage ranks: G2G3/S2
- Global distribution: Regional endemic of southwest Montana, northwest Wyoming, and central Colorado (Custer, Fremont, Park and Summit counties)
- Last observed in Colorado: 2009
- Colorado occurrences: 13 (3 are historical)
- Colorado individuals: >6300
- Primary threats: may be threatened by mining and alpine grazing
- Land ownership/management: USFS, private



Thalictrum heliophilum Sun-loving meadowrue



- <u>Federal status</u>: BLM & UFSF sensitive
- Heritage ranks: G2/S2
- Global distribution: Colorado endemic (Garfield, Mesa, and Rio Blanco counties)
- Last observed in Colorado: 2011
- Colorado occurrences: 33 (21 are historical)
- Colorado individuals: <200,000
- Primary threats: Oil and gas development, grazing, weeds
- Land ownership/management: BLM, USFS, private

Thalictrum heliophilum



Thelypodium paniculatum Northwest thelypody



- <u>Federal status</u>: none
- Heritage ranks: G2/SH
- Global distribution: Idaho, Montana, Wyoming, and Colorado (Jackson County)
- <u>Last observed in Colorado</u>: 1903
- Colorado occurrences: 1 historical
- Colorado individuals: unknown
- Primary threats: altered hydrology?
- Land ownership/management: USFS

Thelypodium paniculatum



Thanks to all who have contributed pictures to the presentations

Dave Anderson Barry Johnston James Reveal

John Anderson W. Kelley Renée Rondeau

Janet Coles Kevin Kovacs John Sanderson

Carolyn Crawford Andy Kratz Rich Scully

Carol Dawson Alicia Langton Bobbi Siems

Robert Dorn Paula Lehr Bob Sivinski

Georgia Doyle Peggy Lyon Scot Smith

Dean Earhard Betsy Neely Joe Stevens

Gina Glenne Stephanie Neid J. Stewart

Jill Handwerk Steve O'Kane T. Todsen

Ron Hartman Steve Olson Phil Tonne

Ken Heil Susan Panjabi April Wasson

Bill Hevron J.S. Peterson Lorraine Yeatts

Janis Huggins R. Price

Bill Jennings David C. Reed

Colorado Natural Heritage Program The Nature Conservancy

And others – let us know if you recognize a photo

Colorado Natural Heritage Program: www.cnhp.colostate.edu cnhpblog.blogspot.com

Jill.Handwerk@colostate.edu

Bernadette.kuhn@colostate.edu