

The Colorado Rare Plant Technical
Committee presents:
3rd Annual
Rare Plant Symposium

Sponsored by:

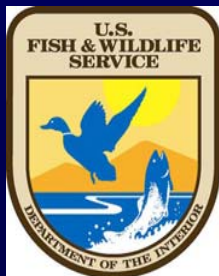


Colorado Native Plant Society



University of Colorado Herbarium

US Fish and Wildlife Service

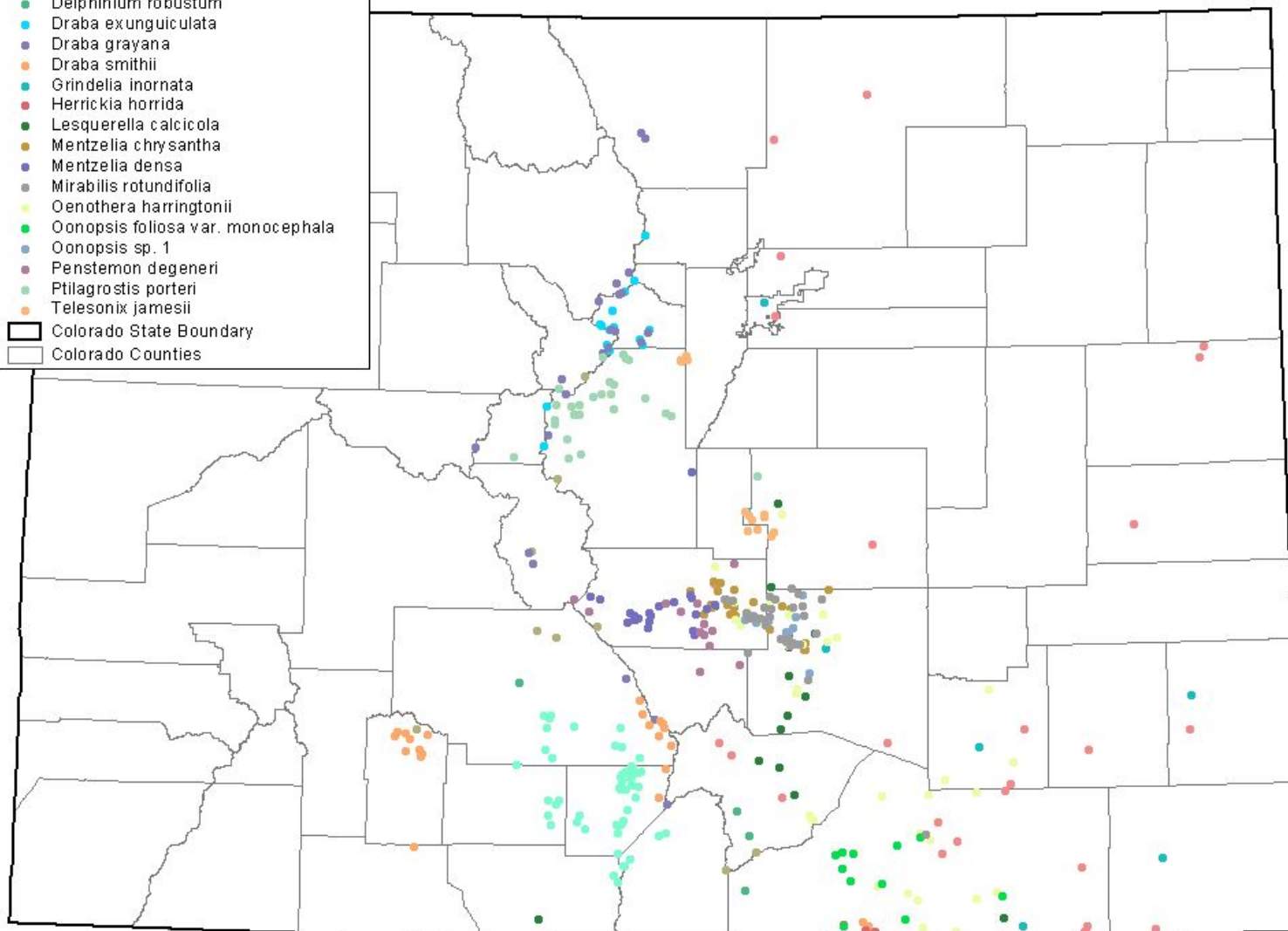


Colorado Natural Heritage Program



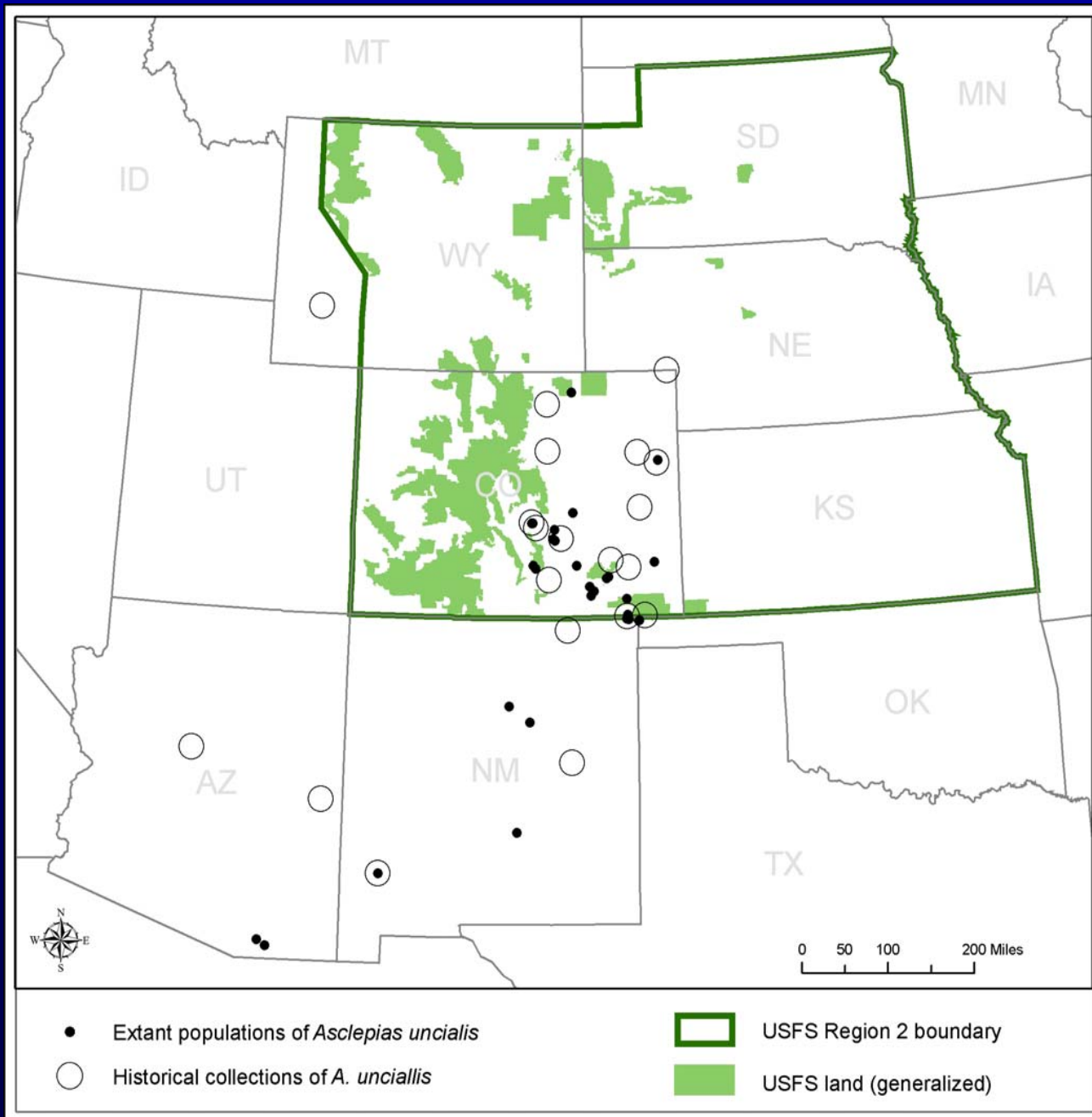
Legend

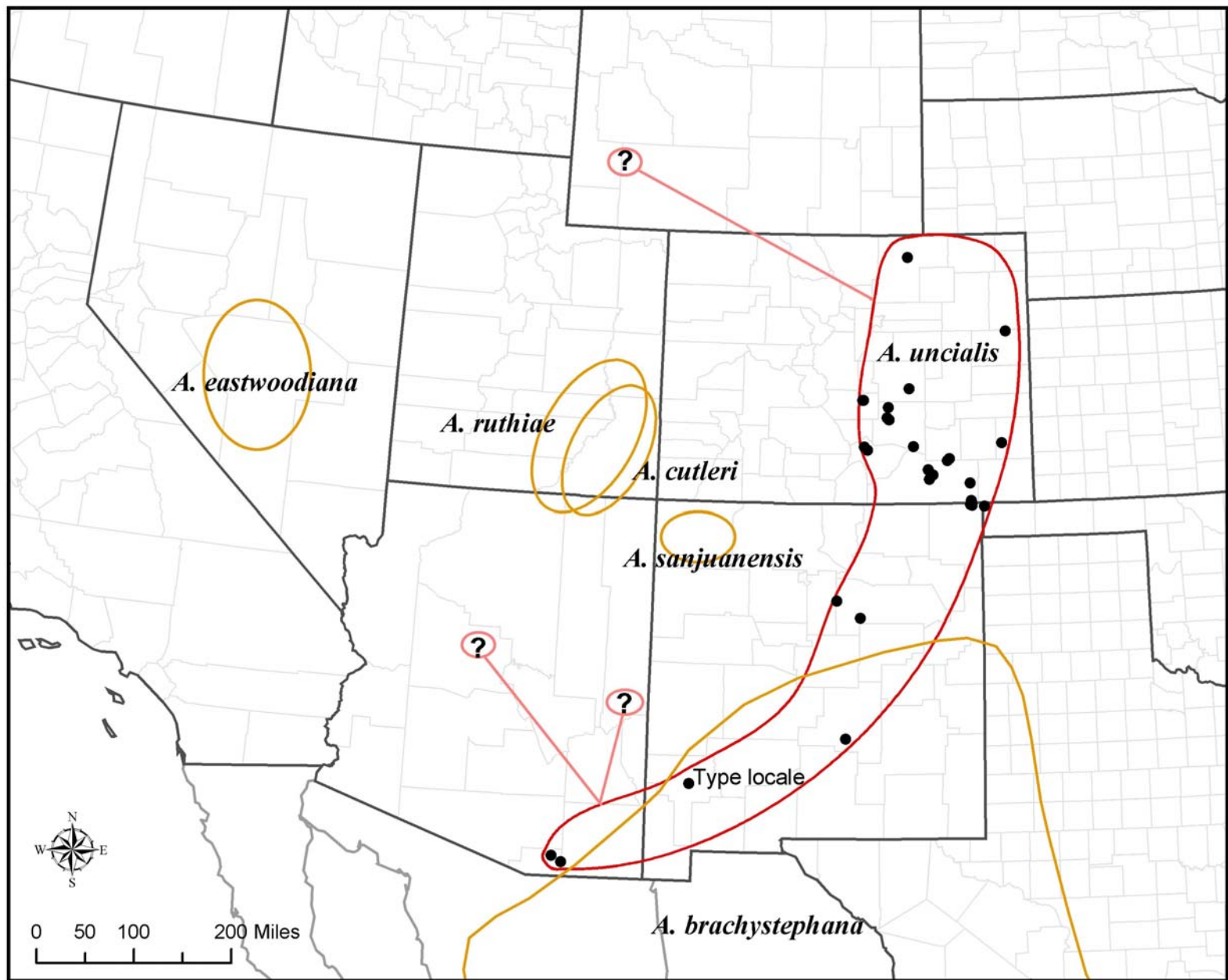
- *Asclepias uncialis* ssp. *uncialis*
- *Cleome multicaulis*
- *Delphinium alpestre*
- *Delphinium robustum*
- *Draba exungiculata*
- *Draba grayana*
- *Draba smithii*
- *Grindelia inornata*
- *Herrickia horrida*
- *Lesquerella calcicola*
- *Mentzelia chrysantha*
- *Mentzelia densa*
- *Mirabilis rotundifolia*
- *Oenothera harringtonii*
- *Oenopsis foliosa* var. *monocephala*
- *Oenopsis* sp. 1
- *Penstemon degeneri*
- *Ptilagrostis porteri*
- *Telesonix jamesii*
- Colorado State Boundary
- Colorado Counties



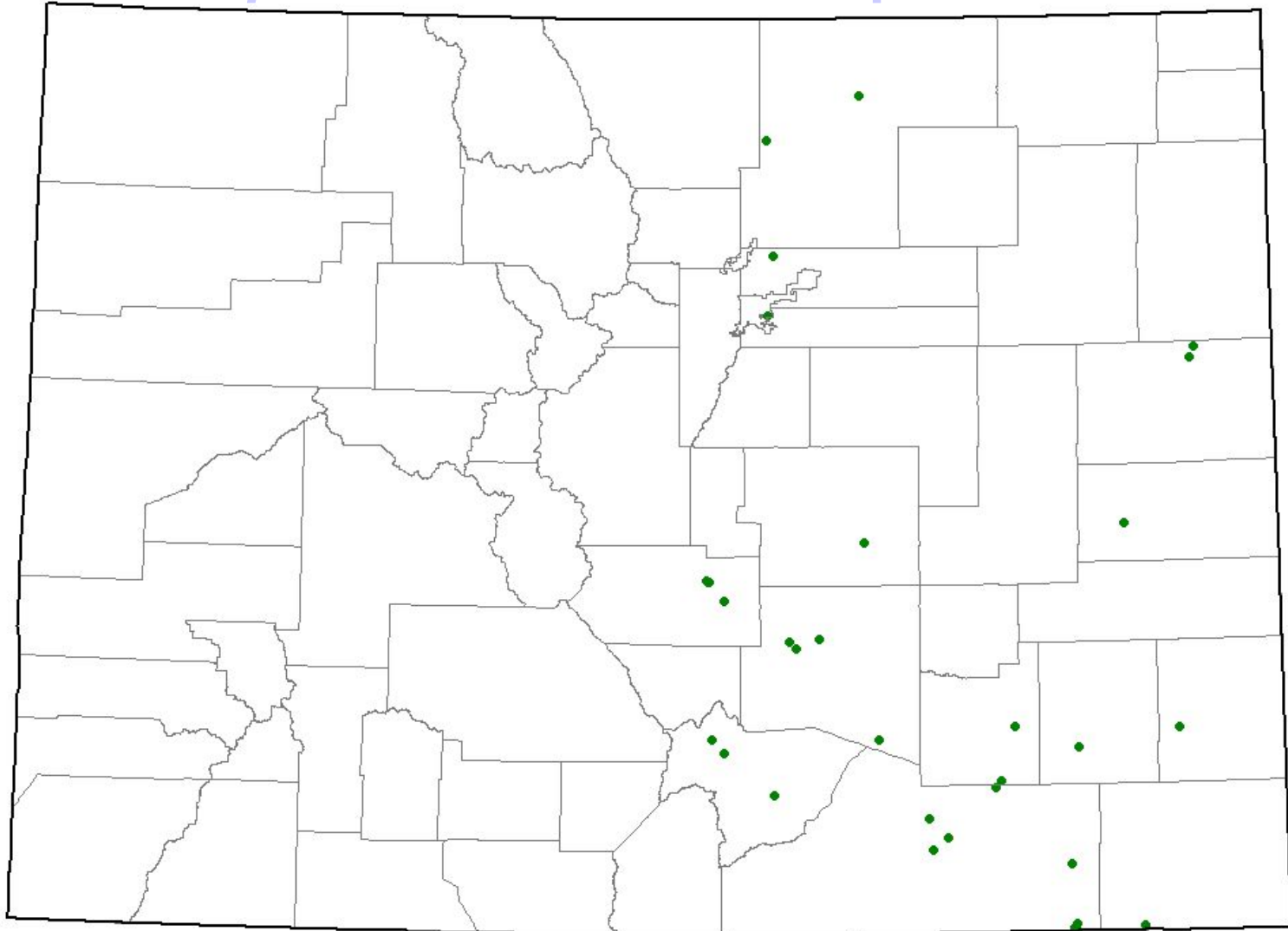
Asclepias uncialis ssp. *uncialis*
Dwarf milkweed

- Federal status: BLM/USFS sensitive
- Heritage ranks: G3G4T2T3/S2
- Global distribution: Arizona, Texas, New Mexico, Wyoming, Oklahoma and Eastern Colorado (Las Animas, Weld, Kit Carson, Huerfano, Pueblo, Otero, Prowers, Fremont, and El Paso counties)





Asclepias uncialis ssp. *uncialis*

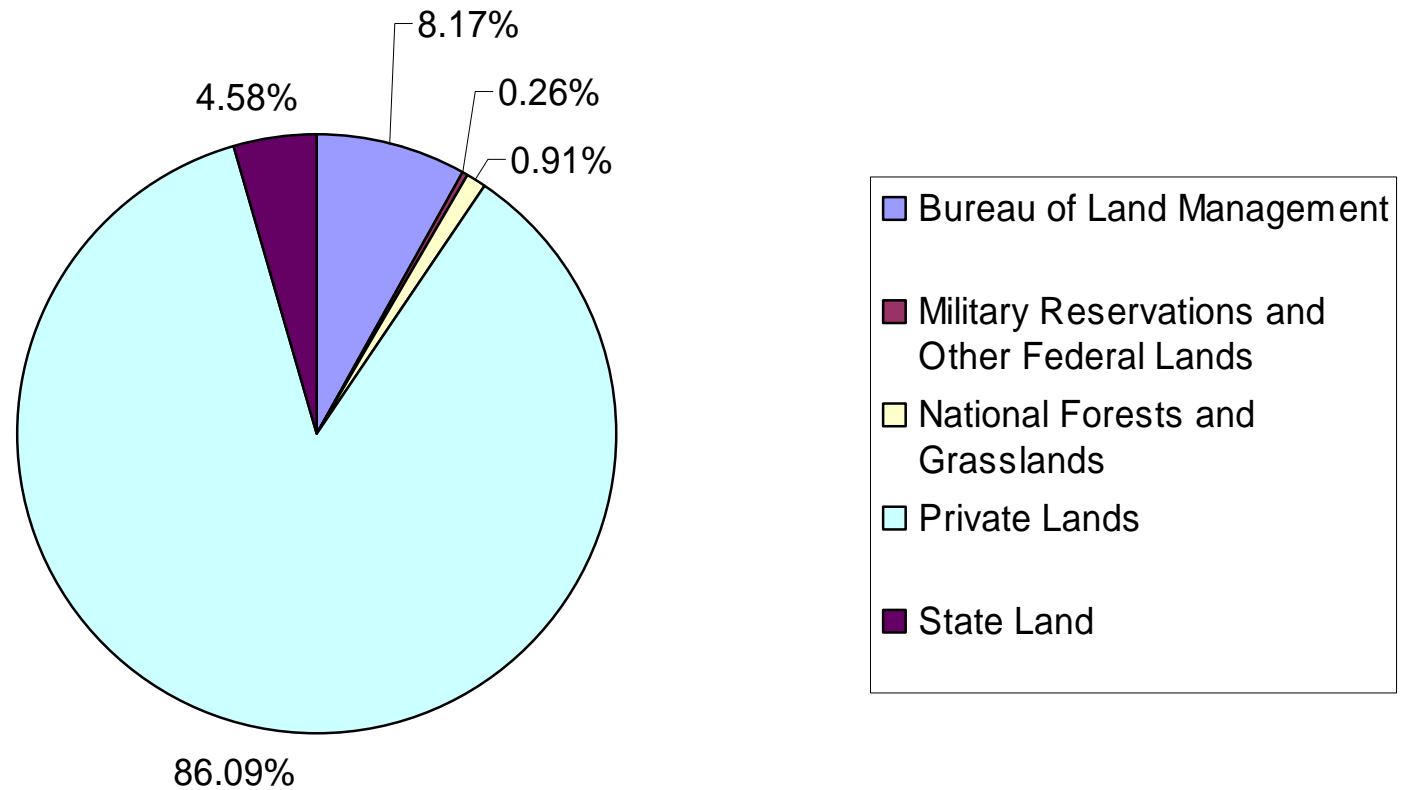


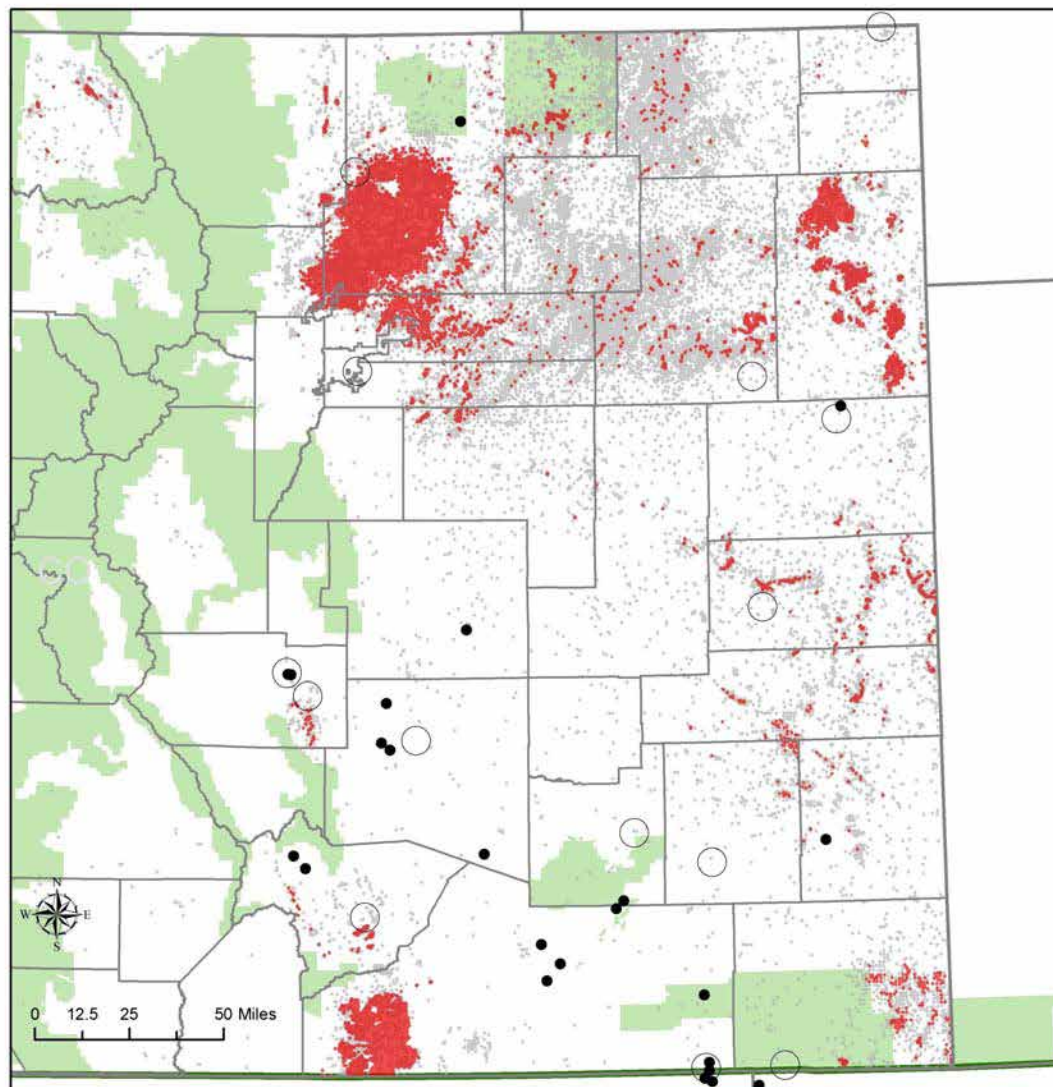
Asclepias uncialis ssp. *uncialis*

Dwarf milkweed

- Last observed in Colorado: 5/11/2004
- Colorado occurrences: 20, 13 historical
- 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





- Extant populations of *Asclepias uncialis*
- Historical collections of *A. uncialis*
- Active oil/gas wells
- Inactive oil/gas wells
- USFS Region 2 boundary
- USFS land (generalized)
- State boundary
- County boundary













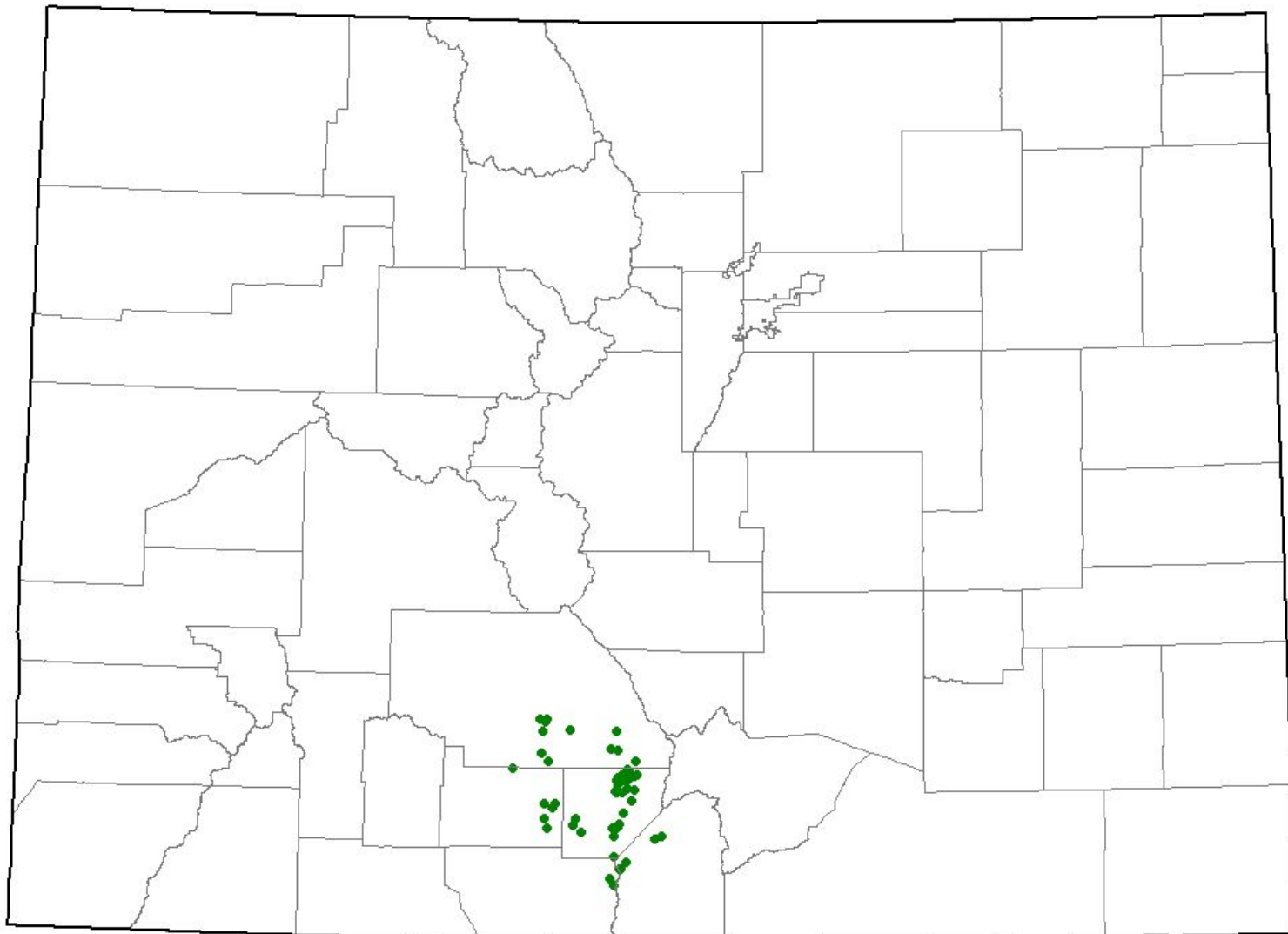




Cleome multicaulis
Slender spiderflower

- 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)

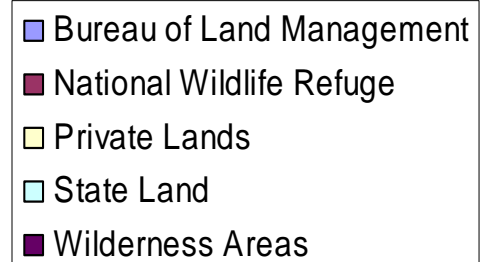
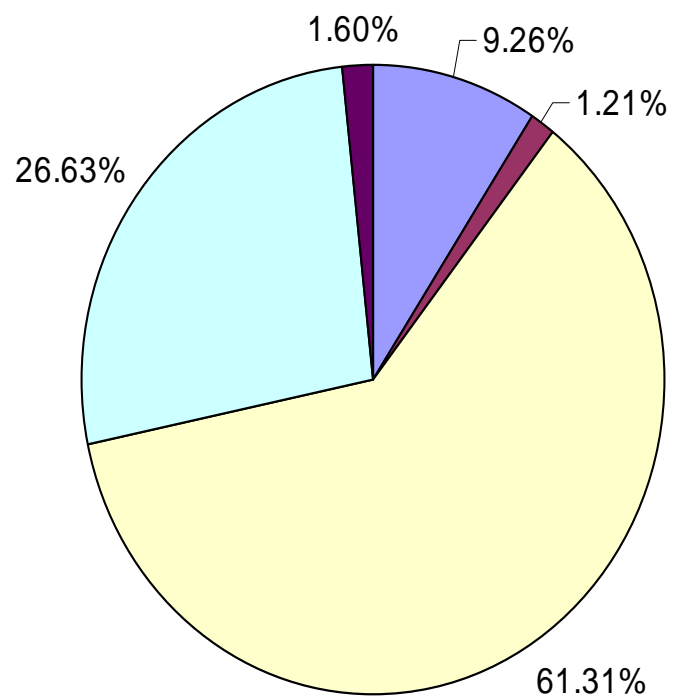
Cleome multicaulis



Cleome multicaulis
Slender spiderflower

- Last observed in Colorado: 9/14/2005
- Colorado occurrences: 35
- Colorado individuals: ~5,132,000
- Primary threats: draining of wetlands
- Land ownership/management: BLM, National Wildlife Refuge, Private, State, and Wilderness

Cleome multicaulis









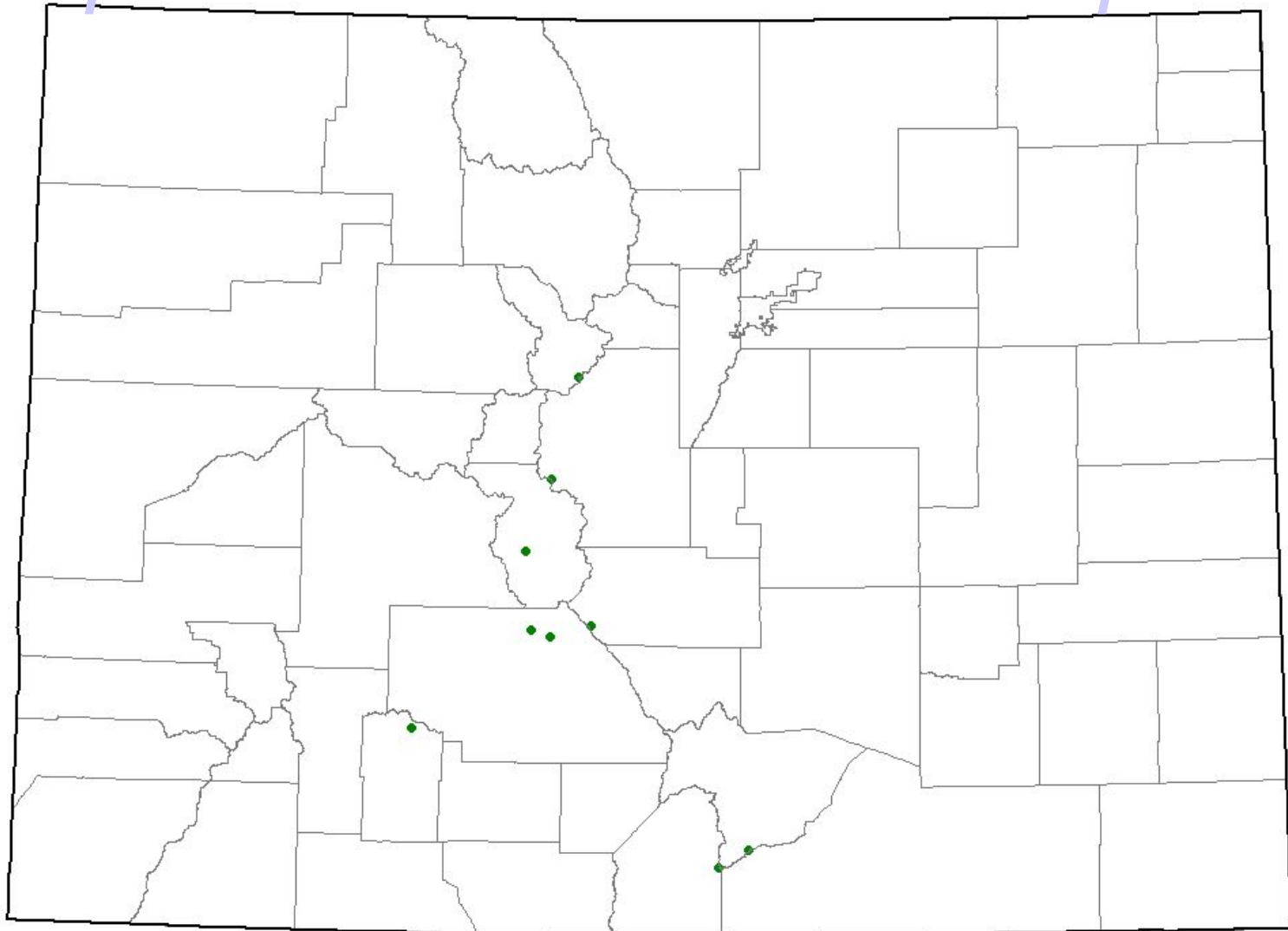


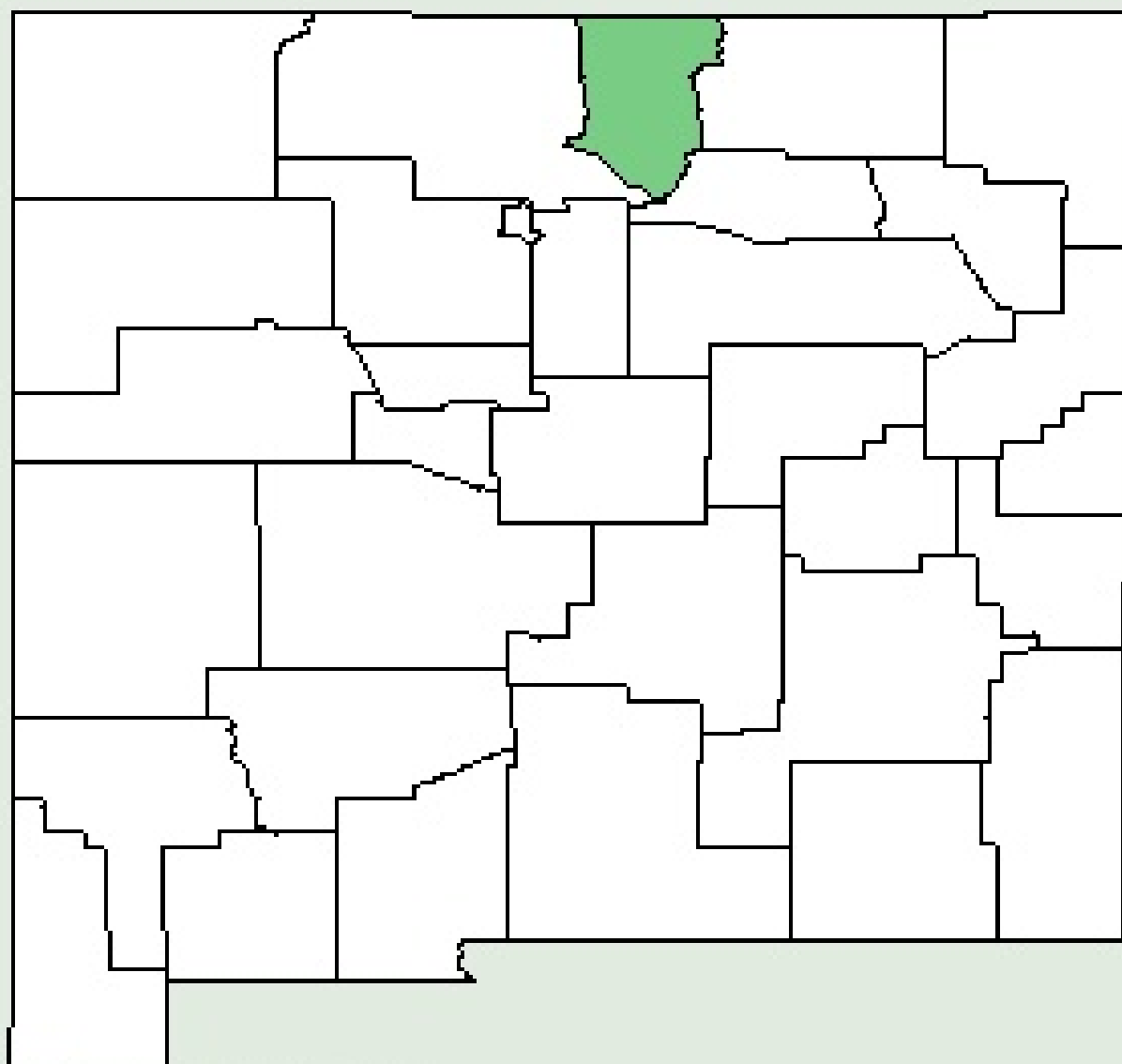


Delphinium ramosum var. *alpestre*
= *Delphinium alpestre*
Colorado larkspur

- Federal status: none
- Heritage ranks: G2/S2
- Global distribution: New Mexico and Colorado (Costilla, Chaffee, Fremont, Huerfano, Las Animas, Mineral, Park, Saguache, and Summit counties)

Delphinium ramosum var. *alpestre*





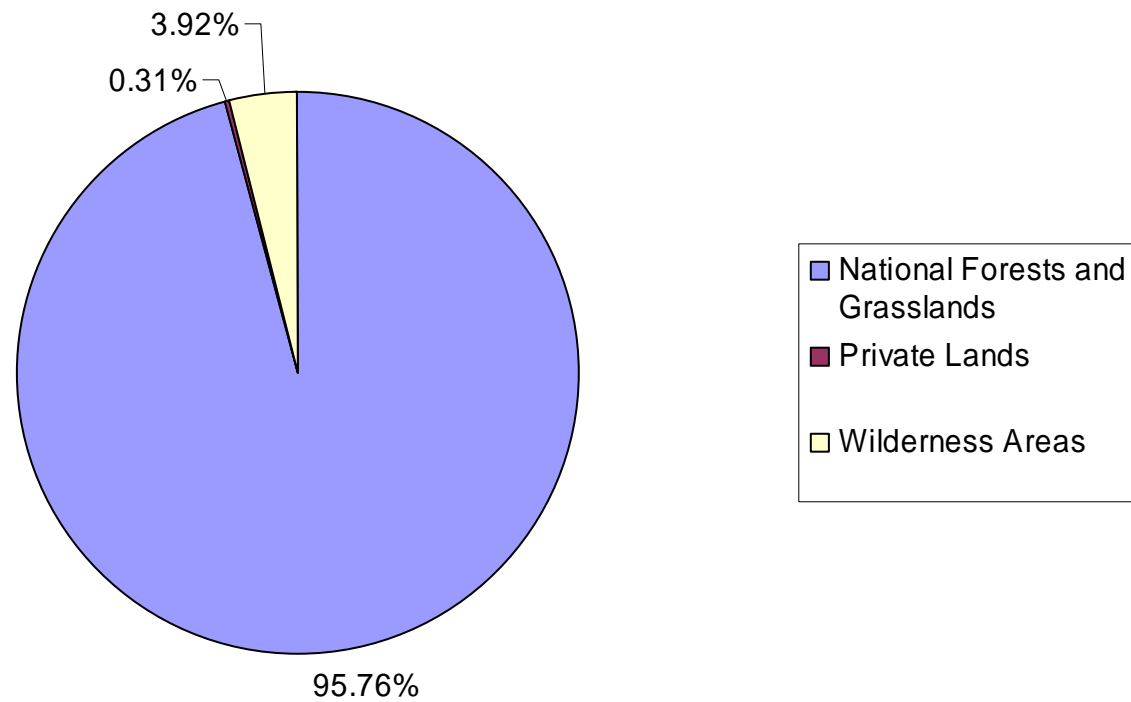
PLANTS
Database

DEAL

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

- Last observed in Colorado: 8/3/2005
- Colorado occurrences: 10
- Colorado individuals: ~75
- Primary threats: Trampling from recreational activities
- Land ownership/management: Forest Service, Private and Wilderness Areas

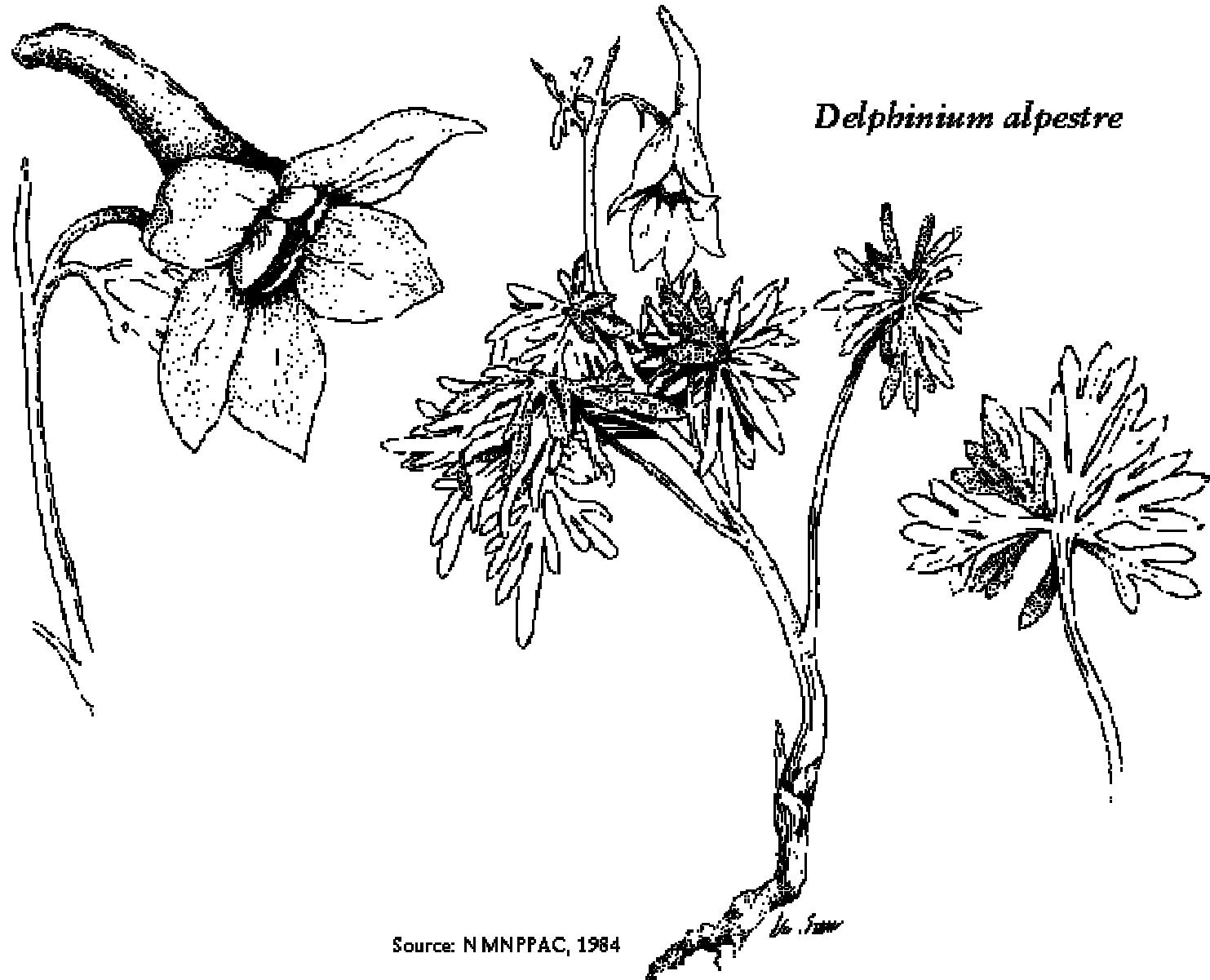
Delphinium alpestre





T. Todsén





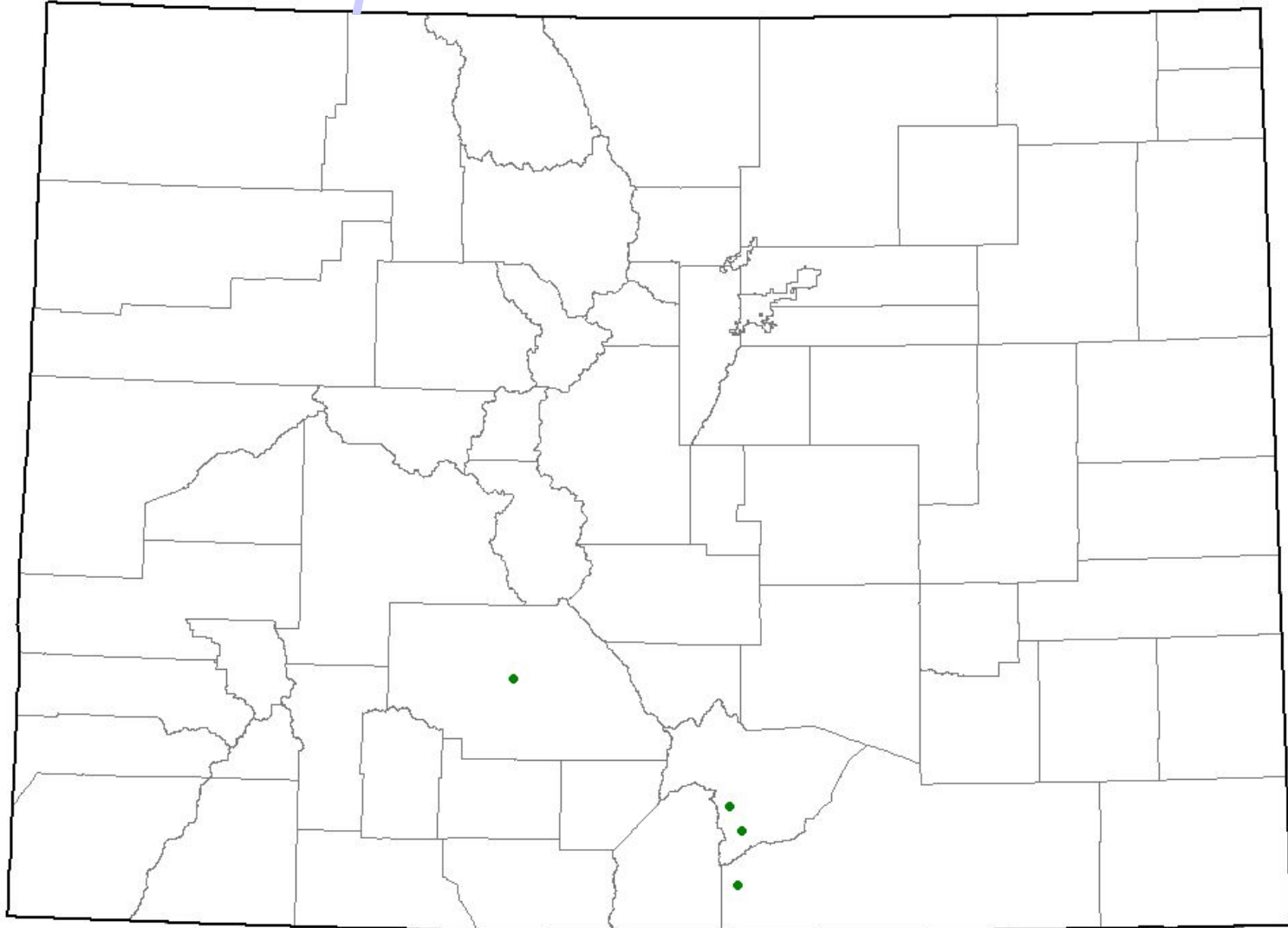
Delphinium alpestre

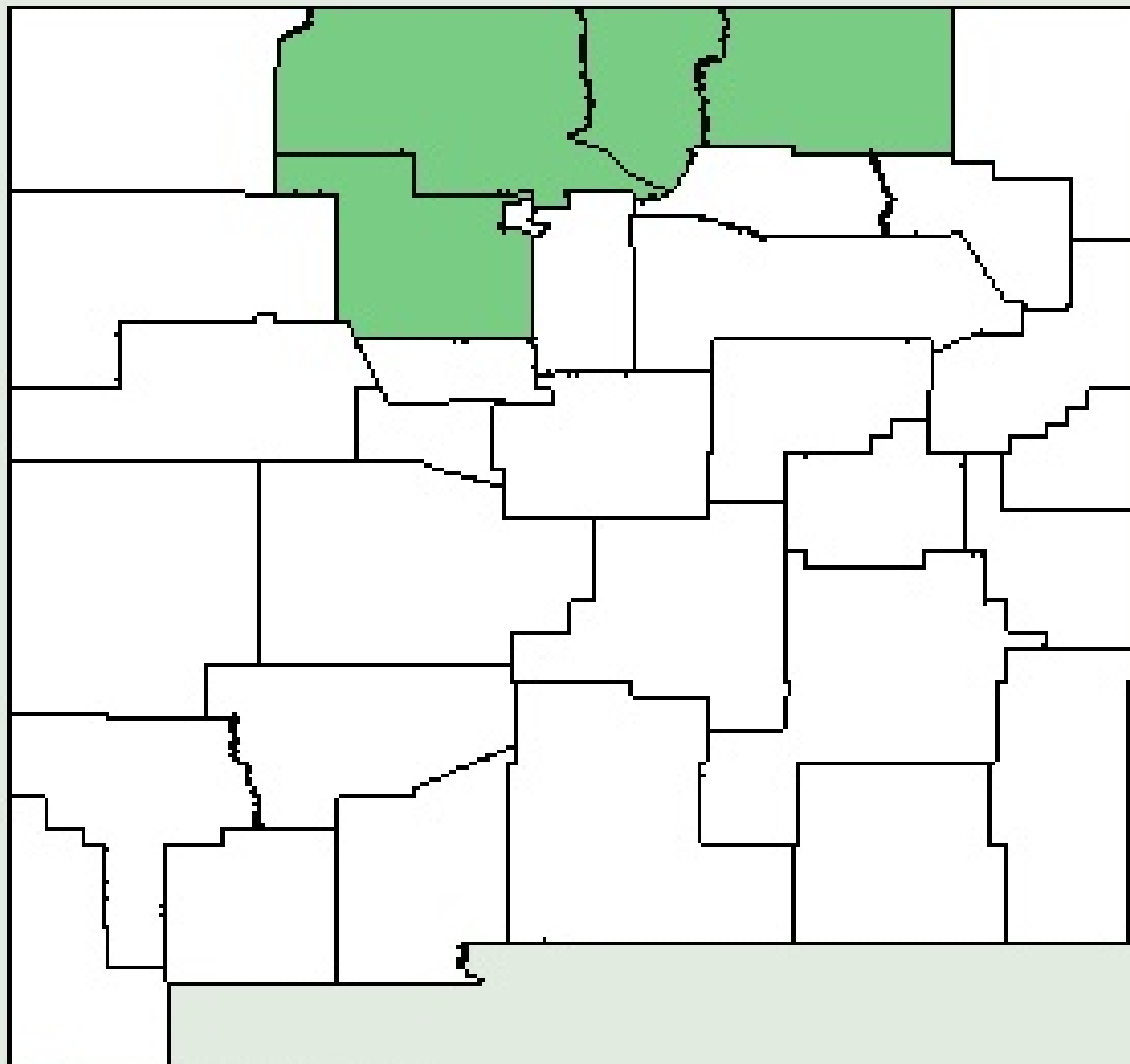
Source: NMNPPAC, 1984

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)

Delphinium robustum





PLANTS
Database

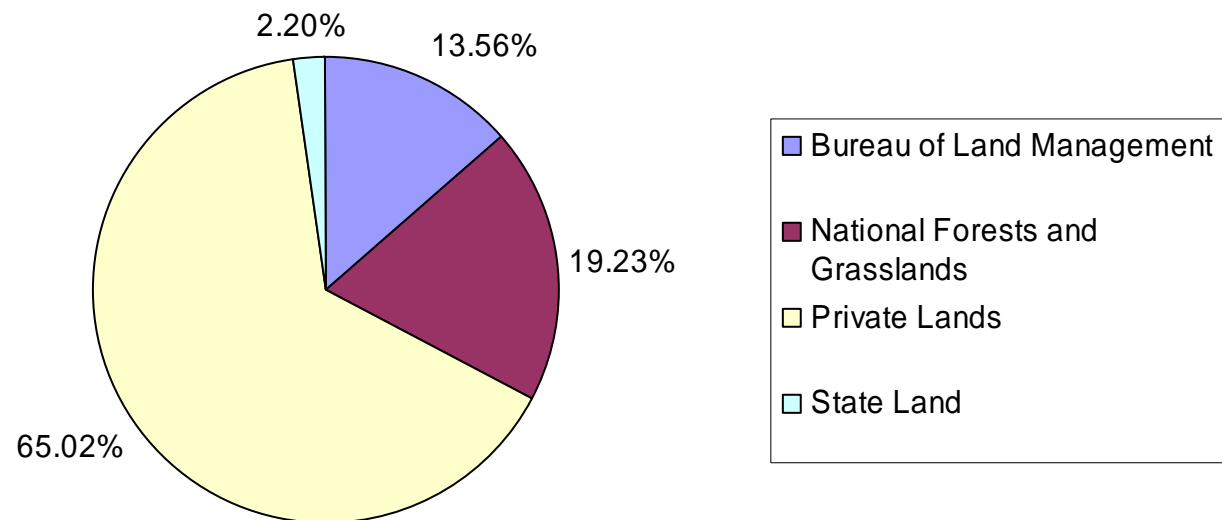
DERO

Delphinium robustum

Wahatoya Creek larkspur

- Last observed in Colorado: 1969
- Colorado occurrences: 4-9
- 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



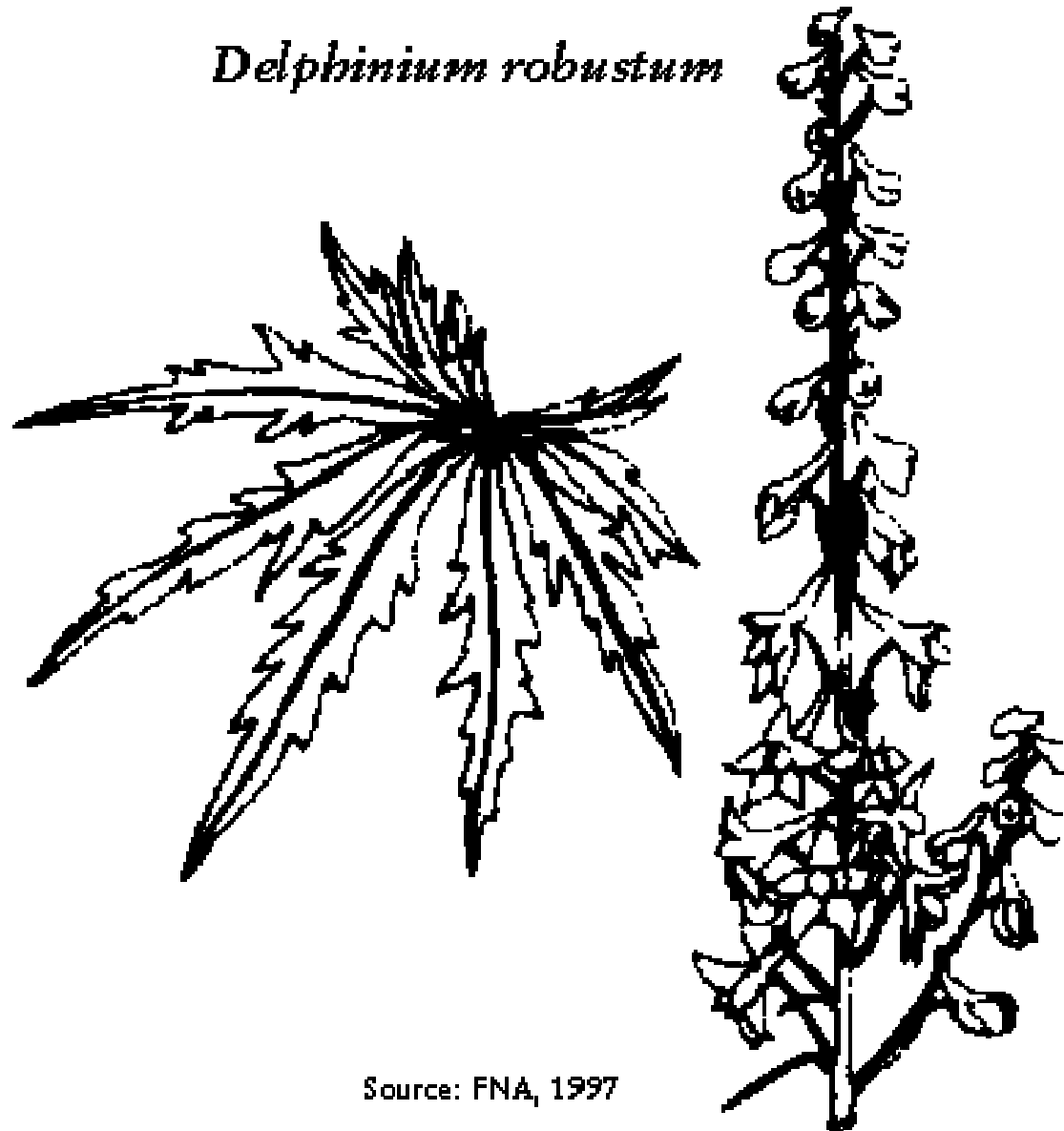


J. Stewart



J. Stewart

Delphinium robustum

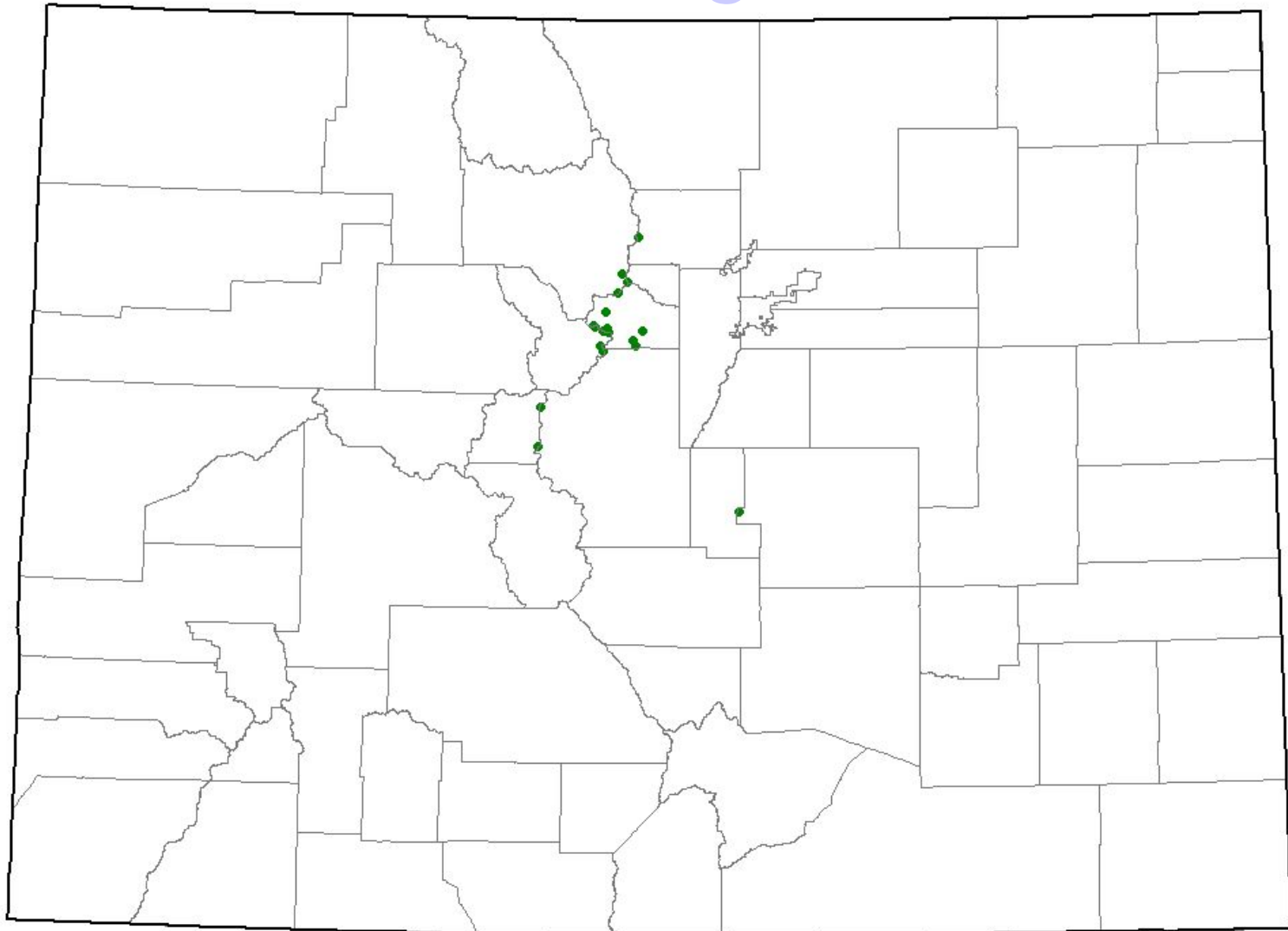


Source: FNA, 1997

Draba exunguiculata
Clawless draba

- Federal status: USFS sensitive
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Boulder, Clear Creek, El Paso, Gilpin, Grand, Lake, Park and Summit counties)

Draba exunguiculata

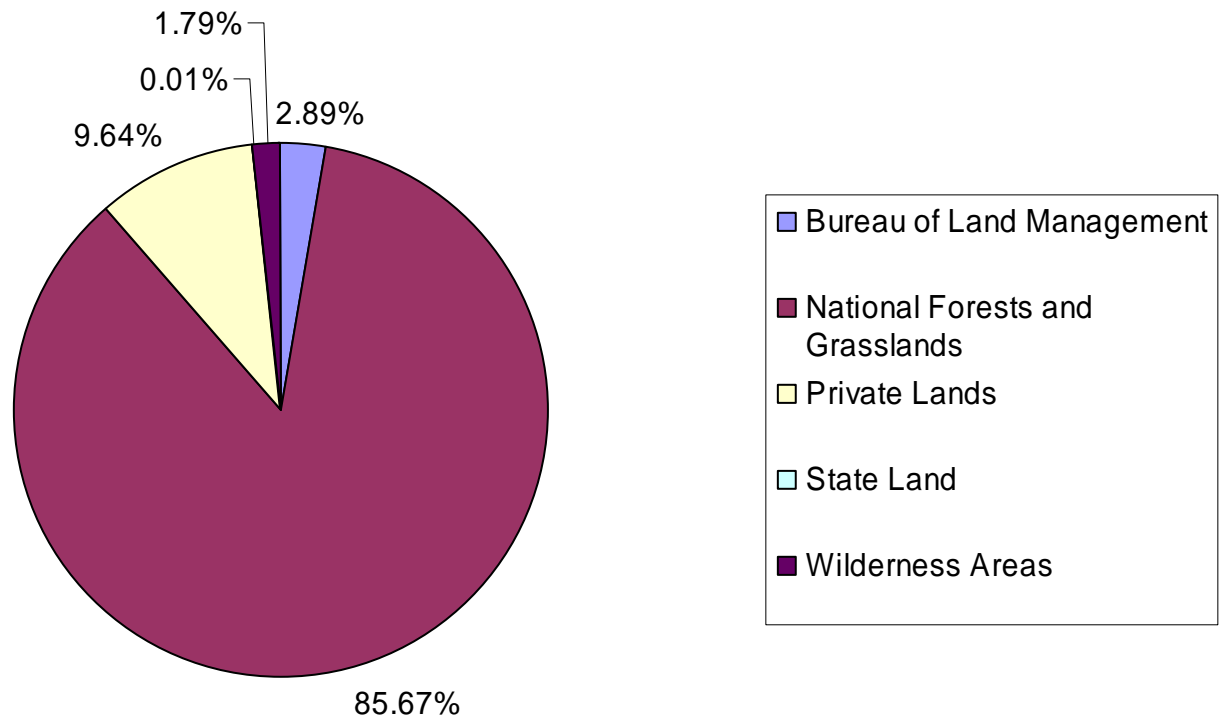


Draba exunguiculata

Clawless draba

- Last observed in Colorado: 7/28/2005
- Colorado occurrences: 19
- 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





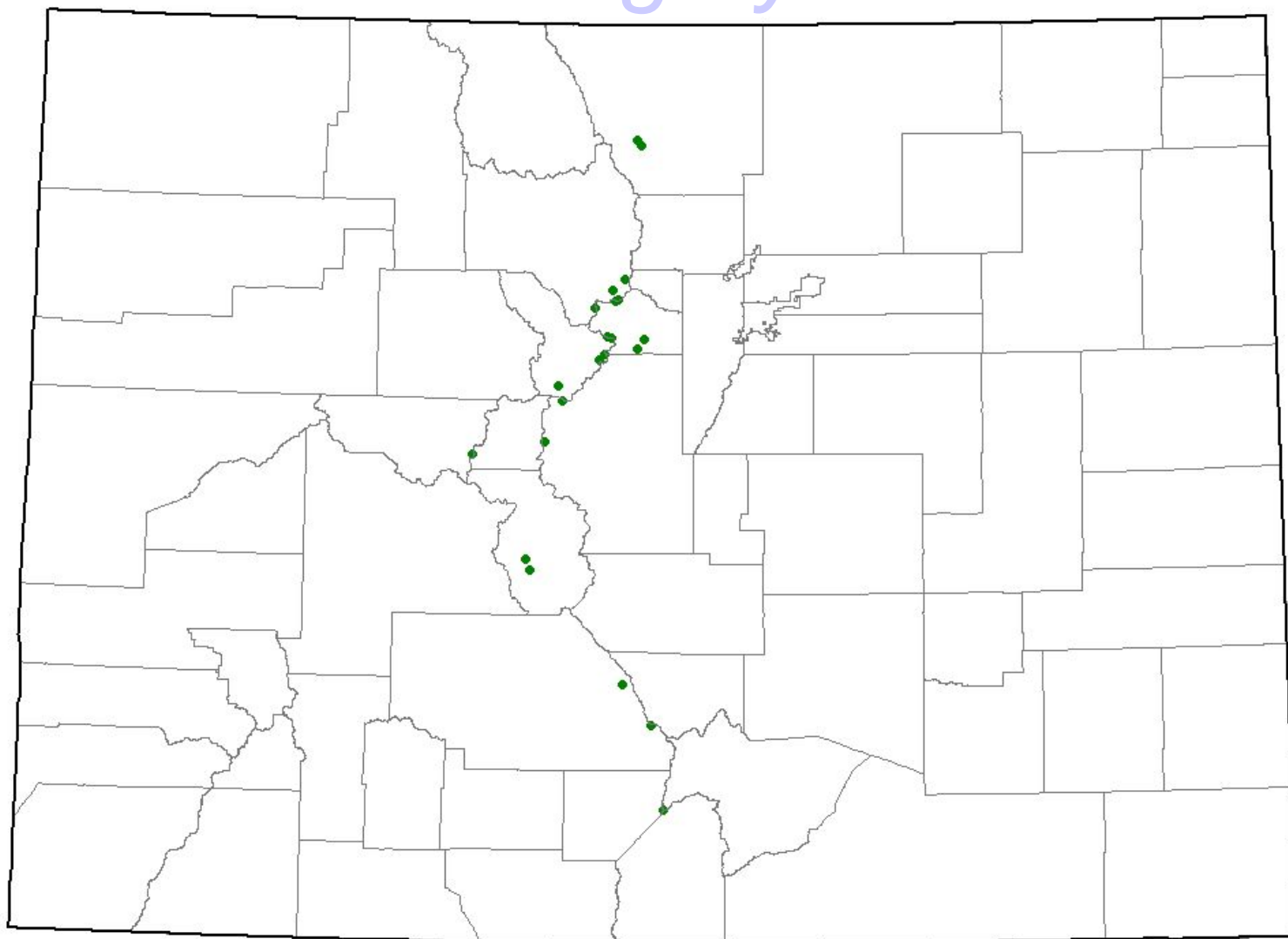




Draba grayana
Gray's Peak whitlow-grass

- 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)

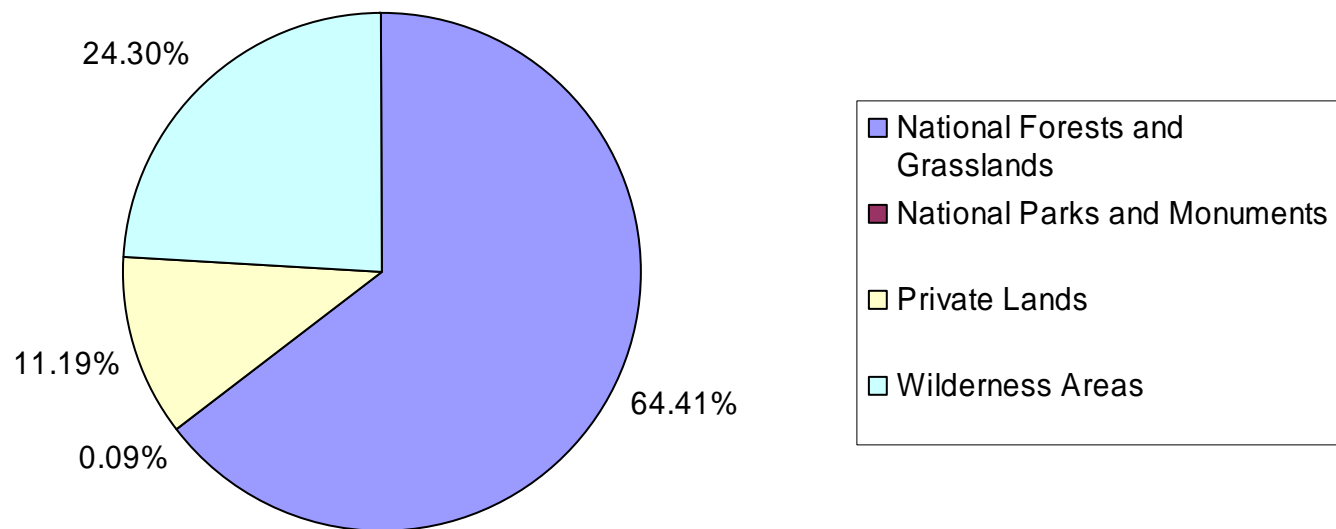
Draba grayana



Draba grayana
Gray's Peak whitlow-grass

- Last observed in Colorado: 7/28/2003
- Colorado occurrences: 34
- 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



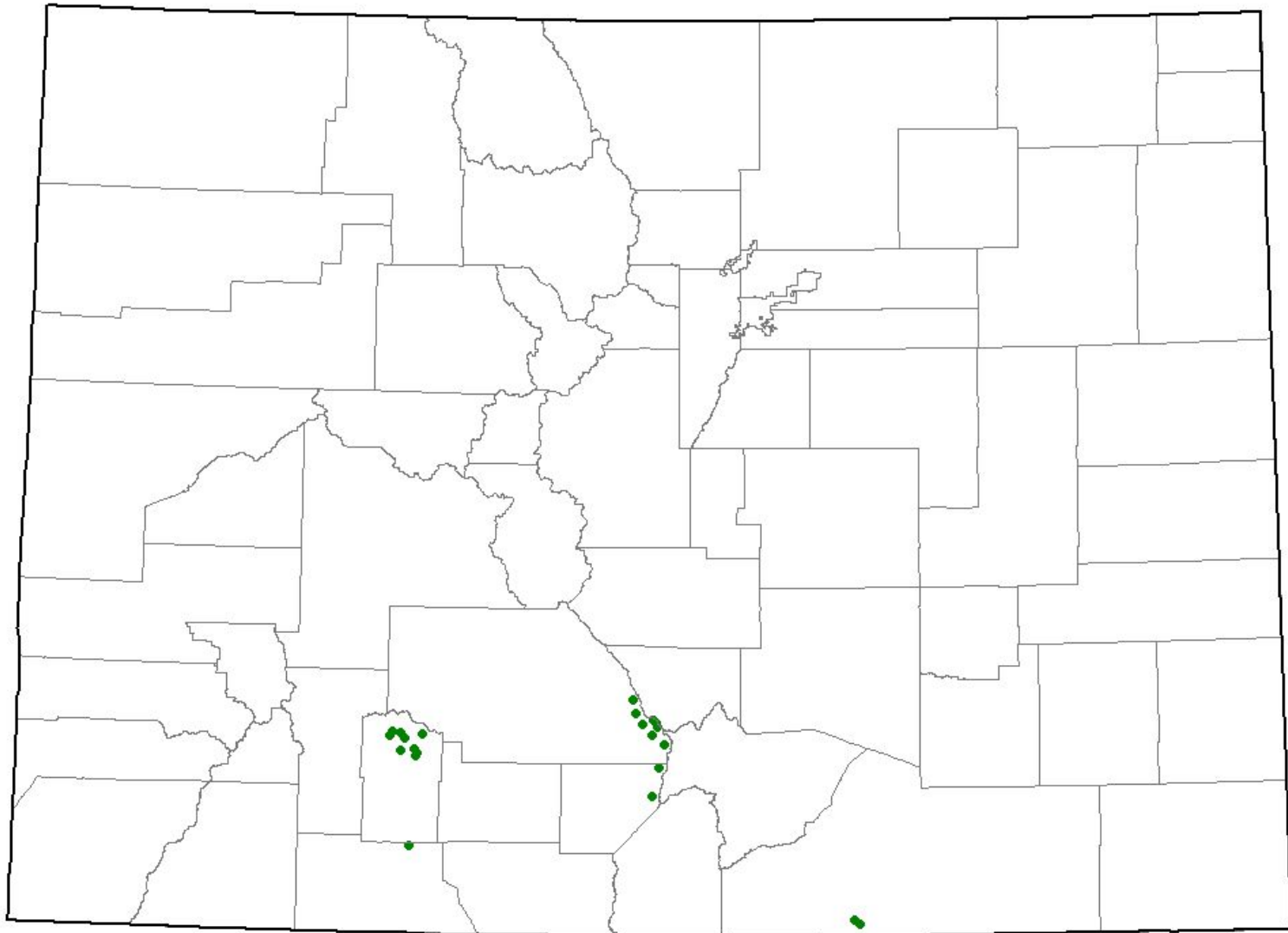




Draba smithii
Smith's whitlow-grass

- Federal status: USFS sensitive
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Alamosa, Archuleta, Custer, Las Animas, Mineral, and Saguache counties)

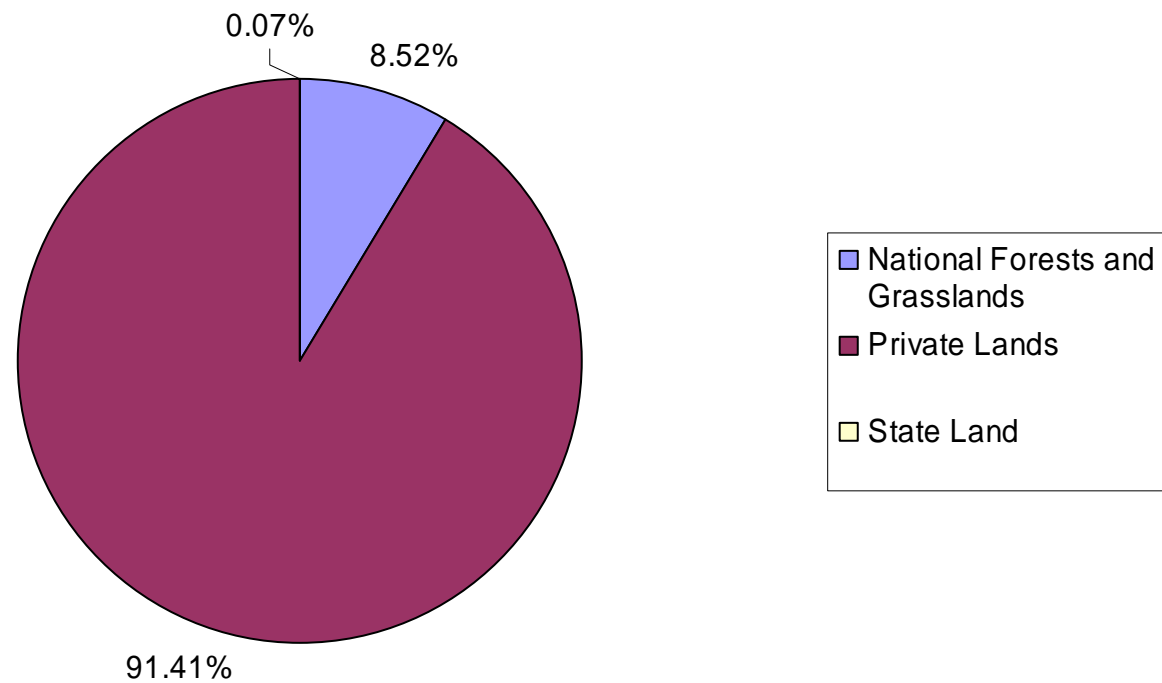
Draba smithii



Draba smithii
Smith's whitlow-grass

- Last observed in Colorado: 9/1/2005
- Colorado occurrences: 22
- Colorado individuals: ~3200
- Primary threats: Habitat modification from hiking and construction
- Land ownership/management: Forest Service, Private and State

Draba smithii











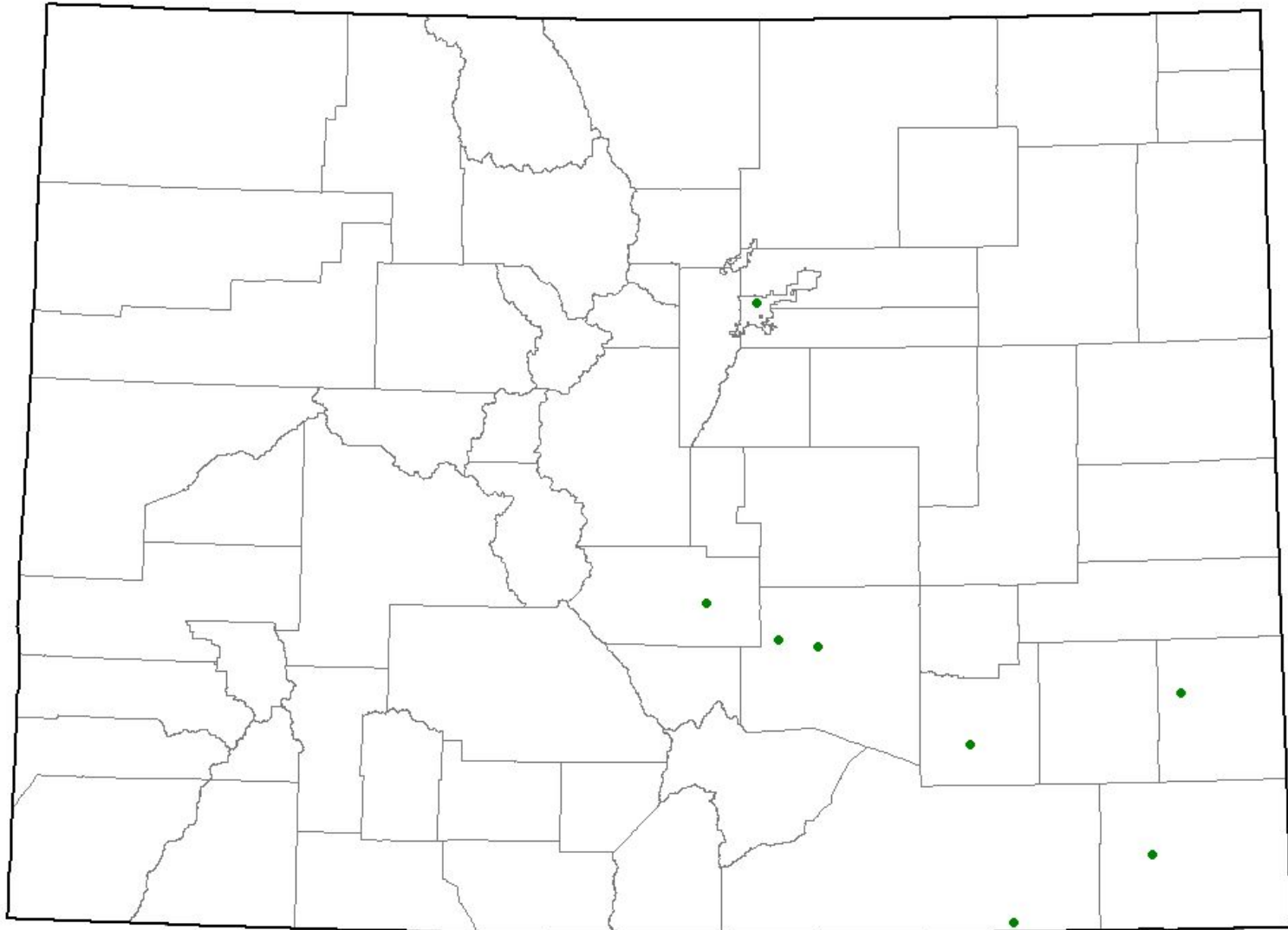




Grindelia inornata
Colorado gumweed

- Federal status: none
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Baca, Denver, Fremont, Las Animas, Otero, Prowers, and Pueblo counties)

Grindelia inornata

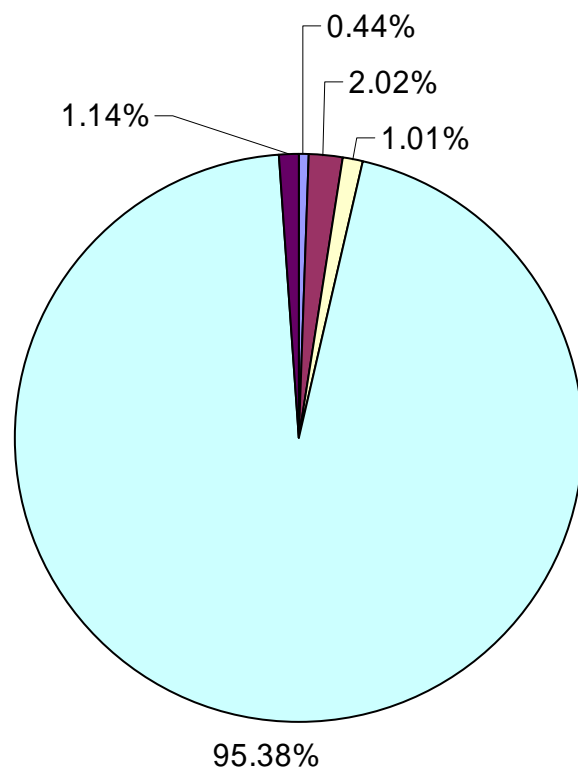


Grindelia inornata

Colorado gumweed

- Last observed in Colorado: 6/15/2003
- Colorado occurrences: 12
- Colorado individuals: unknown
- Primary threats: Residential and commercial development, and road maintenance activities
- Land ownership/management: BLM, Military, Forest Service, Private and State

Grindelia inornata



- Bureau of Land Management
- Military Reservations and Other Federal Lands
- National Forests and Grasslands
- Private Lands
- State Land

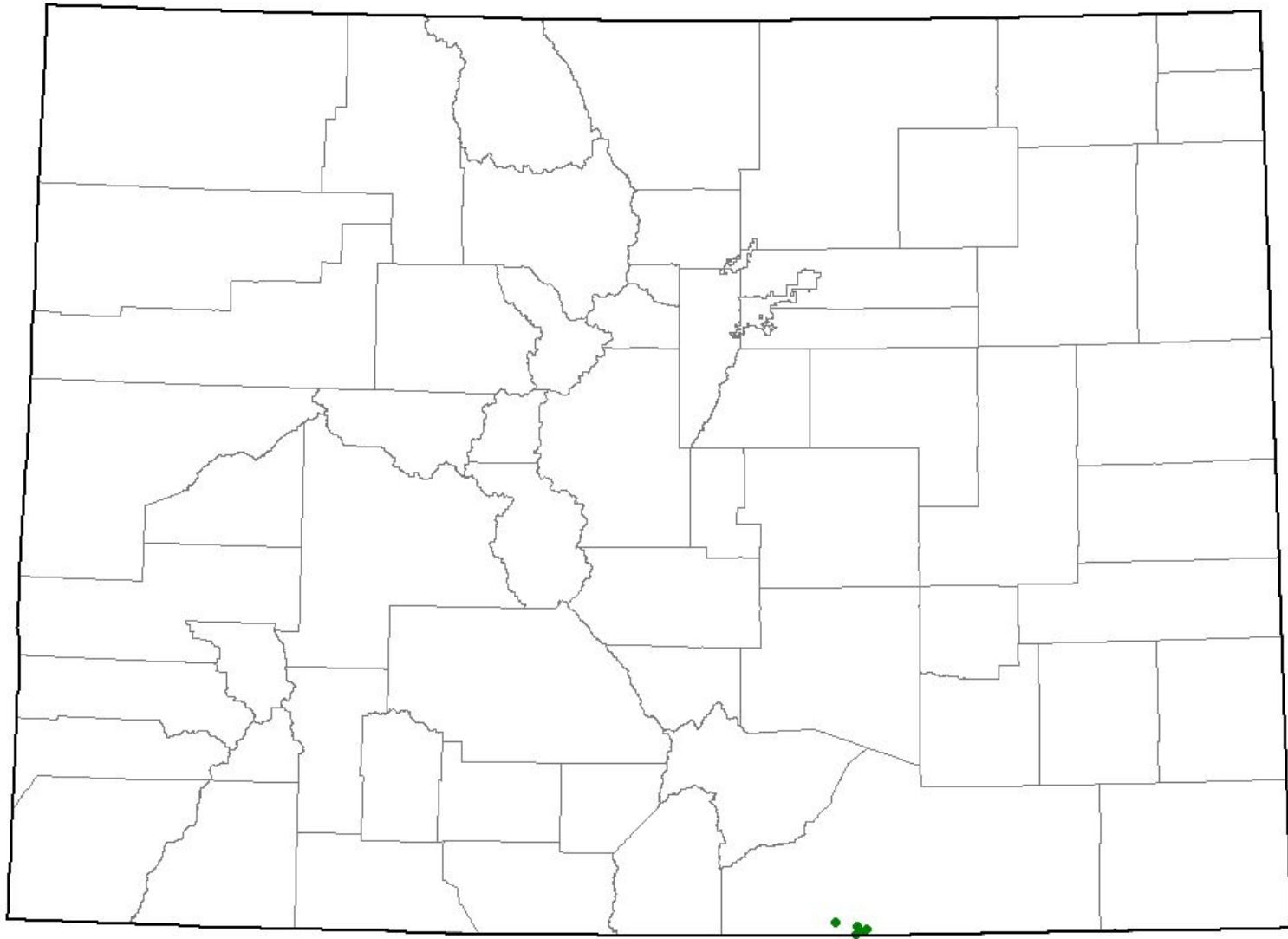


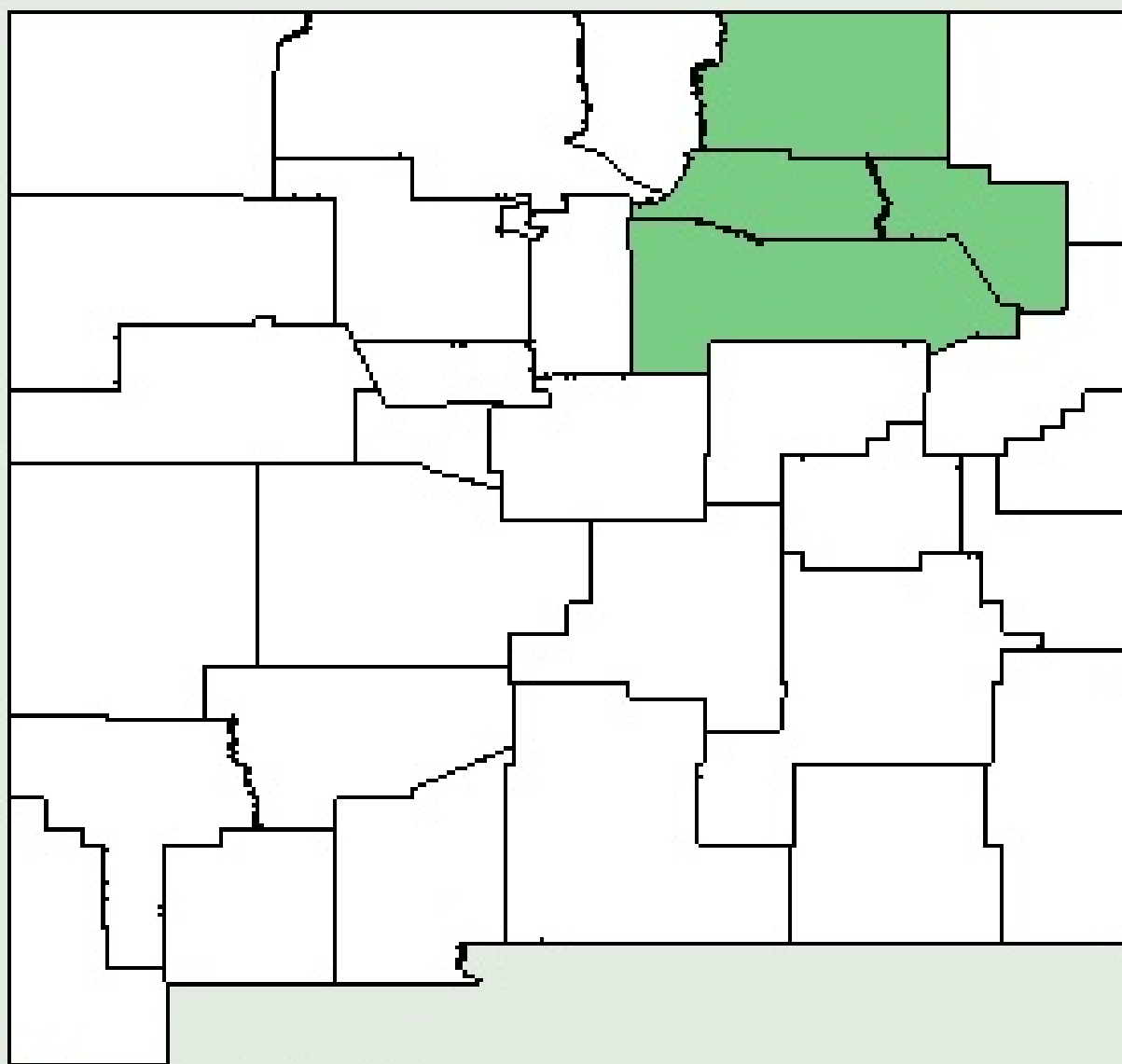
Herrickia horrida = *Eurybia horrida*

Canadian River spiny aster or
Horrid herrickia

- Federal status: none
- Heritage ranks: G2?/S1
- Global distribution: New Mexico and Colorado (Las Animas County)

Herrickia horrida



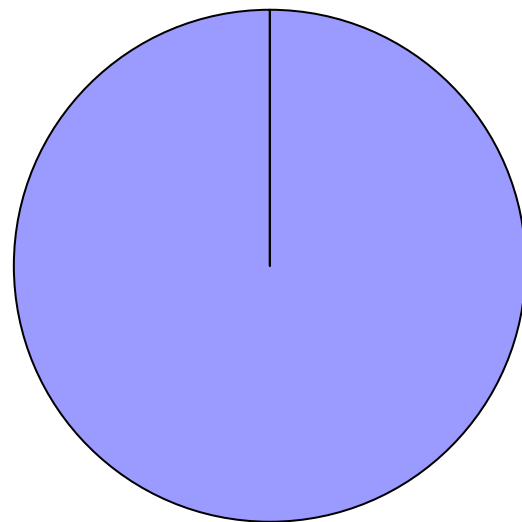


Herrickia horrida = *Eurybia horrida*

Canadian River spiny aster or
Horrid herrickia

- Last observed in Colorado: 7/29/1999
- Colorado occurrences: 4
- Colorado individuals: unknown
- Primary threats: unknown
- Land ownership/management: Private

Herrickia horrida



■ Private Lands

100.00%









D. Bleakly

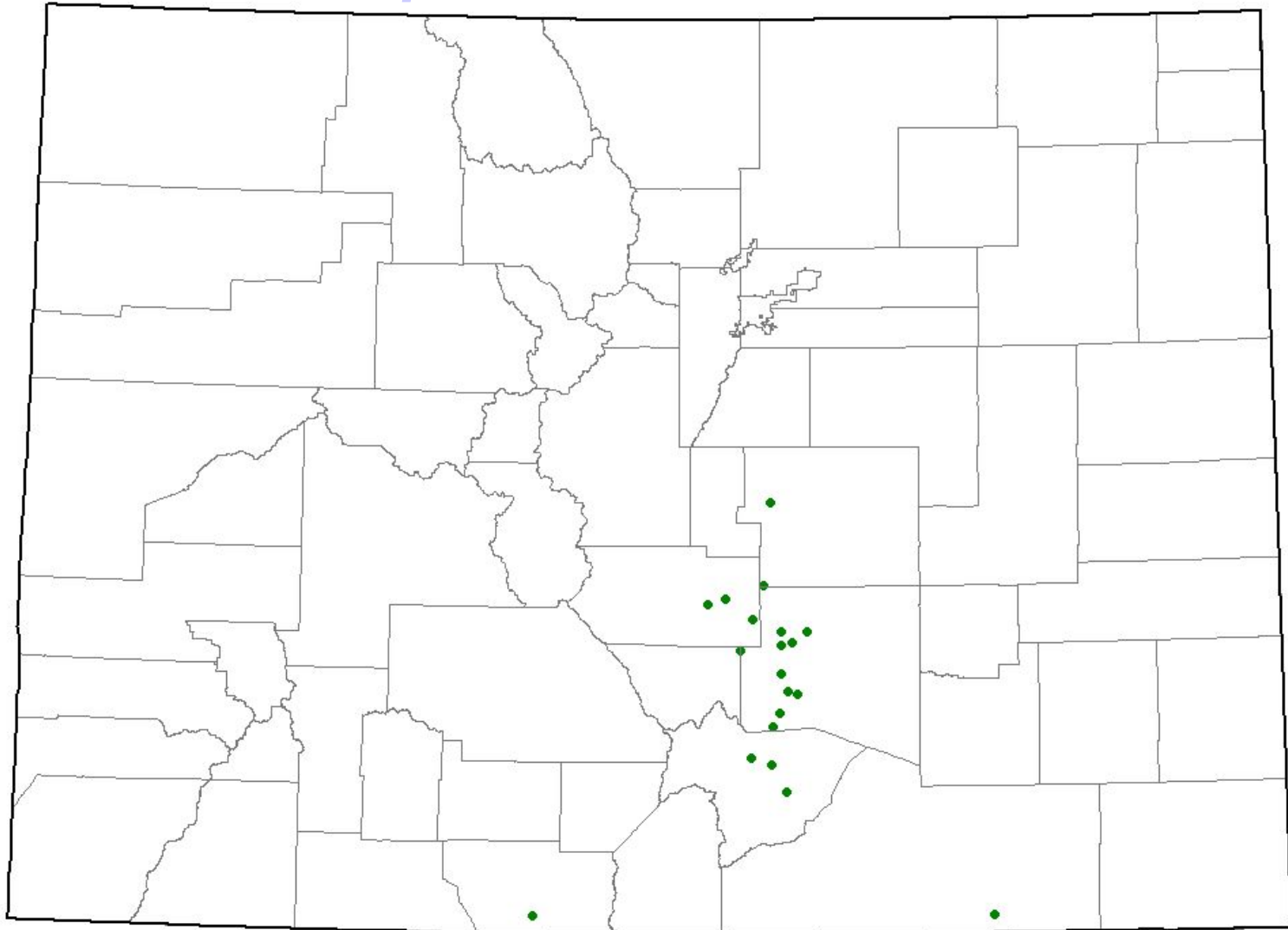


K. Heil

Lesquerella calcicola
Rocky Mountain bladderpod

- Federal status: none
- Heritage ranks: G2/S2
- Global distribution: New Mexico and Colorado (Conejos, El Paso, Fremont, Huerfano, Las Animas, and Pueblo counties)

Lesquerella calcicola

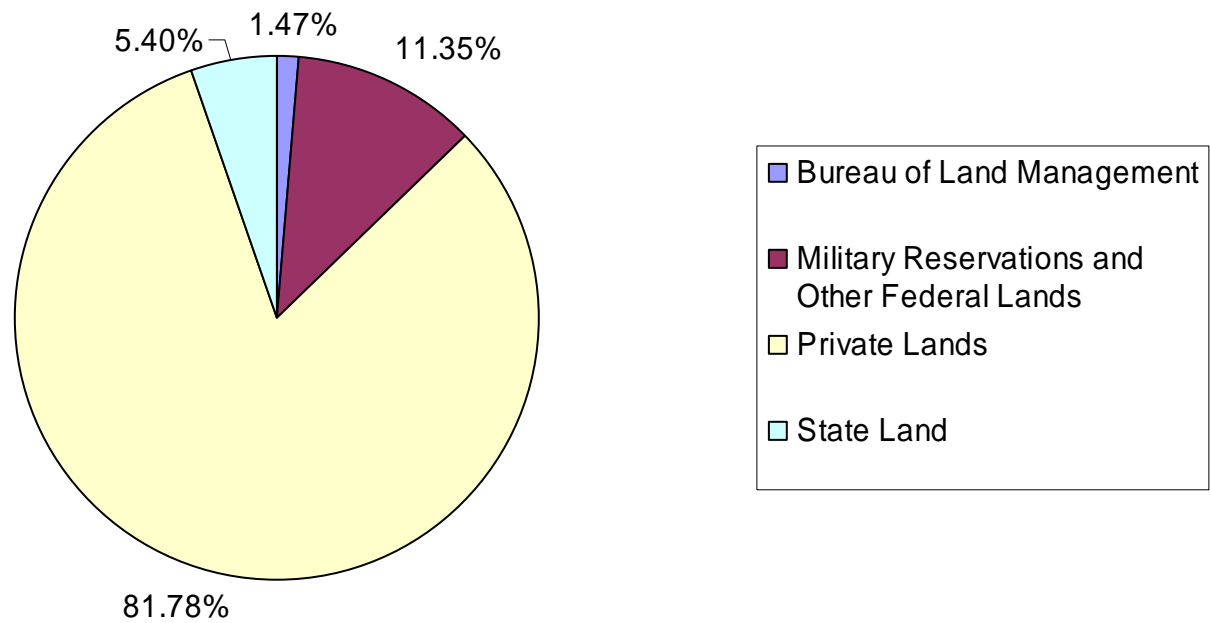


Lesquerella calcicola

Rocky Mountain bladderpod

- Last observed in Colorado: 2006
- Colorado occurrences: 28
- Colorado individuals: ~2000
- Primary threats: This species occurs in areas that are experiencing rapid development pressures
- Land ownership/management: BLM, Military, Private, and State

Lesquerella calcicola

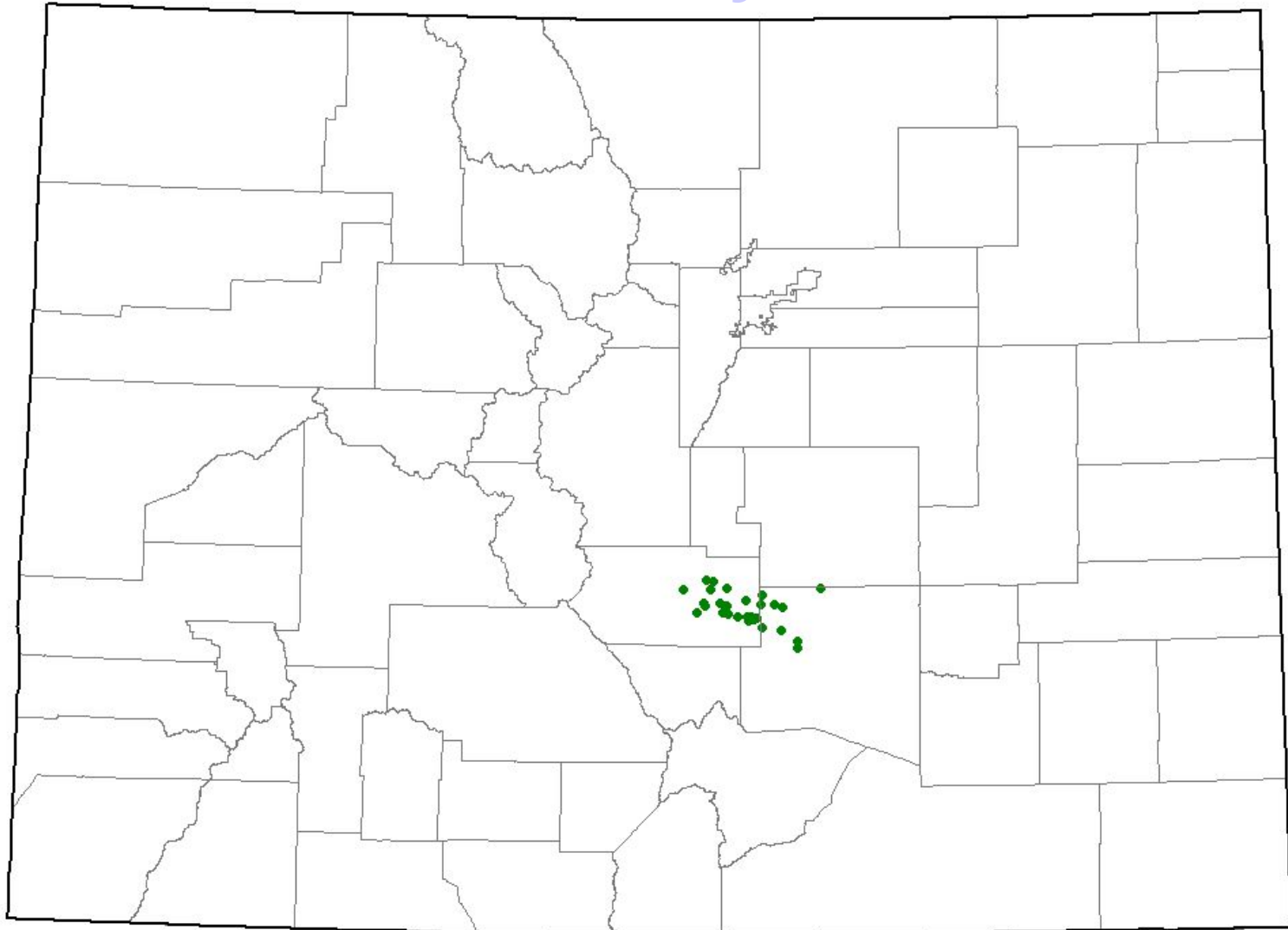




Nuttallia chrysantha =
Mentzelia chrysantha
Golden blazing star

- Federal status: BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Fremont, El Paso, and Pueblo counties)

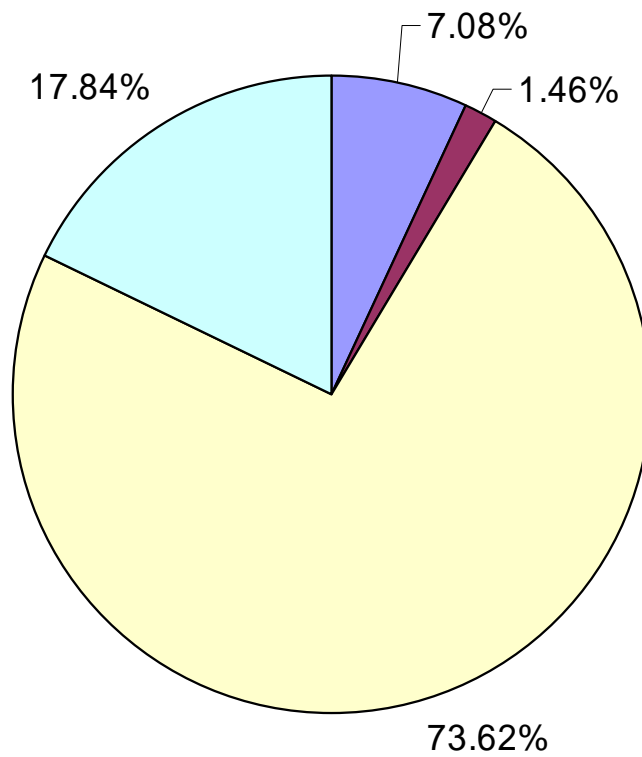
Nuttallia chrysantha



Nuttallia chrysantha =
Mentzelia chrysantha
Golden blazing star

- Last observed in Colorado: 6/23/2004
- Colorado occurrences: 26
- Colorado individuals: ~4100
- Primary threats: Grazing, quarry activities, and subdivision and road construction
- Land ownership/management: BLM, Military, Private and State

Nuttallia chrysantha



- Bureau of Land Management
- Military Reservations and Other Federal Lands
- Private Lands
- State Land







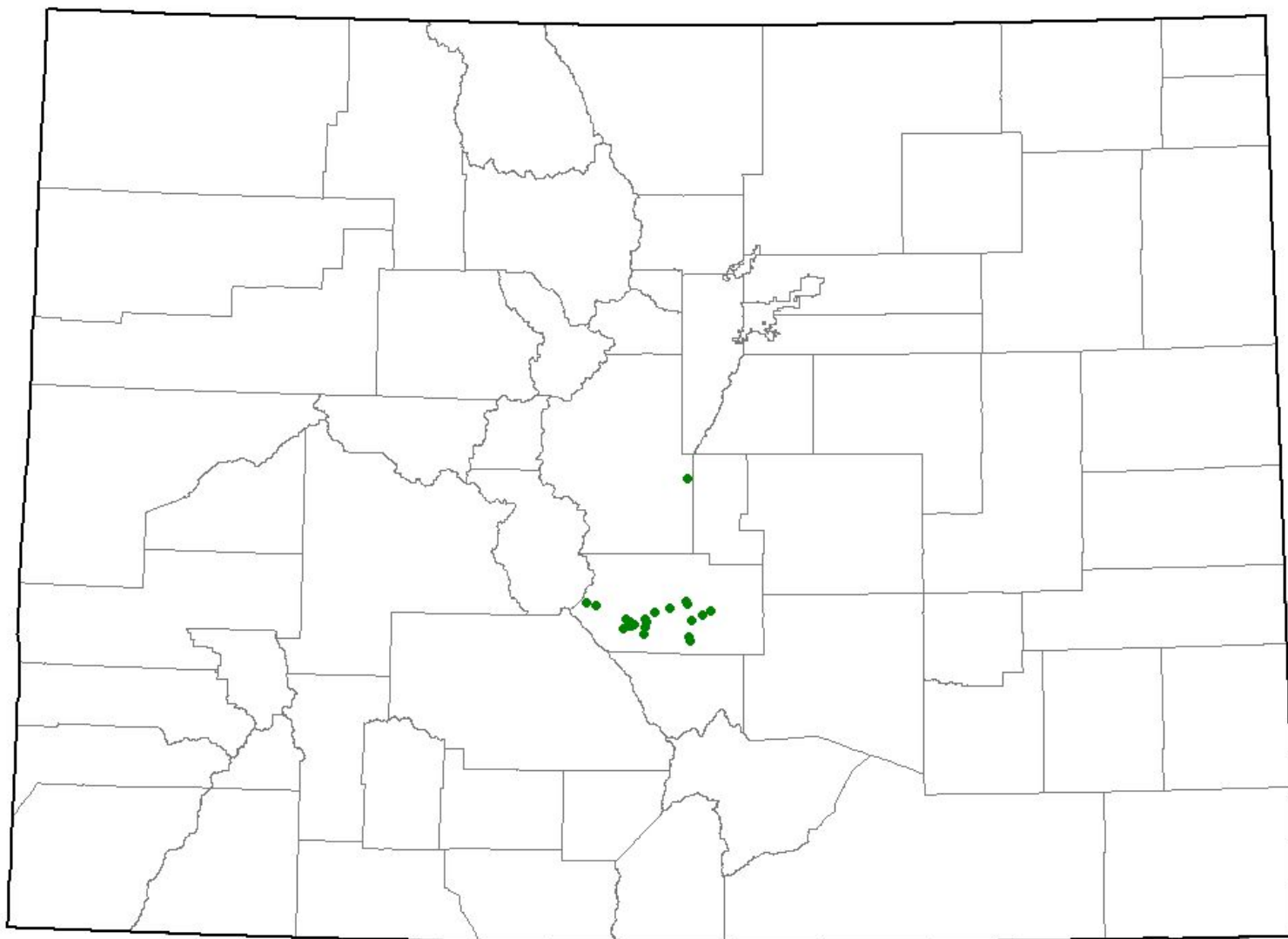




Nuttallia densa = *Mentzelia densa*
Arkansas Canyon stickleaf

- Federal status: BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Fremont County)

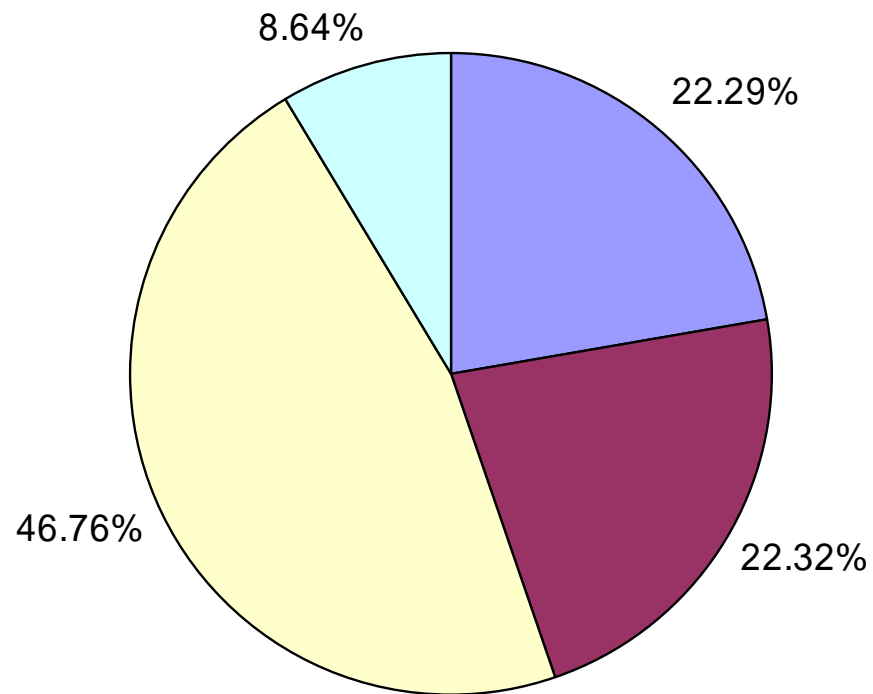
Nuttallia densa




Nuttallia densa = *Mentzelia densa*
Arkansas Canyon stickleaf

- Last observed in Colorado: 7/24/2001
- Colorado occurrences: 14
- Colorado individuals: ~13,500
- Primary threats: Recreational development and road construction
- Land ownership/management: BLM, Forest Service, Private and State

Nuttallia densa



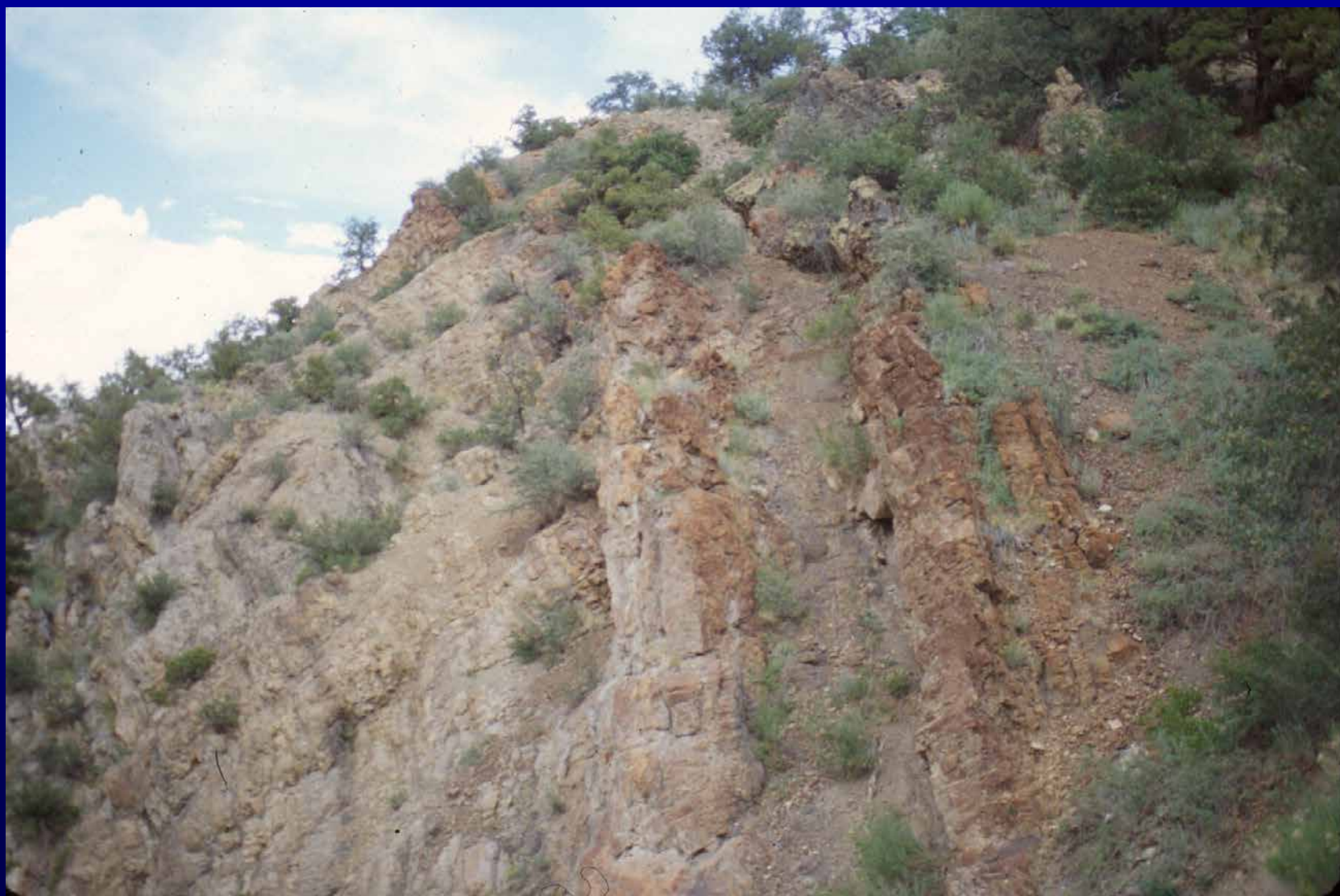
-  Bureau of Land Management
-  National Forests and Grasslands
-  Private Lands
-  State Land











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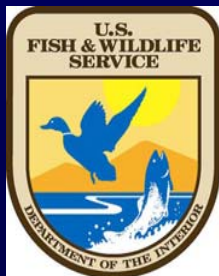


Colorado Native Plant Society



University of Colorado Herbarium

US Fish and Wildlife Service



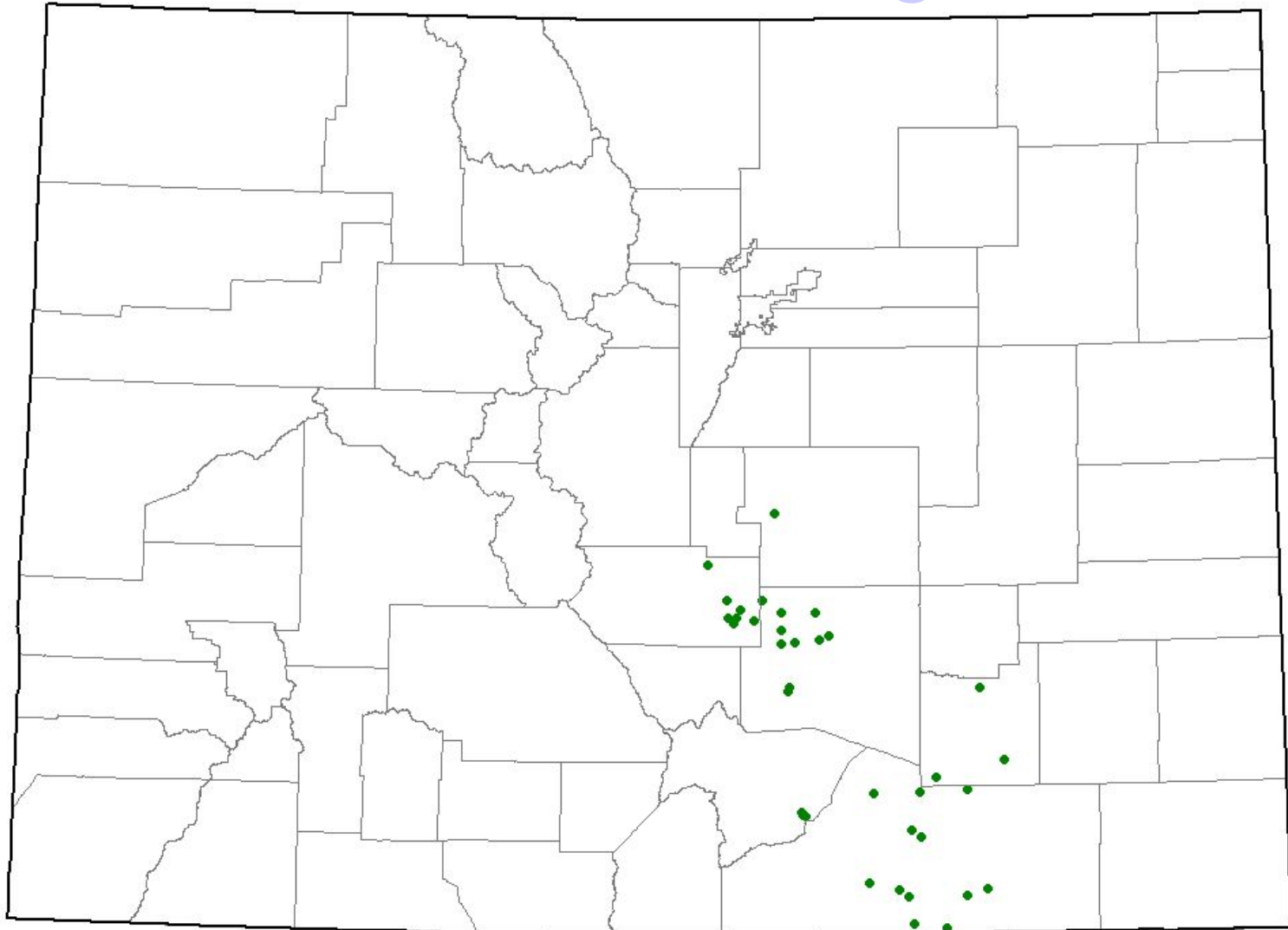
Colorado Natural Heritage Program



Oenothera harringtonii
Arkansas Valley evening primrose

- Federal status: USFS sensitive
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (El Paso, Fremont, Huerfano, Las Animas, Otero, and Pueblo counties)

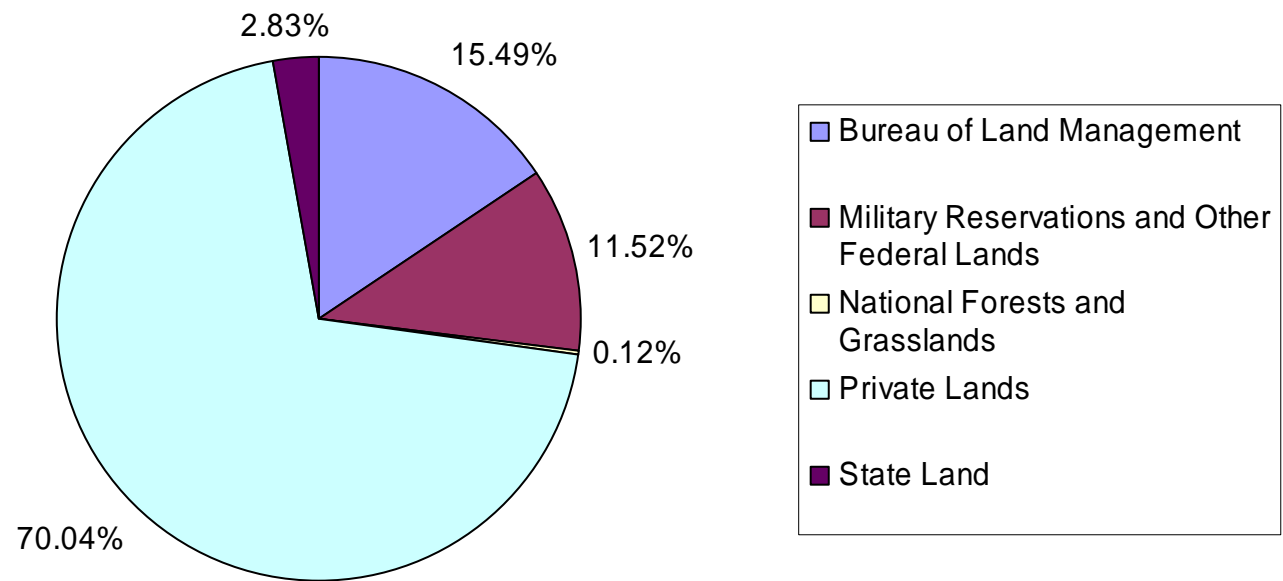
Oenothera harringtonii



Oenothera harringtonii
Arkansas Valley evening primrose

- Last observed in Colorado: 6/2/2004
- Colorado occurrences: 34
- Colorado individuals: ~1500
- Primary threats: Habitat loss due to urbanization
- Land ownership/management: BLM, Military, Forest Service, Private and State

Oenothera harringtonii











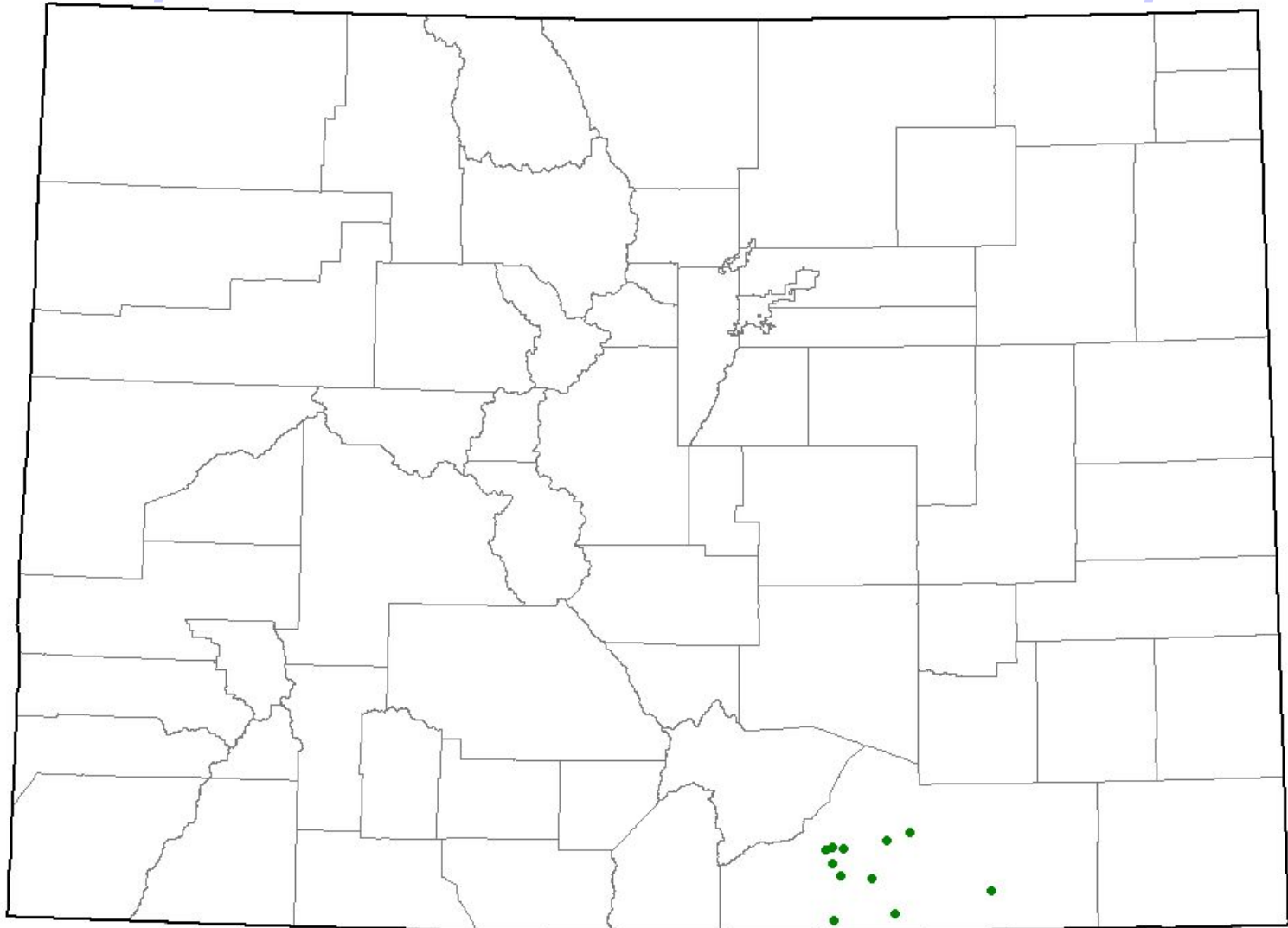




Oenopsis foliosa var. *monocephala*
Rayless goldenweed

- Federal status: none
- Heritage ranks: G2G3T2/S2
- Global distribution: endemic to Colorado (Las Animas, Pueblo, and Fremont counties)

Oenopsis foliosa var. *monocephala*

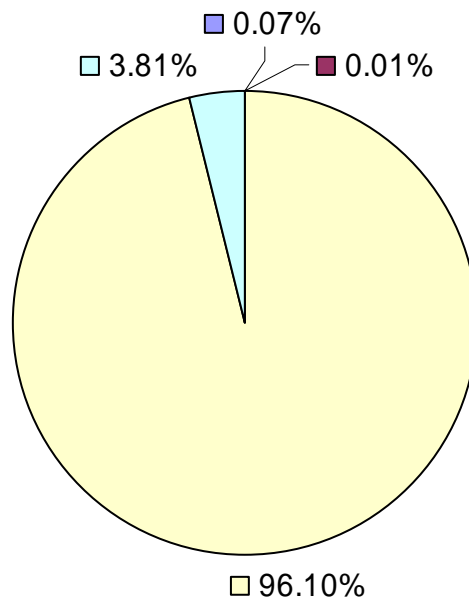


Oenopsis foliosa var. *monocephala*

Rayless goldenweed

- Last observed in Colorado: 6/25/2006
- Colorado occurrences: 12
- 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



- Bureau of Land Management
- Military Reservations and Other Federal Lands
- Private Lands
- State Land













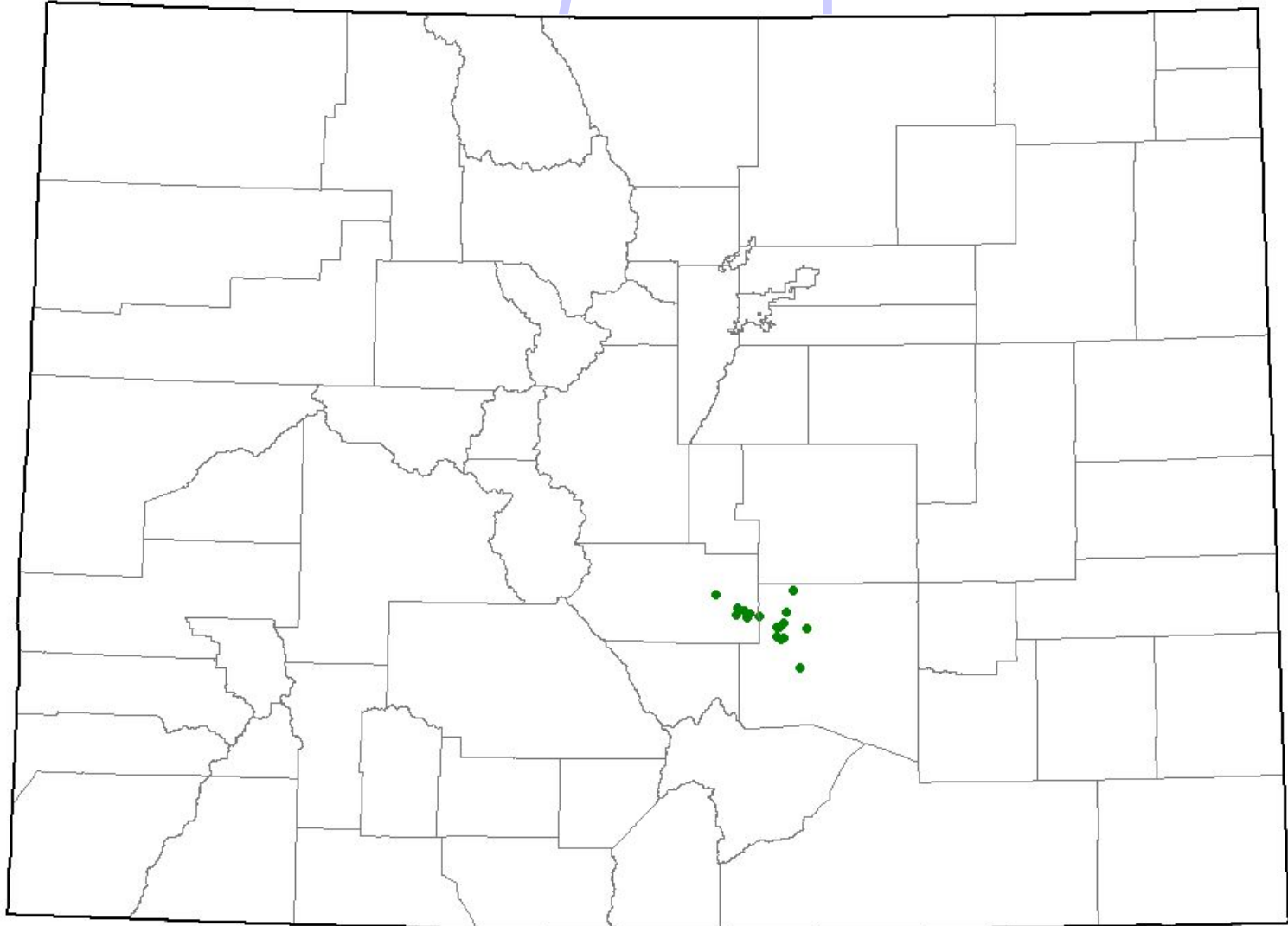


Oonopsis sp. 1 = *Oonopsis*
puebloensis

Pueblo goldenweed

- Federal status: none
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Fremont and Pueblo counties)

Oonopsis sp. 1

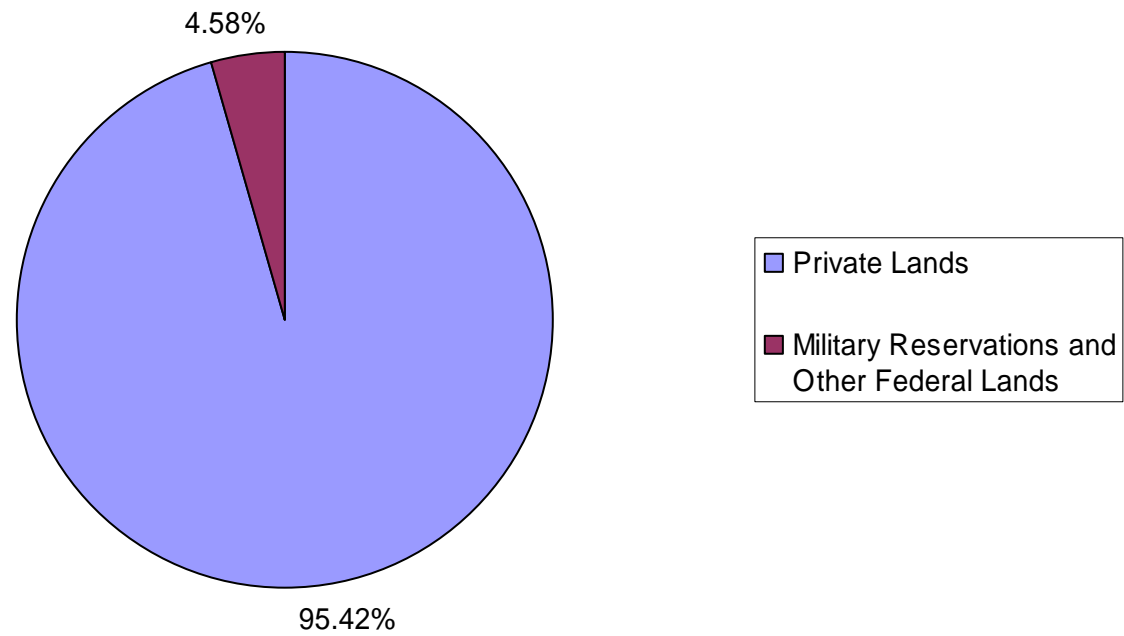


Oonopsis sp. 1 = *Oonopsis*
puebloensis

Pueblo goldenweed

- Last observed in Colorado: 7/6/2006
- Colorado occurrences: 16
- Colorado individuals: ~11,000
- Primary threats: Shale extraction by cement plants
- Land ownership/management: Private and Military

Oonopsis sp. 1









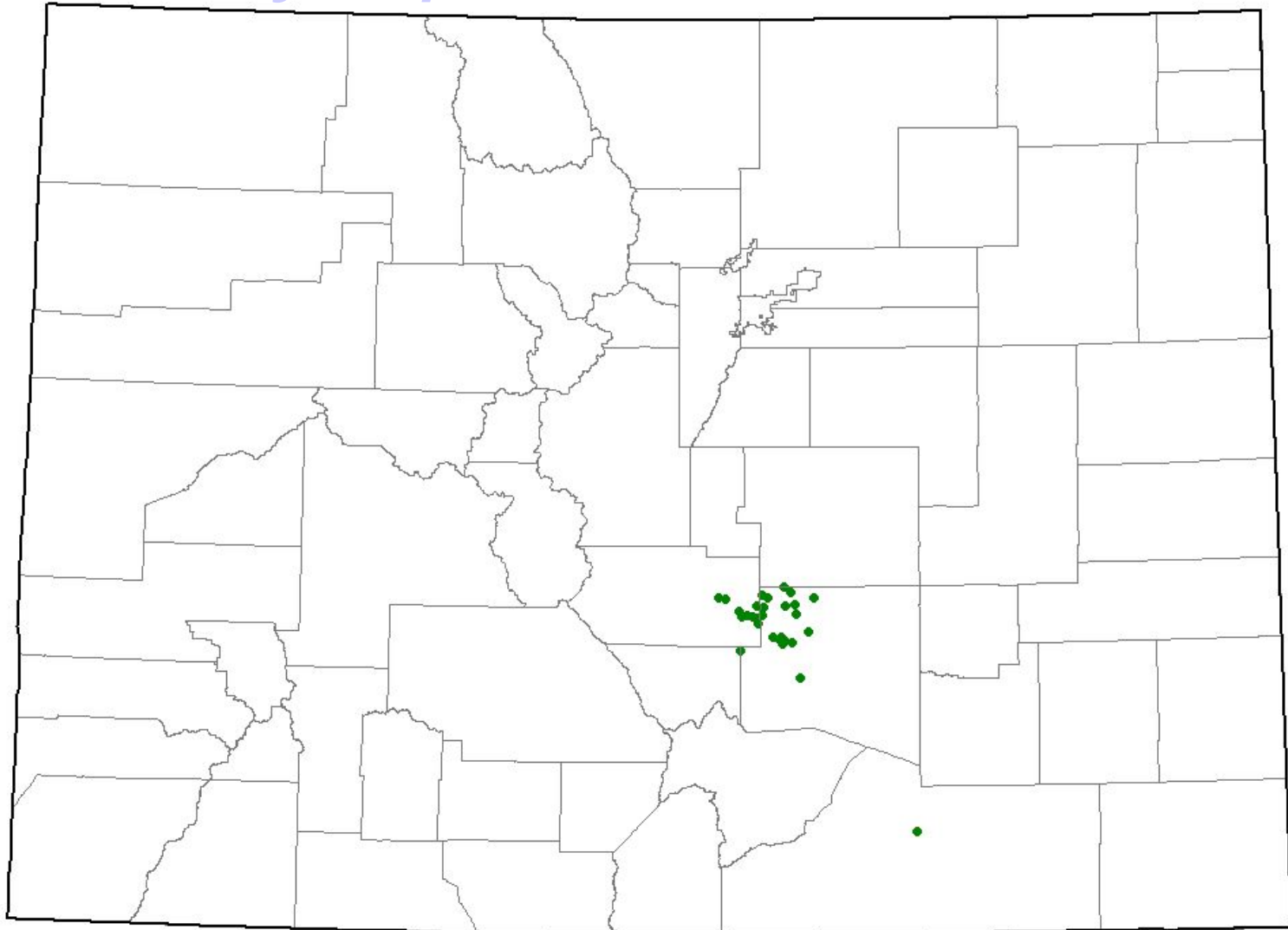


Oxybaphus rotundifolius = *Mirabilis
rotundifolia*

Round-leaf four-o'clock

- Federal status: none
- Heritage ranks: G2/S2
- Global distribution: endemic to
Colorado (Fremont, Las Animas, El Paso
and Pueblo counties)

Oxybaphus rotundifolius

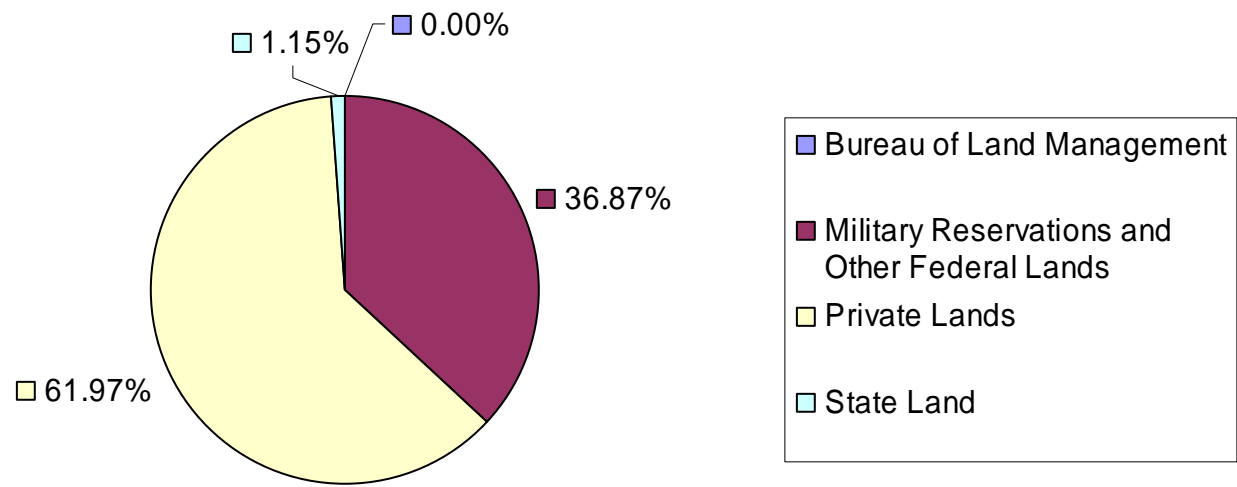


Oxybaphus rotundifolius = *Mirabilis
rotundifolia*

Round-leaf four-o'clock

- Last observed in Colorado: 8/10/2006
- Colorado occurrences: 27
- Colorado individuals: ~6200
- Primary threats: Highly threatened by residential and recreational development
- Land ownership/management: BLM, Military, Private and State

Oxybaphus rotundifolius











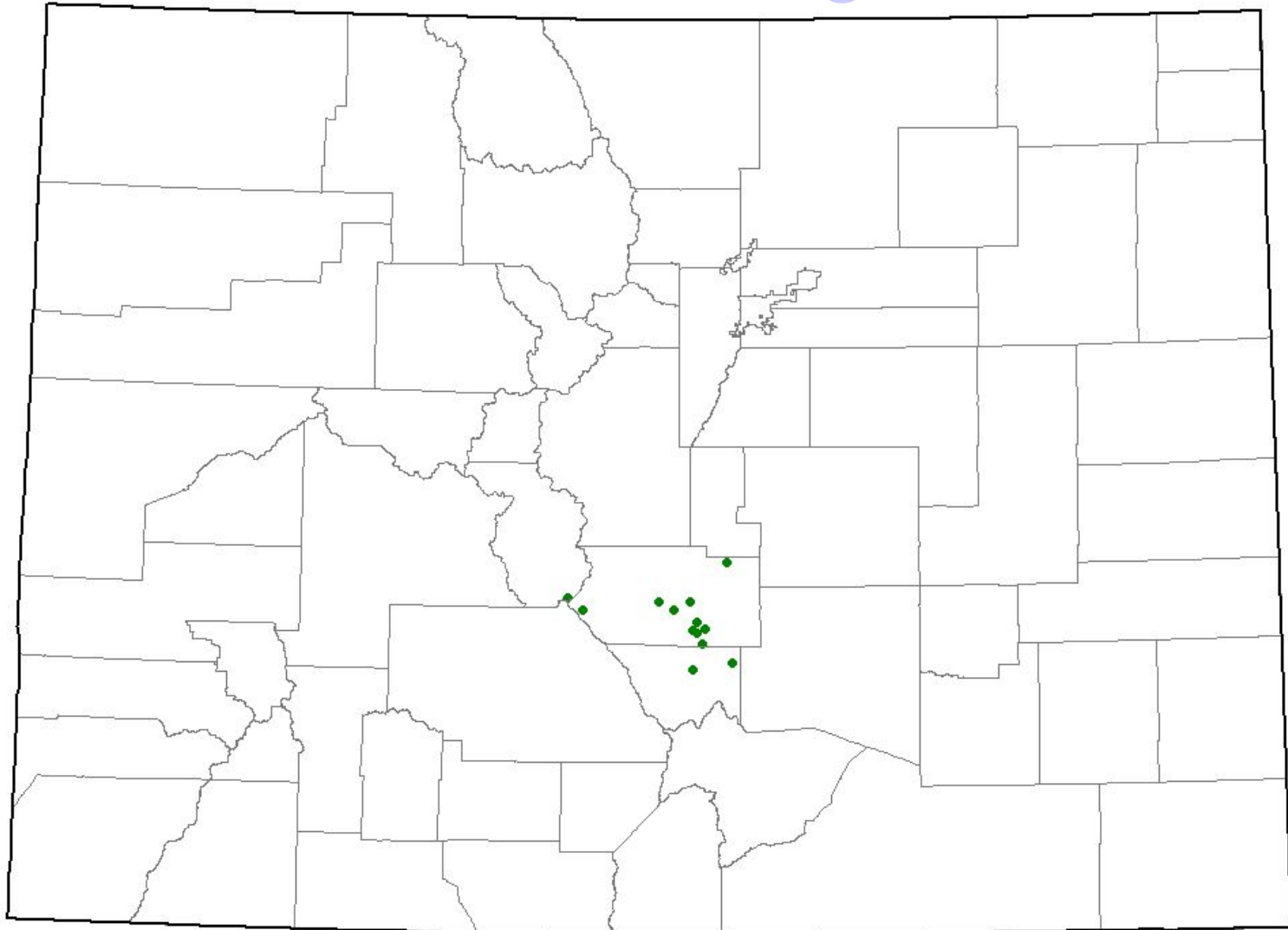




Penstemon degeneri
Degener beardtongue

- Federal status: USFS and BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (Chaffee, Custer and Fremont counties)

Penstemon degeneri

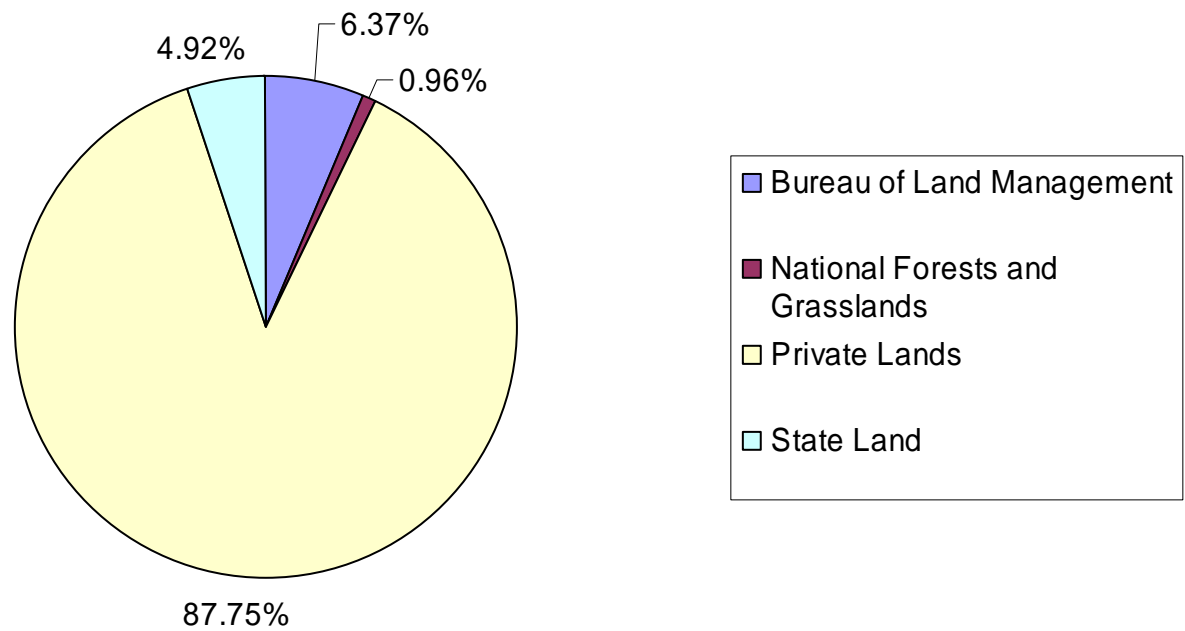


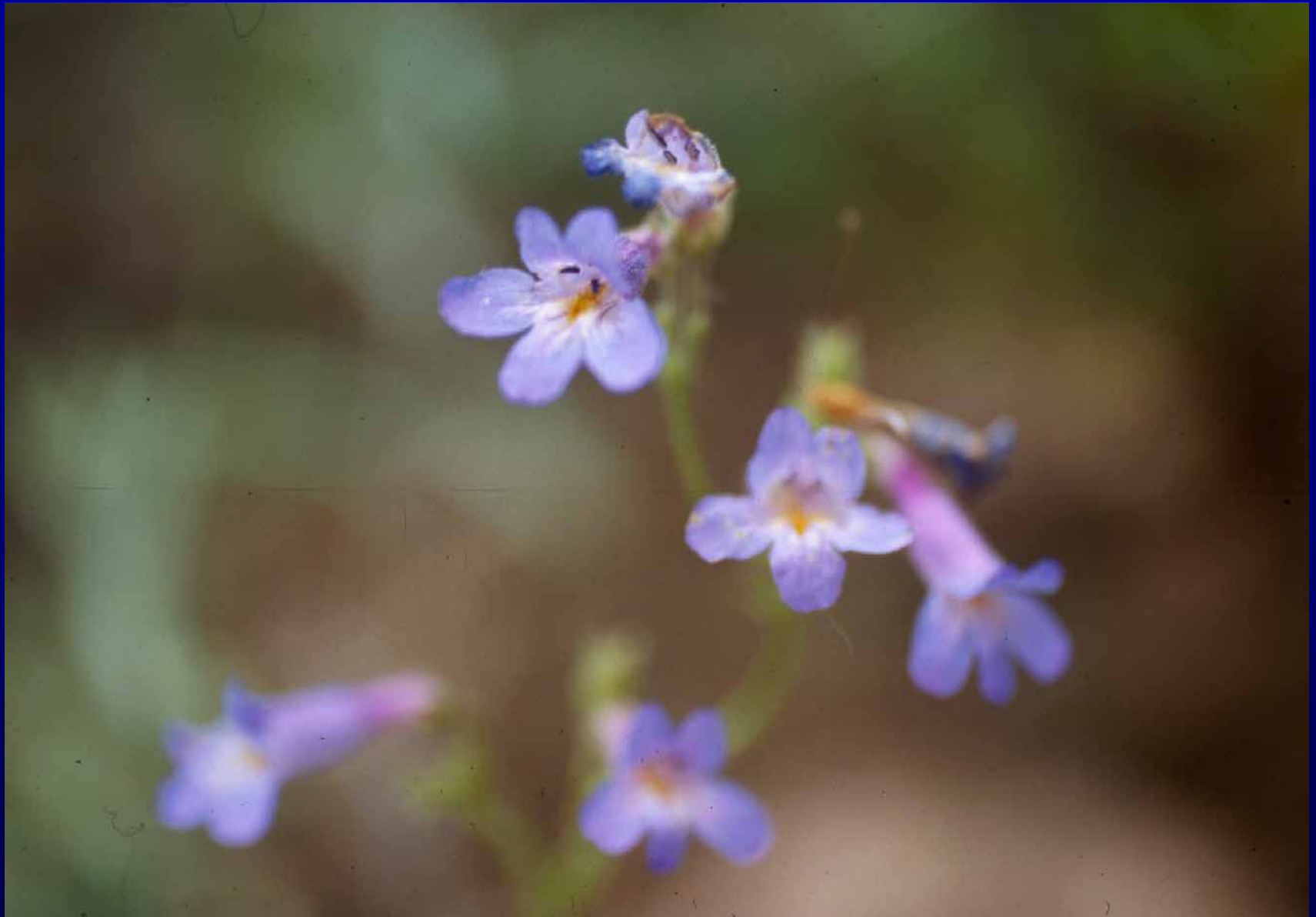
Penstemon degeneri

Degener beardtongue

- Last observed in Colorado: 7/8/2006
- Colorado occurrences: 12
- 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









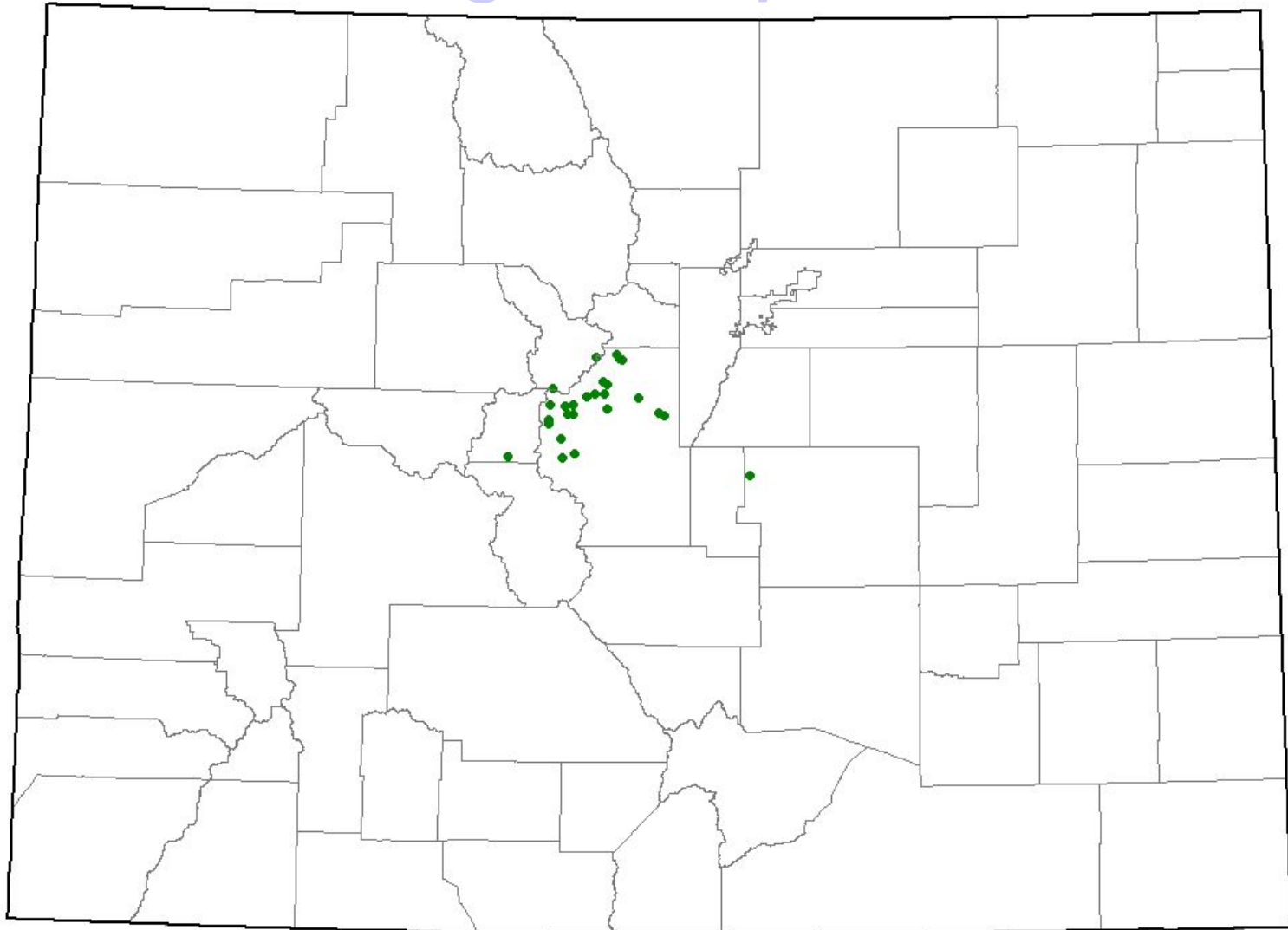




Ptilagrostis porteri
Porter feathergrass

- Federal status: USFS and BLM sensitive
- Heritage ranks: G2/S2
- Global distribution: endemic to Colorado (El Paso, Lake, Park and Summit counties)

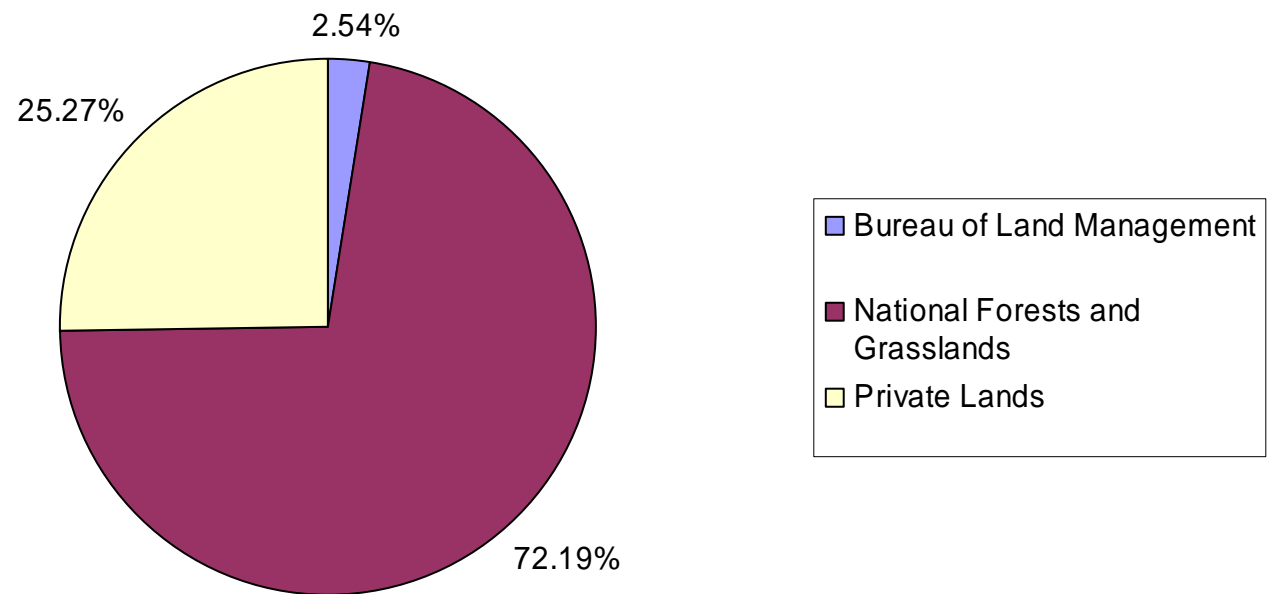
Ptilagrostis porteri



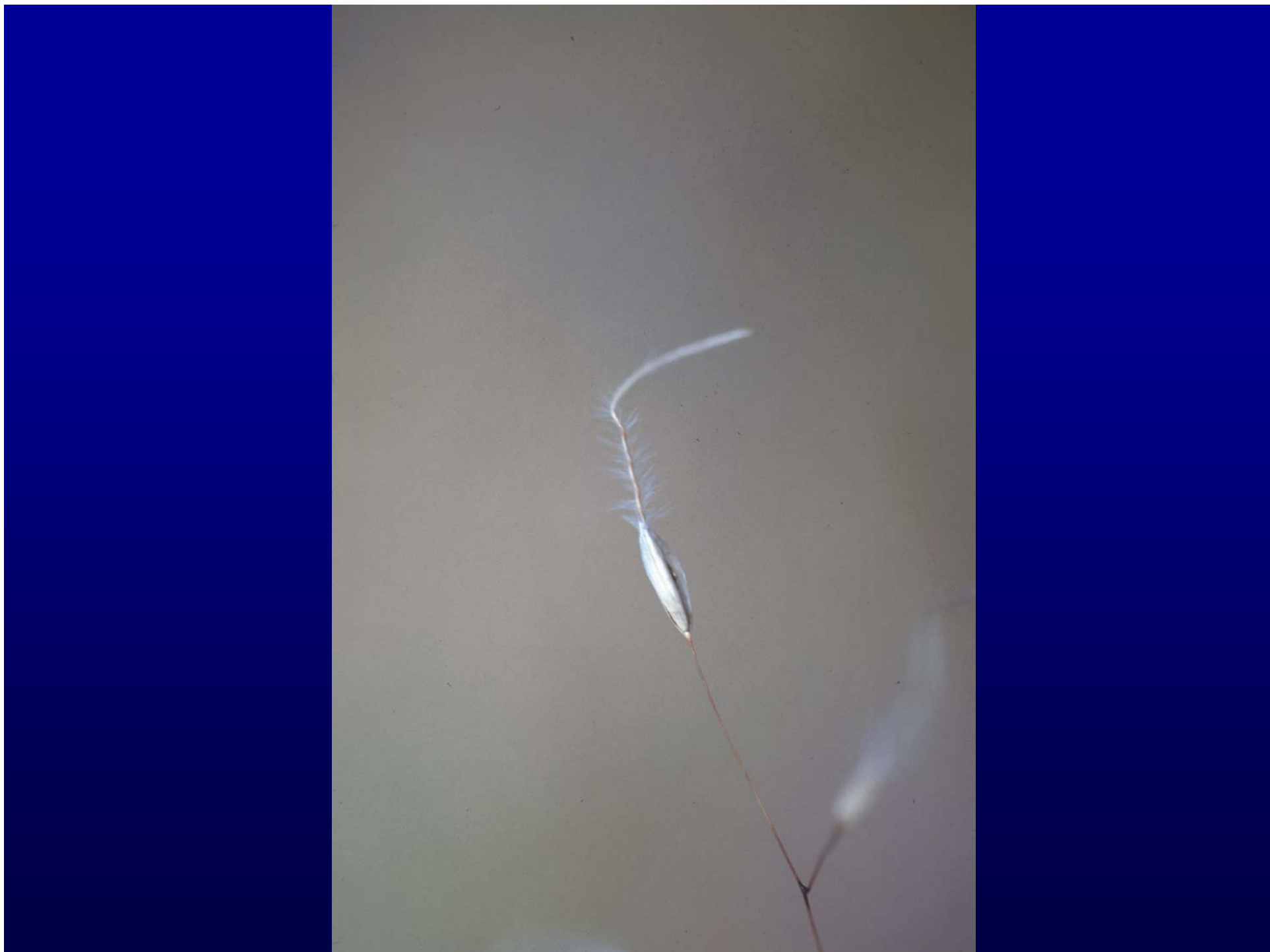
Ptilagrostis porteri
Porter feathergrass

- Last observed in Colorado: 8/11/2005
- Colorado occurrences: 22
- 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



















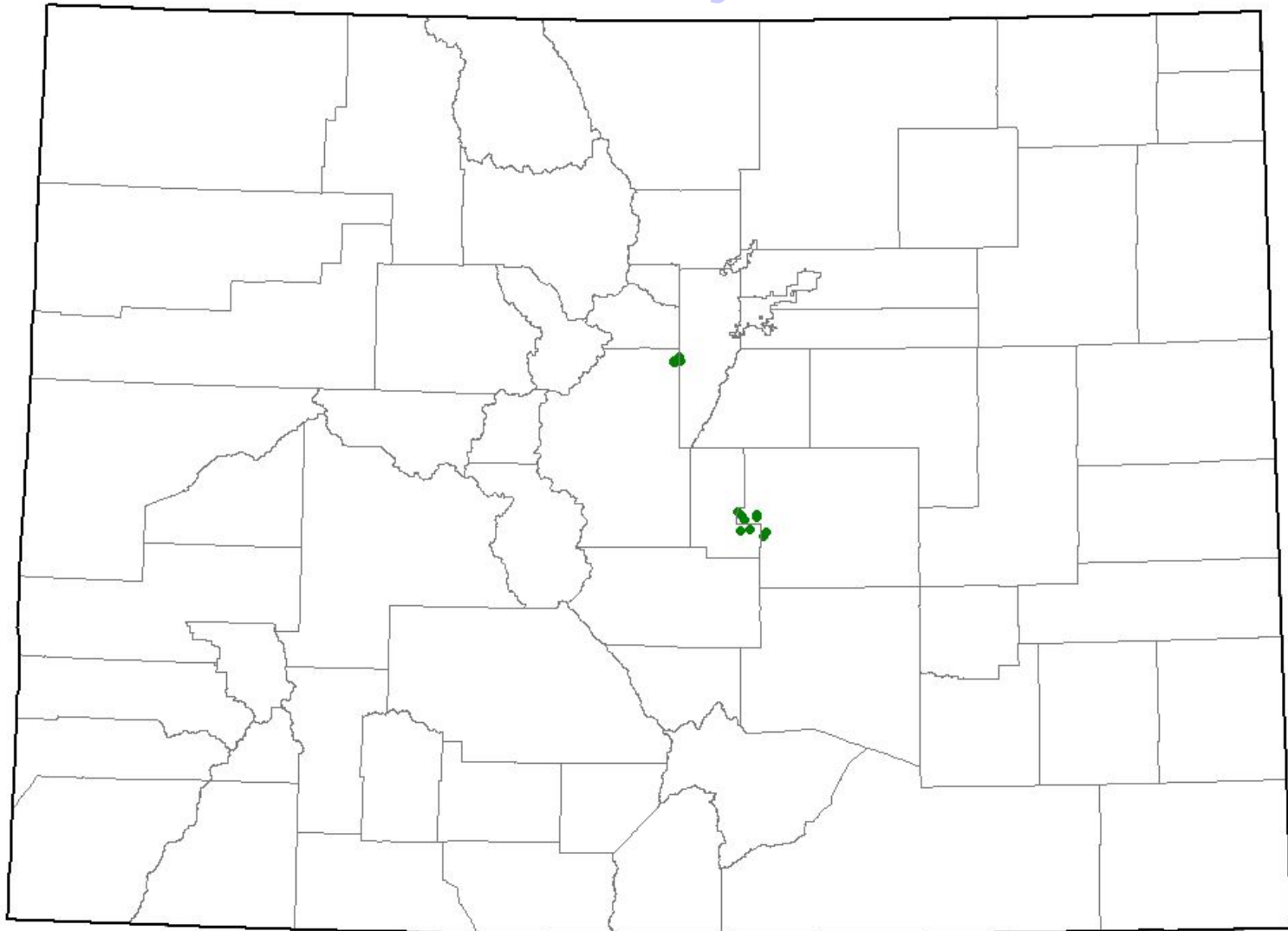


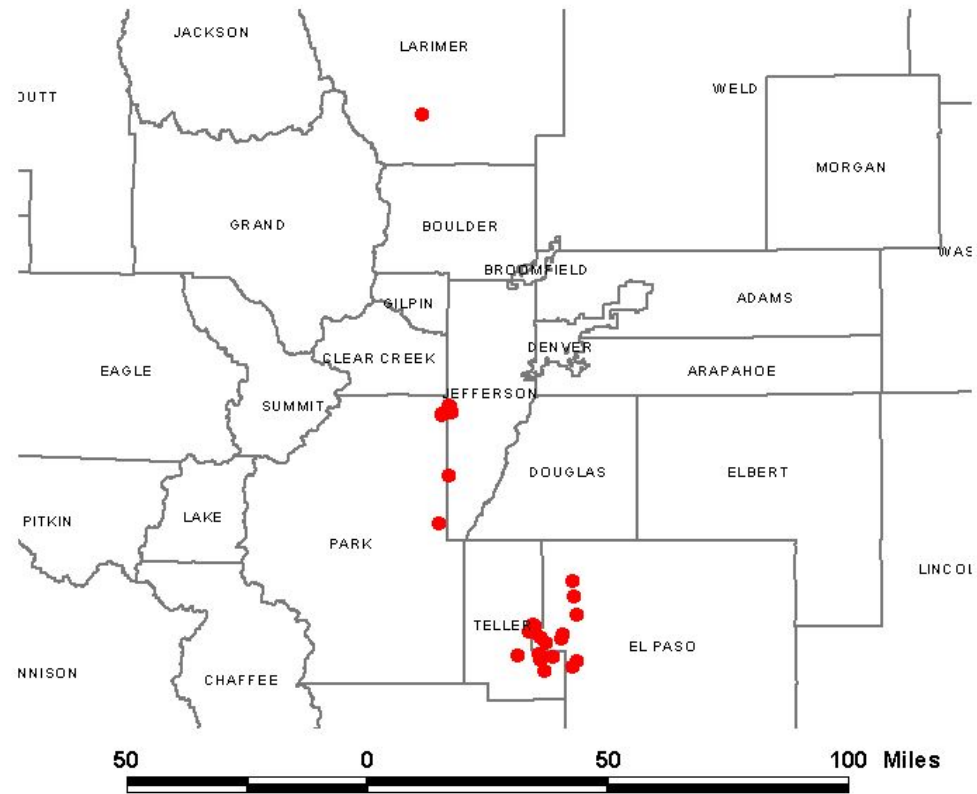


Telesonix jamesii
James' telesonix

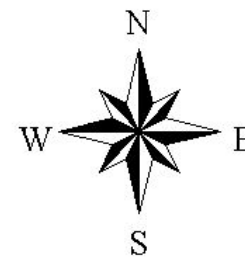
- Federal status: none
- Heritage ranks: G2/S2
- Global distribution: New Mexico and Colorado (El Paso, Jefferson, Larimer, Park, and Teller counties)

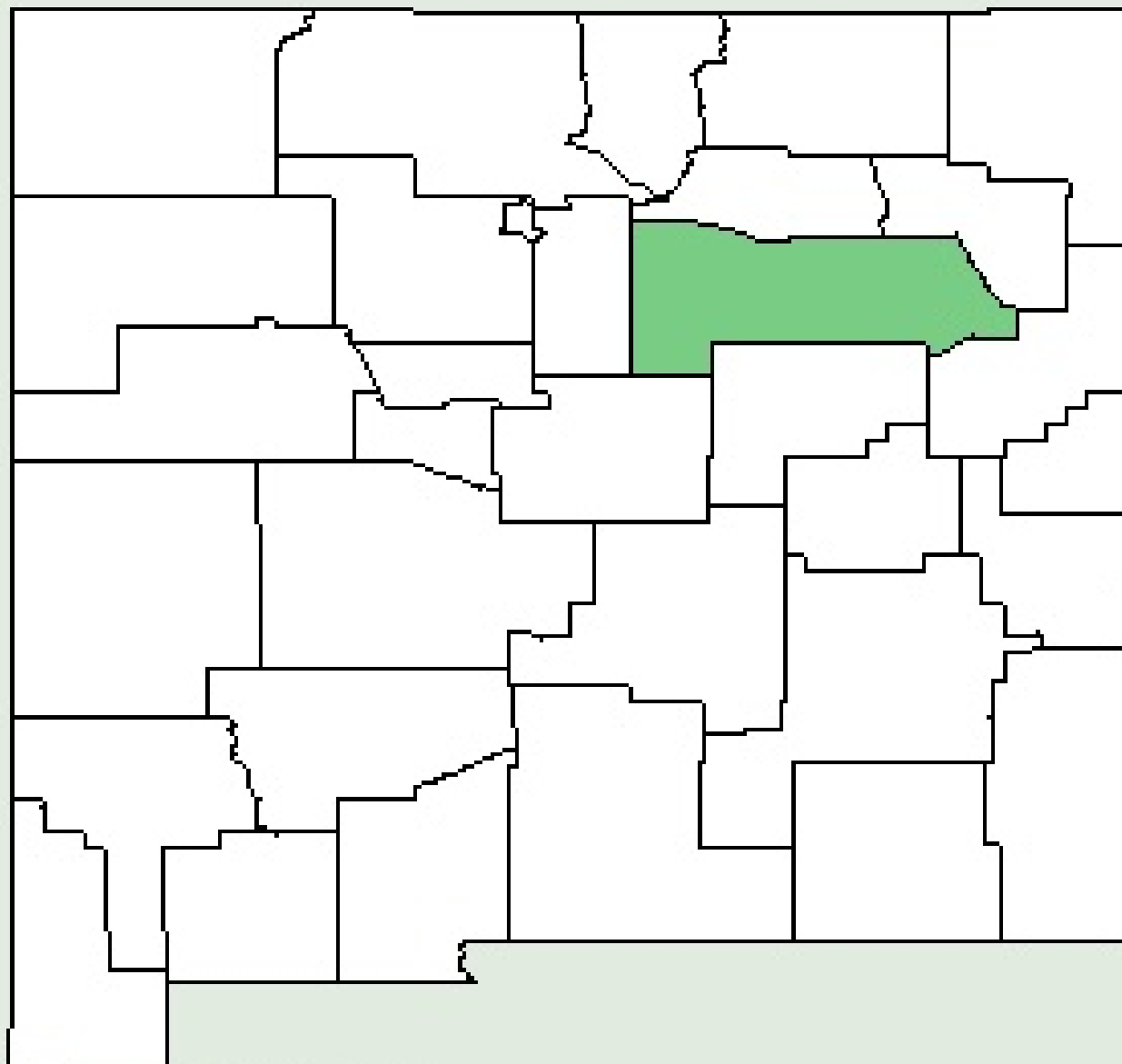
Telesonix jamesii





● *Telesonix jamesii*
□ Colorado Counties





PLANTS
Database

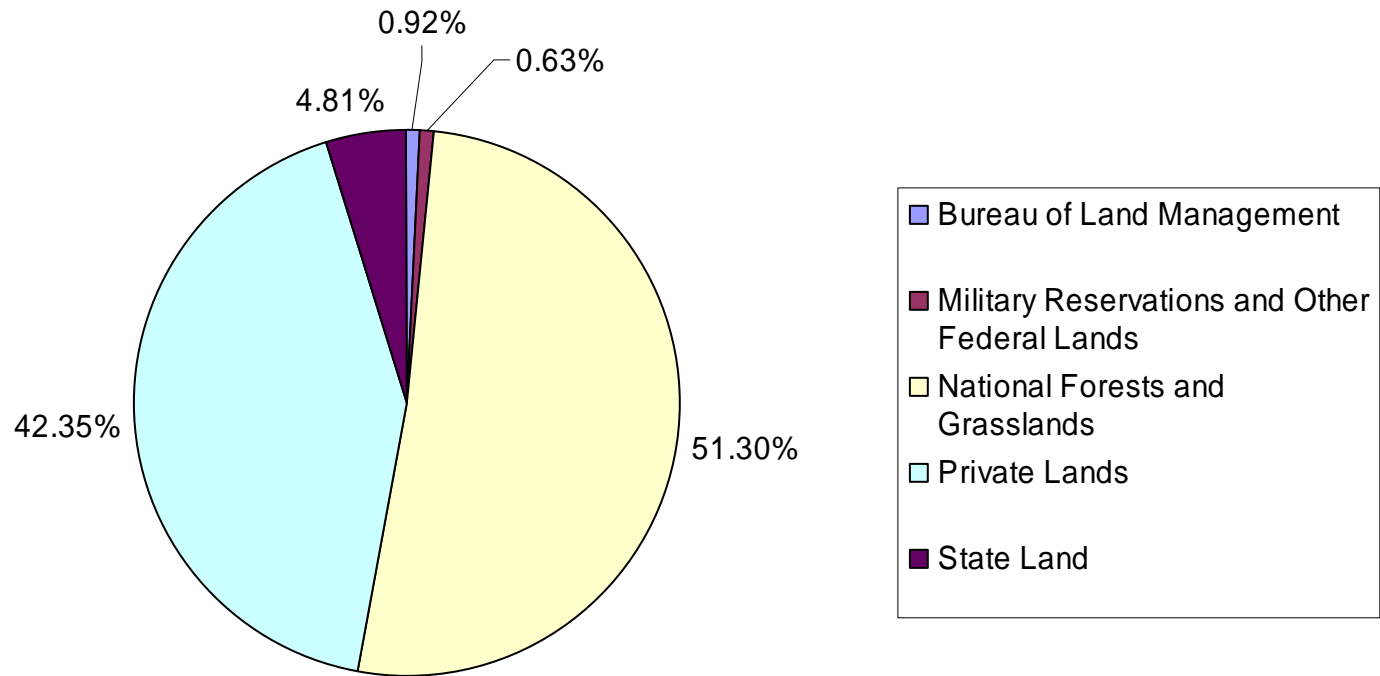
TEJA

Telesonix jamesii

James' telesonix

- Last observed in Colorado: 7/10/2000
- Colorado occurrences: 15
- Colorado individuals: ~15,200
- 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



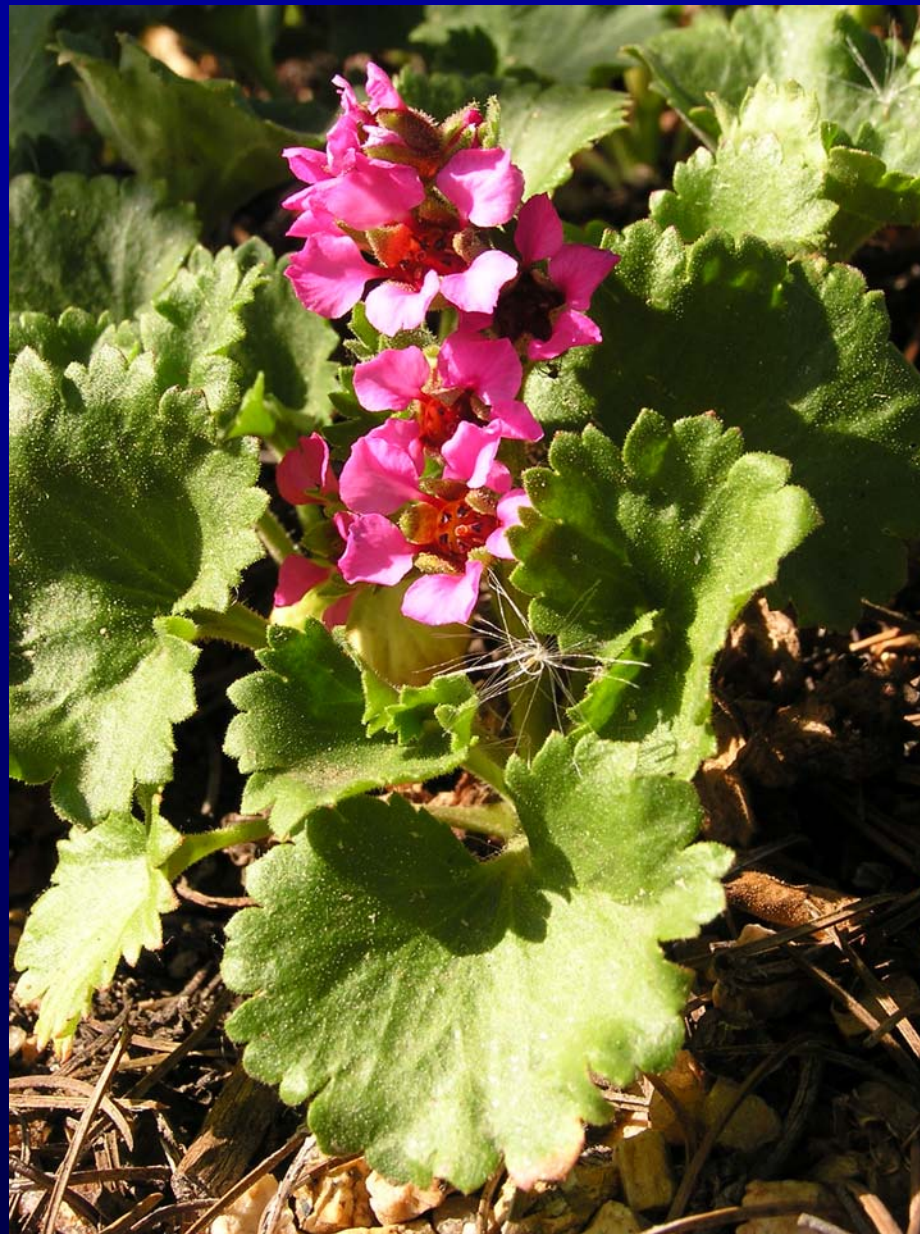












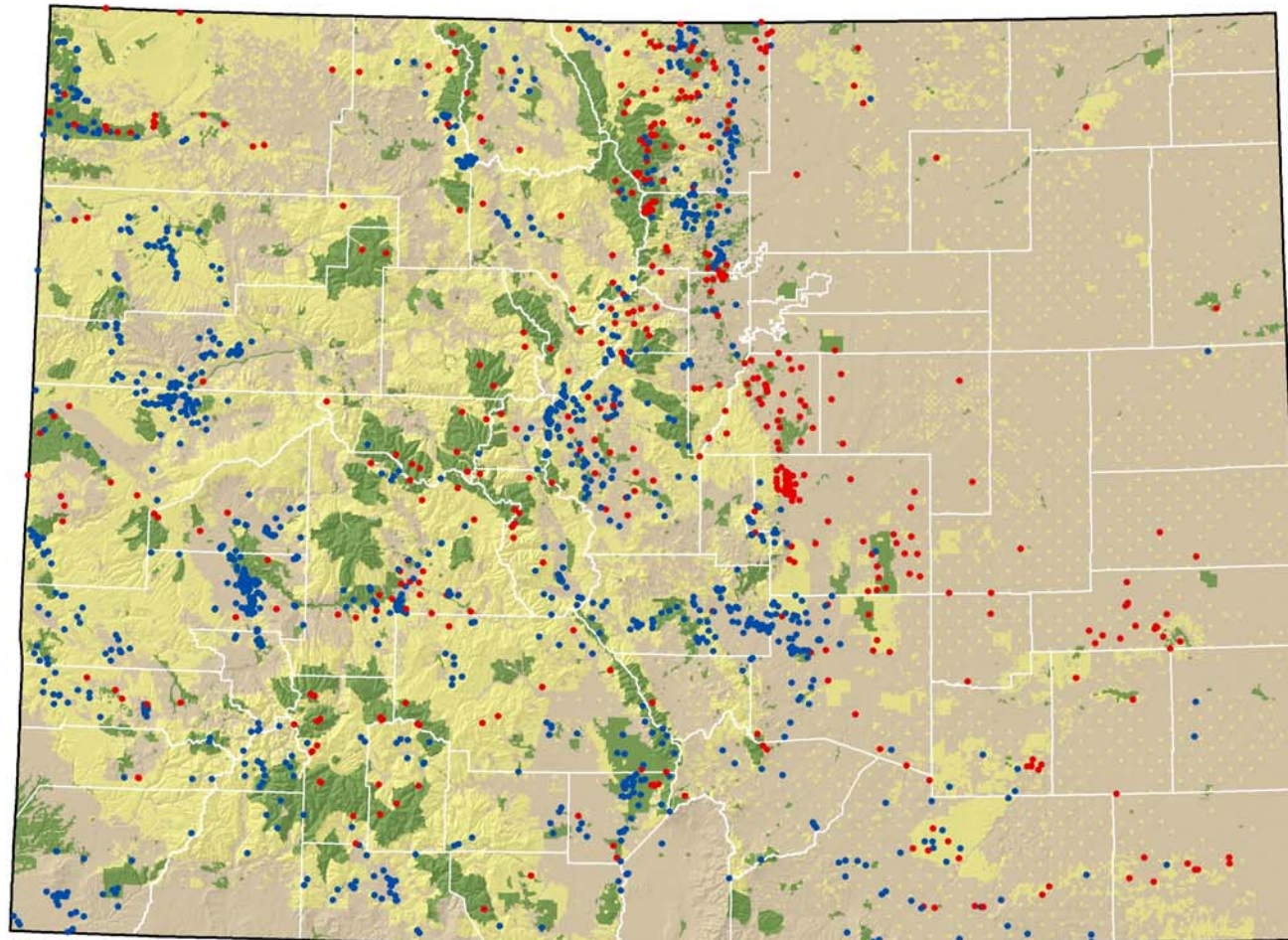
Photo Acknowledgements

- Barry Johnston, USFS
- Steve Olson, USFS
- Brian Elliot, USFS
- Susan Spackman Panjabi, CNHP
- Internet Searches
 - New Mexico Rare Plants
 - T. Todsén, J. Stewart, D. Bleakly, K. Heil
 - Center for Plant Conservation
 - M. DePrenger-Levin, J. Dawson
 - Denver Botanic Gardens
- Other CNHP Sources:
 - J. Locklear, S. O'Kane, J. Stevens, B. Jennings, A. Kratz, L. Yeatts, R. Prices, J. Cules

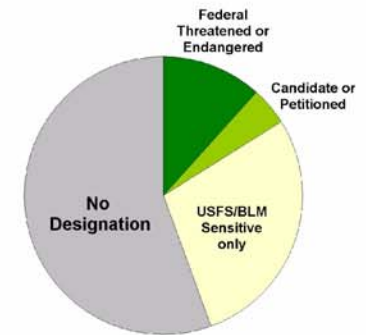


Protection status of imperiled species in Colorado

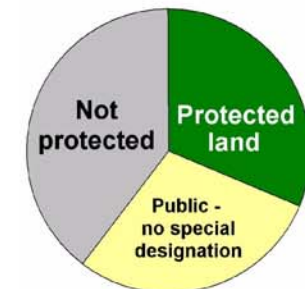
Includes 124 species ranked G1G2 or T1T2



Species designation



Occurrence Acreage



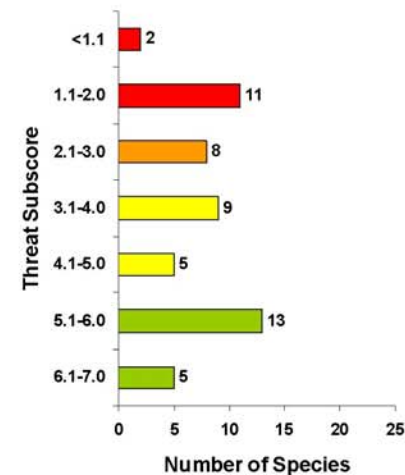
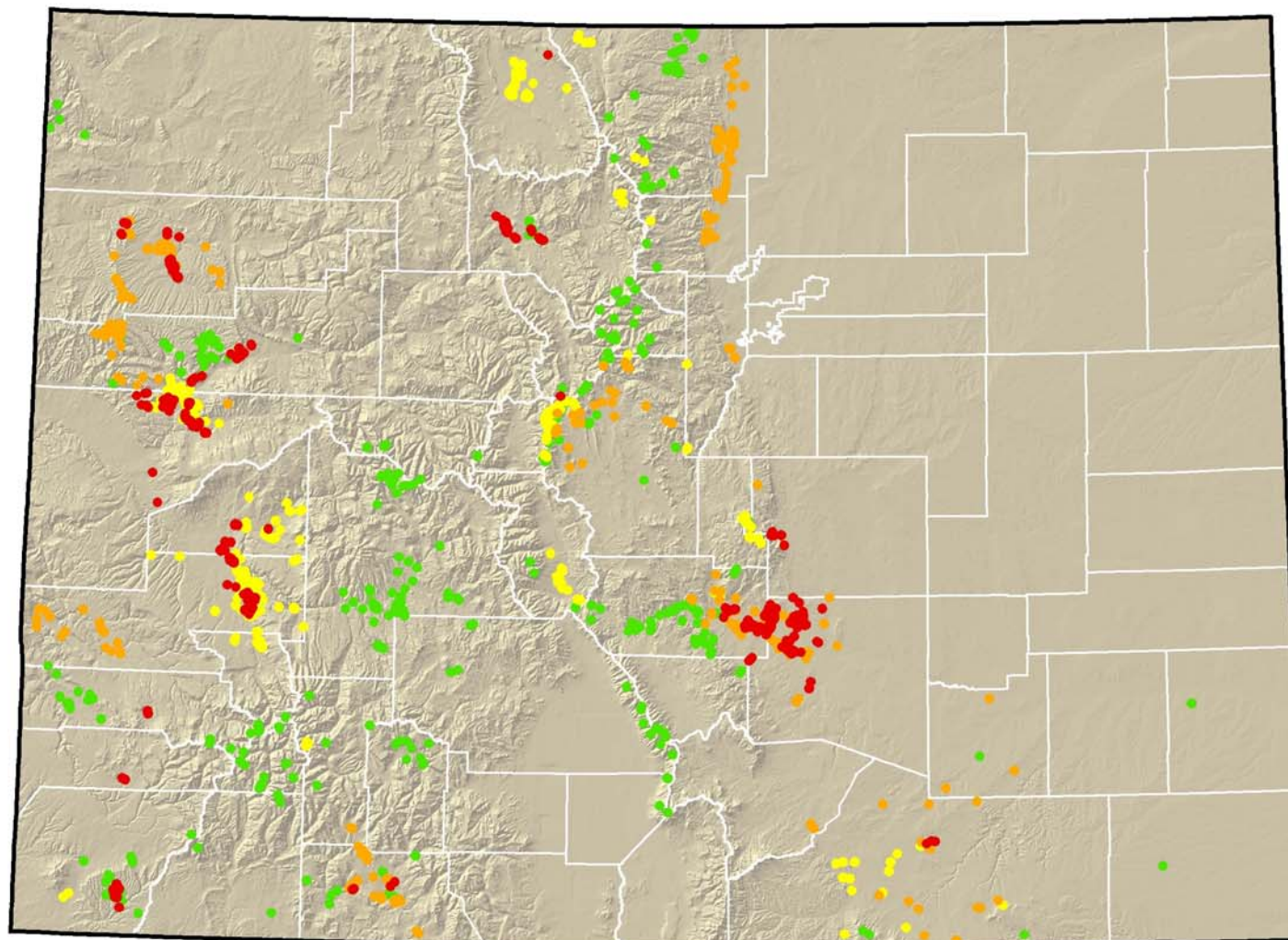
11 species have no protected acreage

13 species have acreage
>50% on protected land for
all of their occurrences.



Plant species threat subscore

Includes 53 Colorado endemics ranked G1G2 or T1T2



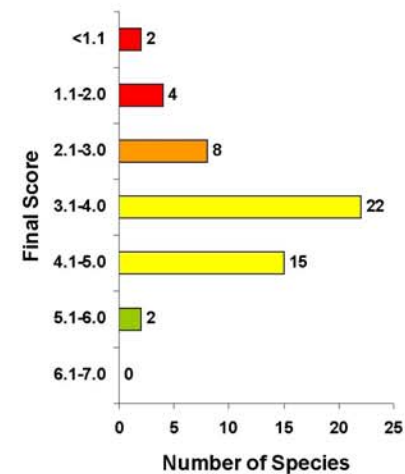
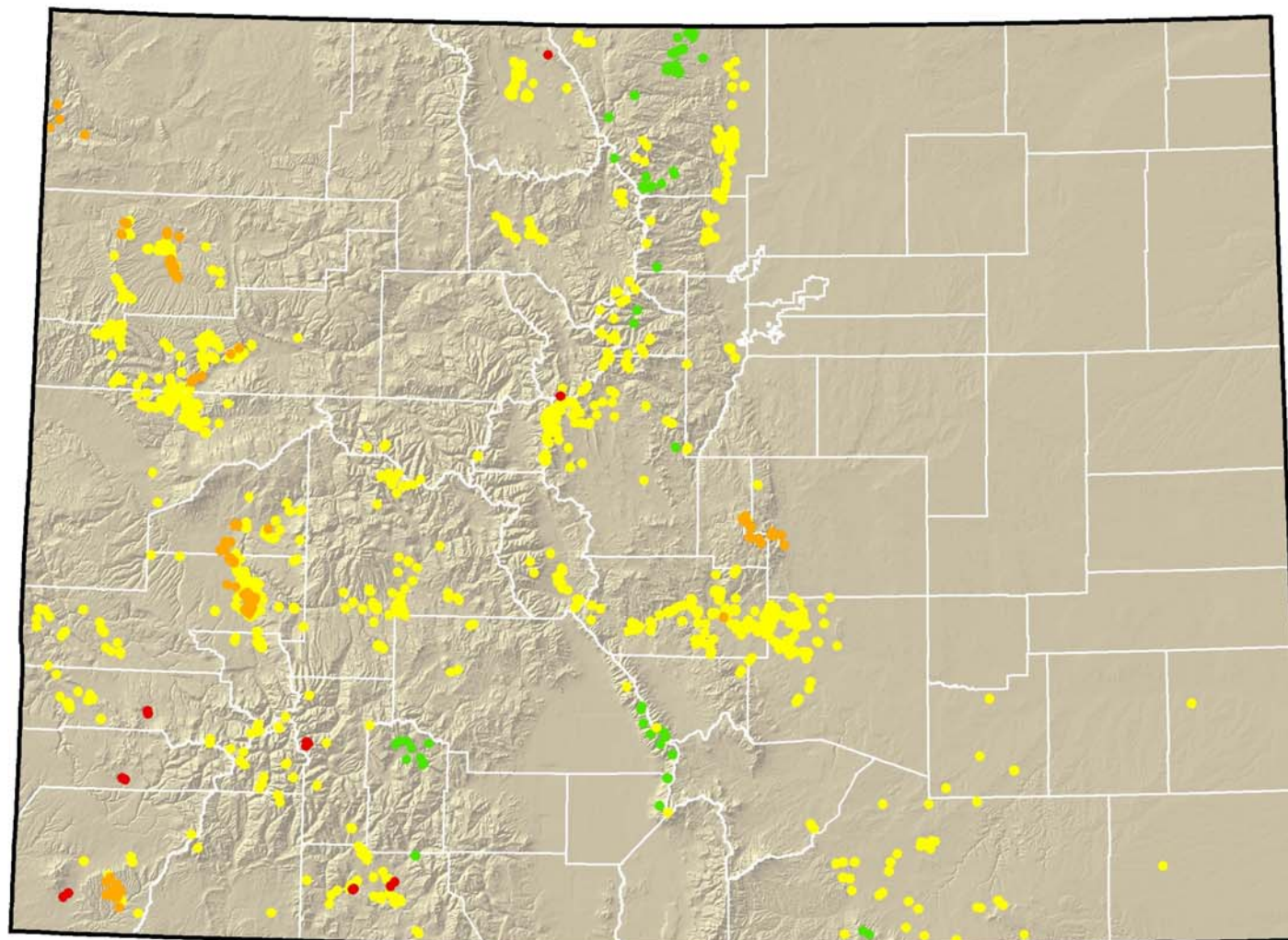
Plant Element Occurrences by Threat Subscore





Plant species final score

Includes 53 Colorado endemics ranked G1G2 or T1T2



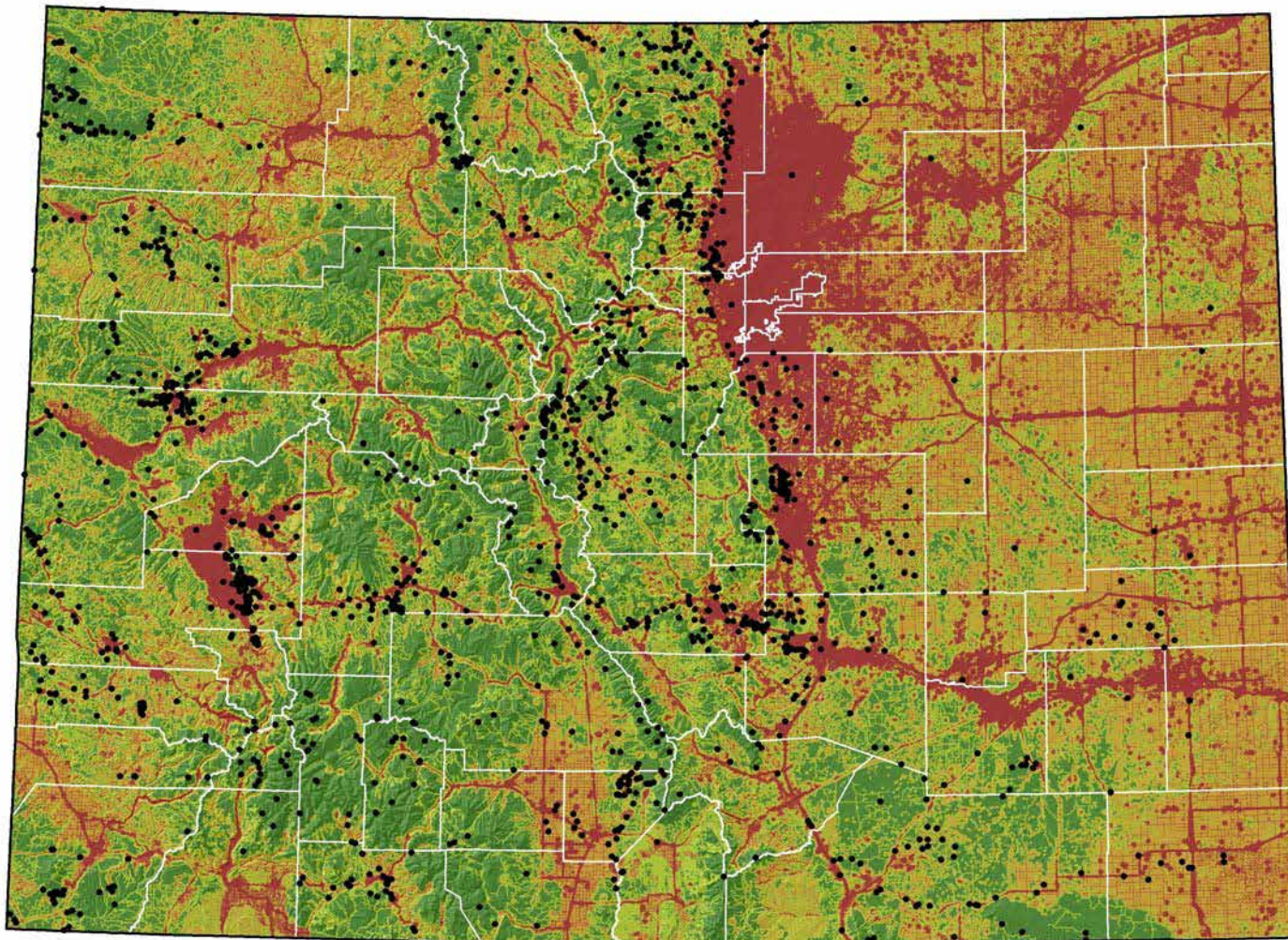
Plant Element Occurrences by Final Score





Threats to imperiled species in Colorado

Includes 124 species ranked G1G2 or T1T2



Threat level - all threats

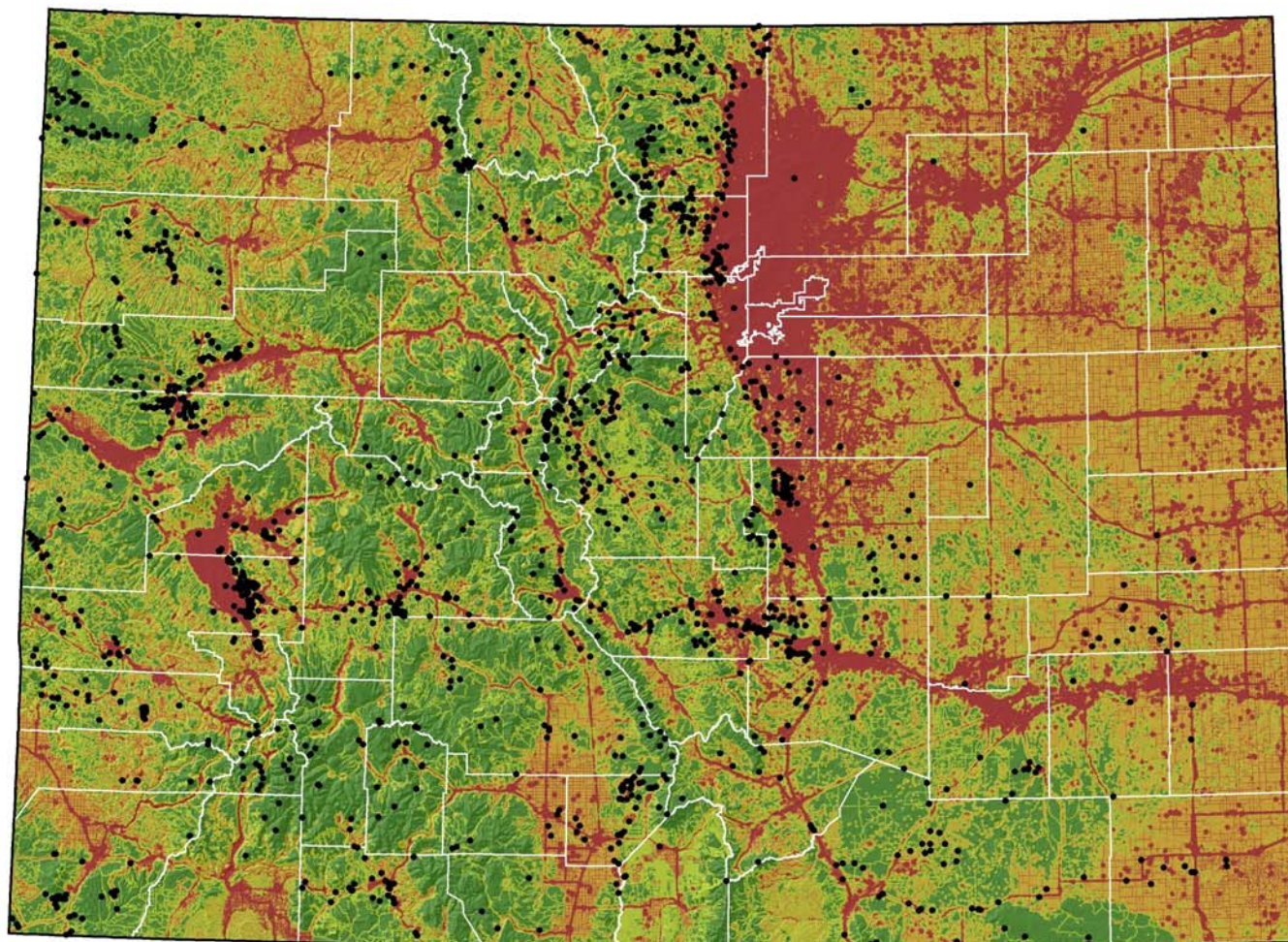


• Imperiled species occurrences



Threats to imperiled species in Colorado

Includes 124 species ranked G1G2 or T1T2



Threat level - all threats

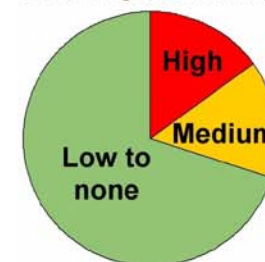


• Imperiled species occurrences

Occurrence Acreage

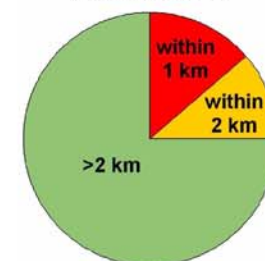
All threats

Development, agriculture, roads, oil & gas, surface mining



Proximity to Development

(occurrence acres)



Proximity to Oil & Gas

(number of species)

