



Rare plants and LCDO

ENDANGERED SPECIES ACT OF 1973*

FINDINGS, PURPOSES, AND POLICY

SEC. 2. (a) FINDINGS.—The Congress finds and declares that—

(1) various species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation;

(2) other species of fish, wildlife, and plants have been so depleted in numbers that they are in danger of or threatened with extinction;

(3) these species of fish, wildlife, and plants are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people;

(4) the United States has pledged itself as a sovereign state in the international community to conserve to the extent practicable the various species of fish or wildlife and plants facing extinction, pursuant to—

(A) migratory bird treaties with Canada and Mexico;

(B) the Migratory and Endangered Bird Treaty with Japan;

(C) the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere;

(D) the International Convention for the Northwest Atlantic Fisheries;

(E) the International Convention for the High Seas Fisheries of the North Pacific Ocean;

(F) the Convention on International Trade in Endangered Species of Wild Fauna and Flora; and

(G) other international agreements; and

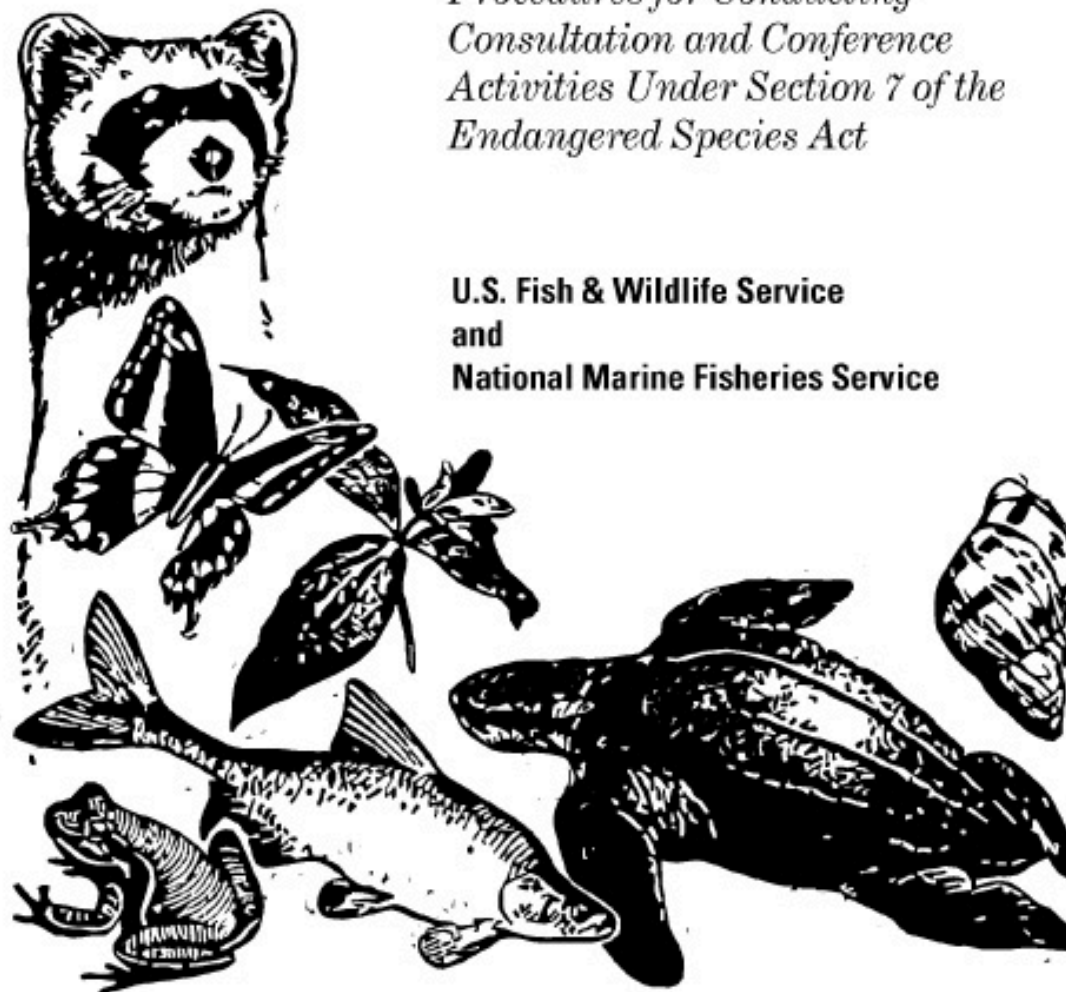
(5) encouraging the States and other interested parties, through Federal financial assistance and a system of incentives, to develop and maintain conservation programs which meet national and international standards is a key



Consultation Handbook

*Procedures for Conducting
Consultation and Conference
Activities Under Section 7 of the
Endangered Species Act*

**U.S. Fish & Wildlife Service
and
National Marine Fisheries Service**



**March 1998
Final**

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FINAL

PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT VEGETATION TREATMENTS USING HERBICIDES ON BUREAU OF LAND MANAGEMENT LANDS IN 17 WESTERN STATES

() DRAFT

(X) FINAL

LEAD AGENCY:

U.S. Department of the Interior
Bureau of Land Management
Washington Office, Washington, D.C.

PROJECT LOCATION:

Alaska, Arizona, California, Colorado, Idaho, Montana,
Nebraska, Nevada, New Mexico, North Dakota, Oklahoma,
Oregon, Texas, South Dakota, Utah, Washington, and
Wyoming

**COMMENTS ON THIS FINAL PROGRAMMATIC
EIS SHOULD BE DIRECTED TO:**

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PEIS Project Manager
Nevada State Office
1340 Financial Boulevard
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Reno, Nevada 89520-0006
Fax: (775) 861-6712

**DATE FINAL PROGRAMMATIC EIS FILED WITH
THE U.S. ENVIRONMENTAL PROTECTION
AGENCY:**

June 29, 2007

**DATE BY WHICH COMMENTS MUST BE
POSTMARKED TO THE BLM:**

July 30, 2007

ABSTRACT

This Final Programmatic Environmental Impact Statement (PEIS) analyzes the potential direct, indirect, and cumulative impacts associated with the Bureau of Land Management's use of herbicides on the human and natural environment. An accompanying Final Programmatic Environmental Report (PER) discloses the potential impacts to vegetation and the environment from utilization of non-herbicide treatment techniques, including, but not limited to, fire, mechanical, manual, and biological control methods. Together, herbicide and non-herbicide treatments make up the integrated pest management program that the BLM would apply to approximately 6 million acres annually of public lands in 17 western U.S. states, including Alaska. Alternatives analyzed in the PEIS include the No Action Alternative, or continuation of present management, as outlined in four previous EISs dating from 1986 to 1992. In addition, four action alternatives were evaluated: 1) the Preferred Alternative, which includes herbicide treatments on about 932,000 acres annually and adoption of four new herbicides for use on public lands; 2) a no herbicide use alternative; 3) a no aerial spraying alternative; and 4) an alternative that would limit herbicide use to non-acetolactate synthase-inhibiting active ingredients.

Where do plants fit in?

Endangered Species Act

40th Anniversary

Protecting Imperiled Animals
and Plants Since 1973



**ENDANGERED SPECIES ACT
40TH ANNIVERSARY**
Protecting Imperiled
Species Since 1973

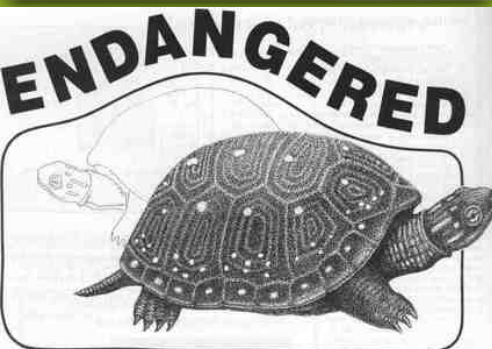
www.gov/Endangered/ESA40



**THE ENDANGERED
SPECIES ACT**

endangeredspeciesday.org

**Endangered
Species Act**



Where do plants fit in?

Plants

±20000 spp. in U.S.

±3800 in NM

882 ESA-listed

13 in NM

Vertebrates

±3000 spp. in U.S.

±800 in NM

439 ESA-listed

33 in NM

Plants in LCDO

±1600 spp.?

4 endangered

1 petitioned

19 sensitive

21 watch

V. Negrón-Ortiz, 2014. Pattern of expenditures for plant conservation under the Endangered Species Act. *Biological Conservation* 171 (2014) 36–43

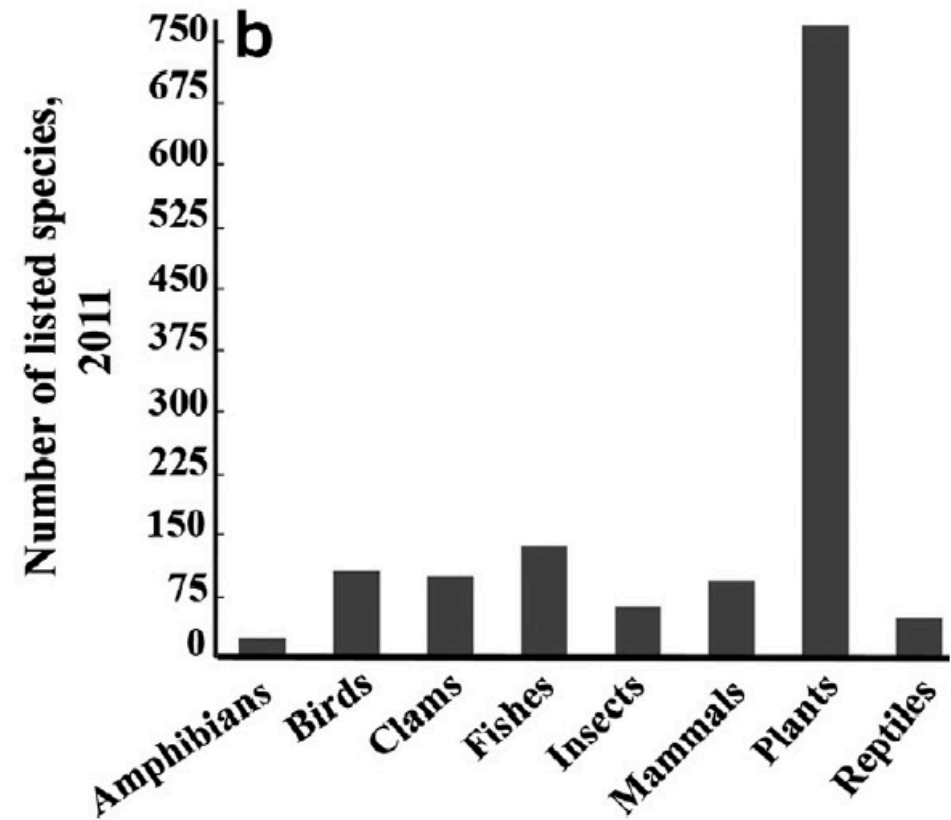
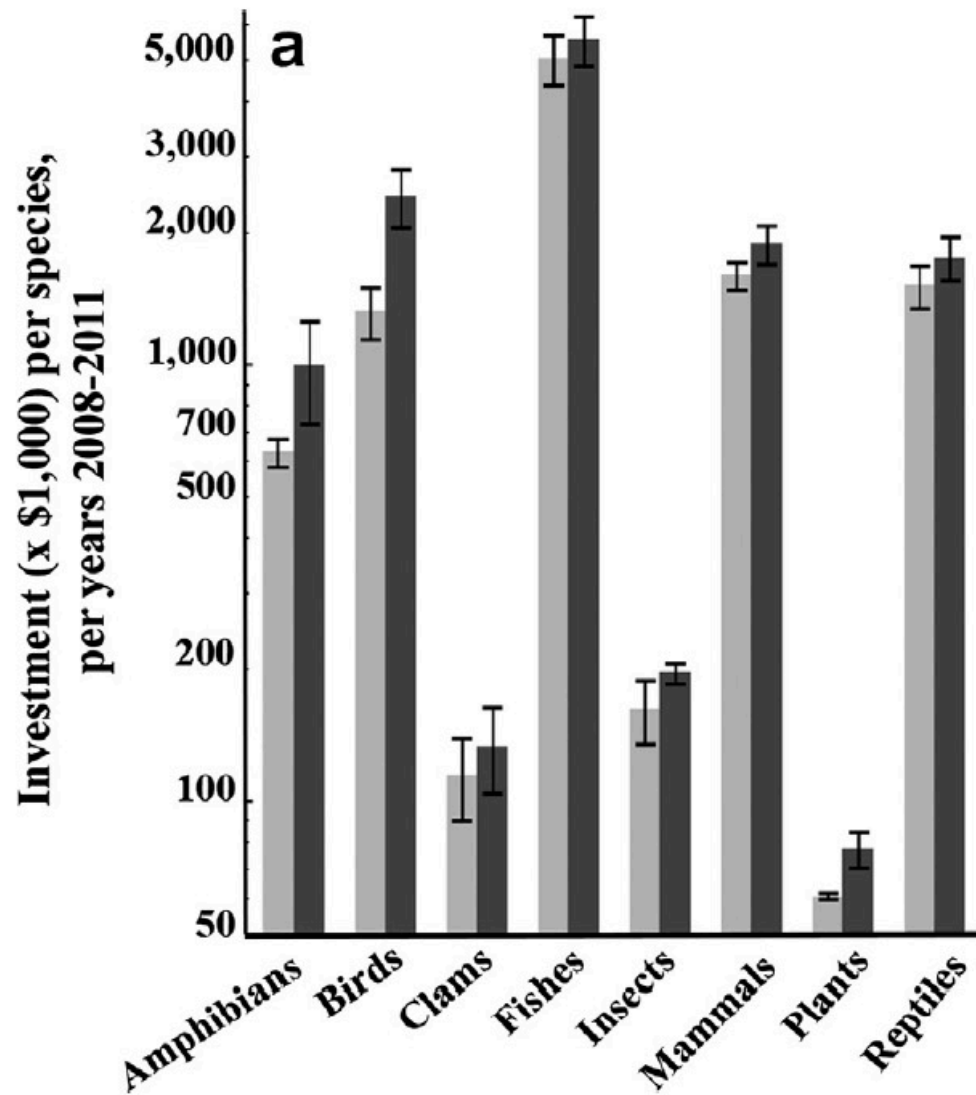
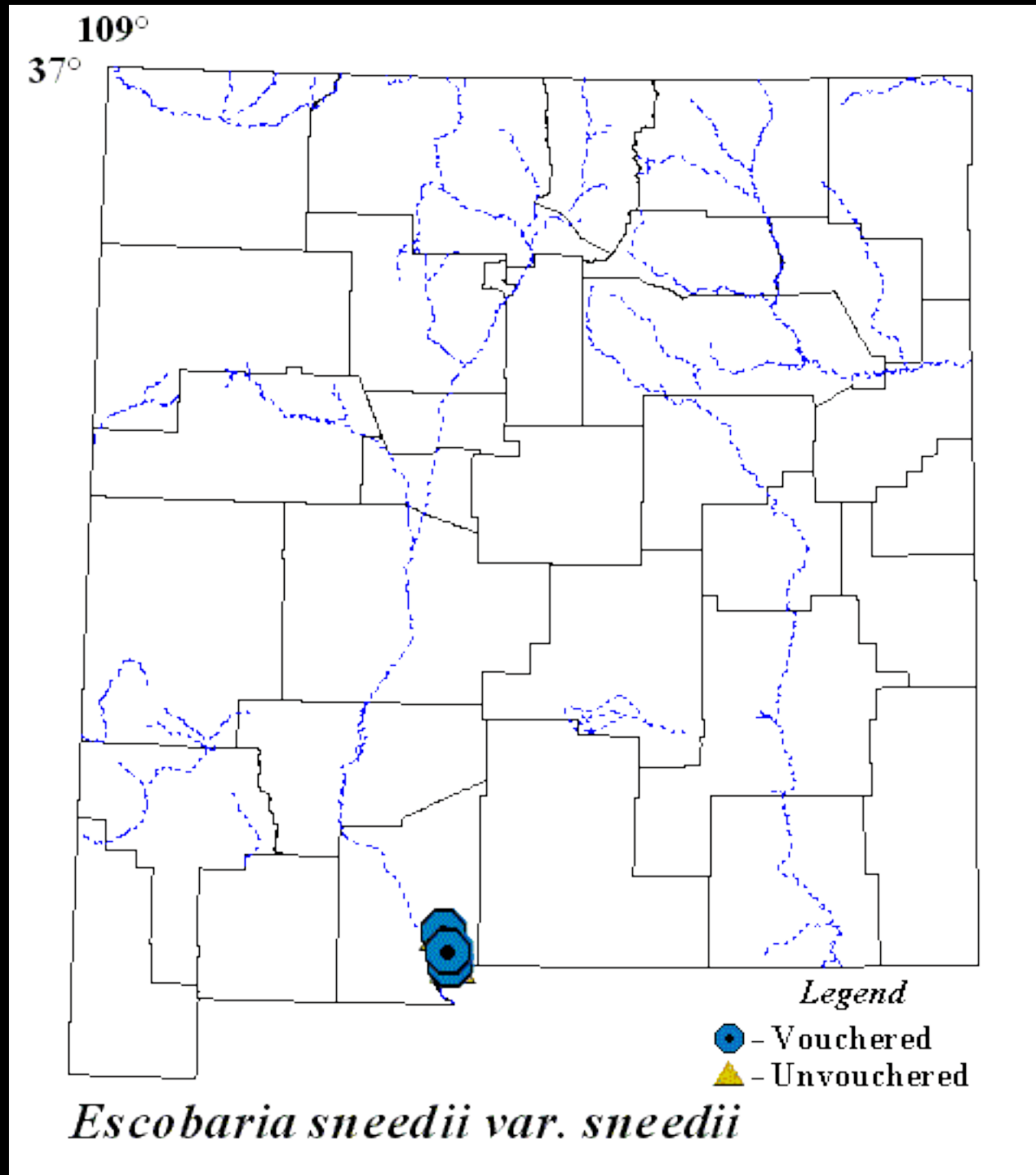


Fig. 1. Number of species (a) and average recovery spending (b) per group. The error bars represent the standard error of the mean. Investments with (■) and without (□) land acquisition.

Endangered: *Coryphantha sneedii* var. *sneedii* (Sneed's pincushion cactus)



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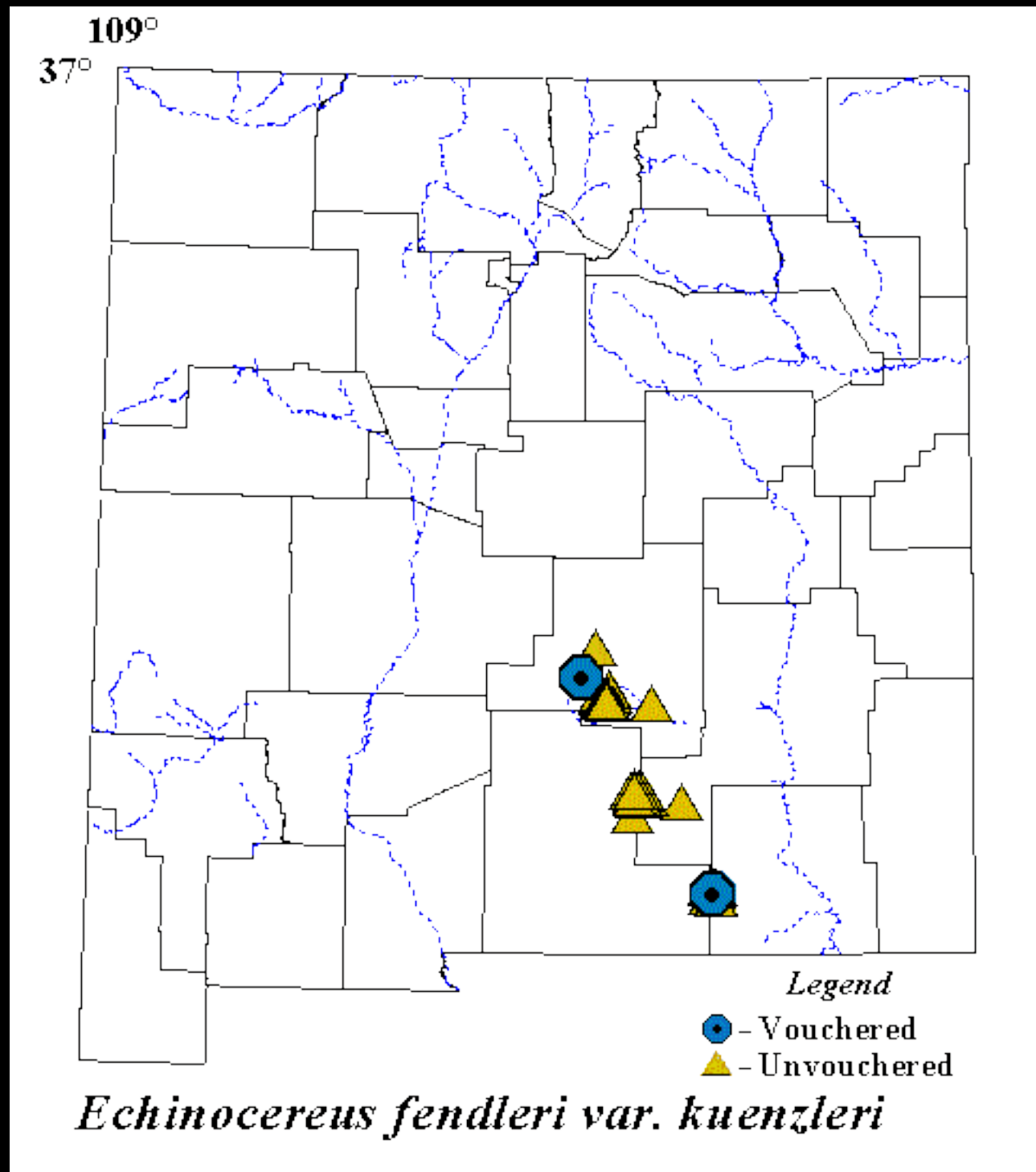


Endangered:

Coryphantha sneedii var. *sneedii*
(Sneed's pincushion cactus)



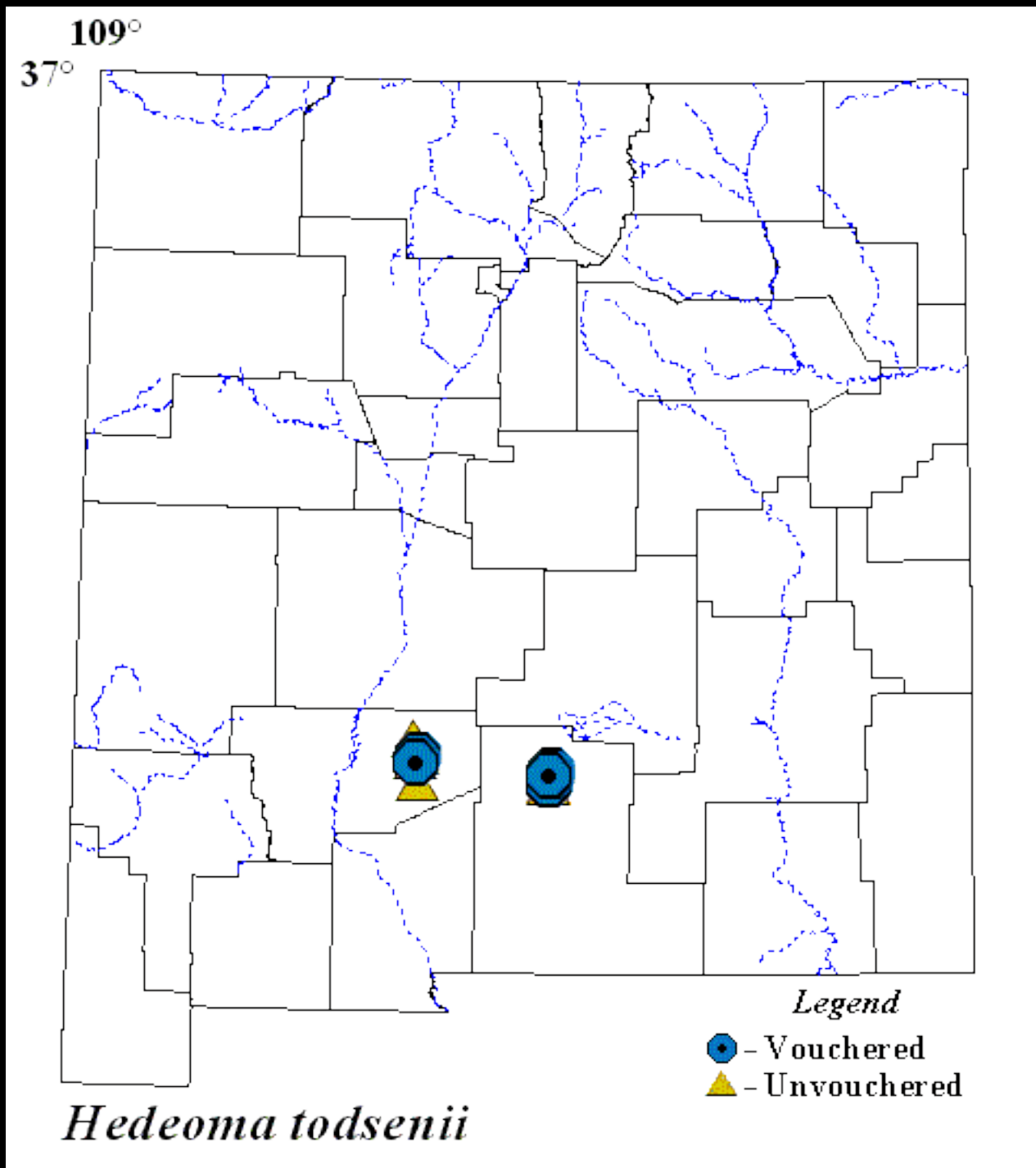
Endangered: *Echinocereus fendleri* var. *kuenzleri* (Kuenzler's hedgehog cactus)



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Endangered: *Hedeoma todsenii* (Todsens's pennyroyal)



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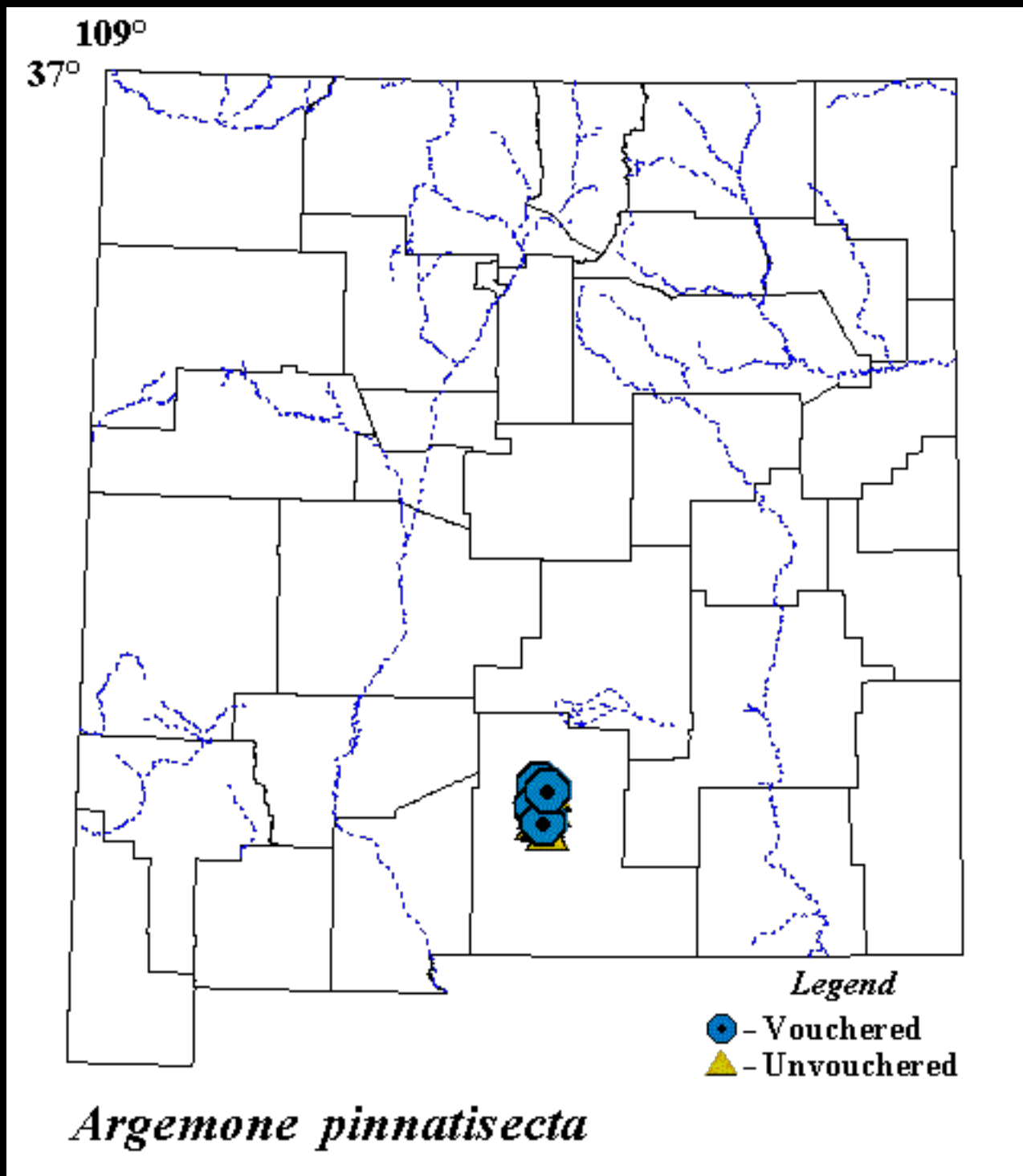


Bob Sivinski



Joyce Maschinski

Endangered: *Argemone pinnatisecta* (Sacramento prickly poppy)



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Argemone pinnatisecta
(Sacramento prickly poppy)



Sensitive / watch species - primarily found in three areas:

1 Crow Flats / The Rim

Ericameria nauseosa var. *texensis* (Guadalupe rabbitbrush)

Lepidospartum burgessii (gypsum scalebroom)

Perityle quinqueflora (five-flowered rockdaisy)

Nama xylopodum (cliff nama)

Nerisyrenia hypercorax (Crow Flats fanmustard)

Coryphantha robustispina var. *scheeri* (Scheer's beehive cactus)

Paronychia wilkinsonii (Wilkinson's nailwort)

Dermatophyllum guadalupense (Guadalupe mescalbean)

Mentzelia humilis var. *guadalupensis* (Guadalupe stickleaf)

Anulocaulis leiosolenus var. *howardii* (Howard's gyp ringstem)

Crow Flats / The Rim



Crow Flats / The Rim



Sensitive / watch species - primarily found in three areas:

2 Organ Mountains:

Spermolepis organensis (Organ Mountains scaleseed)

Perityle cernua (nodding cliff daisy)

Coryphantha organensis (Organ Mountains pincushion cactus)

Coryphantha sneedii var. *sneedii* (Sneed's pincushion cactus)

Agastache cana (grayish-white giant hyssop)

Agastache pringlei var. *verticillata* (Organ Mountains giant hyssop)

Oenothera organensis (Organ Mountains evening-primrose)

Castilleja organorum (Organ Mountains paintbrush)

Scrophularia laevis (Organ Mountains figwort)

Organ Mountains



Organ Mountains



Sensitive / watch species - primarily found in three areas:

3 Sacramento Escarpment:

Sibara grisea (gray sibara)

Hedeoma todsenii (Todsens pennyroyal)

Argemone pinnatisecta (Sacramento prickly poppy)

Penstemon alamosensis (Alamo beardtongue)

Aquilegia chrysantha var. *chaplinei* (Chapline's columbine)

Sacramento Escarpment



Sacramento Escarpment



Two sensitive species are most often relevant to proposed projects:

Peniocereus greggii var. *greggii* (night-blooming cereus)

Pediomelum pentaphyllum (Chihuahua scurfpea)

Peniocereus greggii var. *greggii* (night-blooming cereus)



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Pediomelum pentaphyllum (Chihuahuahua scurfpea)

Petitioned for ESA listing in 2007 and 2008.

LCDO brush treatments listed as a threat in the 2008 petition.

USFWS gave a 90-day finding that listing may be warranted in 2009.

USFWS expects to give a 360-day finding in 2017?

Pediomelum pentaphyllum (Chihuahua scurfpea)



Pediomelum pentaphyllum (Chihuahua scurfpea)



Pediomelum pentaphyllum (Chihuahuascurfpea), Fabaceae



Pediomelum pentaphyllum (Chihuahua scurfpea), Fabaceae



Pediomelum pentaphyllum (Chihuahua scurfpea), Fabaceae



Why *Pediomelum pentaphyllum* can be hard to find...



Why *Pediomelum pentaphyllum* can be hard to find...



Pediomelum pentaphyllum (Chihuahuascurfpea), Fabaceae



Pediomelum pentaphyllum (Chihuahuascurfpea), Fabaceae



Pediomelum pentaphyllum (Chihuahuascurfpea), Fabaceae



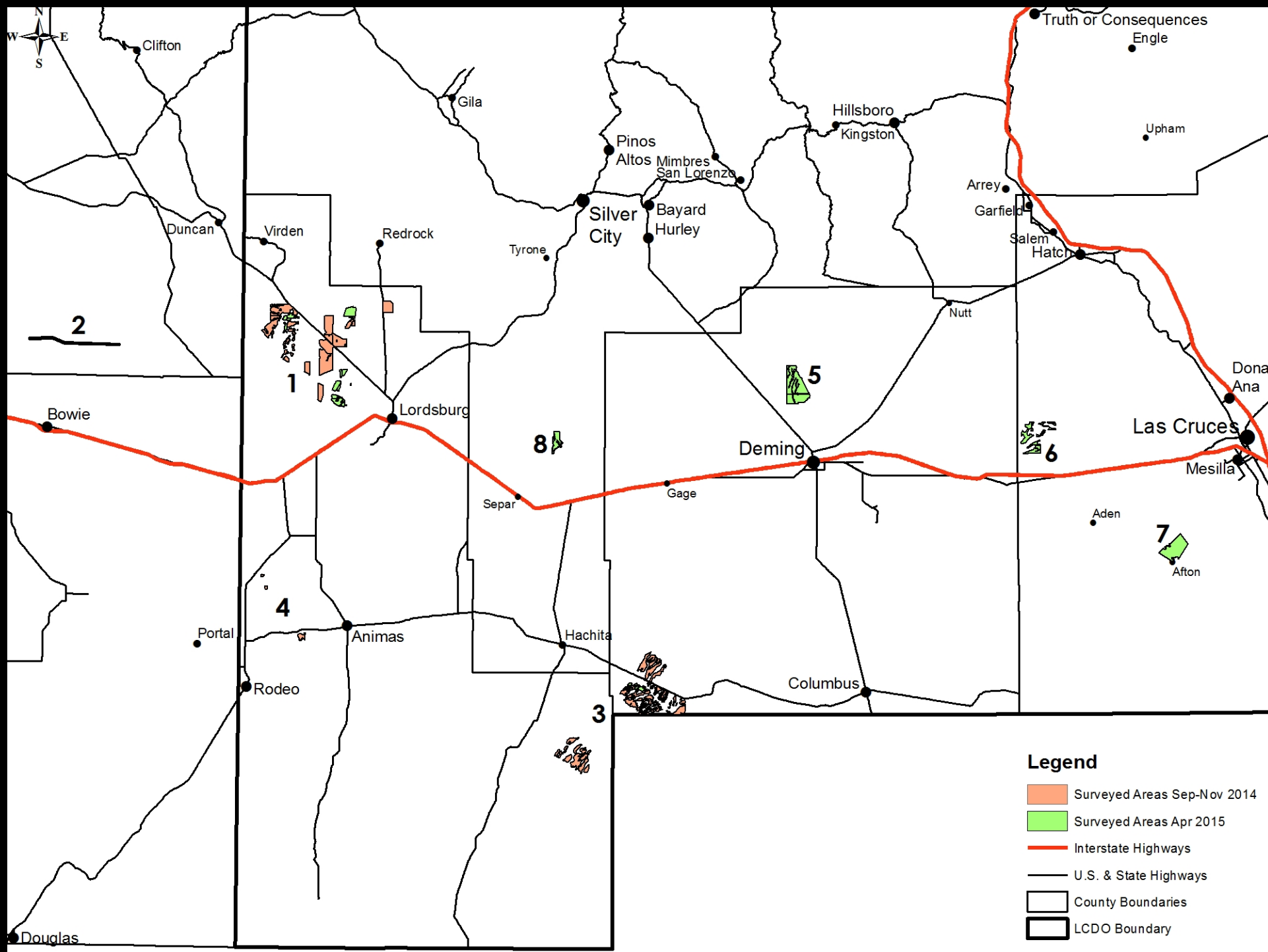
Rare plant process:

1. Are there special status plants that could potentially be in the project area?
2. If yes, conduct surveys.
3. If special status plants found:
 - a. cancel project;
 - b. avoid plants / move project;
 - c. reduce / mitigate impacts if unavoidable.

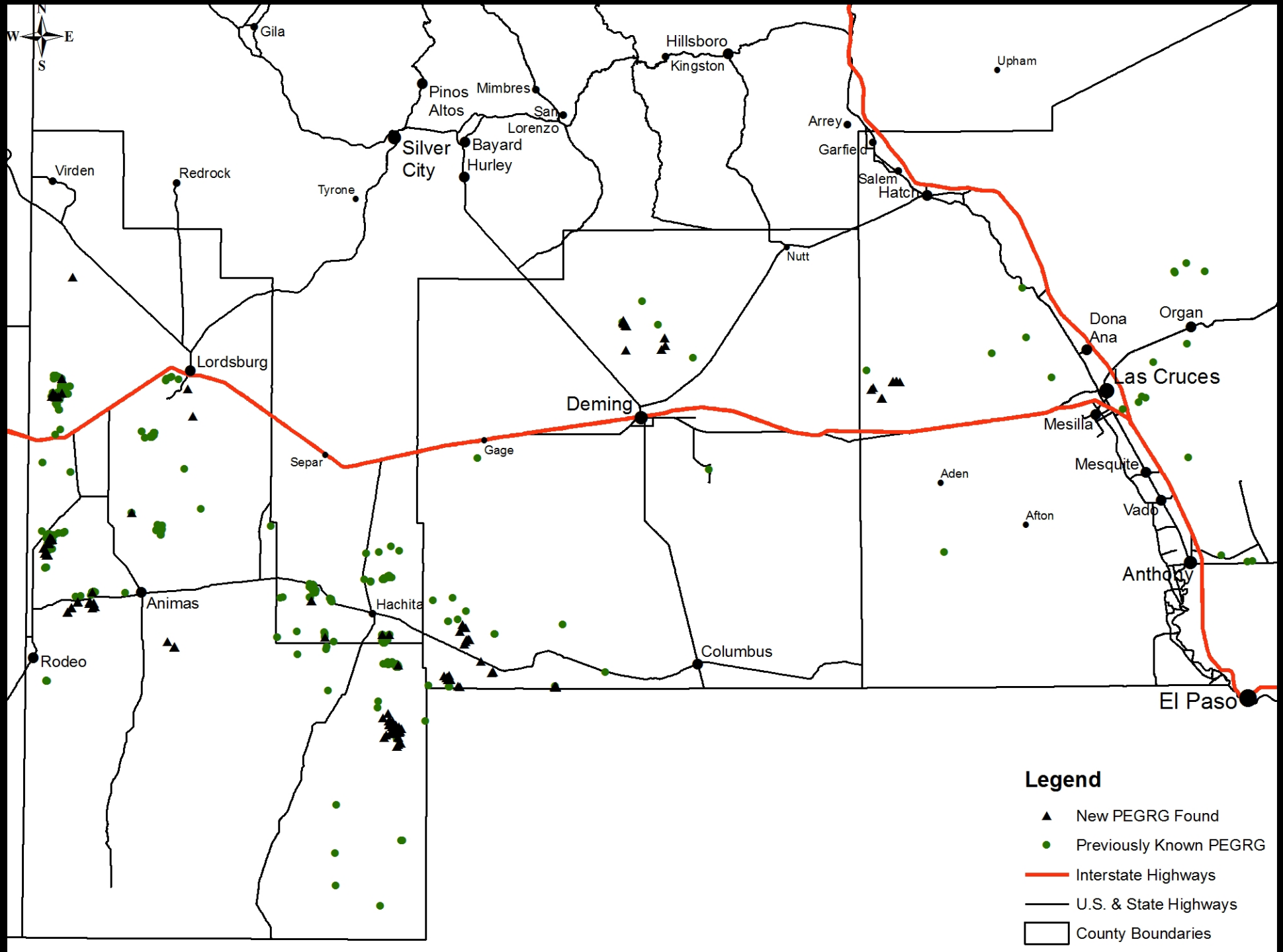
Example survey lines (Lazy E brush treatment):



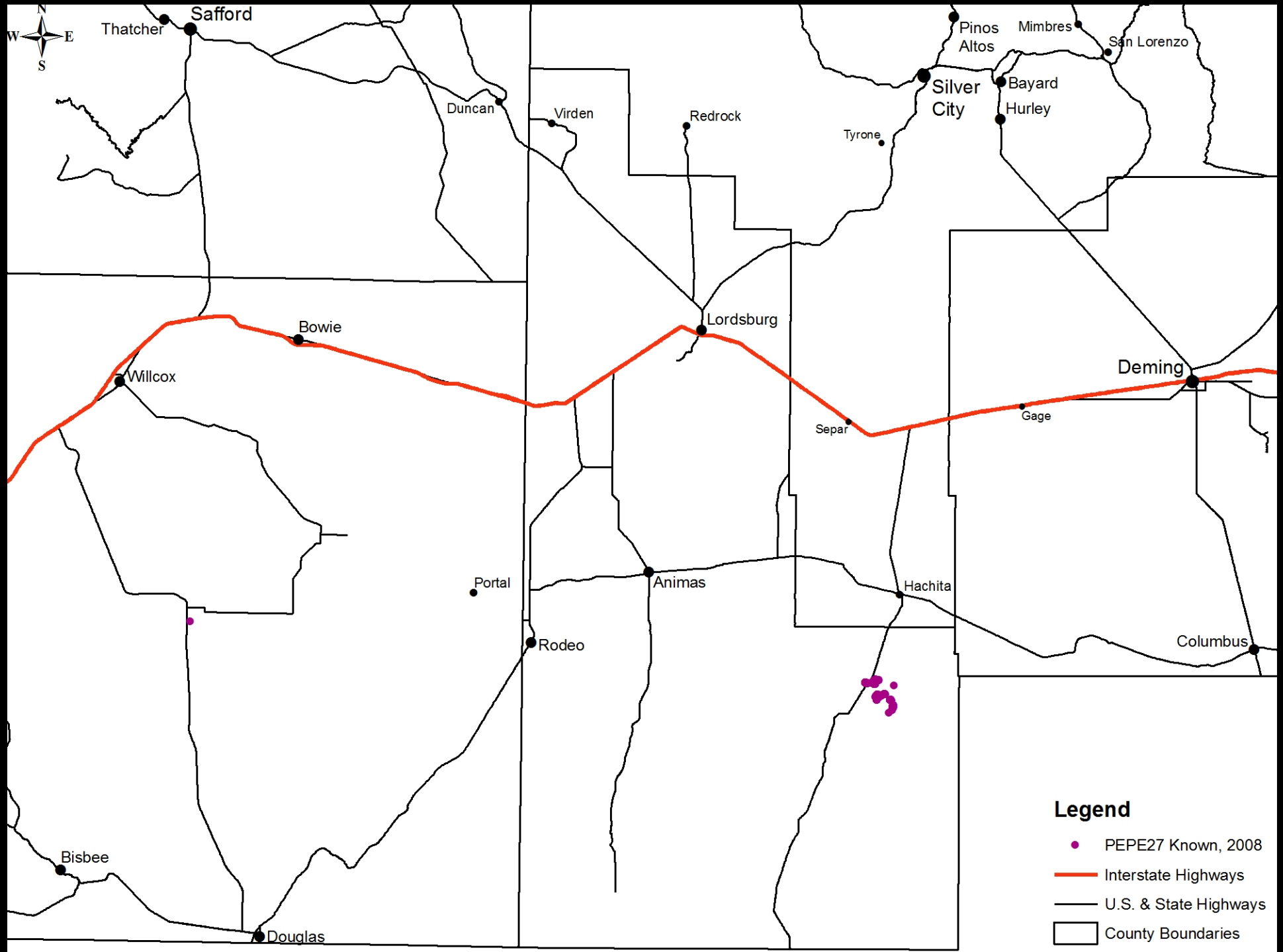
Areas surveyed by LCDO 2014-2015:



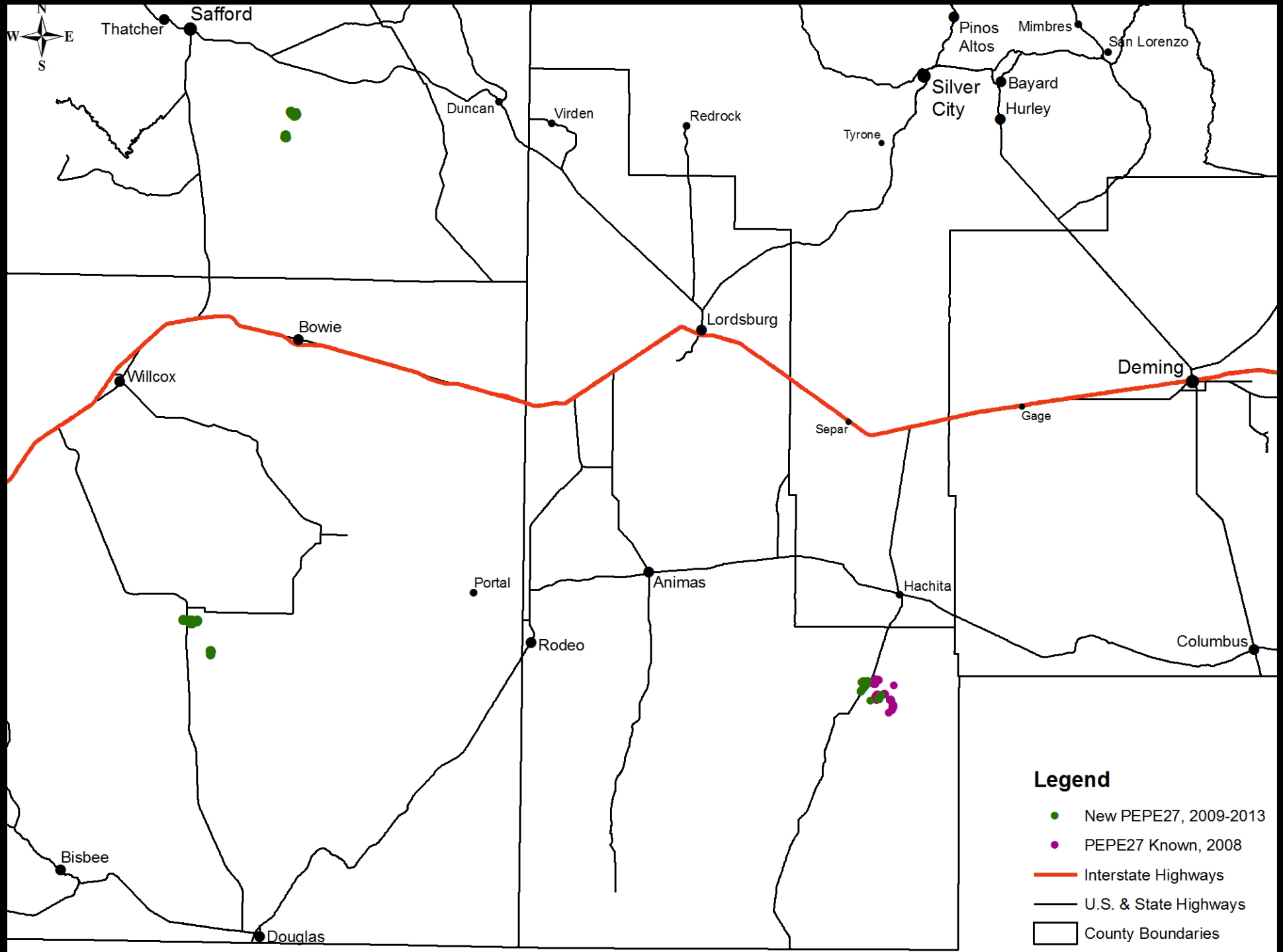
Peniocereus greggii var. *greggii*: \pm 650 individuals before, found 249 more.



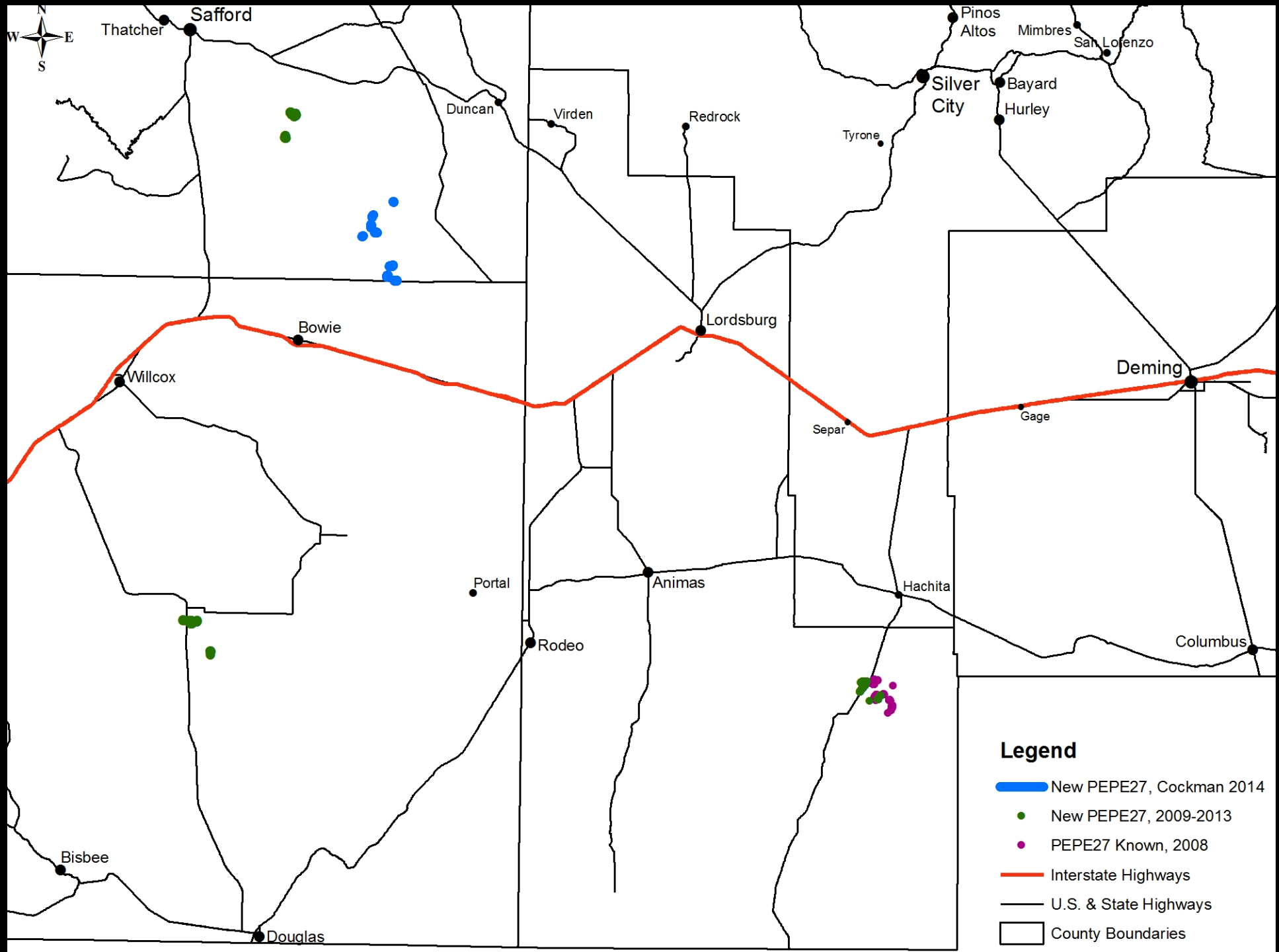
Pediomelum pentaphyllum: known distribution as of 2008 (± 600 plants).



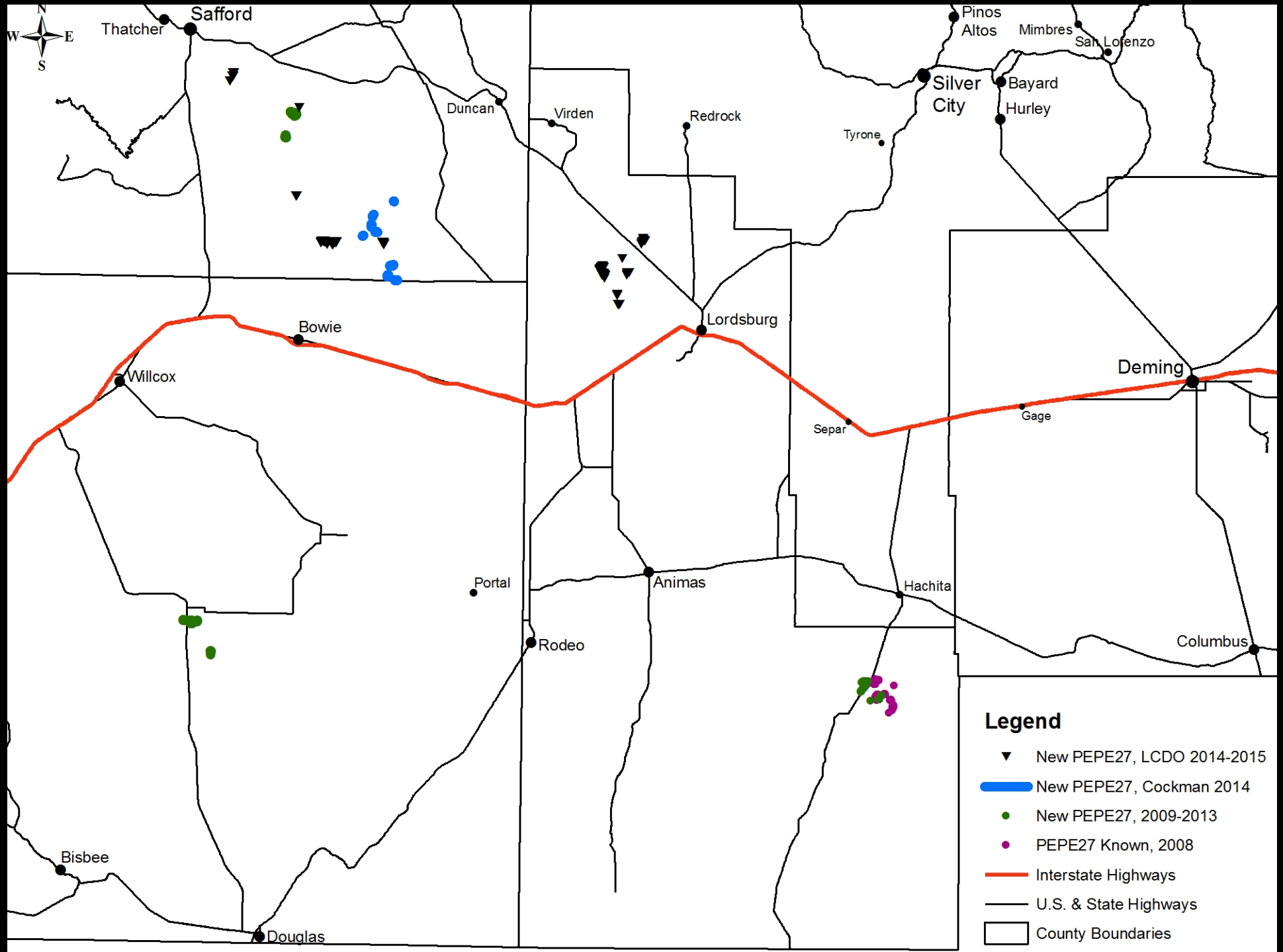
Pediomelum pentaphyllum: known distribution as of 2013.



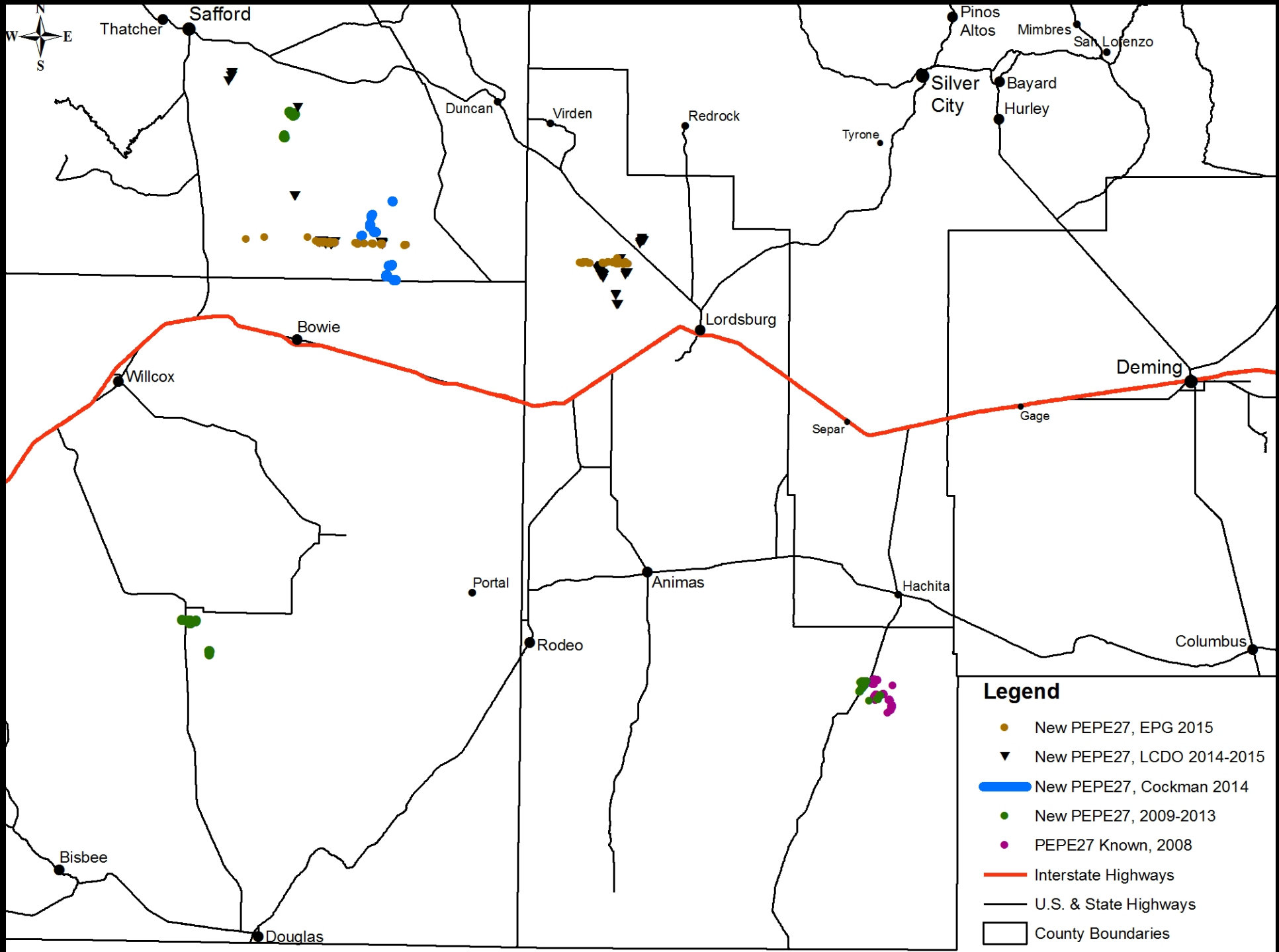
Pediomelum pentaphyllum 2014-2015: plants found by J. Cockman, SFO.



Pediomelum pentaphyllum 2014-2015: plants found by LCDO.



± 7000 individuals known at present. Reduced likelihood of ESA listing?



We also find other cool critters on surveys...



We also find other cool critters on surveys...

Amaranthus acanthochiton (greenstripe): Hidalgo County

Lomatium foeniculaceum (desert biscuitroot): Luna County

Androstephium breviflorum (pink funnel lily): Hidalgo County

Lorandersonia pulchella (southwestern rabbitbrush): Hidalgo County, Luna County

Palafoxia sphacelata (othake): Luna County

Simsia lagasceiformis (annual bush-sunflower): Luna County

Heliotropium convolvulaceum (trumpet heliotrope): Luna County

Mortonia scabrella (Rio Grande saddlebush): Luna County

Ipomoea cardiophylla (heartleaf morning-glory): Luna County

Chamaesyce parryi (Parry's sandmat): Hidalgo County

Dalea lanata var. *terminalis* (woolly prairie-clover): Hidalgo County, Graham County

Lupinus pusillus (rusty lupine): Hidalgo County

Mimosa emoryana (Emory's mimosa): Hidalgo County

Anoda pentaschista (field anoda): Luna County

Boerhavia torreyana (Torrey's spiderling): Hidalgo County, Graham County

Munroa squarrosa (false buffalograss): Hidalgo County

