

**Southern Mountain Buckwheat**  
*(Eriogonum kennedyi var. austromontanum)*

**5-Year Review:  
Summary and Evaluation**



Photo courtesy of Scott Eliason

**U.S. Fish and Wildlife Service  
Carlsbad Fish and Wildlife Office  
Carlsbad, California**

**March 2008**

## 5-YEAR REVIEW

### Southern mountain buckwheat/*Eriogonum kennedyi* var. *austromontanum*

#### 1. GENERAL INFORMATION

##### 1.1. Reviewers

Lead Regional or Headquarters Office: Diane Elam and Jenness McBride, Region 8, California and Nevada, 916-414-6464

Lead Field Office: Karen A. Goebel and Jesse Bennett, Carlsbad Fish and Wildlife Office, 760-431-9440

##### 1.2. Methodology used to complete the review

This review was compiled by Jesse Bennett of the Carlsbad Fish and Wildlife Office (CFWO), U. S. Fish and Wildlife Service (USFWS), and considered available literature, office files, and discussions with researchers or land managers whose expertise includes southern mountain buckwheat.

##### 1.3. Background

###### 1.3.1. FR Notice citation announcing initiation of this review

The notice announcing the initiation of this and other 5-year reviews and opening of the comment period for 60 days was published on February 14, 2007 (72 FR 7064). We did not receive any information specific to southern mountain buckwheat, but we did receive one general comment letter supporting continued protection under the Endangered Species Act of 1973 (Act), as amended, of all species noticed in this announcement.

###### 1.3.2. Listing history

###### Original Listing

FR notice: 63 FR 49006

Date listed: September 14, 1998

Entity listed: subspecies; Southern Mountain Buckwheat (*Eriogonum kennedyi* var. *austromontanum*)

Classification: threatened

###### 1.3.3. Associated rulemakings

Critical habitat has been designated for this species.

FR notice: 72 FR 73092

Date designated: December 26, 2007

#### **1.3.4. Review History**

No comprehensive status reviews have been conducted for this species.

#### **1.3.5. Species' Recovery Priority Number at start of 5-year review**

The species' Recovery Priority Number was reported as a value of "9" in the 2007 Recovery Data Call for the Carlsbad Fish and Wildlife Office. This number indicates that the species has a moderate degree of threat and a high potential for recovery.

#### **1.3.6. Recovery Plan or Outline**

No draft or final recovery plan has been developed.

## **2. REVIEW ANALYSIS**

### **2.1. Application of the 1996 Distinct Population Segment (DPS) policy**

#### **2.1.1. Is the species under review a vertebrate?**

No. The Endangered Species Act defines species as including any subspecies of fish or wildlife or plants and any distinct population segment of any species of vertebrate wildlife. This definition limits listings as distinct population segments (DPS) only to vertebrate species of fish and wildlife. Because the southern mountain buckwheat is a plant and the DPS policy is not applicable, the application of the DPS policy to the species listing is not addressed further in this review.

### **2.2. Recovery Criteria**

#### **2.2.1. Does the species have a final, approved recovery plan containing objective, measurable criteria?**

No, there is no recovery plan for this species.

### **2.3. Updated Information and Current Species Status**

Southern mountain buckwheat was federally listed as threatened in 1998. In 2002, the U. S. Forest Service (USFS) updated their Pebble Plain Habitat Management Guide (USFS 2002). In 2005, the USFS completed a species viability analysis and biological assessment for southern mountain buckwheat (USFS 2005). These documents are the primary sources of new information for southern mountain buckwheat relevant to this 5-year review.

### **2.3.1. Biology and Habitat**

#### Life History

Southern mountain buckwheat is a woody-based perennial plant with stems forming loose cushion-like leafy mats, 6-14 inches (in) (14-36 centimeters) (cm)) wide. The leaves are oblanceolate and 0.2 to 0.4 in (0.5-1 cm) long, with dense white hair. The inflorescences are 3-6 in (8-15 cm) high, bearing head-like flower clusters (63 FR 49006). The perianth is white to rose and composed of inner and outer lobes that are similar in appearance. Southern mountain buckwheat is distinguished from *Eriogonum kennedyi* var. *kennedyi* and *E. var. alpigenum*, which also occur in the San Bernardino Mountains, by longer plant parts (inflorescences, leaves, fruits, and involucre) (63 FR 49006). Southern mountain buckwheat could also be confused with *E. wrightii* ssp. *subscaposum*, but *E. wrightii* ssp. *subscaposum* has racemose flower stalks, wider leaves, and shorter fruits and is found in pine forests rather than on pebble plain habitat (63 FR 49006).

Southern mountain buckwheat is found on pebble plain habitat and is associated with Bear Valley sandwort (*Arenaria ursina*) and ash-gray (Indian) paintbrush (*Castilleja cinerea*) (USFS 2002). Pebble plains are characteristically treeless openings within surrounding montane pinyon-juniper woodland or coniferous forest with clay soils covered with quartzite pebbles. They have extremely low infiltration rates and high runoff potentials (63 FR 49006). The surface of undisturbed pebble plain habitat is about 31-38 percent vegetation, 15 percent plant litter, 45-47 percent rock pavement, and 0.89-1.2 percent bare soil (USFS 2002). Most occurrences are at elevations between 6,000 to 9,500 feet (ft) (1,800 to 2,300 meters (m)) (63 FR 49006).

During 2001 surveys, the USFS documented 73 plant species associated with pebble plain habitat (USFS 2002). Many of the associated species found were narrowly distributed, while others were disjunct occurrences of species found north and south of the San Bernardino Mountains (USFS 2002).

#### Spatial Distribution

Southern mountain buckwheat has the most restricted range of the pebble plain endemic plants, although it may be the most dominant plant where it does occur (71 FR 67712). According to the final listing rule, southern mountain buckwheat was known from seven pebble plain complexes in the San Bernardino Mountains (63 FR 49006). According to the rule proposing critical habitat for southern mountain buckwheat and other pebble plains species, southern mountain buckwheat was also known from the 1970's, prior to the time of listing, to occur on pebble plains within the area now referred to as the Fawnskin Complex (71 FR 67712). While these areas were not identified in the final listing rule, we consider them to be occupied at the time of listing based on pre-listing occupancy records in our files (71 FR 67712) and included these areas in our final designation of critical habitat (72 FR 73092).

Currently, southern mountain buckwheat is known to occur in nine pebble plain complexes, including the Broom Flat Complex that was not known to be occupied by southern mountain buckwheat at the time of listing (71 FR 67712) (Figure 1). The pebble plain complexes supporting southern mountain buckwheat include Arrastre/Union Flat, Big Bear Lake, Broom Flat, Fawnskin, Gold Mountain, Holcomb Valley, North Baldwin Lake, Sawmill, and South Baldwin Ridge/Erwin Lake (72 FR 73092, USFWS 2005).

### Abundance

Southern mountain buckwheat occurs in a mosaic distribution among the various pebble plain complexes. The distribution may change locally over time, but generally extends throughout a pebble plain complex. In the final rule listing southern mountain buckwheat as a federally threatened species, it was estimated that there were 700 acres (ac) (283 hectares) (ha) of historical pebble plains habitat and 545 ac (221 ha) of remaining pebble plains habitat (63 FR 49006). These estimates of habitat were based on the work by Derby (1979 cited in USFS 2002), which characterized pebble plain habitat as having two indicator species, Bear Valley sandwort (*Arenaria ursina*) and southern mountain buckwheat.

However, since the listing of the species, USFS botanists have documented several new occurrences of habitat that have only one or none of these indicator species (USFS 2002). The 2002 Pebble Plain Habitat Management Guide uses the more recent work by the USFS to define pebble plain habitat using a point system based on plant indicator species and soils. Based on this system, the San Bernardino National Forest supports about 3,322 ac (1,344 ha) of pebble plain habitat, and private land supports about 666 ac (270 ha) (USFS 2002). More specifically, recent data indicates that there are about 1,388 ac (562 ha) of southern mountain buckwheat occupied habitat remaining, with 1,026 ac (415 ha), or about 74 percent, on San Bernardino National Forest lands; 273 ac (110 ha), or about 20 percent, on private lands; 74 ac (30 ha), or about 5 percent, on municipal lands and special districts; and 15 ac (6 ha), or about 1 percent, on state lands (J. Bill, pers. comm. 2007).

Due to this change in definition of what constitutes pebble plain habitat, it is not possible to determine quantitatively if there has been a change in the number of acres of pebble plain habitat known to be occupied by southern mountain buckwheat since the species was listed. The most recent survey work has identified one additional occurrence of southern mountain buckwheat at the Broom Flat complex, which was not known to have southern mountain buckwheat at the time of listing (71 FR 67712). However, the USFS indicates that populations are declining due to recreation, existing roads and trails, mining, prospecting, cattle trespass, target shooting, unauthorized off-road driving, and urbanization (USFS 2005).

## **2.3.2. Five-Factor Analysis (threats, conservation measures, and regulatory mechanisms)**

### **2.3.2.1. Present or threatened destruction, modification or curtailment of its habitat or range**

The final rule listing the southern mountain buckwheat (63 FR 49006) describes the major threats to this and other species confined to pebble plains habitats as habitat destruction, degradation, and fragmentation resulting from urbanization, off-road vehicle activity, alteration of hydrological conditions, fuelwood harvesting, and mining. While not identified in the final listing rule, fuelbreaks for fire suppression have also damaged pebble plain habitat (USFS 2002).

The most significant and persistent threat to pebble plains habitat identified in the final listing rule was off-road vehicle activity (63 FR 49006). Off-road vehicle activity and urbanization are the primary threats still affecting the southern mountain buckwheat (S. Eliason *in litt.* 2006; USFWS 2005). Urbanization directly removes southern mountain buckwheat and can also increase public access and off-road driving (S. Eliason *in litt.* 2006). Development is identified as an ongoing threat at the North Baldwin Lake, South Baldwin Ridge/Erwin Lake, Big Bear Lake, Fawnskin, Sawmill, and Gold Mountain complexes (USFS 2002).

The primary cause of habitat degradation on the San Bernardino National Forest is unauthorized off-road vehicle use (USFWS 2005). Additional lesser threats include road use and maintenance, mining, and dispersed recreation (S. Eliason *in litt.* 2006; USFWS 2005). Vehicles cause considerable damage to southern mountain buckwheat habitat. All of the pebble plain complexes have some degree of impact associated with the authorized and unauthorized use of vehicles and associated maintenance and/or recreational activities (USFS 2002).

In the final rule to list the species, we noted that pebble plains are very susceptible to damage during spring thaw (63 FR 49006). During the wet season, vehicles both directly destroy plants and create deep ruts that change the water flow patterns over the pebble plains, potentially indirectly affecting plants (63 FR 49006). Vehicular activity also favors the establishment of species more tolerant of disturbance, potentially altering the composition of the plant community over time (Stephenson and Calcarone 1999). Non-native species are specifically identified as a concern in the Fawnskin, Arrastre/Union Flat, Sawmill, North Baldwin Lake, South Baldwin Ridge/Erwin Lake, and Broom Flat complexes in the Pebble Plain Habitat Management Guide (USFS 2002). Finally, vehicular activity can result in soil compaction and can cover individuals with dust and mud that can impair physiological functions (USFWS 2005; USFS 2002).

The USFS has instituted numerous protective measures and land designations to increase protection of southern mountain buckwheat since its listing. Some measures such as fencing, signage, and monitoring have been in place since listing. Barriers

and signs are placed to direct recreational use away from this species (USFS 2002). In 1999, eight road segments that were affecting pebble plain habitat were decommissioned. The USFS has also been conducting monitoring to ensure that conservation measures are effective. Special use permit events have been relocated or modified to avoid effects to southern mountain buckwheat. Further, the Mountaintop Ranger District has been closed to dispersed shooting, so the potential threat of trampling from shooters should be eliminated. Seeding and monitoring have occurred since the 1980's following unauthorized dozer use in the North Baldwin Pebble Plain. Erosion has been controlled and the habitat is slowly revegetating (USFS 2005). The USFS acquired about 4 ac (1.6 ha) of southern mountain buckwheat habitat at Broom Flat (USFWS 2005).

To reduce the potential for fire suppression activities to impact pebble plain habitat, the San Bernardino National Forest has a fire suppression plan specific to this habitat. Fire personnel are trained to identify pebble plain habitat and to use suppression techniques that reduce or prevent soil disturbance. A notebook with habitat maps and suppression plans has been distributed to fire personnel annually (USFS 2005). However, in October of 2003, a 0.25 mi (0.4 km) portion of the Fawnskin Pebble Plain Habitat Complex was bulldozed by accident as an emergency fuelbreak for the Old Fire. Suppression rehabilitation was completed in December 2003. Long term effects to habitat are unclear (USFS 2005).

In 2005, non-jeopardy biological and conference opinions (FWS-773.9) were issued that addressed the Revised Land Management Plans for the four southern California national forests. These plans included strategic direction in the form of land use zoning and standards. The land use zoning and standards indicated that for projects under the plans: 1) ongoing activities will be neutral or beneficial to certain areas with southern mountain buckwheat, 2) new activities will be neutral or beneficial to southern mountain buckwheat, and 3) expansion of existing facilities or new facilities will focus recreational use away from southern mountain buckwheat. Exceptions were included in the plans for fuel treatments in wildland-urban interface areas and to allow for projects with short-term effects and long-term benefits (USFWS 2005).

In addition to the adoption of land use zoning and standards, the USFS also proposed the Arrastre and Wildhorse Research Natural Areas, which cover about 274 ac (111 ha) of southern mountain buckwheat occupied habitat (USFS 2005). If designated, these areas will be subject to the USFS policy for Research Natural Areas, which indicates that "Research Natural Areas may only be used for research, study, observation, monitoring, and those educational activities that maintain unmodified conditions" (USFWS 2005).

In summary, two primary threats identified at listing, urbanization and off-road vehicle use, continue to impact southern mountain buckwheat. On private lands, development activities continue to threaten habitat and occurrences of the southern mountain buckwheat. Likewise, on the San Bernardino National Forest off-road vehicle use is still negatively impacting pebble plain habitat supporting southern

mountain buckwheat. While these threats have not been eliminated since the listing of the species, impacts to pebble plain habitat on USFS lands has decreased due to significant efforts by this agency to implement habitat protection measures.

#### **2.3.2.2. Overutilization for commercial, recreational, scientific, or educational purposes**

The final rule listing southern mountain buckwheat and six other plant taxa from the southern California mountains indicated that some of the taxa may have become vulnerable to collecting by curiosity seekers as a result of the increased publicity following publication of the proposed rule. A survey of the collections of a herbarium showed increases in the numbers of collections of southern mountain buckwheat and other pebble plain taxa following publication of an article describing this habitat type (63 FR 49006). However, we have no information on collection of this species since its listing.

#### **2.3.2.3. Disease or predation**

Disease and predation are not known to be factors affecting southern mountain buckwheat.

#### **2.3.2.4. Inadequacy of existing regulatory mechanisms**

##### State Protections

Southern mountain buckwheat is not listed under the California Endangered Species Act (CESA). Thus, the CESA and the Native Plant Protection Act (NPPA) provide no protection for this species. The only State law providing any potential protection to southern mountain buckwheat is the California Environmental Quality Act (CEQA).

The CEQA is the principal statute mandating environmental assessment of projects in California. The purpose of the CEQA is to evaluate whether a proposed project may have an adverse effect on the environment and, if so, if that effect can be reduced or eliminated by pursuing an alternative course of action or through mitigation. The CEQA applies to projects proposed to be undertaken or requiring approval by State and local public agencies (<http://www.ca.gov/state/portal>).

Southern mountain buckwheat is on the California Native Plant Society (CNPS) Inventory as List 1B. Under the CEQA, impacts to List 1B plants are considered significant and must be addressed. If significant effects are identified, the lead agency has the option of requiring mitigation through changes in the project or to decide that overriding considerations make mitigation infeasible (CEQA Sec. 21002). However, the CEQA does not guarantee that conservation projects will be implemented. Protection of listed species through the CEQA is dependent upon the discretion of the lead agency involved.

## Federal Protections

The National Environmental Policy Act (NEPA) may provide some protection for southern mountain buckwheat for projects with a Federal nexus. NEPA requires that the planning process for Federal actions be documented to ensure that effects on the environment are considered. The NEPA process is intended to help public officials make better decisions based on an understanding of the environmental consequences of their actions and to take actions to protect, restore, and enhance the environment (40 CFR 1500.1). Carrying out the NEPA process ensures that agency decision makers have information about the environmental effects of Federal actions and information on a range of alternatives that will accomplish the project purpose and need.

For environmental impacts that are significant, the Federal agency must identify means to mitigate these impacts (40 CFR 1502.16). For projects undertaken, funded, or authorized by Federal agencies, the NEPA would at least require that any significant adverse impacts to the human environment, including impacts to the natural and physical environment (40 CFR 1508.14), be considered. Projects that are mandated to comply with the NEPA may provide some consideration of impacts to southern mountain buckwheat and its habitat.

The Endangered Species Act is the primary Federal law providing protection for southern mountain buckwheat. Beyond the actual listing of the species, these protections for southern mountain buckwheat are afforded particularly through sections 7 and 9 of the Act. Section 7 of the Act requires Federal agencies to insure that any action authorized, funded, or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat. Section 7 also encourages Federal agencies to use their authorities to carry out programs for the conservation of listed species. Section 9 of the Act also prohibits the removal, damage, or destruction of listed plants on Federal lands and on other areas in knowing violation of any State law or regulation or State criminal trespass law.

The USFWS has addressed some projects through section 7 consultations with the USFS. In 2001, non-jeopardy biological and conference opinions (1-6-99-F-25) were issued addressing the impacts of Land and Resource Management Plan program direction and activities that were occurring in southern mountain buckwheat habitat (USFWS 2001). The primary activities occurring included roads, utility corridors, and dispersed recreation. In 2005, non-jeopardy biological and conference opinions (FWS-773.9) were issued that addressed the Revised Land Management Plans for the four southern California national forests as described more fully under factor A.

In summary, while both CEQA and NEPA may provide some discretionary conservation benefit to southern mountain buckwheat, the Act is the primary regulatory mechanism mandating southern mountain buckwheat conservation. With the majority of suitable and occupied habitat on USFS lands, the Act remains the

primary regulatory mechanism for ensuring that the southern mountain buckwheat is addressed during planning efforts for land management actions potentially affecting this species.

#### **2.3.2.5. Other natural or manmade factors affecting its continued existence**

Among the threats identified in the final listing rule for this species were non-native species, and this threat still exists. Introduced species of grasses and forbs can displace southern mountain buckwheat by competing for nutrients, water, light, and space. Weedy plant invasions are facilitated by disturbances (71 FR 67712; Stephenson and Calcarone 1999) such as off-road vehicle use, urban and residential developments, and various recreational activities. In addition, fuels management activities, including vegetation removal and fire suppression activities, have the potential to facilitate non-native species introductions.

In addition, trampling by feral burros was also identified as a threat to southern mountain buckwheat in the final listing rule. The final rule indicated that trampling by feral burros occurred at the North Baldwin Lake, Sawmill, Broom Flat (formerly Onyx), and Gold Mountain pebble plain complexes. However, the final listing rule anticipated that the threat from feral burros would be alleviated upon removal of burros from these areas under the provisions of the Big Bear Wild Burro Territory Management Plan (63 FR 49006). Under this plan, burros would only remain in about 45 ac (18 ha) of the Broom Flat (formerly Onyx) pebble plain complex (USFWS 1997). In 1998, burros were removed from the Big Bear City area, which includes the North Baldwin Lake, Sawmill, and Gold Mountain pebble plain complexes, but they still remain in the Broom Flat pebble plain complex (USFS 2005). Thus, as predicted, this threat to southern mountain buckwheat has been addressed at all but the Broom Flat pebble plain complex.

#### **2.4. Synthesis**

Habitat destruction, degradation, and fragmentation resulting from urbanization and off-road vehicle activity were identified among other threats to southern mountain buckwheat at the time of listing, and these activities remain the primary threats today. The regulatory protections for southern mountain buckwheat on private lands are very limited, and urban development activities still threaten pebble plain and other habitats supporting southern mountain buckwheat. While the majority (74 percent) of the habitat identified for southern mountain buckwheat occurs on USFS lands where monitoring and management actions are implemented, and the USFS has proposed additional land use designations to protect this species, unauthorized off-road vehicle use in occupied habitat and weedy plant invasions continue to negatively impact southern mountain buckwheat on USFS lands (USFS 2005).

Quantitative data needed to determine occurrence, habitat, or population trends since the time of listing are compromised by the change in definition of what constitutes pebble plain habitat. Thus, further monitoring and evaluation using the habitat information and occurrence data initiated by the 2002 Pebble Plain Habitat Management Guide (USFS 2002)

is needed prior to determining whether USFS management efforts are effective at reducing or eliminating the current threats sufficient to conserve remaining pebble plain habitat and to support recovery of the southern mountain buckwheat.

As documented in the final rule listing southern mountain buckwheat as threatened, this species is likely to become endangered within the foreseeable future if the threats described above are not reduced or eliminated. The final rule documents that due to management activities conducted by the USFS (including fencing, signing, and monitoring), southern mountain buckwheat is not subject to imminent extinction; thus, the appropriate listing decision was a threatened designation.

Based on the current known distribution of the species and our expectation of continued USFS management, we have determined that the southern mountain buckwheat, though still at risk from the primary threats of urban development and off-road vehicle use, is not subject to imminent extinction. Thus, this species should continue to remain a threatened species, and no change to the status of southern mountain buckwheat is warranted at this time.

### **3. RESULTS**

#### **3.1. Recommended Classification**

- Downlist to Threatened
- Uplist to Endangered
- Delist (Indicate reasons for delisting per 50 CFR 424.11):
  - Extinction
  - Recovery
  - Original data for classification in error
- No change is needed

#### **3.2. New Recovery Priority Number**

While protections for southern mountain buckwheat have increased on national forest lands, occupied and restorable habitat for this species continues to be threatened by urban development and off-road vehicle use. Therefore, the Recovery Priority Number remains 9, indicating that the taxon has a moderate degree of threat and a high potential for recovery.

#### **3.3. Listing and Reclassification Priority Number, if reclassification is recommended**

Not applicable

#### **4. RECOMMENDATIONS FOR FUTURE ACTIONS**

##### Develop Recovery Plan

Develop a recovery plan for southern mountain buckwheat that identifies objectives and specific delisting criteria for this species and prioritizes recovery actions such as non-native species removals, surveys, habitat acquisitions, and habitat restoration. In the interim, follow the guidance provided in the Pebble Plain Habitat Management Guide (USFS 2002).

##### Monitor Existing Populations

Systematic monitoring of southern mountain buckwheat throughout known and potentially occupied sites is necessary to track the status of the species and identify management priorities. There is a need to continue to obtain quantitative information regarding the status of this species to evaluate the effectiveness of conservation efforts over time.

##### Protection of Additional Southern Mountain Buckwheat Habitat

Seek opportunities to acquire non-federal portions of southern mountain buckwheat habitat.

##### Management of Occupied Southern Mountain Buckwheat Habitat

- a) Continue monitoring programs for the effectiveness of measures to protect southern mountain buckwheat from recreational activities and make adjustments to signs, barriers, and roads as necessary.
- b) Avoid new developments in or near southern mountain buckwheat habitat.
- c) Continue outreach to non-federal landowners regarding the presence of southern mountain buckwheat and the importance of protecting this species.

## 5. REFERENCES

- Bill, J. 2007. San Bernardino National Forest. Personal communication via email to Jesse Bennett. April 10, 2007.
- Eliason, S. 2006. Forest Service Botanist. In Litt. Letter to Carlsbad Fish and Wildlife Office dated January 22, 2006. Comments regarding proposed designation of critical habitat for pebble plains plants.
- Stephenson, J. R. and G. M. Calcarone. 1999. Southern California mountain and foothills assessment: habitat and species conservation issues. Gen. Tech. Rep. PSW-GTR-172. USDA Forest Service, Pacific Southwest Research Station, Albany, California. 402 pp.
- USFS (U. S. Forest Service). 2002. Pebble Plain Habitat Management Guide. Unpublished report submitted to the U. S. Fish and Wildlife Service.
- USFS (U. S. Forest Service). 2005. Biological assessment for the revised Land Management Plans (Forest Plans) for the four southern California national forests. Unpublished document submitted to the U. S. Fish and Wildlife Service.
- USFWS (U. S. Fish and Wildlife Service). 2001. Formal section 7 consultation for various and ongoing and related activities affecting pebble plains, San Bernardino County, California (1-6-99-F-25). February 14, 2001.
- USFWS (U. S. Fish and Wildlife Service). 2005. Biological and conference opinions on the Revised Land and Resource Management Plans for the Four Southern California National Forests, California (1-6-05-F-773.9). September 15, 2005.

**Figure 1**  
*Eriogonum kennedyi* var. *austromontanum* (Southern mountain buckwheat)

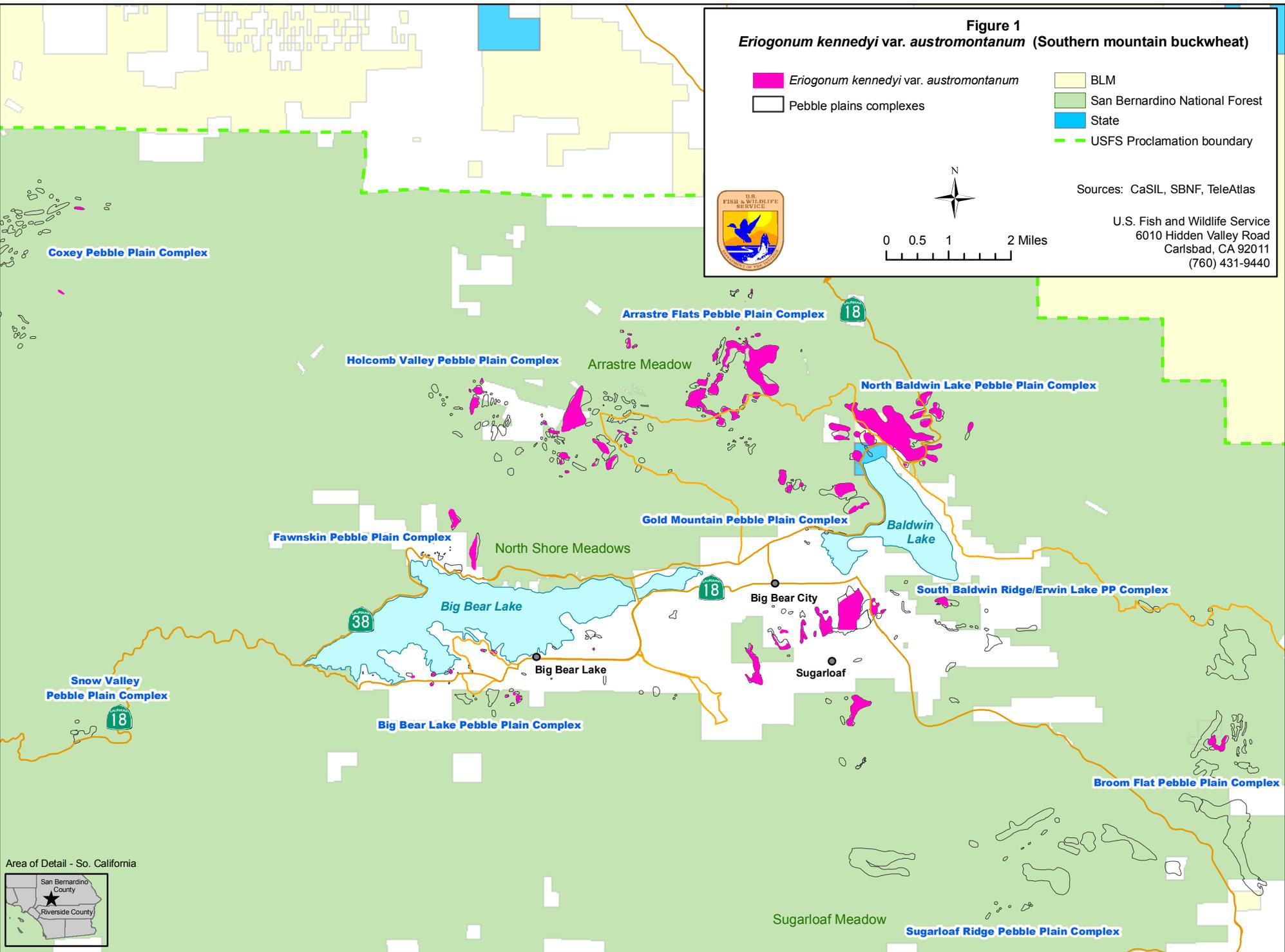
- Eriogonum kennedyi* var. *austromontanum*
- Pebble plains complexes
- BLM
- San Bernardino National Forest
- State
- USFS Proclamation boundary



0 0.5 1 2 Miles

Sources: CaSIL, SBNF, TeleAtlas

U.S. Fish and Wildlife Service  
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**U.S. FISH AND WILDLIFE SERVICE  
5-YEAR REVIEW OF SOUTHERN MOUNTAIN BUCKWHEAT**

**Current Classification:** Threatened

**Recommendation resulting from the 5-Year Review:**

- Downlist to Threatened
- Uplist to Endangered
- Delist
- No change needed

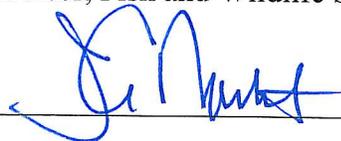
**Appropriate Listing/Reclassification Priority Number, if applicable:**

Not applicable

**Review Conducted By:** Karen A. Goebel and Jesse Bennett

**FIELD OFFICE APPROVAL:**

Lead Field Supervisor, Fish and Wildlife Service

Approve  Date 3-27-08

**REGIONAL OFFICE APPROVAL:**

Lead Regional Director, Fish and Wildlife Service

Approve  Date 3/31/08