

## FIVE YEAR STATUS REPORT

I. COMMON NAME: Kern Canyon Slender Salamander  
SCIENTIFIC NAME: Batrochoseps simatus  
CURRENT CLASSIFICATION: Threatened

II. RECOMMENDED ACTION:

Retain Threatened classification.

III. SUMMARY OF REASONS FOR RECOMMENDED ACTION:

The Kern Canyon Slender Salamander (KCSS) is especially vulnerable to environmental disturbance because of its very limited known range, which is primarily located on lands of the Sequoia National Forest (SNF). The U. S. Forest Service (USFS) has not made an attempt to manage for the populations of KCSS, and has planned land use activities which are not compatible with the protection of this species. Until appropriate management direction is taken within the Forest, threatened designation is appropriate for this species.

### SUPPORTING INFORMATION

IV. NATURE AND DEGREE OF THREAT:

KCSS is found only in the Kern River Canyon (Figure 1). Even though this species is more widely distributed along the north-facing slopes and tributary side canyons, the construction of State Hwy. 178 through the canyon undoubtedly diminished the salamander population, and further development of this highway on the east side of the river could cause additional population declines.

Nearly all of the known localities for KCSS are in the SNF. The Draft SNF Land and Resource Management Plan (USDA 1985) allows for the gathering of firewood and other forest products on all available lands. This conflicts with the need of the KCSS for downed logs and other surface litter. In addition, the Plan makes no provision for protection of the KCSS or its habitat.

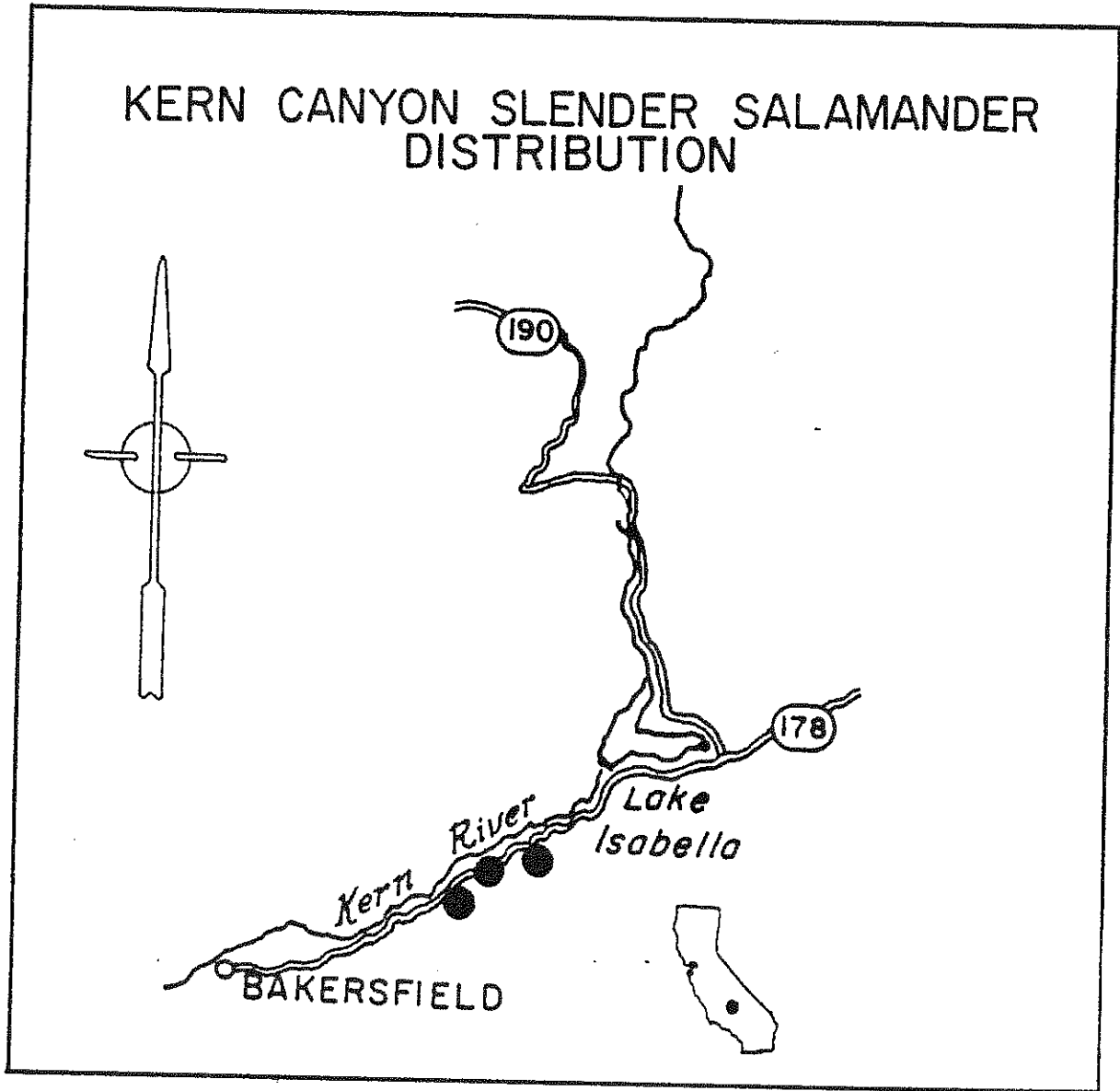
V. HISTORIC AND CURRENT DISTRIBUTION:

#### Historic

The ancestral Batrachoseps stock probably originated in the Eocene. The range of the genus was probably larger in earlier times. B. simatus is a relict species which has probably always had a small range.

The holotype was collected from the steep slopes on the south side of the Kern River Canyon above State Hwy. 178 on January 30, 1960. Prior to 1979, the KCSS was known only from north

FIGURE 1



facing slopes on the south side of Kern River Canyon, Kern County, about 1500 to 2000 ft elevation (Brame and Murray 1968). Salamanders collected from the vicinity of Fairview, Tulare County (3500 ft elevation, were tentatively included in this species by Brame and Murray (1968). Recent and ongoing studies (K. Yanev, unpubl.), however, suggested that the Fairview population may represent an undescribed species.

#### Current

In the lower Kern River Canyon, KCSS has been found along Stork Creek, Daugherty Creek, and Mill Creek at elevations from 1400 to 2000 ft. At Stork Creek, located 6.2 mi from the mouth of the Kern River Canyon, KCSS have been found on WSW and east facing slopes. The Stork Creek area is considerably drier than other tributary canyons along the lower Kern River.

Daugherty Creek flows through a narrow, protected canyon 6.98 mi NE of the mouth of the Kern River Canyon. KCSS have been found on west and NW facing slopes. One specimen of KCSS has been found at Mill Creek. KCSS has also been found at Hobo Hot Springs (elevation 2250 ft), 5.5 mi northeast of the junction of Mill Creek and the Kern River. KCSS have been collected in Erskine Creek Canyon (3700-4000 ft elevation), Piute Mountains, Kern County. A sight record for Batrachoseps from the eastern base of Breckenridge Mountain at Havilah (Kern County) presumably pertains to KCSS though no specimens have been collected to date.

#### VI. HISTORIC AND CURRENT ABUNDANCE:

Neither historic nor current abundance information is available. In recent years KCSS has been difficult to find. It is not known if this is due to human habitat disturbance or to several years of low rainfall.

#### VII. SPECIES DESCRIPTION AND BIOLOGY:

The KCSS is a moderately large species of salamander. It is distinguished from all other species in the genus by having the combination of relatively long limbs, narrow heads, long tails, and distinctive coloration consisting of black sides and venter with a dense reticulum of melanophores on belly and tail venter and abundant guanophores over all ventral surfaces; dorsum with dashes and patches of bronze and light reddish brown pigment which may form an imperfect dorsal band.

Variation in size is evident within the small geographic range of KCSS. Populations inhabiting the lower portion of the Kern River Canyon (Mill Creek and below) are composed mostly of large, moderately robust individuals. Salamanders found at the Hobo Hot Springs site and from two sites in Erskine Creek Canyon are comparatively smaller.

Sexual dimorphism is obvious in placement of premaxillary teeth. Males have large premaxillary teeth protruding from the lip while females possess smaller premaxillary teeth posterior to the lip. Males average fewer premaxillary teeth than females. Males average smaller standard lengths than females.

This species may be subject to starvation in dry years; specimens in the Los Angeles County Museum of Natural History (LACM) collection have thinner tails than those in the University of California, Museum of Vertebrate Zoology (MVZ) collection. Coloration varies from near solid light brown to bronze bands and patches on the dorsum. The ground color of the dorsum appears dark brown in contrast to the black sides and venter and various amounts of pinkish dashes may be associated with dorsal coloring (Brame and Murray 1968).

#### VIII. HABITAT REQUIREMENTS:

Salamanders from the lower Kern River Canyon and Erskine Creek Canyon occur in a variety of ecological situations, from wet, protected side canyons to much drier, open stream courses, and may be found beneath rocks, logs, fence posts or other surface material. Salamanders from Hobo Hot Springs are associated with a small, moist talus slope adjacent to Clear Creek.

#### IX. CURRENT AND RECOMMENDED MANAGEMENT:

Although the KCSS occurs primarily in the SNF, no management plan exists. In fact, the Draft SNF Land and Resource Management Plan (USDA 1985) fails to include the KCSS as a Management Indicator, even though status as "Threatened or Endangered" is one of the criteria for this selection. The Plan further fails to consider the KCSS under the Threatened and Endangered fish and wildlife section of the Minimum Management Requirements. Consideration for the KCSS in the Minimum Implementation Requirements and the wildlife and fish section of the Preferred Alternative is also lacking.

The Forest Plan should incorporate information on the distribution of the KCSS in the SNF. It should also define the habitat requirements of this species and discuss the effects of each of the chosen Plan alternatives on these habitat requirements. The selected alternative should provide for the development of a species management plan which provides for protection of KCSS habitat.

Periodic surveys are needed to evaluate KCSS population and distribution changes and to assess threats to KCSS habitat. Consideration should be given to establishing Research Natural Areas for KCSS population sites in the SNF.

X. INFORMATION SOURCES:

Brame, A. H.. Jr. and Murray, K.F. 1968. Three new slender salamanders (Batrachoseps) with a discussion of relationships and speciation within the genus. Bull. Los Angeles County Museum of Natural History Science. 4: 1-35.

Hansen, Robert W. 1979. The distribution of slender salamanders (Genus Batrachoseps) in the Southern Sierra Nevada and Tehachapi Mountains with ecological notes. Draft. Report to Department of Fish and Game, Contract # S-1548.

U.S. Department of Agriculture, Forest Service, 1985. Draft land and resource management plan and DEIS for the Sequoia National Forest.

Yanev, K. P. 1978. Evolutionary studies of the plethodontid salamander genus Batrachoseps. Ph.D. dissertation. Diss. Abstr. No. 7914821.

\_\_\_\_\_. 1980. Biogeography and distribution of three parapatric salamander species in coastal and borderland California. pp. 531-550 in: D. M. Power, ed. The California Islands: proceedings of a multi-disciplinary symposium. Santa Barbara Museum of Natural History, Santa Barbara, Calif.

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