Pacific fisher, *Martes pennanti pacifica*

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Description: The fisher, a medium-sized member of the family Mustelidae, is the largest member of the genus *Martes* and occurs only in North America. The dark brown, glossy fur often looks black. Fishers have white or cream patches on the chest and around the genitals. Fishers are the among the most sexually dimorphic of the mustelids. Adult male fishers range from 90 to 120 cm TL and weigh 3.5-5.5 kg. Adult females are from 75 to 95 cm TL and weigh about 2.5 kg (Powell 1993). Tail length is about one-third of body length. The conical shape of the tail, thicker near the body and tapering to a thinner tip, distinguishes the silhouette of the fisher from that of the American marten, *M. americana*.

Taxonomic Remarks: Mustelids are characterized by the loss of the carnassial notch from the upper fourth premolar, a delicate zygomatic arch, five digits that contact the surface when walking, and enlarged anal scent glands (Buskirk 1994). There are seven species in the genus *Martes* (Mustelidae, Carnivora) (Buskirk 1994). The fisher (*M. pennanti*), the largest member of the genus, is endemic to North America. One congener, the American marten (*M. americana*), also occurs in North America. Goldman (1935) recognized 3 subspecies of fisher, *M. p. pennanti, M. p. columbiana*, and *M. p. pacifica*. The validity of these subspecies was questioned by Hagmeier (1959), who found no morphological characteristics on which to separate the subspecies. Nevertheless, Hall (1981) and Anderson (1994) retained the three subspecies (Powell and Zielinski 1994).

Distribution: Before European settlement, fishers occurred in forests across North America. They were in the Appalachian Mountains as far south as Tennessee and in the Midwest to southern Illinois in appropriate forest types. They ranged along the Rocky Mountains at least into Wyoming, and down the West Coast to the southern Sierra Nevada (Grinnell et al. 1937, Powell 1993, Gibilisco 1994). Following European settlement of the continent, fisher range contracted drastically, particularly in the southern portions, due to deforestation and trapping (Powell 1993). In California, Grinnell et al. (1937) described the original range of the fisher as including the northern Coast Range, Klamath Mountains, southern Cascades, and western slope of the Sierra Nevada (Zielinski et al. 1995). Recent empirical data indicate that fishers currently occur in two widely separated regions of the state: the northwest, including the northern Coast Range and Klamath Province, and the southern Sierra Nevada (Zielinski et al. 1995).

Life History: In western North America, fishers are associated with late-successional conifer forests (Buskirk 1994). Powell and Zielinski (1994) hypothesized that forest structure was more important than tree species for fisher habitat. Structure, including a diversity of tree sizes, snags, downed trees and limbs, and understory vegetation, provides den and rest sites and prey for fishers. Generalized predators, fishers prey on a variety of small and medium-sized birds and mammals, and on carrion (Powell 1993). Where they occur, snowshoe hares (*Lepus americana*) are important prey. Fisher diets also include mice (*Microtus* sp., *Clethrionomys* sp., *Peromyscus* sp.), squirrels and chipmunks (*Sciurus* sp., *Glaucomys* sp., *Tamiasciurus* sp.), and porcupines (*Erethizon dorsatum*) (Powell and Zielinski 1994, Martin 1994).

Female fishers can breed at one year of age. Parturition occurs in March and April; females come into estrous and breed 3-9 days later (Powell and Zielinski 1994). Implantation is delayed about ten months, and can occur from January to April. Typical litter size is two or three. Natal dens are high in cavities in both live and dead trees.

Fishers exhibit intrasexual territoriality. Male home-range size, 40 km^2 (range 19-79), is nearly three

times that of females (15 km^2; range 4-32) (Powell and Zielinski 1994).

Habitat: Fishers in the western United States are associated with habitats that have high canopy closure; these typically are late-successional forests (Buskirk and Powell 1994, Powell and Zielinski 1994). They apparently are restricted to areas without frequent deep, fluffy snow, which is thought to restrict their movements. Resting and denning occur in large live trees, snags, and logs associated with late-successional forests.

Status: Class I. The status of the fisher in California has been of concern for most of this century. Dixon (1925) believed that the fisher was close to extinction in California and proposed that protective measures be taken. Trapping of fishers was prohibited in 1946. Subsequent assessments of the status of the fisher in California concluded that they occurred at relatively high density in the northwestern and North Coast areas of the state, were present at lower density in the southern Sierra Nevada, and were extremely rare or absent between (Schempf and White 1977). The USFWS recently denied a petition to list the fisher on the West Coast (Washington, Oregon, and California) and in the Rocky Mountains (Idaho, Montana, and Wyoming) as Threatened under the Federal Endangered Species Act. The stated reason was that "the petition did not present substantial information indicating that the two fisher populations [West Coast and Rocky Mountains] in the western United States requested to be listed constitute distinct vertebrate population segments" (Federal Register 61(42):8016). Recent detection efforts throughout the historic range of the fisher in California indicate that fishers occur in two disjunct populations, a larger one in the northwestern part of the state and a smaller one in the southern Sierra Nevada, separated by approximately 420 km (Zielinski et al. 1995). These data were not available when the petition to Federally list the fisher was filed.

M. pennanti pacificus may meet CESA criteria for listing as Threatened in California. Its current disjunct distribution, with a relatively small population in the southern Sierra Nevada, separated from a larger one in northwestern California by more than 400 km, and potential effects of forest management practices on it, are causes for serious concern for its continued existence as a well-distributed, native species. [Editor's note: Fisher was petitioned for state listing in 2008. The petition evaluation report is available at http://nrm.dfg.ca.gov/documents, and the status evaluation prepared for the species will also be available on the Department's website after its receipt by the Fish and Game Commission in late 2009 or early 2010.]

Management Recommendations: An understanding of the habitat ecology of fishers in the Sierra Nevada is essential to understanding its current distribution and why fishers have not recolonized the central and northern Sierra Nevada and southern Cascades. Current research being conducted there by the USDA Redwood Sciences Laboratory and University of California, Berkeley, should continue. Systematic survey efforts in the central and northern Sierra Nevada using standardized techniques (Zielinski and Kucera 1995) should be conducted to ensure that remnant populations are not being overlooked. If no fishers are found, reintroduction(s) to expand its range in the Sierra Nevada should be considered. Research to understand the responses of fisher populations to forest management practices both in the Sierra Nevada, Klamath Province, and Coast Range should be undertaken.

Terrestrial Mammal Species of Special Concern in California, Brylski et al. 1998

PACIFIC FISHER

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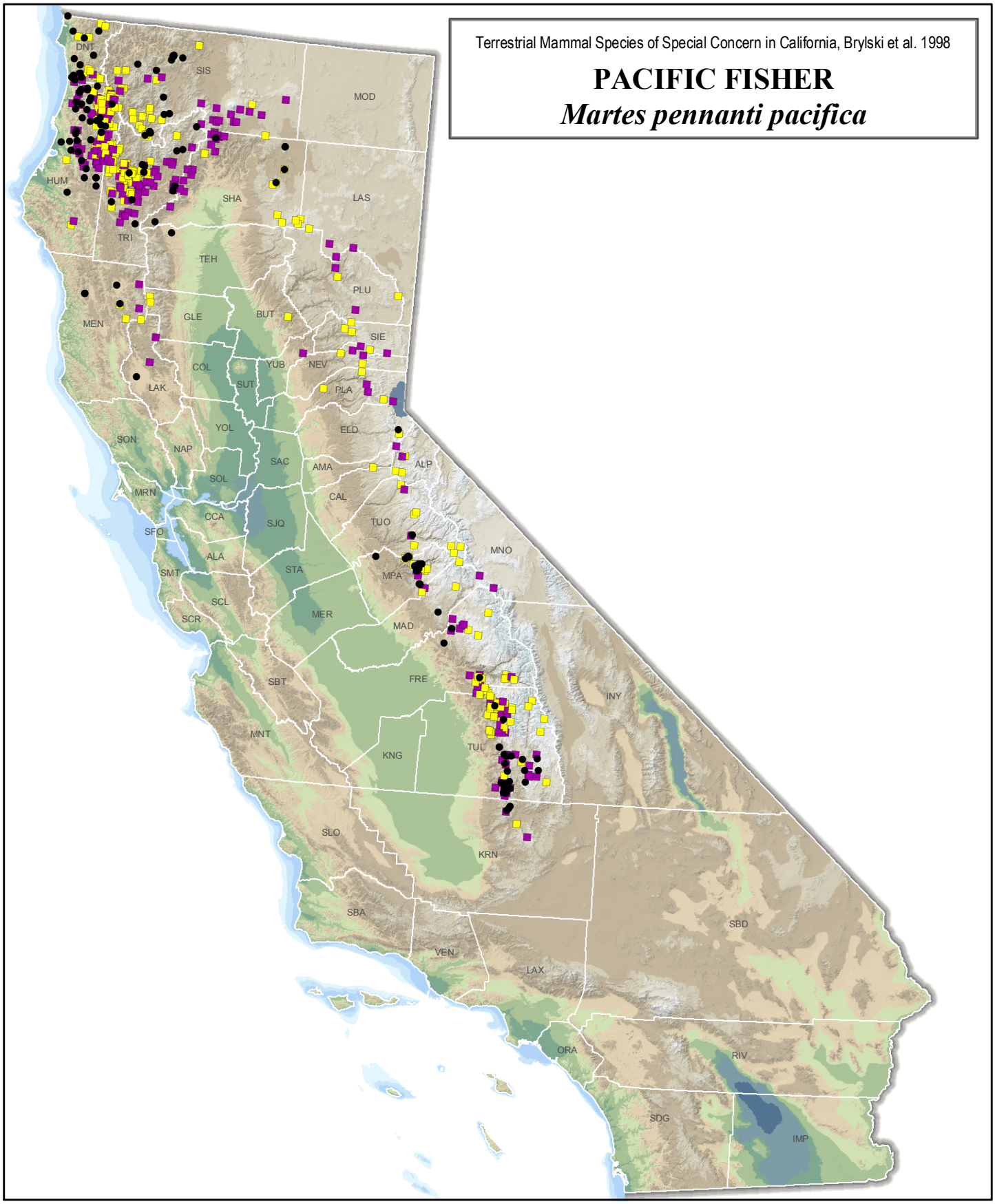

- Locations verified by authors
  (captures, observations, museum records)

- CNDDB 1978 - 1998
- CNDDB 1978 and before

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Wildlife Branch:KFien12109