

## NOTICE OF FINDINGS

### Fisher

#### *(Pekania* [formerly *Martes*] *pennanti*)

**NOTICE IS HEREBY GIVEN** that the California Fish and Game Commission (Commission), at its meeting in Fortuna, California on August 5, 2015, made a finding pursuant to Fish and Game Code Section 2075.5, in response to a petition requesting that the Commission add the fisher (*Pekania* [formerly *Martes*] *pennanti*) to the list of threatened or endangered species under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.). The Commission made the finding that listing the Southern Sierra Nevada Evolutionarily Significant Unit (ESU) as threatened is warranted, and that listing the Northern California ESU is not warranted. (See also Cal. Code Regs., tit. 14, § 670.1, subd. (i).)

### I. Background and Procedural History

#### Petition History

On January 23, 2008, the Commission received the “Petition to List the Pacific fisher (*Martes pennanti*) as an Endangered or Threatened Species under the California Endangered Species Act” (January 22, 2008; hereafter, the Petition), as submitted by the Center for Biological Diversity (Petitioner). Commission staff transmitted the Petition to the Department of Fish and Wildlife (Department) pursuant to Fish and Game Code Section 2073 on January 31, 2008, and the Commission published formal notice of receipt of the Petition on February 11, 2008 (Cal. Reg. Notice Register 2008, No. 8-Z, p. 275). After evaluating the Petition and other relevant information the Department possessed or received, the Department determined that based on the information in the Petition, there was not sufficient scientific information to indicate that the petitioned action may be warranted, and recommended the Commission reject the Petition. On August 7, 2008, the Commission voted to reject the Petition. On February 5, 2009, the Commission voted to delay the adoption of findings ratifying its August 2008 decision, indicating it would reconsider its earlier action at the next Commission meeting. On March 4, 2009, the Commission set aside its August 2008 determination rejecting the Petition, and instead voted to accept the Petition and initiate a review of the species’ status in California. Upon publication of the Commission’s notice of determination, the fisher was designated a candidate species on April 24, 2009 (Cal. Reg. Notice Register 2009, No. 17-Z, p. 609).

Following the Commission’s designation of the fisher as a candidate species, the Department notified affected and interested parties and solicited data and comments on the petitioned action pursuant to Fish and Game Code Section 2074.4. (see also Cal.

Code Regs., tit. 14, § 670.1(f)(2).) Subsequently, the Department commenced its review of the status of the species. On March 1, 2010 the Department Director delivered a status review to the Commission pursuant to Fish and Game Code Section 2074.6, including a recommendation that, based upon the best scientific information available to the Department, the petitioned action is not warranted.

On April 7, 2010, at its meeting in Monterey, California, the Commission took up consideration of the Petition and received public testimony on the matter. However, in an effort to fully consider comments related to an earlier draft of the Department's status review that the Department released for peer review beginning on January 23, 2010 (Peer Review Draft), the Commission voted to table consideration as to whether the petitioned action is warranted until it could receive additional testimony at its May meeting in Stockton, California.

The Department provided public notice soliciting additional scientific review and related public input until May 28, 2010, regarding the Department's Status review and the related peer review effort. The Department briefed the Commission on May 20, 2010, regarding additional scientific and public review, and on May 25, 2010, the Department released the Peer Review Draft to the public. On June 9, 2010, the Commission received from the Department a memorandum and related table summarizing, evaluating, and responding to the additional scientific input regarding the Status Review and related peer review effort.

The Commission received additional public and Department testimony at the June 23, 2010 meeting in Folsom, California, and voted that designating fisher as an endangered or threatened species under CESA was not warranted, adopting related findings at the September 15, 2010 meeting in Sacramento, California, and publishing notice of the decision on October 1, 2010. (Cal. Reg. Notice Register 2010, No. 40-Z, pp. 1601-1610.)

Petitioner brought a legal challenge and *Center for Biological Diversity v. California Fish and Game Commission, et al.* was heard in San Francisco Superior Court on April 24, 2012. (Super. Ct. San Francisco County, 2012, No. CGC-10-505205.) On July 20, 2012, Judge Kahn signed an order requiring the Department to solicit independent peer review of the Department's Status Report and listing recommendation, and also requiring the Commission to set aside its findings and reconsider its decision. Consistent with that order, the Commission, at its November 7, 2012 meeting in Los Angeles, California, set aside its September 15, 2010 finding that listing the fisher as threatened or endangered was not warranted. (Cal. Reg. Notice Register 2013, No. 12-Z, pp. 487-488.) Having provided related notice, the fisher once again became a candidate species under CESA. In September 2012, following notice of entry of

judgment, the Department reinitiated a status review of fisher pursuant to the court's order.

On June 8, 2015 the Commission received a second status review of fisher from the Department Director pursuant to Fish and Game Code Section 2074.6, which designated fishers inhabiting portions of northern California and the southern Sierra Nevada as separate Evolutionarily Significant Units (ESUs). The boundaries of each ESU represent the Department's assessment of the current range of fishers in California. The status review included graphical representations of the ESUs. The Northern California Evolutionarily Significant Unit (NC ESU) consists of those fisher that occur within California in the Klamath Mountains, Coast Range, southern Cascades, and northern Sierra Nevada. The Southern Sierra Nevada Evolutionarily Significant Unit (SSN ESU) consists of those fisher that occur within California south of the Merced River.

The use of ESUs by the Department to evaluate the status of species pursuant to CESA is supported by the 2007 determination by California's Third District Court of Appeal in *California Forestry Ass'n v. Fish and Game Commission* (156 Cal.App.4th 1535, 1547-1548) that the term "species or subspecies" as used in CESA (Fish & G. Code, §§ 2062 and 2067) includes Evolutionarily Significant Units. To be considered an ESU, a population must meet two criteria: 1) it must be reproductively isolated from other conspecific (i.e., same species) population units, and 2) it must represent an important component of the evolutionary legacy of the species (Waples 1991). The status review determined that the two ESUs were separated by a distance that equated to more than 4 times the maximum dispersal distance reported for fishers. The status review also determined that maintenance of populations that are geographically widespread and genetically diverse is important because they may consist of individuals capable of exploiting a broader range of habitats and resources than less spatially or genetically diverse populations.

On August 5, 2015, at its meeting in Fortuna, California, the Commission took up consideration of the Petition and received public testimony on the matter, then voted to add the SSN ESU of fisher to the list of threatened species, while finding that the petitioned action as to the NC ESU is not warranted.

### **Species Description**

The fisher is a member of the order Carnivora, family Mustelidae. Fishers have a slender weasel-like body with relatively short legs and a long well-furred tail (Douglas and Strickland 1987:511). Though they often appear uniformly black from a distance, they are generally dark brown over most of their bodies with white or cream patches distributed on their undersurfaces (Powell 1993). Throughout their range, adult female

fishers typically weigh between 4.4 and 5.5 pounds (2-2.5kg), and measure 28 to 34 inches (75-95cm) in total length. Adult males, which are generally much larger than females, vary in weight from 7.7 to 12.1 pounds (3.5-5.5kg), and in total length from 35 to 47 inches (90-120cm). Fishers are generalist predators and consume a wide variety of prey, as well as carrion, plant matter, and fungi (Powell 1993:10). Studies indicate that fishers in California appear to consume a greater diversity of prey than elsewhere in western North America (Zielinski and Duncan 2004; Golightly et al. 2006; Lofroth et al. 2010). Across their range, fisher prey predominantly on the largest mammals they can consistently catch (e.g., porcupines, snowshoe hares, gray squirrels, carrion). Predation from bobcats, mountain lions, and coyotes appears to be the most significant cause of mortality for fishers in California (Wengert et al. 2014). The relationships between fishers and other carnivores where their ranges overlap are not well understood, however, throughout their range, fishers potentially compete with a variety of other carnivores including coyotes, foxes, bobcats, lynx, American martens, weasels, and wolverines (Lofroth et al. 2010:10; Powell and Zielinski 1994; Campbell 2004).

## **Federal Status**

The fisher is considered a sensitive species by the United States Forest Service and the Bureau of Land Management. A sensitive species is a plant or animal species identified by a Regional Forester for which population viability is a concern based on significant current or predicted downward trends in its numbers, density, or habitat capability that reduce its existing distribution (USDA Forest Service n.d.).

On December 5, 2000, the United States Fish and Wildlife Service (USFWS) received a petition from the Center for Biological Diversity and other groups to add the Distinct Population Segment of the fisher that includes portions of California, Oregon, and Washington (West Coast DPS), to the list of endangered species pursuant to the Federal Endangered Species Act of 1973 (16 U.S.C. § 1531 *et seq.*) (ESA), and to concurrently designate critical habitat for this DPS. On April 8, 2004, the USFWS published a 12-month status review (69 FR 18769) finding that the West Coast DPS of fisher warranted listing, but was precluded by higher priority actions and through this finding added the fisher to the federal candidate species list. On October 7, 2014, the USFWS published its proposal to list the West Coast DPS of fisher as a threatened species. As a federal candidate species, fishers receive no statutory protection under the ESA. The USFWS is scheduled to make a listing decision on the West Coast DPS of fisher on April 7, 2016.

## II. STATUTORY AND LEGAL FRAMEWORK

The Commission, as established by the California Constitution, has exclusive statutory authority under California law to designate endangered, threatened, and candidate species under CESA. (Cal. Const., art. IV, § 20, subd. (b); Fish & G. Code, § 2070.) The CESA listing process for fisher began in the present case with the Petitioners' submittal of the Petition to the Commission on January 23, 2008. Pursuant to FGC Section 2073, on January 31, 2008 the Commission transmitted the petition to the Department for review pursuant to FGC Section 2073.5. The regulatory and legal process that ensued is described in some detail in the preceding section above, along with related references to the FGC and controlling regulation. The CESA listing process generally is also described in some detail in published appellate case law in California, including:

- *Mountain Lion Foundation v. California Fish and Game Commission* (1997) 16 Cal.4<sup>th</sup> 105, 114-116;
- *California Forestry Association v. California Fish and Game Commission* (2007) 156 Cal.App.4<sup>th</sup> 1535, 1541-1542;
- *Center for Biological Diversity v. California Fish and Game Commission* (2008) 166 Cal.App.4<sup>th</sup> 597, 600; and
- *Natural Resources Defense Council v. California Fish and Game Commission* (1994) 28 Cal.App.4<sup>th</sup> 1104, 1111-1116.

The “is warranted” determination at issue here for fisher stems from Commission obligations established by FGC Section 2075.5. Under this provision, the Commission is required to make one of two findings for a candidate species at the end of the CESA listing process; namely, whether the petitioned action is warranted or is not warranted. Here, with respect to the SSN ESU of fisher, the Commission made the finding under section 2075.5(a)(2) that the petitioned action is warranted. With respect to the NC ESU of fisher, the Commission made the finding under Section 2075.5(a)(1) that the petitioned action is not warranted.

The Commission was guided in making these determinations by statutory provisions and other controlling law. The Fish and Game Code, for example, defines an endangered species under CESA as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, over exploitation, predation, competition, or disease.” (Fish & G. Code, § 2062.) Similarly, the Fish and Game Code defines a threatened species under CESA as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter.” (*Id.*, § 2067.)

The Commission also considered Title 14, Section 670.1, subdivision (i)(1)(A), of the California Code of Regulations in making its determination regarding fisher. This provision provides, in pertinent part, that a species shall be listed as endangered or threatened under CESA if the Commission determines that the species' continued existence is in serious danger or is threatened by any one or any combination of the following factors:

1. Present or threatened modification or destruction of its habitat;
2. Overexploitation;
3. Predation;
4. Competition;
5. Disease; or
6. Other natural occurrences or human-related activities.

Fish and Game Code section 2070 provides similar guidance. This section provides that the Commission shall add or remove species from the list of endangered and threatened species under CESA only upon receipt of sufficient scientific information that the action is warranted. Similarly, CESA provides policy direction not specific to the Commission per se, indicating that all state agencies, boards, and commissions shall seek to conserve endangered and threatened species and shall utilize their authority in furtherance of the purposes of CESA. (Fish & G. Code, § 2055.) This policy direction does not compel a particular determination by the Commission in the CESA listing context. Nevertheless, "[l]aws providing for the conservation of natural resources' such as the CESA 'are of great remedial and public importance and thus should be construed liberally.'" (*California Forestry Association v. California Fish and Game Commission*, supra, 156 Cal. App.4th at pp. 1545-1546, citing *San Bernardino Valley Audubon Society v. City of Moreno Valley* (1996) 44 Cal.App.4th 593, 601; Fish & G. Code, §§ 2051, 2052.)

Finally in considering these factors, CESA and controlling regulations require the Commission to actively seek and consider related input from the public and any interested party. (See, e.g., Id., §§ 2071, 2074.4, 2078; Cal. Code Regs., tit. 14, § 670.1, subd. (h).) The related notice obligations and public hearing opportunities before the Commission are also considerable. (Fish & G. Code, §§ 2073.3, 2074, 2074.2, 2075, 2075.5, 2078; Cal. Code Regs., tit. 14, § 670.1, subds. (c), (e), (g), (i); see also Gov. Code, § 11120 et seq.) All of these obligations are in addition to the requirements prescribed for the Department in the CESA listing process, including an initial evaluation of the petition and a related recommendation regarding candidacy, and a review of the candidate species' status culminating with a report and recommendation

to the Commission as to whether listing is warranted based on the best available science. (Fish & G. Code, §§ 2073.4, 2073.5, 2074.4, 2074.6; Cal. Code Regs., tit. 14, § 670.1, subds. (d), (f), (h).)

### **III. Factual and Scientific Bases for the Commission's Final Determination**

The factual and scientific bases for the Commission's identification of two ESUs, determination that designating the SSN ESU of fisher as a threatened species under CESA is warranted, and designating that the NC ESU of fisher as a threatened or endangered species is not warranted, are set forth in detail in the Commission's record of proceedings including the Petition, the Department's Petition Evaluation Report, the Department's status review, written and oral comments received from members of the public, the regulated community, tribal entities, the scientific community and other evidence included in the Commission's record of proceedings.

The Commission determines that the continued existence of the SSN ESU of fisher in the State of California is in serious danger or threatened by one or a combination of the following factors as required by the California Code of Regulations Title 14, Section 670.1, subdivision (i)(1)(A):

1. Present or threatened modification or destruction of its habitat;
2. Overexploitation;
3. Predation;
4. Competition;
5. Disease; or
6. Other natural occurrences or human-related activities.

The Commission also determines that the information in the Commission's record constitutes the best scientific information available and establishes that designating the SSN ESU of fisher as a threatened species under CESA is warranted. Similarly, the Commission determines that the SSN ESU of fisher, while not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by CESA.

The items highlighted here and detailed in the following section represent only a portion of the complex issues aired and considered by the Commission during the CESA listing process for the fisher. Similarly, the issues addressed in these findings represent some, but not all of the evidence, issues, and considerations affecting the Commission's final determination. Other issues aired before and considered by the Commission are

addressed in detail in the record before the Commission, which record is incorporated herein by reference.

## **Background**

The Commission bases its “is warranted” finding for the SSN fisher ESU most fundamentally on the small population size of the species in the area is a risk to the continued existence of the species in California.

## **Threats**

### **Small Population Size and Isolation**

Grinnell et al. (1937) considered the range of fishers in California to extend south from the Oregon border to Lake and Marin counties, eastward to Mount Shasta and the Southern Cascades, and to include the southern Cascades south of Mount Shasta through the Sierra Nevada Mountains to Greenhorn Mountain in Kern County. Few records of fishers inhabiting the central and northern Sierra Nevada exist, creating a gap in the species’ distribution that has been frequently described in the literature. A number of studies have commented on this gap and considered fishers to have been extirpated from this region during the 20<sup>th</sup> century (Zielinski et al. 1995; Drew et al. 2003:59). However, recent genetic work by Knaus et al. (2011) and Tucker et al. (2012) indicates fishers in the southern Sierra Nevada became isolated from northern California populations long before European settlement. The fisher population in the SSN ESU is likely at greater risk of extirpation than fishers in the NC ESU, due to its small population size, limited geographic range, narrow and linear configuration of available habitat, and isolation. The SSN ESU fisher population probably contains fewer than 300 adults (Spencer et al. 2015:7) which, coupled with its isolation, increases its vulnerability to stochastic (random) environmental or demographic events, including catastrophic fire or disease. Small populations are also at greater risk from the loss of genetic diversity, including inbreeding depression.

### **Human Related Activities**

Life history characteristics of fishers, such as large home range, low fecundity (reproductive rate), and limited dispersal across large areas of open habitat, are thought to make fishers particularly vulnerable to landscape-level habitat alterations such as extensive logging, loss from large stand-replacing wildfires, and conversion and introduction of toxicants associated with marijuana cultivation.

The volume of timber harvested on public and private lands in California has generally declined since the late 1980s, and fishers are known to establish home ranges and successfully reproduce within forested landscapes that have been and are being



intensively managed primarily for timber production, including industrial ownerships where ongoing intensive even-aged management is the norm.

In recent decades the frequency, severity, and extent of fires has increased in California. However, the contemporary extent of wildfires burning annually in California is considerably less than the estimated 1.8 million hectares (4.5 million acres) that burned annually in the state pre-1800 (Stephens et al. 2007:212). Despite the occurrence of some large, high intensity fires in the southern Sierra in recent years, wildfires in the region are generally heavily suppressed. The majority of future scenarios modeled in the literature indicate significant increases in large wildfires are likely by the middle of this century. Wildfires affect habitats used by fishers and can directly affect individual animals. Stochastic event of the type would have an increased impact on the SSN ESU as small populations are especially vulnerable to such impacts.

The California Department of Forestry and Fire Protection (CAL FIRE) has estimated that statewide, between 2000 and 2040, about 10,500 km<sup>2</sup> (4,054 mi<sup>2</sup>) of private forests and rangelands will be impacted by new development (FRAP 2003:7). The resulting habitat alteration including conversion and fragmentation of habitat will negatively impact Fishers in California. The SSN ESU is particularly susceptible to further fragmentation by such impacts and the Department's status review identified particular anticipated development that could create further barriers to dispersal for the SSN ESU.

Fishers in California are frequently exposed to anticoagulant rodenticides and to other toxicants. Fishers are opportunistic generalist predators and may be exposed to toxicants directly through consumption of flavored baits. Rodenticide baits flavored to be more attractive to rodents (with such flavors as sucrose, bacon, fish, cheese, peanut butter, and apple) would likely appeal to fishers (Gabriel et al. 2012c). Furthermore, intentional wildlife poisoning has occurred through the distribution of food items such as canned tuna or sardines laced with pesticides (Gabriel et al. 2013). Fishers could also be exposed to toxicants secondarily through consumption of prey. This is likely the primary means of anticoagulant rodenticide exposure because of the toxicant's persistence in the body tissue of poisoned prey; secondary exposure of mustelids to anticoagulant rodenticides has occurred in rodent control operations (Alterio 1996). Evidence from laboratory and field studies in other species supports the premise that pesticide exposure can indirectly affect survival (Ahdaya et al. 1976, Grue et al. 1991, Martin and Solomon 1991, Gordon 1994, Li and Kawada 2006, Janeway et al. 2007, Riley et al. 2007, Vidal et al. 2009, Zabrodski et al. 2012).

Finally climate change could be a significant threat to the fisher in California. The SSN ESU is likely at greater risk of experiencing potentially adverse effects of a warming

climate than fishers in the NC ESU due to its comparatively small population size and susceptibility to fragmentation.

#### **IV. FINAL DETERMINATION BY THE COMMISSION**

The Commission has weighed and evaluated the information for and against designating the Southern Sierra Nevada and Northern California fisher evolutionarily significant units as threatened or endangered species under CESA. This information includes scientific and other general evidence in the Petition; the Department's Petition Evaluation Report; the Department's 2010 and 2015 status reviews; the Department's related recommendations; written and oral comments received from members of the public, the regulated community, various public agencies, and the scientific community; and other evidence included in the Commission's record of proceedings.

Based upon the evidence in the record the Commission has determined that the best scientific information available indicates that the continued existence of the Northern California evolutionarily significant unit of fisher is not in serious danger or threatened by present or threatened modifications or destruction of the species' habitat, predation, competition, disease, or other natural occurrences or human-related activities, where such factors are considered individually or in combination. (See generally Cal. Code Regs., tit. 14, § 670.1, subd. (i)(2); Fish & G. Code, § 2075.5, subd. (a)(1).) The Commission determines that there is sufficient scientific information to indicate that designating the Northern California evolutionarily significant unit as threatened or endangered is not warranted, and that with adoption and publication of these findings the Northern California fisher evolutionarily significant unit shall be removed from the list of candidate species maintained pursuant to Fish and Game Code section 2074.2.

Based upon the evidence in the record the Commission has determined that the best scientific information available indicates that the continued existence of the Southern Sierra Nevada fisher evolutionarily significant unit is in serious danger or threatened by present or threatened modifications or destruction of the species' habitat, predation, competition, disease, or other natural occurrences or human-related activities, where such factors are considered individually or in combination. (See generally Cal. Code Regs., tit. 14, § 670.1, subd. (i)(1)(A); Fish & G. Code, §§ 2062, 2067.) The Commission determines that there is sufficient scientific information to indicate that designating the Southern Sierra Nevada fisher evolutionarily significant unit as a threatened species under CESA is warranted at this time and that with adoption and publication of these findings the Southern Sierra Nevada fisher evolutionarily significant unit of fisher for purposes of its legal status under CESA and further proceedings under the California Administrative Procedure Act, shall be listed as threatened.

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