

Conference Opinion and Findings and Recommendations on Issuance of an Enhancement of Survival Permit for the Fisher (*Martes pennanti*) to Sierra Pacific Industries, Inc.

(Permit Number: TE166855-0)

This document transmits the U.S. Fish and Wildlife Service's (Service) conference opinion and our findings and recommendation based on our review of the effects on the fisher of the Candidate Conservation Agreement with Assurances (CCAA) for Fisher for the Stirling Management Area, and of the proposed issuance of an Enhancement of Survival Permit (ESP).

In accordance with the regulation and policies for CCAAs (50 CFR 17.22) in return for a cooperator's proactive management, we provide an ESP under the Endangered Species Act (ESA) section 10(a)(1)(A), and a conference opinions as described in 50 CFR 402.10. The ESP authorizes take of individuals if the species were to become listed. A regulatory requirement of permit issuance is that the activity not appreciably reduce the likelihood of survival and recovery of the species in the wild (50 CFR 17.22(d)(2)(iii)) for the candidate species included as covered species in the ESP.

This document is based on information provided in the CCAA prepared by Sierra Pacific Industries (SPI) and the Service, the Service's Draft Environmental Action Statement Screening Form, meetings, telephone conversations, field investigations, literature, and other sources of information. A complete record of this decision is on file at the Yreka Fish and Wildlife Office.

I. DESCRIPTION OF THE PROPOSED ACTION

SPI of Anderson, California, has applied to the Service for an ESP to authorize incidental take of the fisher within a 159,966-acre area in California (Stirling Management Area). As a condition of the proposed permit, SPI and the Service would be responsible for implementing the CCAA, which will be implemented prior to the permit becoming effective. The permit would become effective at such time as the fisher would become listed under the ESA. The CCAA includes a conservation measure to maintain or grow forest stands for fisher denning and resting habitat, and to implement other company practices and policies designed to promote the conservation of fishers. SPI has submitted the CCAA as part of the permit application. The proposed permit would be issued (in accordance with section 10(a)(1)(A) of the ESA of 1973, as amended, and the Service's CCAA final rule (64 Fed. Reg. 32726, June 17, 1999), but will become valid only upon listing of the species. The permit would provide SPI with authorization for incidental take of fisher and provide regulatory assurances, consistent with 50 CFR 17.22(d)(5). These ESA regulatory assurances would limit the need for SPI to change land use activities on the enrolled lands, beyond those identified in the CCAA, should fisher be listed under the ESA in the future.

Upon the listing of the fisher, the permit would authorize incidental take as provided in the permit and as long as the permit conditions are met. Permit conditions include

implementation of the CCAA conservation measure, mitigation measures, and continued application of current SPI forest management practices and policies on the enrolled lands. Incidental take would be permitted only from otherwise lawful activities implemented on the enrolled lands. Covered forest management activities include felling and bucking timber, yarding timber, loading and landing operations, salvage of timber, transport of timber and rock, road construction and maintenance, rock pit construction and use, site preparation, tree planting, vegetation control, pre-commercial thinning and pruning, collection of minor forest products, grazing, and fire suppression.

One of the threats to fishers identified in the Service's 12-month finding in response to a petition to list the fisher 69 Fed. Reg. 18770 (April 8, 2004), is the continued loss or reduction in fisher denning and resting habitat. This CCAA is intended to promote the retention and growth of forest stands that provide fisher denning and resting habitat on the enrolled lands for a period of 20 years. The purpose of the conservation measure is to increase the capability of the enrolled lands to support fishers through habitat retention and forest growth, resulting in a landscape that will provide more denning and resting habitat for fishers over the life of the permit. The biological goal of the CCAA is to provide adequate amounts of suitable fisher habitat to support either reintroduction efforts to be implemented by the California Department of Fish and Game (CDFG) or the potential future natural colonization of fisher on the enrolled lands from adjacent properties

Other expected conservation benefits include SPI's implementation of their forest management practices and policies, which include habitat management measures to retain individual snags and large trees with cavities necessary for fisher den and rest sites, retain down wood, retain and grow mast producing hardwoods, and apply forest practices to reduce the risk of wildfire. Additionally, if the CDFG pursues reintroduction efforts on the enrolled lands, the CCAA may also result in reducing the effects of stochastic events to small isolated fisher populations by facilitating an increase in the number and distribution of fisher in the Sierra Nevada.

SPI and the Service through the implementation of the CCAA will work cooperatively to 1) enhance fisher denning and resting habitat on the enrolled lands; 2) implement other company policies and practices to promote and conserve fisher habitat elements on SPI enrolled lands; 3) work in conjunction with the CDFG to reintroduce fisher into suitable but currently unoccupied habitat; 4) should CDFG implement a reintroduction action, provide the opportunity to evaluate future larger scale reintroduction efforts based on monitoring mortality, movement patterns, and habitat use of released fisher; and 5) implement management practices where possible to minimize direct mortality of fisher if they reoccupy the enrolled lands.

Specific research has not been conducted to provide certainty that the proposed conservation measure is sufficient to sustain a reproducing fisher population. However, fishers currently occupy similarly-managed land in northern California. Therefore, while the conservation measure and other actions listed above are considered experimental, they are expected to provide for the conservation of fisher in areas historically occupied

by the species. The Service's conservation goals for the west coast Distinct Population Segment (DPS) of fishers include, but are not limited to, the conservation of known populations of fishers and their expansion into additional areas within their historic range. The Service's fisher conservation goals will be partially met by providing SPI incentives to implement conservation actions for fisher, while providing regulatory certainty concerning land use restrictions that might otherwise apply should fisher become listed under the ESA.

Monitoring of the habitat conservation measure to increase fisher denning and resting habitat will be reported every five years. Additionally, if fishers are reintroduced onto enrolled lands, or if it is demonstrated that fishers have colonized the enrolled lands, changes to habitat will be reported on an annual basis. Monitoring of fishers (either a reintroduced or colonized population), will be carried out as described in sections II and XIV of the CCAA.

For reference and additional details on denning and resting habitat, and specifics on the conservation measure and other expected benefits on the enrolled lands, the reader is referred to section VII of the CCAA, and the Environmental Action Statement and Screening Form

II. STATUS OF THE SPECIES

Legal Status

In 2004, in response to a petition to list the west coast DPS of fisher, the Service concluded that despite insufficient genetic information to determine whether it warrants subspecific status, the fisher does represent a DPS (USDI Fish and Wildlife Service 2004). The Service concluded that the fisher is a "species" as defined by the Act (USDI Fish and Wildlife Service 2004) and that its listing was warranted but precluded by higher priority listing actions.

Species Description

A member of the family Mustelidae, the fisher is the largest member of the genus *Martes*, which includes the yellow-throated martens, true martens, and fishers. Goldman (1935) recognized three subspecies: *Martes pennanti pennanti* in the eastern and central North America, *Martes pennanti columbiana* in the Rocky Mountains, and *Martes pennanti pacifica*, which is the "Pacific fisher" of the west coast of North America. Conversely, both Grinnell et al. (1937) and Hagmaier (1959) examined specimens from across the range of the fisher and did not find sufficient differences in morphology or pelage to support recognition of subspecies. Recent genetic analysis found patterns of population subdivision similar to the earlier described subspecies (Drew et al. 2003). This level of variation was considered by Drew et al. (2003) to be insufficient to warrant recognition of subspecies. However, the Service did consider this genetic information in our recognition of the west coast distinct population segment of fisher.

Diet

Fishers are opportunistic predators with a diverse diet that includes birds, porcupines (*Erethison dorsatum*), snowshoe hares (*Lepus americanus*), squirrels, mice, shrews, voles, insects, carrion, vegetation, and fruit (Powell 1993; Martin 1994; Zielinski et al. 1999). Fishers in California utilize substantially different prey than fishers in other parts of the country (Zielinski et al. 1999; Golightly et al. 2006), perhaps due to the fact that the range of both porcupines (Dodge 1982) and snowshoe hares (Bittner and Rongstad 1982) have minimal overlap with the fishers' range in California. There is an exceptionally high diversity of prey species in the diet of fishers in California (Zielinski and Duncan 2004; Golightly et al. 2006). This diversity in fisher diets in California could be explained by a greater diversity of potential prey (Zielinski and Duncan 2004).

Reproduction

Fishers are solitary animals, except during the breeding season, which extends from late February to mid-April. Beginning in March, males are more active and roam beyond the limits of their territories in search of females (Arthur and Krohn 1991; Powell 1993). Fishers have low annual reproductive capacity. Females breed at the end of their first year, but because of delayed implantation do not produce a litter until their second year. One-year-old males are capable of breeding, but question remains as to whether they are effective breeders at this age (Powell 1993). In wild fisher populations in the west coast population, average litter size is approximately 2 (Weir 2003; Higley and Matthews 2006). Fishers do not always produce kits every year, and reproduction rates fluctuate. Truex et al. (1998) documented that 50 to 60 percent of the females in their study area in Sequoia National Forest successfully gave birth to kits. In their study area on the North Coast, however, 73 percent of females gave birth to kits in 1995, but only 14 percent did so in 1996, indicating fisher reproductive rates may fluctuate widely (Truex et al. 1998).

At birth, kits are altricial with both eyes and ears closed. Raised entirely by their mothers, kits wean at approximately 10 weeks (Powell 1993). After about 4 months, the mother begins to show aggression towards the kits, and by 1 year of age, the kits have established their own home range (Powell 1993).

Home Range

Fishers are territorial and occupy large home ranges, and hence, at any time there are only a few in any given area. The home ranges of male fishers are considerably larger than those of females (Kelly 1977; Buck et al. 1983; Truex et al. 1998; Mazzoni 2002; Zielinski et al. 2004a; Yaeger 2005). Mean estimates of fisher home ranges from 7 study areas in California ranged from 1.7 to 23.5 km² for females and 7.4 to 58.1 km² for males (Buck et al. 1983; Self and Kerns 2001; Mazzoni 2002; Zielinski et al. 2004a; Yaeger 2005). Home range size varies with quality of habitat; it is likely that fishers use larger areas in poorer quality habitat and therefore exist at lower densities (Freel 1991; Truex et al. 1998; Zielinski et al. 2004a). In California, black oak (*Quercus kelloggii*) is a common constituent of forests occupied by fisher, providing cavities used as den and rest sites (Zielinski et al. 2004b), as well as acorns used as food by prey of fishers (Zielinski et al. 1999). Individual fishers are very mobile animals, capable of traveling across their

entire home range within a 24-hour period (Yaeger 2008). Fishers hunt in forested habitats and generally avoid openings (Zielinski et al. 1999).

Habitat

Based on studies of fisher habitat in the west coast DPS and British Columbia, important habitat components used by fishers are found in a wide variety of forest types and in forests that have experienced a wide variety of disturbance regimes and management histories (Carroll 1997; Dark 1997; Weir and Harestad 1997). Fisher populations require landscapes providing trees with limb characteristics and cavities necessary for den and rest sites, protective cover provided by trees and shrubs, and adequate prey. All documented fisher natal and pre-weaning dens (located using radio telemetry) have been in cavities of either live trees or snags (Aubry and Raley 2006; Higley and Matthews 2006; Self and Callas 2006). This is the most consistent pattern of habitat use for fishers across all populations throughout their entire North American range.

For reference and additional detail the reader is referred to Section VII of the CCAA and to the Service's 12 month finding (USDI Fish and Wildlife Service 2004).

Distribution and Threats

Distribution of the West Coast Population

In California, fishers historically occurred in portions of seven ecological subregion sections: Northern California Coast, Klamath Mountains, Northern California Coast Ranges, Northern California Interior Coast Ranges, Southern Cascades, Sierra Nevada, and Sierra Nevada Foothills (Grinnell et al. 1937; McNab and Avers 1994). Fishers currently occur in northwestern California in Del Norte, Siskiyou, Humboldt, Trinity, western Shasta, and northern Mendocino Counties (Zielinski et al. 1995; Slauson and Zielinski 2007;) and in the southern Sierra Nevada, where the range extends from Yosemite National Park south to northern Kern County (Zielinski et al. 2005). Fishers do not currently occur in their former range in the central and northern Sierra Nevada.

For additional information the reader is referred to Section VI of the CCAA.

Threats to the Species

Habitat throughout the fisher's range has historically been lost or fragmented by logging, fire, farming, and human development (Douglas and Strickland 1987; Powell 1993; Powell and Zielinski 1994). The extent of past timber harvest is one of the primary causes of fisher decline across the United States (Powell 1993), and has been suggested as one of the main reasons fishers have not recovered in Washington, Oregon, and portions of California (Aubry and Houston 1992; Powell and Zielinski 1994; Lewis and Stinson 1998; Truex et al. 1998).

Current information indicates the greatest long-term risk to fishers in the western United States is increased probability of extinction due to isolation of small populations (Heinemeyer and Jones 1994). Habitat modification contributing to the loss of protective forest and shrub cover, and of trees that contain the cavities and limb structures needed by fishers for den and rest sites, continue to be two of the biggest threats to long-

term survival of fisher populations (USDI Fish and Wildlife Service 2004, 72 Fed Reg 69034, Dec. 6, 2007).

Threats to fishers that are most applicable to the enrolled lands include loss, deterioration, and fragmentation of habitat from forest management practices and catastrophic wildfire. Wildfire, timber harvest, and other forest management activities on the enrolled lands that do not retain, or maintain ecological processes that provide large trees (conifers and hardwoods) with cavities needed for fisher den and rest sites, or that minimize shrub and tree cover; continue to be threats to fishers. Direct mortality from vehicles, disease, and predation can work synergistically with the above threats, or with stochastic events that could further threaten small, isolated populations of fishers. To varying degrees most of these threats occur throughout the range of the west coast DPS of the fisher, including the enrolled lands. For reference and additional detail, the reader is referred to the Service's 12-month finding (USDI Fish and Wildlife Service 2004; 72 Fed Reg 69034, Dec. 6, 2007).

III. ENVIRONMENTAL BASELINE

The enrolled lands are industrial forestlands in California that are characterized by a mix of primarily second growth pine and mixed conifer forests. Fishers are believed to have been extirpated from the portion of their former range that includes these lands (Zielinski et al. 2005). The enrolled lands in Butte, Plumas, and Tehama Counties are primarily large tracts of private holdings. The enrolled lands are the largest unoccupied contiguous SPI owned lands within the historic range of fishers. These lands were chosen for the CCAA because the area has been identified by CDFG as a likely location, among the areas analyzed, for an experimental reintroduction, should it occur.

IV. EFFECTS TO FISHERS

Under section 7(a)(2) of the ESA, effects of the action are direct and indirect impacts of the proposed federal action on the species, together with the effects of other activities that are interrelated or interdependent with the proposed action. The fisher is the only candidate species known to be directly or indirectly affected by this action. Critical habitat has not been designated for the fisher, since its current status is a candidate species under the ESA. Below are the results and conclusion of the Service's analysis of the direct and indirect effects of the CCAA on fishers and their habitat, and of the interrelated and interdependent activities associated with the CCAA.

Direct and Indirect Effects

Direct effects are defined as the immediate effects of a project on the species or its habitat. Indirect effects are those effects that are caused by or are the results of the proposed action, are later in time, and are reasonably certain to occur.

The direct and indirect effects of the proposed action include the implementation of the conservation measure as described in the CCAA, with the acknowledgment that the conservation measure may end at the completion of the 20-year duration of the CCAA. Currently, it is believed no fishers are present on the enrolled lands. As such, the

proposed action, in conjunction with continuation of current management practices on the enrolled lands, is considered to have no direct or indirect effect on fishers until such time as fishers are either reintroduced on or colonize the enrolled lands. There is a possibility of fishers moving onto the enrolled lands independent of any reintroduction efforts; however, in the more than 60 years since the closure of the fisher trapping season in California, fishers have not re-established a population in the northern Sierra. Therefore, in the 20-year time period of the permit, colonization of fisher onto the enrolled lands is considered highly unlikely.

Interrelated and Interdependent Actions

Interrelated and interdependent actions are those actions that are part of the proposed action and depend on it for its justification, or which have no independent utility apart from the action under consideration. Effects of the proposed action under consultation are analyzed together with those interrelated or interdependent with the proposed action.

SPI regards issuance of the ESP in conjunction with this CCAA as one of several necessary steps needed to facilitate the CDFG's efforts to undertake a reintroduction of fishers onto the Stirling Management Area. Should the CDFG and SPI reintroduce fishers onto the enrolled lands, that reintroduction action is considered as an interrelated and interdependent action that is included in the analysis of project effects and for the purposes of the Service's jeopardy analysis. Such effects include: 1) the effects to individual fishers being translocated, and 2) the stability of the fisher population in northern California (the source population). In addition to the potential effects to fishers of a reintroduction effort, there are effects anticipated from implementation of the covered activities, if and when fishers occur on the enrolled lands. Both of these scenarios are discussed in further detail below.

Effects of the Translocation of Fisher on the Source Population

The northern California-southwestern Oregon regional population (hereafter NCAL population) is the expected source population should a reintroduction of fishers onto the enrolled lands occur. The NCAL population is considered the largest and most stable population in the west coast DPS of the fisher (Powell and Zielinski 1994). The CDFG's draft Reintroduction and Feasibility Plan (Callas 2007) proposes to remove up to 40 individuals over three years (15 in year one, 15 in year two, 10 in year three) from multiple (3 or more) locations throughout the NCAL population. The CDFG will attempt to obtain a ratio of approximately 2 males to 3 females (i.e., 16 males and 24 females) (CDFG 2007).

There are many scenarios that may occur during the years involved with the trapping and translocation of individual fishers. The Service must consider mortality that may occur from trapping, stress, starvation, predation, limited previous exposure to disease agents on the enrolled lands, and loss of current and future reproduction as conceivable but unknown possible outcomes of reintroduction efforts. Many of these factors are impossible to measure or predict (e.g., loss of future offspring, stress induced failure of implantation of embryos, starvation, and susceptibility to disease). Therefore, for

jeopardy analysis purposes, the Service is analyzing the effects listed above as if the reintroduction would permanently remove fishers from the source population. As stated in the CCAA, the Service's 12-month finding, and published literature, there is no evidence that current fisher populations are connected to one another (Heinemeyer and Jones 1994; Zielinski et al. 1995; Drew et al. 2003; Zielinski et al. 2005). Thus, the Service's jeopardy analysis for the DPS will only analyze the effects of the permanent removal of fisher from the source population.

In order to evaluate the permanent removal of fishers from the source population the Service considered 1) the expected location of the source population, and 2) the population viability estimates for the source population based on the model results provided in Powell and Zielinski (2005). In addition to the modeling results by Powell and Zielinski (2005), the analysis provided below includes an assessment of the accuracy of the assumptions regarding input parameters necessary for running the model.

Powell and Zielinski (2005) evaluated the potential effects of removal of individuals from the NCAL population by modeling the population response. The authors used the program *VORTEX* (Miller and Lacy 1999) to conduct population viability analyses to estimate the probability of extinction. It is important to note the authors used the probability of extinction as an *index* of population viability, not as a dependable estimate of that probability. Results of this modeling effort predicted that "removal of up to 20 fishers per year for as long as 8 years from the northwestern California population, to re-establish a fisher population in the northern Sierra Nevada Mountains, will not jeopardize the northwestern California population." This conclusion was contingent on the accuracy of assumptions regarding model input parameters, including natural population fluctuations (i.e., population stability) and present population size (see Powell and Zielinski 2005 for a full discussion).

One of the model input parameters of Powell and Zielinski's 2005 modeling was natural population fluctuation (a stable population). There is not a population monitoring program in place to measure the stability of the NCAL fisher population and thereby confirm the validity of this input parameter. We can, however, infer the status of fisher in the NCAL population by comparing the historical and contemporary distribution.

We conducted a coarse comparison of the regional distribution of NCAL fisher population using Figure 75 of Grinnell et al. (1937) as a "historical" reference condition (Figure 1). For "contemporary" distribution, we used verified fisher locations from track plate and camera surveys conducted between 1991 and 2007 (Beyer and Golightly 1996; Dark 1997; Carroll et al. 1999; Zielinski et al. 2000; Slauson et al. 2001; Slauson and Zielinski 2001; Hamm et al. 2003; Slauson et al. 2003; Farber et al. 2008; Lindstrand 2006; Slauson and Zielinski 2004, 2007; Yaeger 2008) and telemetry research study areas conducted between 1977 and 2006 (Buck 1982; Seglund 1995; Self and Kerns 2001; Zielinski et al. 2004a; Yaeger 2005; Self and Callas 2006). Figures in these papers provided sufficient resolution for comparison with the Grinnell et al. (1937) locations to estimate changes in the historical and contemporary geographic extent of fishers in the NCAL population. Although we cannot infer population size with this technique, and

acknowledge that localized and temporal increases and decreases in the number of individuals probably occur, the extent of the contemporary distribution in NCAL suggests a persistence of fisher over a roughly similar geographic distribution as reported by Grinnell et al. (1937). Because there is no apparent significant decrease in the *extent* of geographic distribution in NCAL, we infer some level of regional stability over the last 75 years, and conclude that the NCAL population meets the assumption of stability for the VORTEX modeling exercise.

Another of the input parameters of Powell and Zielinski's 2005 modeling was their baseline estimate of present population size of the NCAL population. No formal estimates have been published for the abundance or density of fishers in the NCAL population. However, in the petition resulting in the fishers' candidate status, the Center for Biological Diversity (2000) states, "This fisher population has been estimated at 1000-2000 individuals." This estimate was based on a probability model of likelihood of fisher detection (Carroll et al. 1999), a baseline density estimate derived from the Hoopa Valley Indian Reservation, and the assumption that fisher have free and ready access to all habitat, which because of dispersal barriers, is likely not the case.

Carroll's estimate of 1000 - 2000 individuals was based on the assumption that the fisher population estimates on the Hoopa Valley Indian Reservation were in equilibrium. This may not have been the case. Higley and Mathews (2006) reported a reduction in trap success and a change in sex ratios in the study area, suggesting a decline in the local population abundance from the 1996-1998 study. Therefore, Carroll's baseline density estimate may have been an overestimate. To address this potential for overestimation of the population, Powell and Zielinski applied a more conservative approach and ran their models with a population estimate at 500 and 1000 individuals. However, even with the model input parameter of 500 individual fishers, they calculated only a small increase (1%) in the probability of extinction. Their more conservative approach did not affect their conclusion of the relative rankings of different strategies for removal of animals from the NCAL population.

Powell and Zielinski (2005) concluded with the practical statement that no model can be 100 percent accurate. Whether removing fishers from the population in NCAL will indeed put the population at risk can only be learned by actually removing fishers and implementing monitoring sufficient to detect a population decline. Even low rates of additive mortality from trapping have been predicted to affect fisher population stability (Powell 1979; Lewis and Stinson 1998), and may slow or negate population responses to habitat improvement (Powell and Zielinski 1994). Powell (1979) suggested that as few as 1 to 4 additional mortalities per year due to trapping over a 100 km² area could cause a decline in mid-western fisher populations. Based on information provided by CDFG (Callas 2007) the anticipated annual removals for the reintroduction effort (40 animals over 3 years) are not expected to exceed 1 fisher per 1000 km².

Effects of Covered Activities on a Reintroduced or Colonized Population

As stated previously, unless fishers are reintroduced onto or colonize the enrolled lands, take is not expected to occur. If fisher re-occupy the enrolled lands, take may result from

(1) disturbance to pregnant or nursing female fishers during the early denning season; (2) cutting down a den tree containing a late-term pregnant fisher or fisher kits; (3) reduction in the amount of habitat to a level that significantly impairs a fisher's ability to breed, feed, or shelter; and (4) fisher mortality caused by vehicle traffic associated with otherwise lawful activities. This take would be in the form of harm, harass, wound, and kill, as defined in ESA section 3.

For more detailed information on the amount of take that may occur from the covered activities, the reader is referred to Section XI of the CCAA.

Conclusions on the Interrelated and Interdependent Actions

Based on information currently available on the geographical stability of the NCAL population, population estimates, modeling of source populations, and the number and distribution of fishers expected to be removed from the NCAL population to facilitate reintroduction efforts, the Service does not expect an appreciable decline in the NCAL population that would jeopardize the species. Furthermore, the possibility of re-establishment of a population into the historically occupied northern Sierra Nevada Mountains of California could benefit the western DPS of fishers by implementing one of the many actions necessary to re-establish and reconnect fisher populations throughout their west coast range.

We recognize that take of reintroduced or newly colonized individuals would be possible from covered forest management activities. However, based upon the best survey data available, the enrolled lands are presumed to be unoccupied, and therefore, the fisher environmental baseline on enrolled lands is defined as zero individuals. If fishers occupy enrolled lands through reintroduction, there is also the possibility that reintroduced fisher may not survive as an artifact of stress or other factors related to reintroduction efforts. This mortality to reintroduced fisher would not be attributable to covered forest management activities. Whether the loss is due to covered forest management activities or reintroduction processes, the loss of the reintroduced animals would not reduce the existing environmental baseline on the enrolled lands.

IV. CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, local, or private actions that are reasonably certain to occur in the area considered in this conference opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA, should the species become listed. Fishers do not currently occupy the enrolled lands, or adjacent Federal or non-Federal lands; therefore, we assumed for the purposes of this analysis that there are no cumulative effects from the proposed action at this time.

As stated earlier, an interrelated and interdependent action to the proposed action is the potential reintroduction of fishers to the enrolled lands. If fishers successfully re-establish a population on the Stirling Management Area, they have the potential to disperse onto adjacent Federal and non-Federal lands. The Service assumes that adjacent

non-Federal landowners will comply with the California State Forest Practice Rules (FPRs) when implementing approved timber harvest plans. The FPRs implement the provisions of Z'berg-Nejedly Forest Practice Act of 1973 in a manner consistent with the California Environmental Quality Act of 1970, the California Endangered Species Act, and other California State laws. In the Service's 12-month finding, we determined that, while the California State FPRs provide some measures that incidentally protect fisher habitat elements or some fisher habitat, the rules provide insufficient certainty that they are effective in reducing the threat of habitat loss and modification necessary to conserve fishers. Therefore, habitat management on non-Federal lands adjacent to the enrolled lands may affect fisher, and resultant cumulative effects on fishers as defined by the ESA, would be anticipated.

Current fisher habitat models (Carroll 2005; Davis et. al 2007; (Callas 2007) indicate that adjacent Federal lands contain higher quality fisher habitat than adjacent non-Federal lands; therefore, movement of fishers off of the enrolled lands could be anticipated to the Federal rather than non-Federal lands. There is no additional site specific information similar to that provided in the CCAA to indicate whether adjacent non-federal land would support establishment of fisher home ranges. At this time, the type of cumulative effects to fishers likely to occur on non-Federal lands would be similar to those effects discussed in Section XI of the CCAA. Any estimate of the degree to which these effects could occur on adjacent non-Federal lands would be speculative at this time.

V. CONCLUSION

After reviewing the current status of fisher, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's conference opinion that the issuance of a permit for the Stirling Management Area CCAA is not likely to jeopardize the continued existence of fisher. This species is not listed and therefore no critical habitat has been designated for this species.

VI. INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined (50 CFR 17.3) by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined by the Service (50 CFR 17.3) as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA, provided that such taking is in compliance with this Incidental Take Statement. The prohibition of take as defined above is not applicable until such time as the species is listed.

The incidental taking of fishers will be in accordance with the terms of the CCAA. Any take of fisher authorized under the permit will be incidental to otherwise lawful activities on the enrolled lands: felling and bucking timber, yarding timber, loading and landing operations, salvage of timber products, transport of timber and rock, road construction and maintenance, rock pit construction and use, site preparation, tree planting, vegetation control, pre-commercial thinning and pruning, collection of minor forest products, grazing, and fire suppression. SPI is responsible for obtaining any other authorizations necessary under State, Federal, and Local laws or regulations in order to carry out these activities. The validity of the permit will be conditioned upon strict observance of all applicable State, local, and other Federal laws.

Unless fishers colonize or are reintroduced onto enrolled lands, take is not expected to occur. Should fishers re-occupy the enrolled lands take may result from (1) disturbance to pregnant or nursing female fishers during the early denning season; (2) cutting down a den tree containing a late term pregnant fisher or fisher kits; (3) reduction in the amount of habitat to a level that significantly impairs a fisher's ability to breed, feed, or shelter; and (4) fisher mortality caused by vehicle traffic associated with otherwise lawful activities. This take will be in the form of harm, harass, wound, and kill, as defined in the ESA section 3.

We anticipate that take over the life of this permit will be no more than 7 fishers. For additional detailed information on the amount and type of incidental take anticipated, the reader is referred to Section XI of the CCAA.

VII. REASONABLE AND PRUDENT MEASURES/TERMS AND CONDITIONS

Subject to the reinitiation clause included in this Conference Opinion, this Conference Opinion remains valid until the end of the permit period stipulated in the CCAA. Measures as described in the proposed action are sufficient to minimize take of fishers for the purposes of the issuance of this ESP; therefore, no further reasonable and prudent measures or terms and conditions are necessary

VIII. REINITIATION NOTICE

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required when discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: 1) The amount or extent of incidental take is exceeded; 2) New information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; 3) The agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or 4) A new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations (i.e., actions) causing such take must cease pending reinitiation

ENHANCEMENT OF SURVIVAL PERMIT CRITERIA – ANALYSIS AND FINDINGS

The Service's analysis and findings for the issuance of an Enhancement of Survival Permit (ESP) for the SPI Candidate Conservation Agreements with Assurances (CCAA) are presented below. The ESP criteria are in accordance with 50 CFR 17.22.

1. The taking of fishers will be incidental to an otherwise lawful activity, and will be in accordance with the terms of the CCAA.

Any take of fisher authorized under the permit will be incidental to otherwise lawful activities on the enrolled lands: felling and bucking timber, yarding timber, loading and landing operations, salvage of timber products, transport of timber and rock, road construction and maintenance, rock pit construction and use, site preparation, tree planting, vegetation control, pre-commercial thinning and pruning, collection of minor forest products, grazing, and fire suppression. SPI is responsible for obtaining other authorizations, if any, necessary under State, Federal, and local laws or regulations in order to carry out these activities. The validity of the permit will be conditioned upon strict observance of all applicable State, local, and other Federal laws.

2. The CCAA complies with the requirements of the Service's CCAA Policy.

Pursuant to the Service's CCAA Policy, the Service is required to determine whether this component of the CCAA satisfies the CCAA standard. The CCAA final policy requires that the benefits of the conservation measure implemented under the CCAA, when combined with those benefits that would be achieved if it were assumed that conservation measures were also implemented on other necessary properties, would preclude or remove the need to list the species.

The impact of past timber harvest operations on fishers on the enrolled lands, or the degree to which fisher may be affected by current timber harvest operations on the enrolled lands, are difficult to quantify. As discussed in the CCAA's habitat section, fishers exist in areas where timber is actively managed, and much research is needed to better understand this interaction. Emphasis on conifer production in the past has often led to silvicultural treatments that simplify the forest by permanently removing large trees, snags, and down wood, and the exclusion of undesirable timber production species of both hardwoods and conifers. Forest practices that do not provide forest structural elements important to fisher, when implemented over very large areas, alter the ecological function of the landscape and compromise its ability to sustain fishers. On the enrolled lands, the primary risks to existing and future fisher habitat would be related to the loss of denning and resting habitat and denning and resting structures.

Conservation benefits for fishers, in the form of enhancement and restoration of fisher denning and resting habitat, are expected through the implementation of this CCAA and SPI's policies and management practices. SPI proposes to increase the amount of denning and resting habitat on the enrolled lands during the 20-year time period of this

CCAA. In addition, since non-Federal landowners control a large portion of fisher habitat in California, improving and encouraging cooperative management efforts between the agencies and other landowners could enhance conservation of fishers.

The assurances provided in this CCAA also provide incentive to SPI to allow for the reintroduction of fishers onto their land. There is a possibility of fisher moving onto the enrolled lands independent of any reintroduction efforts in the next 20 years; however, this is considered highly unlikely. Because the enrolled lands are not currently occupied by fisher, this CCAA provides an opportunity to test whether the proposed conservation measure will provide for habitat conditions that may contribute to suitability for fisher habitation, and to measure and better understand the interaction between timber management and fisher ecology, if a reintroduction should occur.

The CCAA addresses the threats to fisher under three of the factors (factors A, D, and E) upon which the Service would base a future ESA listing decision. The conservation measure maintains and/or grows fisher denning and resting habitat, the loss of which is likely the single greatest threat to fisher. Some type of conservation commitment applies to all 159,966 acres of SPI's enrolled lands, although many specific measures will depend on future fisher surveys, and identification of areas occupied by the species or suitable for reintroduction. The CCAA will also expand the information on fisher status and management, and provide an example to encourage collaborative efforts in fisher conservation with other landowners. Other expected conservation benefits include commitments to reduce direct fisher mortality, as well as commitments to reintroduce fisher to unoccupied habitat, thereby expanding the species distribution.

The Service estimates that it may take up to 10 years of implementing the CCAA to fully reach a net conservation benefit for fisher. This is primarily due to the expected lag time in response to habitat enhancement measures including continued growth of forest stands, and the time frame likely associated with successful reintroduction of fisher into unoccupied habitat.

In summary, the Service believes that the conservation measure set forth in the CCAA meet the CCAA standard. This CCAA is expected to increase the capability of the enrolled lands to support fishers. SPI commits to management under the 20-year period of this CCAA that will move the enrolled SPI forestlands to a condition that supports more denning and resting habitat for fishers than that which exists today. The CCAA also provides the necessary incentives and assurances for SPI, the Service, and the California Department of Fish and Game (CDFG) to reintroduce fisher onto the enrolled lands should CDFG determine that a reintroduction effort is warranted.

3. The probable direct and indirect effects of any authorized take of fisher under the permit will not appreciably reduce the likelihood of survival and recovery in the wild of the species.

Issuance of the section 10(a)(1)(A) ESP to SPI was reviewed by the Service under Section 7 of the ESA. In an opinion date May 13, 2008, the Service concluded that the

direct and indirect effects of implementing the CCAA and issuing the permit authorizing incidental take of fisher would not appreciably reduce the likelihood of survival and recovery in the wild of any listed species. The CCAA is intended to provide for adequate protection for fisher populations over the enrolled lands. The permit authorizes incidental take of fishers. The Service does not believe the actual incidental take of fishers will detract from the conservation benefit of having fishers distributed across the enrolled lands.

4. Implementation of the terms of the CCAA is consistent with applicable Federal, State, Local, and Tribal laws and regulations.

The CCAA is consistent with all applicable Federal, State, and local laws and regulations. The CCAA is approved and the permit issued in accordance with the ESA. In accordance with the National Environmental Policy Act (NEPA), the Service issued a Categorical Exemption for this action. There are no Tribal laws or regulations applicable to the CCAA.

The permit authorizes incidental take of fishers, under the ESA, in accordance with the CCAA. SPI is responsible for obtaining other required authorizations, if any, under Federal, State, and local laws and regulations in order to carry out their activities. The validity of the permit will be conditioned upon observance of all applicable Federal, State, and Local laws and regulations.

5. Approval and implementation of the terms of the CCAA will not be in conflict with any ongoing conservation programs for fisher.

Approval of this CCAA will support ongoing conservation programs currently being developed by CDFG.

6. The applicant has shown capability for and commitment to implementing all of the terms of the CCAA.

Signing of the legally binding CCAA by SPI and the Service assures that it will be implemented, and commits both Parties to the obligations under the CCAA. Implementation of the CCAA will be a condition of the permit, and a failure to perform obligations under the CCAA may be grounds for suspension or revocation of the permit and cancellation of the CCAA.

SPI has demonstrated their commitment to fisher habitat use research since 1991. During this time period, SPI has authorized fisher surveys to be conducted on their property by the agencies, developed and implemented telemetry studies, and have assisted agency personnel during field surveys. In addition, SPI has the legal ability and capacity to manage enrolled forest lands according to California FPRs, and to implement the goals of the CCAA. By applying for this permit SPI demonstrates its commitment to fulfill the requirements of the CCAA.

General Criteria and Disqualifying Factors – Analysis and Findings

The Service has no evidence that the permit should be denied on the basis of the criteria and conditions set forth in 50 CFR 13.21(b) and (c). SPI has met the criteria for the issuance of the permit and does not have any disqualifying factors that would prevent the permit from being issued under current regulations.

Public Comments

The Service published a Notice of Availability of SPI's permit application, including the CCAA and Categorical Exemption, in the Federal Register on October 10, 2007 (72 Fed. Reg. 87896). Publication of the notice initiated a 30-day comment period, which closed on November 9, 2007. A total of 3 comment letters, from 4 organizations, were received and are addressed in Appendix A of the Final Environmental Action Statement Screening Form.

Recommendations on Permit Issuance

Based on the foregoing findings with respect to the proposed action, I recommend issuance of a section 10(a)(1)(A) Enhancement of Survival Permit to authorize incidental taking of fisher by SPI in accordance with the Candidate Conservation CCAA with Assurances.

Field Supervisor, YFWO

Date

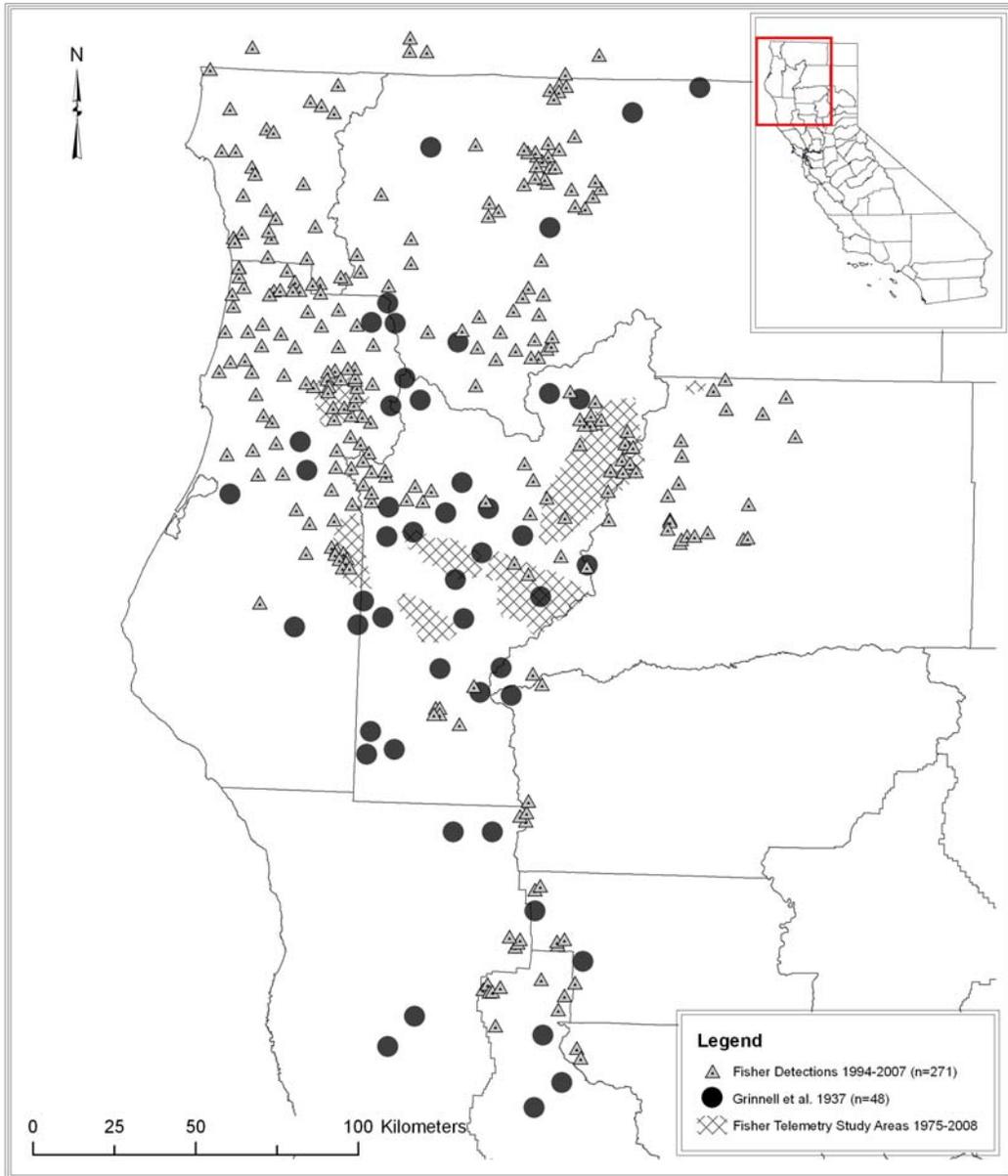


Figure 1. Historical and contemporary fisher locations in northwestern California. Historical locations adapted from Grinnell et al. 1937 figure 37. Contemporary locations (triangles) from miscellaneous surveys (Beyer and Golightly 1996, Dark 1997, Carroll et al. 1999, Zielinski et al. 2000, Slauson and Zielinski 2001, Slauson et al. 2001, Hamm et al. 2003, Slauson et al. 2003, Slauson and Zielinski 2004, Lindstrand 2006, Slauson and Zielinski 2007, Farber et al. 2008, USFWS unpublished data). Cross-hatching represents fisher telemetry study areas (Buck et al. 1994, Self and Kerns 2001, Zielinski et al. 2004, Yaeger 2005). Points represent presence only and do not imply abundance or density.

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