

IV. Summary of Comments and Recommendations

In the 2014 Proposed Rule published on October 7, 2014 (79 FR 60419; Docket No. FWS–R8–ES–2014–0041), we requested that all interested parties submit written comments on the proposal by January 5, 2015. We electively held one public hearing and seven public information meetings between November 13 and December 4, 2014. The comment period for this rule was extended (79 FR 76950; December 23, 2014) and reopened (80 FR 19953; April 14, 2015) for additional comments. Following our withdrawal of this proposed rule (81 FR 22710; April 18, 2016) and subsequent litigation (see Previous Federal Actions, above), the District Court for the Northern District of California reinstated the 2014 Proposed Rule on September 21, 2018. Given the time that had elapsed and the availability of new information, we reopened the comment period on the 2014 Proposed Rule on January 31, 2019 (84 FR 645), requesting that all interested parties submit new information or comments by March 4, 2019. We published the 2019 Revised Proposed Rule on November 7, 2019 (84 FR 60278), again requesting that all interested parties submit written comments on the proposal by December 9, 2019, and noting that all previously submitted comments would be fully considered in the preparation of our final determination. Finally, we reopened the comment period on the 2019 Revised Proposed rule for additional comments and information to be submitted by January 3, 2020 (84 FR 69712; December 19, 2019), reiterating that our final determination would take into consideration all comments and any additional information we have received during the comment periods described herein.

Notices were published in a variety of newspapers during the comment periods inviting general public comment on the various announcements between 2014 and 2019 outlined above. Newspaper notices covered the range of the DPS and included one or more of the following:

Bellingham World, Chico Enterprise Record, Eureka Times-Standard, Fresno Bee, Klamath Falls Herald and News, Olympian, Oregonian, Peninsula Daily News, Redding Record Searchlight, Sacramento Bee, Wenatchee World, and Yakima Herald Republic. We also contacted appropriate Federal and State agencies, Tribes, scientific experts and organizations, and other interested parties and invited them to comment on both the 2014 Draft Species Report and the 2014 Proposed Rule. Information received from these parties was used to update the 2016 Species Report and the 2019 Revised Proposed Rule. We also used information received from Federal and State agencies, Tribes, organizations, and other partners throughout the process. All substantive information provided during the comment periods outlined above has either been incorporated directly into this final determination or addressed below.

In connection with development of this final rule, we reviewed comments received from the public and peer reviewers on the 2014 Proposed Rule and the Draft Species Report, and from the public on the 2019 Revised Proposed Rule. As outlined in the April 2016 Withdrawal (81 FR 22709), which provides our full response to all comments received to the initial documents, we added new information, made clarifications, and made necessary corrections to our Final Species Report (Service 2016, entire) to reflect the peer and public comments received to that time. As necessary, these prior comments have been reevaluated to inform the development of this final rule. For those comments where we determined a further response was required, they are addressed in our response to comments section below or are incorporated in our analysis in the specific section of the final rule as appropriate.

4(d) rule

(1) Comment: Multiple commenters raised concerns, provided suggestions, and asked for clarification on the 4(d) rule in the 2019 Revised Proposed Rule.

Our Response: Under section 4(d) of the Act, the Secretary of the Interior has the discretion to issue such regulations as he deems necessary and advisable to provide for the conservation of a species listed as threatened, and can by regulation prohibit with respect to such species any act prohibited under section 9(a)(1) for threatened wildlife species. In this final rule, we determine that the NCSO DPS does not warrant listing under the Act and that the SSN DPS meets the definition of an endangered species under the Act; therefore, since neither DPS will be listed as threatened, the section 4(d) provisions do not apply and the proposed 4(d) rule has been removed from this final rule.

Climate Change

(2) *Comment:* One commenter asserted that voluntary conservation efforts on non-Federal lands mitigate and decrease the threats of climate change to fisher.

Our Response: We considered both regulatory and voluntary conservation measures that are currently being implemented to reduce the impacts of the stressors to the species in the final Species Report (Service 2016, pp. 162–189) and updated in this document (see Existing Regulatory Mechanisms and Voluntary Conservation Measures, above), including important voluntary conservation contributions on non-Federal lands.

We found that listing of the NCSO DPS was not warranted. We have found that the SSN DPS meets the definition of an endangered species. At this time, we continue to assert that fisher habitat is likely to be affected by changing climate conditions, but the severity will vary, potentially greatly, between the NCSO DPS and the SSN DPS, with effects to fishers ranging from negative, neutral, or potentially beneficial. We cannot at this time conclude that conservation efforts on non-Federal lands are mitigating or decreasing the threats of climate change to fisher within the NCSO DPS or the SSN DPS. That said, voluntary actions on non-

Federal lands, particularly within the NCSO DPS, provide a conservation benefit to the species (e.g., actions that reduce significant spread of high severity wildfires) and may contribute to reducing the overall cumulative impacts to the NCSO DPS and its habitat. Overall, anything that reduces impacts to the species in the future would help increase its resilience to climate change

(3) Comment: One commenter claimed that the best available science on climate change should be added to our analysis, including recent modeling and analysis information related to warming climate, wildfire severity, and droughts. This comment also was raised in comments received on the 2014 Proposed Rule stating that there are conflicting perspectives on the potential impacts associated with changing climate conditions, and the Service needs to evaluate the best available information.

Our Response: We have evaluated new information on climate change that has become available since the 2014 Proposed Rule, including literature received and suggested citations during the comment periods on the 2019 Revised Proposed Rule. All information received has been reviewed and analyzed as part of our determination; the information is included in the decision record for this determination, but not necessarily cited in this rule. Significant new information or updates are included in the Climate Change sections above.

Completeness and Accuracy

(4) Comment: Several commenters stated that the 30-day comment period for the 2019 Revised Proposed Rule did not provide the public enough time to evaluate the changes made to the proposed rule, which had significant differences from our previous determinations.

Our Response: In response to multiple requests seeking more time to fully evaluate the information in the 2019 Revised Proposed Rule, we added an additional 15-day comment period (ending on January 3, 2020) to the original 30-day comment period for the 2019 Revised

Proposed Rule. Moreover, as noted in our discussion of the DPS above, we provided the public with notice of two alternative DPS configurations in our 2014 Proposed Rule, which included DPS boundaries that are very similar to the DPS configurations that were analyzed in the 2019 Revised Proposed Rule and this final determination.

(5) Comment: One commenter mentioned that significant new information has been developed since the completion of the 2016 final Species Report, and that the 2019 Revised Proposed Rule mentioned some of the new data. However, the commenter stated that the Service did not clarify how much weight was given to the new information in the decision to propose listing the fisher.

Our Response: New information became available between completion of the 2016 final Species Report and the 2019 Revised Proposed Rule to list the fisher as a threatened species, and new information became available since the publication of our 2019 Revised Proposed Rule. We are obligated under the Act to carefully consider whether or not any new information would affect our decision to list a species (i.e., meeting the definition of an endangered or a threatened species according to section 3 of the Act). All new information provided since the 2016 final Species Report was carefully analyzed. We found that the new information and information submitted during public comment provided substantial evidence that threats to the fisher have been reduced or eliminated to the extent that listing of the fisher is not warranted in the NCSO but is warranted for listing as an endangered species in the SSN DPS.

Critical Habitat

(6) Comment: Many commenters articulated the need for designated critical habitat for the West Coast DPS of fisher. Two of these commenters asserted that critical habitat should have been proposed concurrent with the proposed listing rule.

Our Response: We stated in the 2019 Revised Proposed Rule that we were in the process of working with the States and other partners in acquiring the complex information needed to perform an economic analysis. As stated in **II. Critical Habitat**, above, we are still assessing information and we anticipate publishing a proposed rule to designate critical habitat in the near future.

Current Conservation Agreements

(7) Comment: One commenter asked if landowners will be able to enroll in CCAAs after a final rule is published.

Our Response: Landowners within the area of the NCSO DPS can enroll in CCAAs because we found that listing of the NCSO DPS was not warranted. Once a species is listed as threatened or endangered under the Act, landowners are not able to enroll in CCAAs for that species; this applies to the SSN DPS. However, other conservation tools such as Safe Harbor Agreements (SHA) can provide assurances for landowners. An SHA is a voluntary agreement between the Service and private or other non-Federal property owners whose actions contribute to the recovery of federally listed species. Landowners who fulfill the conditions of the SHA will not be subject to any additional or different management activities without their consent.

(8) Comment: One commenter stated that the completion of a marten/fisher conservation strategy would complement work being done by the Forest Service. A second commenter provided a summary of a draft conservation strategy for fisher in the SSN subpopulation, claiming that the strategy will update fisher and fisher habitat status, summarize new science, provide recommendations for identifying and maintaining key habitat elements, provide recommendations for increasing resilience of fisher habitat, identify potential mitigation for

necessary management (e.g., hazard tree removal), and identify potential management options for forest conditions that support fisher conservation.

Our Response: The Service supports a conservation strategy for the benefit of marten and fisher to complement work being done by the Forest Service. The new draft conservation strategy for fisher in the SSN DPS was reviewed and discussed in the SSN Final Rule under “Current Condition” and “Voluntary Conservation Measures.”

(9) Comment: One commenter stated the 2019 Revised Proposed Rule was unclear as to whether or not conservation measures currently being implemented for fisher were evaluated. Therefore, the commenter advised that the Service cannot rely on those measures to support conclusions for unregulated take of individuals on federal land.

Our Response: The Service evaluates voluntary conservation measures when considering the status of a species under section 4 of the Act. As such, voluntary conservation measures were considered in this final rule for fisher. See the Voluntary Conservation Measures section above.

(10) Comment: One commenter stated that sustainable forestry practices on private land support fisher conservation by providing healthy forests, forest products, and wildlife enhancements. The commenter claimed that unnecessary regulations and restrictions of sustainable forestry practices will negatively affect fisher populations and the ability of private land owners to maintain working forests on their lands.

Our Response: We appreciate the efforts on private lands to support healthy forests and provide wildlife enhancements that benefit fisher, and we will continue to work with landowners. We assume the commenter is concerned that sustainable forestry practices would be regulated as a result of listing the fisher under the Act. We found that listing of the NCSO DPS was not

warranted. We determined that the SSN DPS meets the definition of endangered; thus, we are required by the Act to list it. The Service will work with partners to continue forest practices that retain key elements of fisher habitat that will continue to contribute to the overall conservation of the species.

(11) Comment: Multiple commenters stated that voluntary conservation measures and multi-entity partnerships are in place, should receive Federal support or funding assistance, and should be the focus of the evaluation of the status of the fisher. Specifically, the commenters claimed that Federal and non-Federal land managers are engaging in collaborative efforts (e.g., CCAAs, HCPs, MOUs) to maintain fisher habitat and minimize wildfire risk, and the Service failed to acknowledge these efforts and their contribution to fisher conservation. Some of these commenters also stated that the Service provided little justification to the determination that conservation agreements are not acting at a scale and magnitude sufficient to ameliorate threats, and that the extent of the agreements was not considered. An additional commenter is similarly concerned that listing the fisher would mandate section 7 consultation under the Act for actions implemented under MOUs, which would hinder implementation and increase the risk of catastrophic wildfire. Finally, another commenter suggested that CCAAs, which cover several million acres, are being implemented or are sufficiently certain to be implemented, which should compel the Service to withdraw the proposed listing rule.

Our Response: The Service supports conservation efforts for the benefit of fisher in both the NCSO DPS and the SSN DPS. We incorporated additional information that was received during the comment period into our analysis including Candidate Conservation Agreement with Assurances, Habitat Conservation Plans, and Memorandums of Understanding that benefit the NCSO DPS and/or the SSN DPS of fisher. We found that listing of the NCSO DPS was not

warranted. We have found that the SSN DPS meets the definition of endangered; therefore, it is necessary to carefully assess actions that may impact the DPS to avoid extinction. The Service will work with partners to continue forest practices that retain key elements of fisher habitat that will continue to contribute to the overall conservation of the species. See also the response to *Comment 10* above.

(12) Comment: One commenter stated that the Service did not apply the PECE policy and asserted that application of this policy will result in a determination that listing fisher as a threatened species is not necessary.

Our Response: In this final rule, the listable entities are two DPSs, the NCSO DPS and the SSN DPS. The NCSO DPS is not warranted for listing, so a PECE analysis is not appropriate. The SSN DPS is warranted for listing as an endangered species, and we conclude that the existing conservation efforts are not to the level that prevents the SSN DPS from meeting the Act's definition of an endangered species.

(13) Comment: One commenter is concerned that timber management at a landscape scale is likely to be unaffected by listing fisher. Specifically, the commenter asserted that agreements with timber companies that exempt timber management activities will not provide landscape scale contiguous tracts of habitat or sufficient trees with cavities.

Our Response: We assume the agreements the commenter refers to are HCPs, CCAAs, and SHAs. Each HCP, CCAA, and SHA contains measures to protect habitats for listed species. While these may not individually operate at a landscape scale, the combined efforts across the range of the species contribute to the ability of fishers to move across larger landscapes and to find trees for denning and resting.

Distinct Population Segment (DPS)

(14) *Comment:* Several commenters believed there should be more than one DPS (with separate listing decisions) in the area described in the 2019 Revised Proposed Rule as the West Coast DPS of fisher. Some commenters stated that the NCSO and SSN subpopulations are two separate/isolated geographic areas with no genetic interchange, and therefore they should be two separate DPSs, especially given the apparent differences in landscape-level threats and information that they believe qualifies the SSN as distinct and significant according to our DPS Policy. Some of these commenters further articulated that the DPSs should be consistent with the ESUs designated in 2015 by the California Department of Fish and Wildlife, including that we should consider their decision that listing the Northern California ESU was not warranted. Two commenters asserted that the SSN subpopulation should be a DPS that is listed as endangered and the NCSO subpopulation should be a DPS that is listed as threatened given the differences in existing conditions and threats into the future. Finally, another commenter asserted that the NCSO, SSN, NSN, and SOC subpopulations should all be individual DPSs.

Our Response: We received multiple comments on our DPS approach in both the 2014 Proposed Rule and 2019 Revised Proposed Rule. As explained in further detail in this document's Summary of Changes from the 2019 Revised Proposed Rule section, we carefully considered all these comments, and as a result re-evaluated our DPS approach. We determined that what we had proposed as the West Coast DPS in the 2019 Revised Proposed Rule should instead be two separate DPSs, one for the SSN subpopulation, and one for the several subpopulations comprising the NCSO geographic area. We determined our analysis would focus on the conservation of extant subpopulations historically indigenous to the California and southern Oregon region with unique genetic characteristics (as outlined in the 2014 Proposed

Rule), while also allowing for separate management of the two DPSs if either or both were warranted for listing. For a complete discussion of the logical outgrowth that led to this outcome, please refer to the Summary of Changes section mentioned above, as well as the detailed Distinct Population Segment analyses presented herein.

(15) Comment: One commenter agreed that the DPS configuration should not include the State of Washington, and two commenters disagreed, requesting that we reconsider and include this area to address the connectivity needs of the species and consideration of habitat needed for dispersal. One of the two commenters that disagreed also suggested that population monitoring of recent fisher reintroductions in Washington would be more readily supported if this area was included in the DPS configuration. Relatedly, we also received multiple comments on the 2014 Proposed Rule suggesting that the Service needs to consider connectivity between subpopulations and dispersal habitat within the DPS configuration, including habitat in Washington and Oregon that is north of the current distribution.

Our Response: As explained in further detail in both the 2019 Revised Proposed Rule, and in this document's Distinct Population Segment analyses, the determination of a DPS is based on where a population segment actually occurs on the landscape. A DPS does not set a geographic boundary, nor "set aside" connectivity or dispersal habitat for conservation purposes, but rather identifies the segment of a population that is discrete from, and significant to the taxon as a whole, and that may or may not require protection under the Act. Our DPS approach focused on the extant subpopulations historically indigenous to the California and southern Oregon region with unique genetic characteristics, and such subpopulations do not occur in Washington, nor in Oregon north of the current distribution.

(16) Comment: One commenter asserted that it is inappropriate to consider fishers reintroduced in the State of Washington as nonnative, as this typically describes taxons occurring outside their historical range. The commenter stated that reintroduced fishers in Washington are from source populations in British Columbia and Alberta, which were likely contiguous and interbreeding with fishers that historically occurred in Washington.

Our Response: In both the 2014 Proposed Rule and 2019 Revised Proposed Rule, we explained that our use of the term “nonnative,” was intended to articulate the difference between the extant fisher subpopulations that have been indigenous to the three west coast states since the before the time of the original petition (“native”), and those current fisher subpopulations that were established with fishers from outside the three west coast states (“nonnative”). We recognize that the fisher populations currently established in Washington are genetically similar to historically indigenous Washington fishers, prior to their extirpation, and our only purpose in the use of the term “nonnative” was to distinguish the reintroduced Washington fishers from those fishers in California and northern Oregon that are historically extant.

(17) Comment: One commenter stated that the revised DPS delineation/description limits opportunities to implement future conservation measures throughout the historical range of the species. They also stated that excluding historically occupied fisher habitat in Washington and Oregon limits opportunities for recovery.

Our Response: Please see our response to *Comment 15*. Conservation measures are not limited throughout the range of the species by this listing determination.

(18) Comment: Several commenters requested that we clearly define the boundary of the DPS. For example, one commenter stated that there are only dispersing fishers in one area within the delineated boundary as described in the 2019 Revised Proposed Rule, and there does

not appear to be a breeding population there. Two commenters suggested that specific extant subpopulations are delineated that include a predicted movement distance, such as the approach used for the Humboldt marten. Two other commenters stated that the proposed boundary does not represent the extant subpopulations or the specific predicted habitat areas, noting their belief that the basis for the current depiction is unclear.

Our Response: Please see our responses to *Comment 14* and *Comment 15* regarding the final determination of DPSs. Additionally, there is no requirement that all areas of a DPS be used for breeding. And, when we identify a DPS, we are simultaneously evaluating the current range of the animals comprising the DPS. This is identical to our process for any listed species. Any maps accompanying these determinations are intended to illustrate that range, based on the best available scientific and commercial information regarding the species' (or DPS's) ecology and the availability of its resource needs on the landscape but does not represent a determination by the Service that all areas within a generalized range are occupied by the species. The maps presented herein depict our understanding of the current ranges of both DPSs, with the further understanding that these ranges are not necessarily static, and individuals from either DPS have the potential to expand or contract from what are the current range limits.

(19) Comment: One Federal partner stated their support of listing native fisher populations wherever they occur, but suggested the area east of Highway 97 in Oregon be excluded.

Our Response: As presented herein, our final analysis determines that the NCSO DPS, which included fishers in Oregon, does not meet the definition of either a threatened or endangered species. As a result, fishers east of Highway 97 would not be considered listed under the Act.

(20) Comment: One commenter asserted that fishers residing in the SOC subpopulation (reintroduced from British Columbia and Minnesota) experience significantly different threats and existing conditions (e.g., small population size, surrounding habitat for expansion) than the NCSO subpopulation; therefore, these factors should lead to not including this subpopulation area in any DPS.

Our Response: As presented herein, our final analysis includes the SOC subpopulation within the NCSO DPS. Although the SOC subpopulation was established with fishers from British Columbia and Minnesota, the area where the SOC occurs lies within the historical range of the NCSO DPS, and more importantly, includes documentation of SOC fishers interbreeding with fishers of the NCSO subpopulation (Pilgrim and Schwartz 2016, entire; Pilgrim and Schwartz 2017, entire). Given this interbreeding activity and the use of suitable habitat between these two population areas, it was a sound and logical conclusion to include all fishers across these areas as part of the NCSO subpopulation. However, we found that listing of the NCSO DPS was not warranted.

Distribution

(21) Comment: One commenter provided new fisher detection locations from systematic camera surveys conducted from October 2018 to February 2019 and from October 2019 through December 2019 within their private timberlands in coastal northern California. The commenter asserts that the new information indicates that fishers remain well distributed across their coastal California timberlands and that fishers may have expanded into portions of northern coastal California where they were not detected during earlier survey efforts.

Our Response: We thank the commenter for the new fisher detection information, which augments our knowledge of the distribution and relative abundance of the fisher within the

NCSO. We have included this information in the NCSO Current Condition above. We agree that the submitted information demonstrates that fishers are well distributed across portions of the commenter's California timberlands where surveys were conducted.

(22) *Comment:* One commenter disagreed with information we presented in the 2019 Revised Proposed Rule regarding the historical and current distribution of fishers in the SSN subpopulation. The commenter suggested that our statement that historically the SSN subpopulation likely extended farther north than our current DPS boundary in the Sierra Nevada was conjecture and that historical museum specimens are limited to south of the Tuolumne River, which is currently the northern boundary of what was identified in the 2019 Revised Proposed Rule as the Sierra Nevada portion of the DPS. Further, the commenter mentioned that our statement that multiple lines of genetic evidence suggests that the NCSO and SSN subpopulations have been isolated since before European settlement contradicts the previous assertion that fishers historically occupied the area between the NCSO and SSN portions of the DPS. The commenter also disagreed with our statement that the current northern boundary of the SSN subpopulation is the Tuolumne River in Yosemite National Park, asserting that the northern extent of the current occupied distribution of the SSN subpopulation is actually the Merced River, varying from about 10 to 20 miles south of the Tuolumne River. They stated that only a single male fisher was recently detected north of the Merced River and that there is no fisher population between the Merced and Tuolumne rivers.

Our Response: Although not confirmed, there are numerous historical sightings of fishers, many of them from reported trapping locations from 1919-1924, in the areas between the SSN and NCSO DPSs (summarized in CDFW 2015, pp. 17-19). Thus, we conclude that at some point, fishers occupied portions of the northern Sierra Nevada at least temporarily. Whether the

Commented [PA1]: From Bridget: Connect the dots on how this information relates to our overall answer, because it does seem like this info does conflict with the data from the early 1900s.

I thought we were maintaining that the map did not necessarily represent "DPS boundaries" but was our best approximation of where fishers, if found, would be SSN fishers. But we are listing the DPS "where found"

Can we back up this assertion with a citation?

Madeline addressing

northern Sierra Nevada contained a viable population or only served as a movement corridor between the current NCSO and SSN DPSs is unknown. That said, genetic information supports that the NCSO and SSN DPSs have been largely separated for thousands of years (Tucker *et al.* 2014, p. 3).

We included the area between the Tuolumne and Merced rivers in the DPS boundaries because that area contains suitable habitat that the SSN DPS may expand into in the near future. In addition, fishers may use the area between the rivers seasonally, especially male fishers searching for mates in the spring.

Existing Regulatory Mechanisms

(23) Comment: Several commenters stated that the proposed rule fails to adequately consider existing conservation efforts that benefit the fisher and other actions that benefit other forest species. These efforts include such things as CCAAs, MOUs, HCPs, ongoing enforcement agreements implemented by State and Federal parties, and conservation agreements for other species such as spotted owls, which can benefit fisher. Although many of these efforts are mentioned in the 2019 Revised Proposed Rule, the commenters believed that there is no evaluation, both individually and cumulatively. Other commenters stated that these efforts must be considered in combination with the extensive regulatory framework that already exists (e.g., the Sierra Nevada Forest Plan Amendment for the Forest Service; the California Forest Practice Rules and the California Environmental Quality Act and their roles in the timber harvest planning process in the state).

Our Response: We have assessed the additional MOUs that were not mentioned in the 2019 Revised Proposed Rule, and updated the information on HCPs and CCAA permittees that were in progress when the 2019 Revised Proposed Rule went to press. Furthermore, we

Commented [PA2]: Bridget comment: Do we need to be careful about including this information and getting to NW without a PECE analysis? I think it would help here to make clear how we used this information in making our final decision. Seems like it is difficult to tease out the effect of the reg mechs on the overall status, so where the rubber met the road is our biological determinations on the 3Rs and we did not rely on any future cons to get to our determination of NW (aka no PECE)

considered in our analysis a recently signed MOU specific to northwestern California in the NCSO DPS that provides coordination among Federal, State, and private entities to implement fire risk reduction treatments that reduce fuels while maintaining structural components of fisher habitat. Under the MOU, participants will implement activities consistent with the conservation needs of the fisher including retention of known natal dens, retention or recruitment of hardwoods and structurally diverse forests, retention of shrubs and smaller trees in areas with sparse overstory cover, and avoid poisoning potential prey species. Further discussion of the regulatory framework that already exists can be found in the Existing Regulatory Mechanisms section of this final rule.

(24) Comment: One commenter stated that the proposed rule does not consider the widespread participation in sustainable forest management certification programs such as the Sustainable Forestry Initiative and the Forest Stewardship Council that promote forest health and resilience in opposition to climate change with sequestration of carbon in wood products and renewable reforestation and harvest cycles.

Our Response: While sustainable forest management certification programs may require actions by participants that are ecologically beneficial, the certification standards are too general to evaluate the effects of participation on fishers. For example, one of the certification programs, Sustainable Forest Initiative, lists the following indicators that represent a program to protect threatened and endangered species: “1) program to protect threatened and endangered species; 2) program to locate and protect known sites of flora and fauna associated with viable occurrences of critically imperiled and imperiled species and communities also known as Forests with Exceptional Conservation Value; 3) support of and participation in plans or programs for the conservation of old-growth forests in the region of ownership or forest tenure.” (SFI 2015, p. 6).

Commented [PA3]: From Bridget: Are we worried about calling this out by name? Ie are we risking a relationship with a potential partner in conservation?

Commented [SL4R3]: Would like to keep the specifics, otherwise somebody will probably ask for a citation. But added in some explanatory language in hopes of alleviating Bridget's concern.

We do not mean to imply that these measures are faulty or that they do not promote fisher conservation. However, as written These standards are too vague to consider their benefit to fishers and how they may reduce existing threats. The Service requires information specific as to what will be done by each SFI participant to meet these indicators in order to be able to assess the degree to which their program affects fishers and addresses the threats.

(25) Comment: One commenter stated that the Service cannot rationally assume that BLM lands in the DPS will be managed in a way to promote viability or recovery of fisher because of recent court rulings regarding the Oregon and California Railroad (O&C) lands under BLM management. If these rulings stand, BLM will no longer be able to place O&C timberlands in reserves. The final rule must address how the Service intends to achieve recovery in light of these rulings.

Our Response: We have acknowledged the recent court ruling regarding BLM O&C lands in this rule and that this decision has been appealed. However, we must base our decision on the regulatory mechanisms currently in place, which are the 2016 revisions to BLM's western Oregon resource management plans. We cannot speculate how the court's ruling will ultimately effect BLM management going forward. For example, the ruling may stand, it may be overturned by a higher court, or a settlement may be reached to implement yet a different management action. Opportunities to assess any such changes in BLM management, once final, will occur through either our 5-year review or through a new listing petition. Consequently, we base our conclusion on the plans in place at the time of our decision, which is the 2016 western Oregon resource management plans.

(26) Comment: One commenter said that assuming the NEPA process will do good things for fisher is incorrect. Federal agencies document their actions under NEPA and whether they

comply with the Endangered Species Act, but the process itself does not provide a conservation benefit.

Our Response: We have not assumed that NEPA will benefit fishers. We explicitly stated in our 2019 Revised Proposed Rule (84 FR at 60296), “NEPA does not regulate or protect fishers, but requires full evaluation and disclosure of the effects of Federal actions on the environment.” We continue to affirm that statement in this document.

(27) Comment: One commenter stated that the regulatory mechanisms embodied in law enforcement agencies have failed to control illegal cultivation of marijuana on public lands, leading directly to the issues described under the toxicants section of the proposed rule. The proposed rule should acknowledge this fact, recognizing and calling attention to the limitations imposed on the funding and priorities under which these agencies operate.

Our Response: We have acknowledged the inability of law enforcement to keep up with illegal cultivation of cannabis on public lands in this rule (see Exposure to Toxicants section).

(28) Comment: One commenter observed that the proposed rule does not acknowledge existing efforts to address illegal cannabis cultivation on public lands (e.g. increasing California State agency staff; CROP Project (Cannabis Removal on Public Lands), whose goal is to increase funding for trespass grow reclamation, increase USFS Law Enforcement presence, and implement statewide education on health risks of unregulated cannabis). Evaluation of toxicant threat is incomplete without considering the regulatory mechanisms related to cannabis cultivation.

Our Response: We acknowledge the CROP Project and their efforts to reduce and reclaim illegal cannabis cultivation on public lands (see Exposure to Toxicants section). Although we are encouraged to see this citizen-based effort, having only been established since

Commented [PA5]: From Bridget: Unclear what this means. I've edited to try to clarify what I think it means but feel free to correct if I got it wrong.

Gina addressing

2018, it is too soon to determine their effectiveness in reducing the threat of toxicants to fishers. While the commenter notes an increase in California State Agency staff to address cannabis cultivation issues, it is not clear if staff is dedicated to illegal grows on public lands, or primarily focused on addressing cultivation permit compliance and illegal cultivation on non-Federal lands. We note that Forest Service law enforcement have observed that State and local resources assisting with illegal cultivation on Federal lands has diminished since State cannabis legalization as resources have been redirected to State and local regulatory compliance (Klassen and Anthony 2019, p. 45).

(29) Comment: One commenter stated that if the fisher is listed, then positive relationships with landowners will be impossible and harm proactive, collaborative, voluntary conservation.

Our Response: We are committed to creating positive relationships with landowners and have many tools available to incentivize collaborative, voluntary conservation for the fisher. Potential voluntary conservation opportunities include as CCAs, HCPS, SSAs, partners projects, and more.

(30) Comment: One commenter stated that listing the fisher would also increase wildfire risk within the fisher's range and blunt the effectiveness of wildfire prevention measures that are already in place. Private landowners are currently implementing a Memorandum of Understanding ("MOU") that is designed to lessen wildfire risks within the fisher's range. If the fisher were listed as threatened or endangered, these wildfire reduction measures would be slowed down and would become less effective. Listing the fisher would also have the consequence of requiring federal agencies to consult under Section 7 of the ESA before taking

actions that could affect fisher habitat, including the fuels reduction efforts contemplated under the MOU.

Our Response: We do not believe that listing the fisher would increase wildfire risk because XXX. The MOU referenced by the commenter pertains to the NCSO DPS area, which is found not warranted for listing in this determination. There is no similar agreement applicable to the SSN DPS. Consequently, we believe the concerns expressed are not applicable to this listing determination.

Fisher Biology

(31) *Comment:* Two commenters pointed out new studies showing that fishers use managed landscapes. They both noted that fishers have been documented using slash piles for denning. One of them also added that fishers use areas near timber harvest units, possibly due to the availability of prey.

Our Response: Fishers use managed landscapes on private industrial timberlands, and this determination reflects this use. Rather than specifically mentioning fisher use of slash piles in our analysis, we considered fisher use of managed landscapes more broadly in vegetation management.

Fuels Treatment

(32) *Comment:* Some commenters expressed that protecting fishers from extreme wildfire is important, stating that wildfires are prevalent in the DPS and are predicted to increase in frequency. They indicated that high severity burns take decades if not centuries to replace habitat structures necessary to support fishers and their prey; therefore, thinning projects and prescribed burns are necessary to prevent stand-replacing wildfires.

Commented [PA6]: Add why the listing would not increase fire risk in the SSN. Would we be doing a programmatic S7 with the Fed agencies re: fire so that fire mgmt projects within fisher habitat would not in fact be slowed down?

Our Response: High-severity fires can remove or substantially reduce fisher habitat; thus, we assessed the conservation measures in place to conduct fuel reduction projects (see Voluntary Conservation Mechanisms).

Habitat

(33) *Comment:* Once commenter states that the use of OGSI-80 as a surrogate for fisher habitat under-represents substantial areas of occupied fisher habitat in the NCSO and NSN areas. Specifically, they referenced application of the Zielinski et al. (2004) fisher habitat model on managed landscapes. They claim that the model is similar to OGSI-80 in that it is derived from observed fisher use of large, old trees in old forests, primarily on public lands. Applying the model on managed landscapes resulted in lands classified as “poor” by the model were actually occupied by fishers and presented their analysis of citations (Zielinski et al. 2012; Niblett et al. 2017; Powell et al. 2019) to support this interpretation. The commenter recommended the Service address the proportion of occupied habitat actually represented by OGSI-80, stating that the OGSI-80 definition excludes substantial amounts of occupied private and federal land. This Thus, the commenter opined that projections of trends based on the OGSI-80 surrogate cannot be relied upon to represent amounts of trends in fisher habitat (p. 4). The commenter further recommended the Service address the proportion of occupied habitat actually represented by OGSI-80, stating that the OGSI-80 definition excludes substantial amounts of occupied private and federal land.

Our Response: In addressing the last portion of the comment, our intended use of OGSI-80 is not as a surrogate for fisher habitat, nor to delineate areas on the landscape where fishers may or may not be found. That would not be an appropriate use because the data sources for OGSI-80 (gradient nearest neighbor or GNN) limit the application of the index to the are

Commented [PA7]: From Bridget: Can we say anything about our plan to streamline or incentivize such projects for SSN fisher?

Commented [SL8]: This has been edited down so much as to not make any sense. Especially when you look at the response. I had to go back to the original comment to understand the commenter's point. Have tried to make this more understandable.

~~meant to be used at a~~ landscape or regional scale and not ~~at a the~~ site-specific or local scale (Ohman and Gregory 2002, p. 738). ~~We could not find an assessment of Zielinski et al. (2012) in Powell et al. (2019), so cannot address that claim in our response.~~

We are not sure why the commenter concluded that the Zielinski [et al. \(2004\)](#) model, derived from observed fisher use of very large old trees and logs in old forests primarily on public lands, is similar to OGSi-80. ~~We clarify our view here.~~ First, OGSi-80 is not based at all on fisher use of stands. Second, OGSi-80 does not indicate a forest age, but rather structures that are characteristic with where forests are at on a general forest succession continuum, ~~regardless of their age~~. Hence, a stand meeting the OGSi-80 condition may be ~~substantially~~ younger than 80 years old, and stands substantially older than 80 may not meet the OGSi-80 condition. Third, OGSi-80 was derived from a network of plot data systematically placed across all ownerships, not just Federal lands (Davis et al. 2015, pp. 13-15). We compared OGSi-80 trends between Federal and non-Federal lands in our analysis.

The commenter's conclusion as to why the Zielinski model did not perform as well on private lands assessed by Niblett et al. (2017) ~~analysis~~ does not comport with the conclusion Niblett et al. (2017, pp. 14-15) made. They note that Zielinski compiled a resting habitat suitability score that was a composite of multiple features of fisher resting habitat, such as live tree basal area, large down wood abundance, hardwood basal area, canopy cover, and mean tree age. Such an overall composite may be less meaningful in characterizing fisher habitat on landscapes assessed by Niblett et al. (2017, entire) than just assessing the structural attributes that fishers use especially because forest cover is so low for such a large part of their study area. In that light, OGSi-80 is similar in that it is characterizing a single component of fisher habitat, the structural habitat components that fishers are associated with, so long as forest canopy cover

meets a minimum of 10 percent. We note that Niblett et al. (2017, p. 15) still found that, even in their heavily managed landscape with large areas absent of forest cover, fishers still denned in the largest available trees on the landscape. Depending on the vegetation zone that encompasses the Niblett et al. (2017, entire) study area, the OGSi-80 minimum structural element thresholds (Davis *et al.* 2015, p. 16-18) may or may not exceed the den tree and snags used by fishers in Niblett *et al.* (2017, p. 15). Nevertheless, OGSi-80 is not meant to map where fishers may occur on the landscape, or to quantify fisher habitat characteristics, but to characterize trends in those structural elements that fishers use.

(34) Comment: One commenter stated that in areas occupied by breeding female fishers on the Stirling Management Area, some habitat suitability models based on fisher use of forests with large trees performed very poorly in predicting fisher home ranges (Powell et al. 2019, Figure 28 and others). Consequently, OGSi-80, being based on large trees, will not represent areas used by fishers on these landscapes.

Our Response: As stated in earlier comments, OGSi-80 is not meant to map where fishers may occur on the landscape, or to quantify fisher habitat characteristics, but to characterize trends in those structural elements that fishers use. We also want to clarify the results of the analysis that the commenter is describing (Powell et al. 2019, Figure 28 and others). There are certainly areas of habitat classed by the different models assessed as either moderate fisher habitat or even relatively high quality fisher habitat (e.g. Powell et al. 2019, Appendix 2, pp. 64-65) which fishers avoided. The authors suspect lack of other vital habitat components in these stands, such as hardwoods, may be the reason, though this needs further study (Powell et al. 2019, Appendix 2, pp. 69-70). Nevertheless, for most of the models assessed

in Powell et al. (2019, Appendix 2), fishers still selected habitats on the landscape that generally encompassed largest tree category and greatest canopy cover.

(35) Comment: One commenter believed our statement that substantial amounts of unoccupied fisher habitat could suggest that habitat is not limiting for fisher and, therefore, habitat loss is not a threat was misleading. They note that there is not a lot of unoccupied habitat in the SSN south of the Merced River, and, indeed, habitat may very likely be a limiting factor, especially for females in the currently occupied area. Unoccupied habitat north of the Merced may not be accessible due to dispersal barriers (Merced River, high severity fire areas, and heavily used roads in Yosemite NP) and, therefore, is not de facto evidence that habitat is not a limiting factor.

Our Response: We recognize in the final rule that the interaction of all the threats within the SSN DPS are likely limiting northward expansion into what is considered suitable habitat for fisher. In general, fisher habitat is lacking landscape scale forest heterogeneity in the SSN DPS compared to historic conditions, with wildfire and severe drought disturbances creating large patches of homogenous habitat, which are exacerbated by past logging practices and wildfire suppression (Thompson et al. 2019a, p. 13).

(36) Comment: The proposed rule's estimation of habitat trend is inconclusive and does not indicate substantial decline. If the definition of habitat is corrected to include the known fisher distribution, fisher habitat has in fact dramatically expanded. This expanded range is demonstrated by a 24% increase in the occupied range since the CDFW estimate in 2010.

Our Response: We do not agree with the conclusion that habitat usable by fisher has dramatically expanded. A range expansion for fisher or any other species does not automatically mean that habitat has increased. Many factors serve to limit species distribution (e.g.

connectivity and fragmentation, prey and predators, population demographics), and these factors may or may not be affected by habitat. Although not perfect, our analyses for vegetation management and wildfire show losses of either fisher habitat or structural elements used by fishers (as represented by OGSi-80). Furthermore, the OGSi-80 analysis, which incorporates ingrowth and is only for the NWFP portion of the NCSO DPS, indicates a net loss of this habitat type. In the SSN, areas that were previously known fisher distribution experienced a reduction of nearly 40% due to fire, drought, and associated tree mortality. Although we expect ingrowth to occur, we are uncertain how soon the landscape will be considered fisher habitat, particularly because large trees that often act as a seed source for future regeneration were disproportionately affected.

The number of fishers in the NSN subpopulation is increasing and with this increase, fishers are expanding and using new habitats. We are encouraged by this expansion and commend SPI, CDFW, and other partners for their efforts. However, we conclude that this expansion is due to reintroduction efforts, not because of an increase or expansion of new habitat. Prior to the reintroduction, the habitat existed and was available, but it was unoccupied.

The commenter suggests that fisher's range has expanded by 24% since a CDFW estimate in 2010. Based on the maps provided and the comment, we assume this refers to a 24% increase in the occupied range for NCSO. Judging expansions or contractions in fisher populations from ranges drawn by humans on a map can be problematic because the polygons created might not capture areas that haven't been surveyed, they likely do not consider variable survey efforts (i.e. opportunistic versus systematic camera surveys), or a line may closely or loosely follow a boundary (which can greatly skew comparisons). In this case, the CDFW polygon does not include the NSN subpopulation, nor does it include all the known fisher

sightings in the area at the time, nor does it consider areas that may have been under-surveyed. Furthermore, since CDFW 2010 is a California specific analysis, it does not include areas in Oregon that are occupied by fisher.

In the most recent review of fisher, CDFW concludes that fishers currently occupy much of their historical range in northwestern California and may have expanded in the redwood region (CDFW 2015, p. 23); fisher detections have increased in northern coastal California since the 1990s, though it is not known as to whether this increase is due to a range expansion, recolonization, increased survey effort, or whether fishers remained undetected in earlier surveys (CDFW 2015, p. 50).

In our draft and final Species Report, we reviewed fisher data (from 1994 - 2013) for accuracy and minimized repetitive individual sightings. When we use this data and overlay it with the California Natural Diversity Database (reviewed for accuracy), SPI, Collins, efforts in southern Oregon (captured for NCSO in current condition above), and historical locations before 1994, the majority of new locations are infill within the bounds of our 1994-2013 data (Service 2020, map). There are a few areas where we see new fisher sightings, particularly along the eastern edge of the species range. In Oregon, we expect these new locations are largely a product of increased survey effort or research activity rather than an actual increase in the range, because there are numerous historical sightings in these areas. In California, some of this expansion is because of reintroduction efforts at Stirling, but some may also be because of an increase in range, or increased survey efforts. We are also aware of a few areas where contractions have been reported in Southern Oregon near the Biscuit Fire and the SOC subpopulation. We conclude that there has been a recent range expansion because of the reintroduction effort in the NSN subpopulation. There have also been some small contractions. And, there have been some

small expansions, but we are unclear if these are actual expansions or the result of increased survey effort.

Habitat Recruitment

(37) *Comment:* A couple of commenters stated that OGSi-80 is a poor surrogate for fisher habitat and demonstrably under-represents substantial areas of occupied fisher habitat in the NCSO and NSN areas and is not the best scientific information. There is little evidence that OGSi-80 represents or correlates with fisher habitat. It may be appropriate for predicting NSO habitat, but there is little evidence that predicted habitat for NSO is similar to fisher habitat (cites Zielinski et al 2006). Trends in OGSi-80 should only be used to represent habitat in areas where that habitat type occurs and should not be relied upon to represent fisher habitat trends elsewhere.

Our Response: We have revised our vegetation management section to clarify our use of the OGSi-80 forest condition. We have explored several avenues to assess trends in fisher habitat in the absence of an available DPS-wide model that displays changes in fisher habitat over time. For our 2014 Proposed Rule, we used northern spotted owl habitat as a surrogate for fisher habitat because that allowed us to estimate losses through timber harvest. However, comments from peer reviewers and the public criticized our use of spotted owl habitat and that it may not properly represent fisher habitat. They also wanted us to consider ingrowth of fisher habitat and its role in replacing habitat lost to disturbances such as vegetation management and fire. Hence, we have used OGSi-80 because it is a forest stand condition that is mapped throughout most of the NCSO portion of the DPS. We do not consider it as a model for fisher habitat and realize that it may include areas that are not considered suitable for fishers, as well as not capturing all suitable fisher habitat. It does, however, allow us to assess regional-scale trends in the forests

Commented [PA9]: From Bridget: Could the commenter in comment 33 have meant this study instead of the 2012 one?
Sue

Commented [SL10R9]: No, different commenter and with regard to the two Zielinski citations, they are very different analyses. Also, revised Question 33 to clarify. It was edited down to being nonsensical.

that contain the structural elements consistently used by fishers (large snags, down wood, and large live trees). Although several commenters believe this is not the best available data, they have provided no alternatives to assess trends in this structural condition (both loss and recruitment) at a regional scale across the DPS.

Regarding the comment that OGSI-80 should only be used to represent habitat in areas where the habitat type occurs, we do not consider OGSI-80 a habitat type. It represents a structural condition used by fishers. The OGSI-80 condition has the potential to be found anywhere the forest vegetation zones upon which it was built occur (Davis et al. 2015, pp. 9-10, Figure 4), which is all forested zones within the NWFP portion of the DPS. Hence, we are not applying it in areas outside of its intended use.

(38) Comment: Regarding our use of OGSI-80 to document trends in vegetation important to fishers, one commenter believed it is unlikely that 80-yr old conditions would represent fisher habitat unless those stands contained much older features. Another commenter noted that in using OGSI to measure ingrowth of fisher habitat, the Service has no idea if the stands with ingrowth have structures needed by fisher. Hence, the Service should not assume that recently developed OGSI-80 stands are of a quality 80-yrs post-harvest to support fisher denning.

Our Response: See our responses above regarding our intent in our use of OGSI-80. OGSI-80 stands are meant to represent mature forest stands with old-forest remnants. The OGSI-80 threshold represents the general point in the forest succession time scale when forests in the NWFP area begin to develop stand structure associated with older forest (Davis et al. 2015, p. 18, figure 2) and includes older forest stands on that succession time scale as well. For stands to meet the OGSI-80 threshold, they had to have greater than 10 percent canopy cover and meet minimum tree and log size criteria, depending on the vegetation zone (Service 2016, p. 102). For

the Douglas-fir and white fir/grand fir forest vegetation zones, which comprise much of the NCSO, OGS-80 stands had to have at least 1 large live tree greater than 75 cm (29.5 in) dbh or an average stand diameter greater 37.5 cm (14.25 in) dbh. In addition, stands had a minimum snag size of 50 cm (19.7 in) dbh and minimum log diameter of 25 cm (9.8 in) (Davis et al. 2015, pp. 17-18, table 5). Although average size of trees and snags used by fishers are often substantially larger than the minimum tree and snag diameters used to define OGS-80 stands, structures of this size have been used by resting and denning fishers in study areas in the DPS (e.g., Lofroth et al. 2011, pp. 38, 52, 57, 78). As we acknowledged in the vegetation management section, OGS-80 does not represent all fisher habitat, and it may define areas that aren't used by fishers. But, it fairly represents trends through time of forest structures used by fishers.

(39) Comment: One commenter stated that the proposed rule seems to significantly overstate the threats to the NCSO population and the cited data seems contradictory. Specifically, the rule states that fire is removing 8 percent of habitat/decade, yet the OGS-80 analysis shows only a 1 percent loss/decade, if that, because of ingrowth (which is ignored when describing removal by wildfire). The rule further states that ingrowth is expected to increase in the coming decade, which would seemingly more than compensate for any loss from any of the disturbances evaluated.

Our Response: We have revised our discussion of wildfire threats to clarify the distinction between the Davis et al. (2015, entire) analysis of loss of OGS-80 forest to wildfire in the NWFP portion of the DPS (which covers the NCSO portion of the DPS) and the analysis done by the Service to more directly assess fisher habitat loss to wildfire. We assume that the commenter's statement that fire is removing 8 percent/decade of fisher habitat is referring to our projection that 4 to 8 percent of fisher habitat would be lost to wildfire over the next 40 years in

Commented [PA11]: From Bridget: Seems like we ended up agreeing, because we are not listing the NCSO. Seems like it would be simpler to say that we reanalyzed the threats and concluded that the threats to the NCSO are not as great as we originally concluded.

Commented [SL12R11]: There were some errors in the commenters interpretation of our analysis (as well as in the data we presented in the revised proposed rule), which our response clarifies. If that is not important to include, then delete and go with Bridget's response. Otherwise, I have revised the ending to add our conclusion about NCSO.

the NCSO portion of the DPS, based on our analysis done in the draft species report (Service 2014, p. 64). That analysis was done by overlaying mapped fisher habitat (as determined through modeling) with severity data from fires that had occurred from 1984 to 2011. We updated that analysis to include more recent fires in the NCSO area (data from 2008 to 2018) and found that 7 percent of fisher habitat was lost to high-severity wildfires during that time period. Davis et al. (2015, pp. 30-31, Tables 6 and 7) looked at loss of OGSI-80 stands to wildfire from 1993-2012, and their results differ from ours likely for several reasons, with the primary one being that they looked at a different time period than we did and did not capture more recent fires. In addition, their analysis did not include portions of the NCSO DPS that are outside of the NWFP area.

While forest ingrowth is expected to increase in the coming decades, so is loss of habitat to wildfire. Hence, we cannot conclude ~~that whether or not~~ ingrowth will fully compensate for projections of loss of fisher habitat. Upon reconsideration of the threats and the current condition of the NCSO DPS, we have determined that the NCSO DPS of fishers is not in danger of extinction throughout its range, nor likely to become so in the foreseeable future.

(40) Comment: One commenter stated that habitat trend analysis based on OGSI-80 is inadequate to fully describe fisher habitat ingrowth. Growth is occurring on all lands excluded from OGSI-80 definition, yet growth is recognized on Federal lands only for the OGSI-80 type. Growth on remaining occupied federal lands and private lands is acknowledged but its importance is not considered. The Service should consider the implications of estimated future habitat ingrowth and fisher population response (see Powell et al. 2019 final report, p. 25).

Our Response: We are not using OGSI-80 to quantify the amount of fisher habitat ingrowth. It is a means to assess the trends of those old-forest structural components used by fishers throughout the DPS (see our responses above). Our analysis accounted for ingrowth on

non-Federal lands, in including the data from Davis et al. (2015, pp. 30-31) which addressed ingrowth from both Federal and non-Federal lands. Ingrowth was over three times greater on non-Federal lands than on Federal lands (13.5 percent on non-Federal lands and 4.2 percent on Federal lands, for a total ingrowth of 8 percent on the combined ownerships over the 20 year analysis period) within the combined provinces of the Oregon Klamath, California Klamath, California Coast Range, and California Cascades within the NWFP area of the DPS.

Regarding the reference to Powell et al. (2019, p. 25), we have incorporated their assessment of the status of the Stirling reintroduced population into our analysis.

(41) Comment: One commenter stated that habitat trends in the HCP/CCAA covered lands within the NCSO will be stable to increasing over the foreseeable future. Combined, these habitat trends do not support a habitat related likelihood of endangered status in the foreseeable future.

Our Response: Upon further analysis and consideration of comments, we have determined that the NCSO DPS is not in danger of extinction in the foreseeable future.

Implementation of Specific Conservation and Recovery Actions

(42) Comment: One commenter requested implementation of specific conservation or recovery actions for fishers throughout the West Coast States, including research and management activities that would improve the overall landscape for fishers. The actions (e.g., cessation of logging and trapping) were recommended to the Service because the commenter believed they would ensure the long-term conservation of the fisher.

Our Response: We appreciate the recommendations provided to conserve fishers and their habitat. Although no comprehensive strategy for fishers in the West Coast States exists, we acknowledge conservation measures, strategies, and actions that may benefit fisher conservation

in this rule. We also recognize that specific management activities can increase forest resiliency, and although there may be short-term negative effects to fishers, certain actions are likely to have an overarching, net beneficial impact for the conservation of fishers in this DPS.

Other Stressors

(43) *Comment:* One commenter took issue with the following statement from the 2019 Revised Proposed Rule: "Now, these small populations of Pacific Fisher are threatened by the use of toxic rodenticides by marijuana growers, and increasing fire severity exacerbated by climate change, along with loss of habitat due to logging." The commenters state that increasing fire severity exacerbated by climate change and loss of habitat due to logging are theory only, and that only rodenticide is the real threat. The commenter asserts that no significant climate change has taken place in the western Cascades since 1650 and that there has been little to no logging taking place that affects the habitat in question. Protection of fisher from the threat of poisoning due to toxic rodenticides can, and should be, done by local ordinance, not by putting our lands at risk from further mismanagement by restricting activity and efforts to reduce current catastrophic fuel loads. The commenter went on to state that the true danger to fisher is, and will continue to be, catastrophic wildfire, and management efforts for that purpose must continue unimpeded.

Our Response: Our threats analysis considered the best available science and considered them holistically when making our final decision. In addition, we recognize the importance of fuels reduction treatments that promote forest heterogeneity while retaining structural elements important to fishers.

Commented [PA13]: From Bridget: Seems to contradict the last statement about catastrophic wildfire. Are these different commenters saying different things? If so, clarify in this summary.

Commented [PA14]: From Bridget: This comment response seems like ipse dixit. Can we support our analysis and conclusions regarding climate change and loss of habitat?

Policy

(44) *Comment:* One commenter asserted that we should more closely evaluate the five listing factors to ensure that we are acting on the basis of the best scientific and commercial data available, rather than speculation or supposition.

Our Response: Our Policy on Information Standards under the Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106-554; H.R. 5658)), and our associated Information Quality Guidelines (www.fws.gov/informationquality/), provide criteria and guidance, and establish procedures to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to list a species (or DPS) as an endangered or threatened species. We use information from many different sources, including articles in peer-reviewed journals, scientific status surveys and studies completed by qualified individuals, Master's thesis research that has been reviewed but not published in a journal, other unpublished governmental and nongovernmental reports, reports prepared by industry, personal communication about management or other relevant topics, conservation plans developed by States and counties, biological assessments, other unpublished materials, experts' opinions or personal knowledge, and other sources. We have relied on published articles, unpublished research, habitat modeling reports, digital data publicly available on the Internet, and the expert opinion of subject biologists to aid in the determination that the SSN DPS of fisher meets the definition of an endangered species.

Also, in accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited peer review of the 2014 Species Report (Service 2014, entire) from knowledgeable individuals with scientific expertise that included familiarity with the species, the geographic region in which the species occurs, and conservation biology principles; their feedback was incorporated into the 2016 Species Report (Service 2016, entire), which remains the foundation of our research along with our additional analysis presented in the 2019 Revised Proposed Rule and this final rule. Additionally, we requested comments or information from other concerned governmental agencies, Native American Tribes, the scientific community, industry, and any other interested parties over multiple comment periods for both the 2014 Proposed Rule and the 2019 Revised Proposed Rule (see *Previous Federal Actions*, above). Comments and information we received helped inform this final rule. Also, we revisited our threats analysis and determined that the NCSO DPS is not warranted for listing.

(45) *Comment:* Three commenters stated that our discussion of the Policy for Evaluation of Conservation Efforts When Making Listing Decisions (PECE) Policy in the proposed rule was insufficient, and asserted that we should conduct a PECE analysis. Two of these commenters stated that conducting this analysis would result in a decision that the species is not warranted for listing. The third commenter also claimed that we failed to consider numerous existing conservation efforts (e.g., MOUs or HCPs that address wildfire risk and enforcement programs) that were developed to benefit fishers and other species that inhabit forested lands. The third commenter also claimed that the revised proposed rule did not explain why the variety of existing regulatory mechanisms and voluntary conservation measures are not at a scale or magnitude sufficient to ameliorate the primary significant threats. Generally, these commenters stated or implied that we could not reach a conclusion to list the species as endangered or

threatened when no analysis under the PECE Policy or a cumulative effects analysis is conducted.

Our Response: The determination for the NCSO DPS is that listing is not warranted. We conducted a thorough review and analysis of the best available scientific and commercial information, including our consideration of the conservation efforts related to existing regulatory and voluntary conservation measures. Our PECE Policy is one that provides guidance on how to evaluate conservation efforts that have not yet been implemented or have not yet demonstrated effectiveness. We did not conduct a PECE analysis because XXX

We desire to maintain relationships with landowners within the range of the NCSO DPS and SSN DPS of fisher. A number of different private landowners and tribal governments have spent considerable time and effort in developing relationships with us and our State counterparts in order to conduct surveys, evaluate habitat, and conserve habitat components (e.g., denning habitat structures) that the species relies on. The various CCAAs, HCPs, MOUs, and other agreements provide voluntary conservation that will reduce threats to the species while improving the quality of the available suitable habitat. For example, for private landowners who choose to enroll in the Oregon template fisher CCAA (81 FR 15737, March 24, 2016), the agreement supports the conservation of the NCSO DPS of fisher while providing landowners with a permit(s) for incidental take of the species during the course of otherwise lawful activities. It is our intent that agreements such as this and other HCPs, MOUs, etc. will help maintain landowner relationships in the range of the DPSs.

We have considered all relevant conservation efforts (see State Regulatory Mechanisms and Voluntary Conservation Mechanisms sections, above), as required by the Act in this decision. We determined that the potential reduction in threats resulting from voluntary

Commented [PA15]: From Bridget: Did we do a PECE analysis or not? And, either way, why?

She proposed "We did not conduct a PECE analysis because we were evaluating measures that in large part have already been implemented."

conservation efforts have not yet demonstrated effectiveness (coupled with existing regulatory mechanisms) to preclude listing the SSN DPS as an endangered species, primarily as they relate to the threats that are of greatest concern (i.e., illegal rodenticide use, increasing high-severity wildfires, and prolonged droughts that exacerbate the effects from wildfire, forest insects, and tree disease, all acting on a small population). The PECE does not set standards for how much conservation is needed to make listing unnecessary. While a formalized conservation effort may be effective in reducing or removing threats in a portion of the species' range, that effort may or may not be sufficient to remove the need to list the species as threatened or endangered.

Although a large proportion (>95 percent) of the DPS's range occurs on Federal lands, our analysis of the best available information indicates that these existing conservation efforts are not yet adequate to address at minimum the threats that are of greatest concern (noted above in this paragraph). Therefore, the agreements, even if fully implemented and effective, coupled with other existing regulatory conservation efforts, do not improve the status of the SSN DPS of fisher such that it does not meet the Act's definition of a threatened or endangered species at this time.

(46) Comment: One commenter claimed that we did not explain what new scientific and commercial information was developed between the 2016 withdrawal (81 FR 22710, April 18, 2016) and the 2019 Revised Proposed Rule. The commenter stated that we changed our position regarding the efficacy and desirability of establishing conservation agreements even though developing and adopting these types of agreements has expanded over time.

Our Response: The *Summary of Changes* section of the 2019 Revised Proposed Rule noted new information since completion of the 2016 Final Species Report (Service 2016, entire) that we evaluated in that proposal. Our analysis of all new information since the 2016 final Species Report was summarized and cited where applicable in the 2019 Revised Proposed Rule

Commented [PA16]: From Bridget: This implies that we did a PECE analysis?

Commented [PA17]: From Bridget: How about NCSO? Did the existing measures contribute to our conclusion that the spp is not warranted?

and this final rule, including new information received during the public comment periods on the 2019 Revised Proposed Rule.

With regard to conservation agreements, we heavily rely on voluntary conservation efforts to provide for the conservation and aid in recovery of listed species. As stated above, we have previously and continue to believe that our relationship with private, State, tribal, and Federal landowners is imperative for the conservation of fishers. We intend to continue to work cooperatively with partners and assist where possible.

(47) Comment: One commenter claimed that the revised proposed rule failed to provide a rational explanation for changing a conclusion (in the 2016 withdrawal) that none of the threats were resulting in species-level impacts. Additionally, the commenter asserted that we eliminated discussion of species-wide threats and instead argued that individual-level threats cumulatively rise to the level that listing is required without showing how each of the potential threats actually affects the species.

Our Response: In this final rule, the Service has examined again the threats and impacts to the fisher populations, and that analysis has led to the conclusions and rationale supporting this final determination. Addressing the commenter's concern, our rationale in the Threats sections on this final rule explains how the various threats impact the species.

(48) Comment: One commenter argued that we should have analyzed whether the West Coast DPS of fisher is endangered in a significant portion of its range.

Our Response: Please see our response to *Comment 14* regarding the DPSs analyzed for this effort. As presented herein, our analysis of the NCSO DPS indicated that it was not in danger of extinction throughout all of its range, nor likely to become so in the foreseeable future. Upon reaching that conclusion, we conducted an analysis to see if there were any portions of the

NCSO DPS that warranted further consideration as being in danger of extinction or likely to become so in the foreseeable future in any significant portion of its range. We did not find any such portion, and concluded that the NCSO DPS is not in danger of extinction or likely to become so in the foreseeable future in any significant portion of its range. Regarding the SSN DPS, our analysis indicated it was in danger of extinction throughout all of its range, and therefore did not conduct an SPR analysis.

Population Estimates

(49) Comment: The proposed rule incorrectly states that the Hoopa population was declining during 2005-2012 (84 FR, at 60285, col 2). This conclusion is not valid because reported lambda confidence intervals overlapped 1.0. The relevance of these data 7 years later is not evaluated. Also, as noted in comments on the 2014 listing proposal, this decline only brought the Hoopa population from an atypical high density to a density similar to other populations in the surrounding region, a fact not noted in the rule.

Our Response: While there is uncertainty in concluding whether the population is increasing or decreasing given that the lambda confidence intervals overlap 1, the lambda value of 0.992 for the Hoopa study is a statistic that indicates a declining population during the time period measured. We don't have additional population data from that study area to indicate the population trend since 2012. Regarding the decline from an "atypical high density" to a level similar to other fisher populations in the area, the commenter is referring to Matthews et al. (2011, p. 72) where fishers declined from a density estimate of 52 (per 100 km² (38.6²)) to 14 between 1998 and 2005. This decline preceded the 2005 to 2012 analysis. We don't know whether the slight population decline observed between 2005 and 2012 is a continuation of the

overall decline from 1993, a reflection of a population that is currently fluctuating around carrying capacity, or some other phenomenon.

(50) *Comment:* One commenter stated that Green *et al.* (2019a) (as yet unpublished) acknowledged that their results only describe a short-term situation and confined speculation about implications to their discussion section. The 2019 Revised Proposed Rule did not acknowledge that some of the fishers displaced by fire may have survived to emigrate and may not have been lost to the larger regional population. The commenter also stated that the proposed rule did not acknowledge or evaluate the overlap in credible interval values from the post-fire and pre-fire population estimates, nor that the upper credible value post-fire estimates approached the mean pre-fire estimates (see Green *et al.* 2019a, Table 2 and Fig 2). The commenter asserted that the proposed rule uncritically applies this estimate of post-fire loss to the analysis that concluded there has been a 7 percent loss in habitat since 2008. The commenter claimed that these oversights create unacknowledged uncertainty as to the validity and application of this estimate, compounded by issues with the 2014 modeling that was addressed in comments at that time, but not acknowledged in the 2019 Revised Proposed Rule.

Our Response: We elaborate more on Green *et al.* (2019a, entire) in this rule, noting the observation that the post-fire population estimates have confidence intervals that overlap with pre-fire estimates, as well as the uncertainties in the response by individual fishers.

Regarding our evaluation of fisher habitat loss to wildfires and the commenter's assertion that we "uncritically" applied the estimate of post-fire habitat loss in Green *et al.* (2019a, p. 6) to that analysis, we are referring to the authors' definition of high severity fire, which is a basal area mortality of ≥ 50 percent. We acknowledge that fishers may begin moving about these stands within a decade or two after fires once stand growth is initiated. However, our use of the Green

et al. (2019a, p. 6) definition of high-severity fire for the purposes of quantifying the acres of fisher habitat that may be unavailable to fishers in the short term is a reasonable approach and is not inconsistent with observations of fisher avoidance of areas with ≤ 30 percent canopy cover (Spencer et al. 2016, p. 10, footnote 7).

The use of the fisher habitat model continues to remain the best available science regarding a large-scale map of fisher habitat across the fisher range. The comments and responses regarding the fisher habitat model in the 2016 Withdrawal do not lead us to conclude that our assessment of habitat loss was flawed, particularly because it was done at the DPS-wide scale. We can't know whether the estimate of 7 percent of fisher habitat lost based on modeling is precise, but it is a reasonable estimate given the landscape scale application of the fisher habitat model.

(51) Comment: One commenter pointed out that the 2019 Revised Proposed Rule concedes that it is unknown whether fisher populations are stable or declining. The commenter asserted that the proposed rule should evaluate the implications of the lack of conclusive information that fishers in the DPS are declining. Additionally, they stated that the lack of conclusive evidence of decline should increase the burden of proof that the other threats are indeed demonstrable, conclusive, and serious. According to the commenter, given the substantial expansion of the range (see comments under range expansion), the Service must also consider whether the population size within the NCSO and SSN subpopulations is likely to be expanding. (pp. 8-9), and if there is no evidence of population decline, evidence of effects of threats must be conclusive (p. 11).

Our Response: To clarify the statement relied upon by the commenter, we stated in our 2019 Revised Proposed Rule that, based on the information available regarding population

growth data, we could not conclude that populations were stable, increasing, or declining. All three scenarios are plausible, given the available data. However, we also note that the lack of conclusive evidence of a decline is also not conclusive evidence that there is no decline. The commenter further suggests that, in the face of inconclusive evidence for a population decline, we must then provide conclusive evidence that threats acting on a species must be demonstrable and serious. In response, we reiterate that we did not conduct our analyses using an assumption that populations are declining. We merely presented the available information regarding population growth, while at the same time presenting our analyses of how both threats and conservation measures are likely to affect the viability of each DPS.

(52) Comment: One commenter noted that the proposed rule considers Higley et al. (2014) and Green et al. (2019), but does not evaluate other material in our possession, specifically Powell et al. 2019, which stated, "Our best estimates of survival and reproduction are consistent with a stable or growing population on Stirling." Although this study differs from the Higley and Green studies in that it was initiated in an area newly occupied by fishers, it was of similar duration to both of them and the population size was similar to Higley et al (2019) and larger than that of Green et al (2019). The conclusions from Powell et al. (2019) are worthy of qualified evaluation in an objective assessment of fisher population trend in NCSO.

Our Response: We incorporated information from Powell et al. (2019, entire) regarding the growth trend of the Stirling reintroduced population into our analysis for this rule.

(53) Comment: One commenter stated that available scientific information indicates that fisher population trends are not declining and, in Northern California, they likely are stable or increasing. The commenter asserted that these trends have probably contributed to the

substantial expansion of the species' range within the last 9 years. The commenter concluded that there is no evidence of declines at the population scale.

Our Response: In the Current Condition section for the NCSO DPS in this rule, we elaborate on population variability in general and how that may affect any interpretation of the available data on NCSO populations. We are not aware of any substantial expansion beyond the Stirling translocation and the subsequent growth of that subpopulation.

(54) Comment: One commenter stated that the 2019 Revised Proposed Rule describes significant uncertainty regarding fisher population status and trend using prior data, despite the availability of scientific studies that were developed with robust sample design and effort. This commenter cited multiple references for inclusion such as Furnas *et al.* 2017 and Powell *et al.* 2019.

Our Response: We incorporated the population estimate of Furnas *et al.* (2017, p. 12) and the conclusions regarding the Stirling (northern Sierra Nevada) subpopulation into our analysis of the NCSO DPS (see the Current Condition section of the NCSO DPS analysis). We incorporated a discussion of the fluctuating nature of populations over time and acknowledge the fisher's ability to sustain populations within the DPS in the presence of ongoing stressors.

(55) Comment: One commenter claimed that the Service changed its interpretation of confidence intervals with no rationale for the change. They request that the Service explain how to interpret a confidence interval so the public and reviewing courts will understand the technical basis for the Service's conclusions.

Our Response: For population monitoring studies, we have moved away from discussing confidence intervals around lambda, preferring instead in this final determination to discuss the

fluctuations in lambda we see and how they likely represent normal fluctuations of a population at or near carrying capacity (see NCSO Current Condition above).

(56) Comment: One commenter noted that even though one catastrophic wildfire damaged habitat for several individual fishers, it would be improper for the Service to use one event as justification for listing a species. Instead, the Service should be reviewing the entire administrative record, and affording one event the weight it deserves in terms of predicting overall population trends for the species.

Our Response: We have based our determinations for the NCSO and the SSN DPS on the best scientific and commercial data available. We evaluated threats to the species and assessed the cumulative effect of the threats under section 4(a)(1) of the Act. For the NCSO DPS, we determined that, in part, because of the population's widespread distribution combined with resiliency and redundancy, it did not warrant listing. For the SSN DPS, we concluded that, in part, the small population size, combined with substantial habitat loss as a result of recent tree mortality among other factors, warranted listing as endangered. In conclusion, we have based our decisions on a multitude of factors, not on a single event.

Rodenticides

(57) Comment: Several commenters asserted that rodenticides (anticoagulants or neurotoxicants) are a significant threat to the DPS, and that we underestimated the risks to the species in the 2019 Revised Proposed Rule. Some of these commenters provided information on this threat, such as illegal grow site activity in Oregon. Another commenter expressed concerns related to staffing constraints on Federal lands that have delayed and likely will continue to delay clean-up activities. Another commenter was concerned that emotional reaction stimulated by the proposed rule's description of the potential effects of anticoagulant rodenticides and the potential

extent of this threat may influence the perception of the actual magnitude of the effect to fishers. Additionally, the commenter claimed that the Service did not address an important gap in present knowledge about anticoagulant rodenticides within the species range, i.e., the degree to which exposure influences mortality of fishers within the DPS, which the commenter asserts should have substantial bearing on any conclusion about the magnitude of this threat.

Our Response: Toxicants, especially rodenticides, are a threat to fisher in both the NCSO and the SSN DPSs. And, we agree that finding and cleaning up after illegal grow sites is problematic from an ecological, funding and staffing perspective. We also agree that the description of toxicant poisoning elicits an emotional response. At this time, our evaluation of the best available scientific and commercial information regarding toxicants and their effects on fishers leads us to conclude that individual fishers within both DPSs have died from toxicant exposure, fishers suffer a variety of sublethal effects from exposure to rodenticides, and the potential for illegal grow sites within fisher habitat is high. But, it is difficult for us to accurately estimate the effects these rodenticides are having to fisher as a whole because we don't understand what proportion of the population is being negatively affected (i.e. mortality or sublethal effects).

For the NCSO DPS, in spite of the ongoing impacts from toxicants, the NCSO population seems to be withstanding this threat. For example, the Stirling reintroduction in the NSN subpopulation has grown to the point where the population is self-sustaining, despite the fact that rodenticide exposure rates are similar to other areas in California (Gabriel *et al.* 2015, entire; Powell *et al.* 2019, p. 16). And, fisher at EKSA in the Klamath mountains in California near the Oregon border do not show a long-term decline (Powell *et al.* 2014, p. 18), despite the fact that illegal grow sites are in the area.

For the SSN DPS, because this DPS is much smaller, the lethal and sublethal effects of toxicants to individuals have the potential to have population-level effects and reduce the resiliency of the DPS as a whole.

(58) Comment: Two commenters stated that rodenticides are subject to increased regulation in Oregon and California; although a timeframe for this comment was not included, we assume the commenters were referring to the time since recreational marijuana use became legalized in Oregon (2015) and California (2016). Further, one commenter argued that legalized and increased regulation will reduce trespass and improve environmental cleanup and restoration of public lands damaged by illegal marijuana cultivation (although no data was provided by the commenter).

Our Response: As discussed in the general Exposure to Toxicants section above, the data are mixed with respect to how legalization is affecting illegal grows sites on public lands. For example, some information shows that illegal grow sites on National Forests have decreased in States where marijuana was legalized (Klassen and Anthony 2019, p. 39; Prestemon et al. 2019, p. 1). On the other hand, many law enforcement officials have found no indication that illegal grow sites have decreased with cannabis legalization, and it may in fact be increasing, in part due to legalization providing an effective means to launder illegal marijuana (Hughes 2017, entire; Bureau of Cannabis Control California 2018, pp. 28, 30; Sabet 2018, pp. 94–95; Fuller 2019, no page number; Klassen and Anthony 2019, p. 45). Illegal grow sites appear to be dropping in number but are getting larger (impacting more fisher home ranges) (Gabriel 2018, pers. comm.). And, law enforcement actions have caused illegal grow sites to disperse further which makes them more difficult to locate (Gabriel 2018, pers. comm.). At this time, it is difficult to reach

conclusions about trends in the abundance and frequency of illegal grow sites this soon after legalization.

(59) Comment: One commenter claimed that it is valid to extrapolate known levels of anticoagulant exposure to areas where little exposure research has occurred (e.g., Stanislaus National Forest), given the high rate of fisher's exposure in the Southern Sierras. The commenter also claimed that the risk to small population(s) from rodenticides undercuts any chance of population recovery.

Our Response: Illegal grow sites are distributed as discrete patches throughout much of the NCSO and SSN DPSs. In the absence of data, it is reasonable to assume the opportunity for fisher to be exposed to toxicants is similar across much of the NCSO and SSN DPSs (except at higher elevations where the growing season is shorter and it is harder to grow marijuana). We also agree for the SSN DPS, because this DPS is much smaller, the lethal and sublethal effects of toxicants to individuals have the potential to have population-level effects and reduce the resiliency of the DPS as a whole. That said, we believe that population recovery of the SSN DPS is possible.

Commented [PA18]: From Bridget: Say more about why.

(60) Comment: One commenter asserted that voluntary conservation efforts on non-Federal lands (CCAAs and HCPs) mitigate and decrease the threats to fishers from toxicants, further articulating that these conservation measures aggressively prevent illegal drug growing that use anticoagulant rodenticides.

Our Response: We do not have information that allows us to compare and assess the distribution of illegal grow sites on private versus public lands. Nor do we have information on how many acres may benefit from limiting access to private lands or information on how many patrols are being added across what area and at what frequency. Similarly, we do not have

information that allows us to address how the voluntary conservation measures may or may not be affecting illegal grow sites. Further, not all voluntary conservation efforts include measures that address illegal grow sites (e.g. the Oregon CCAAs). The job of preventing illegal grow sites across large areas is extremely difficult and comes with large staffing and resource needs. Although we cannot quantify the effectiveness of these voluntary conservation measures at lessening the threat from toxicant exposure at illegal grow sites, we do expect limiting access will make it more difficult to establish illegal grow sites. And, increased patrols (depending on the number of patrols and the scale of the landscape they are visiting) will act as a deterrent. We support voluntary conservation efforts to limit the impact of toxicant exposure from illegal grow sites to fisher.

Range Expansion

(61) Comment: Several commenters claimed that the range of the fisher in the NCSO subpopulation expanded. Some of these commenters provided maps delineating occupied fisher range (as determined by CDFW in 2010 and 2015), fisher location data from 1980 to 2019, and the Service's West Coast Fisher DPS boundary in support of their conclusion. Further, they questioned the magnitude of impact of purported threats in light of this expansion.

Our Response: The maps provided by the commenters were developed using data sets, from different time periods and are not directly comparable. Further we did not receive data during the 2019 Revised Proposed Rule comment periods to suggest that the range of the fisher had expanded. The data we did receive confirmed what we understood about the distribution of fisher and presented in our 2019 Revised Proposed Rule. Please also see our response to comment above and our Determination of Status for the NCSO DPS addressing the magnitude of

the threats. We find that the fisher NCSO DPS is widespread and common to the point where listing is not warranted at this time.

Cumulative Effects

(62) Comment: One commenter asserted that the Service's analysis of cumulative effects was missing from the proposed rule. Further, the commenter claimed that the threats analysis did not support the Service's determination that the existing regulatory mechanisms are not sufficient to address the cumulative impacts of the primary threats, specifically referring to exposure to toxicants and habitat loss and fragmentation due to wildfire and vegetation management. Additionally, and in contrast, we note our receipt of a peer review comment on the 2014 Proposed Rule indicating that synergistic (cumulative) effects, primarily climate change and its secondary effects from wildfire, pose the most serious long-term threat to fisher populations, especially in California.

Our Response: In evaluating the status of a species or DPS, we identify both the threats acting upon it and any conservation efforts or mechanisms that may ameliorate those threats. In identifying threats, we describe them in the context of the five listing factors, and evaluate the scale and magnitude of their effect on the species in light of their impacts on the resilience, redundancy and representation of the species. A species' overall status with regard to whether it warrants listing is based on our assessment of the cumulative effect of all threats and ameliorating measures combined. This cumulative analysis is found in the *Determination* section of both our 2019 Revised Proposed Rule and this current document.

(63) Comment: One commenter claimed that little, if any, actionable measures exist that could address the individual-level threats identified by the Service in order to recover the species. The commenter asserted that those who wish to help the species recover have no clear

direction forward, because the threats described in the revised proposed rule are not assigned any values and often are inconsistent with one another. The commenter claimed that many of these identified threats are competing in nature. For example, the commenter stated that severe-wildfire can often be prevented by proper vegetation management. Similarly, the commenter stated that vegetation management can help prevent losses due to forest insects and tree diseases by preventing widespread loss of forest vegetation.

Our Response: Threats acting on the fisher are complex and interact with each other such that some threats can influence how other threats act on the fisher. These influences can be either positive (e.g., appropriate vegetation management that may reduce forest vulnerability to large-scale tree diseases or insect outbreaks) or negative (e.g., climate change influencing the potential for high-severity wildfires). In this context of competing threat influences, the commenter further suggests the need to provide a direction forward for those attempting to recover listed species, as threats are not assigned any “values.” While we do not assign values to threats when conducting a status assessment for a species, we identify those threats that may have the most significant impacts to the species’ viability. However, we also note that efforts to recover a species, once determined it warrants listing, are subsequently developed in light of all the identified threats, where they occur within the species’ range, and how they interact with each other and the species and its environment. Recovery actions may therefore be location- or habitat-specific, and address the competing nature noted by the commenter.

Threatened vs. Endangered

(64) Comment: Several commenters urged the Service to list the proposed West Coast DPS of fisher as either endangered or threatened, or urged listing without specifying which status is most appropriate. In contrast, several other commenters urged the Service not to list the taxon.

Some comments urging the Service to not list the DPS are either focused on not listing specifically in the State of Oregon or not listing the NCSO subpopulation. All of these comments with varied opinions are similar in content and rationales to those received on the 2014 Proposed Rule.

Our Response: Sections 3(6) and 3(20) of the Act, respectively, define an endangered species as one that is in danger of extinction throughout all or a significant portion of its range, and a threatened species as one that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Our task in evaluating a species for a potential listing under the Act is to determine whether that species meets the definition of either a threatened species or an endangered species, based solely on the best scientific and commercial data available. For this reason, comments merely expressing support for or opposition to a proposed listing, without supporting scientific rationale or data, do not meet the standard of information required by section 4(b)(1)(A) of the Act. There is significant information available on fishers and their habitat in the West Coast States; we note there could always be more data for most analyses to help lessen uncertainties.

The determination for the NCSO DPS is that listing is not warranted. Regarding the SSN DPS, at this time the best available scientific and commercial information suggests that the cumulative impact of the stressors adversely affecting the SSN DPS of fisher is such that listing the SSN DPS of fisher as an endangered species is appropriate. Of greatest concern at this time are stressors related to illegal rodenticide use, increasing high-severity wildfires, and prolonged droughts that exacerbate the effects from wildfire, forest insects, and tree disease. For all of these reasons and as detailed in the **Determination** section of this document, we conclude that the SSN DPS of fisher meets the definition of an endangered species under the Act.

(65) *Comment:* Two commenters urged the Service to list the NCSO subpopulation as a threatened species and SSN subpopulation as an endangered species, the latter because they believe protections for this small, isolated subpopulation are insufficient to prevent its extinction and threats are more immediate (e.g., high severity wildfires and drought within its narrow range have increased in recent years).

Our Response: Please see our response to *Comment 14 and Comments 64*, and the analysis for each DPS contained in this document.

(66) *Comment:* One commenter stated that the Rogue-River and Siskiyou area, where the Ashland fisher population resides, is recognized as a rich environment of floristic biodiversity. The commenter stated that habitat characteristics deemed important for fishers are equally critical for smaller mammals and birds that rely on similar, if not exact, habitat requirements, and that species of special concern that also cohabit this region, such as the Northern Spotted owl, the Humboldt marten, and the Northern flying squirrel, would certainly benefit from the overarching protection of fisher resources that this listing could provide. Further, the commenter claimed that protection of habitat characteristics for both predator and prey species would retain an ecological balance important to the functionality of forest health and successional stages (e.g., insect population control and seed dispersal roles by mammalian and avian species).

Our Response: We cannot base our listing decision on the benefits of habitat protection to other plants and animals. Section 4(a)(1) of the Act directs us to, “determine whether any species is an endangered species or a threatened species because of any of the following factors: (A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or

manmade factors affecting its continued existence.” We recognize the ecological value of the Rogue River and Siskiyou area, as well as its contribution to fishers and other plants and animals. However, this information did not contribute to our overall determinations on the status of the fisher.

Tree Mortality

(67) Comment: One commenter expressed concern that canopy cover loss from tree mortality will increase fragmentation and reduce female fisher gene flow. The commenter claimed that tree mortality is resulting in extensive management along road corridors, which may further impede connectivity.

Our Response: We discussed the best available science regarding tree mortality in both the NCSO DPS and SSN DPS of this final rule.

Vegetation Management

(68) Comment: One commenter stated that the revised proposed rule fails to justify wildfire suppression and vegetation management activities as threats. The commenter asserted that the Service should evaluate the benefits associated with these activities, including the decreased risk of severe wildfire when vegetation is managed appropriately.

Our Response: Fishers use managed landscapes, particularly when key elements such as den and rest trees are retained and when forest heterogeneity is promoted (see Vegetation Management). There can be benefits associated with vegetation management including decreased risk of wildfire; however, there are potential trade-offs to these activities (e.g., loss of fisher habitat to reduce wildfire risk in fisher habitat), which should be weighed carefully when implementing such actions.

(69) Comment: One commenter claimed that wildfire mitigation activities, which can include vegetation management, can be effective in long-term preservation of fisher habitat. Meanwhile, the commenter pointed out that other Federal agencies, such as the Forest Service, have recognized that active forest management is necessary to address threats from widespread tree mortality. Overall, the commenter asserted that the Service failed to acknowledge the beneficial effects on fisher habitat associated with forest and fuels management.

Our Response: We acknowledge the benefit of carefully applied fuels reduction strategies in reducing wildfire risk while also retaining fisher habitat structural elements in the final Species Report (Service 2016, pp. 60, 68-69). We further acknowledge in this rule conservation measures designed to reduce fire risk while also retaining fisher habitat structural elements.

(70) Comment: One commenter stated that the Service provides no analysis or supporting citations for its conclusory statements that removal of “snags and other large habitat structures” for safety reasons is a threat to the DPS.

Our Response: For clarification purposes, we use the term “threat” to refer in general to actions or conditions that are known to or are reasonably likely to negatively affect individuals of a species, including alteration of habitat or required resources. Because the fisher uses snags and large trees for resting and denning, their removal would have a negative effect on the species and is, by this definition, a threat. However, the mere identification of a threat does not necessarily mean that the species meets the statutory definition of an endangered or threatened species. For both DPSs, we weighed the cumulative effects of the threats, along with existing conservation measures, to make our determination.

(71) *Comment:* One commenter stated that over the last 5 years, a variety of logging projects within the fisher's range have degraded habitat. The commenter claimed that if current trajectories continue, we can expect to see more habitat loss through logging.

Our Response: We recognize that timber harvest is and will continue to be an ongoing activity within the fisher DPSs. However, it affects a small portion of conditions used by fishers (as represented by the OGS1-80 condition in the NCSO DPS). For the NCSO DPS, we concluded that timber harvest (vegetation management), combined with other analyzed threats and the existing population condition, are not acting on the DPS to the degree that it meets the definition of endangered or threatened under the Act. Conversely, for the SSN DPS we concluded that timber harvest (vegetation management), combined with other analyzed threats and the existing population condition, are such that the DPS meets the definition of endangered under the Act.

(72) *Comment:* One commenter observed that the proposed rule discusses the effects of fire on fisher habitat and the extended time to recover habitat features. The commenter stated that timber harvest on Federal lands under existing management plans allows the removal of live and dead woody features that are important components of denning habitat. Furthermore, the commenter asserted that timber harvest does not provide the same ecological effects of fire, also noting that timber harvest, as currently practiced by the Forest Service and BLM, can remove and downgrade fisher habitat.

Our Response: In this rule and in the final Species Report (Service 2016, pp. 60-77, 98-111) we acknowledge the wide variety of effects on fisher habitat as a result of wildfire and vegetation management, as well as the different ecological effects of fire vs. vegetation management. We also recognize that timber harvest on Federal lands has, and will continue to

remove fisher habitat and have factored that into our decision, concluding that it results in removal of a small portion of fisher habitat.

(73) Comment: One commenter stated that the Service is inconsistent with our handling of vegetation management as a tool to reduce the risk of large-scale, high-severity wildfire. The commenter noted that we conclude it is a threat to fisher in the proposed rule, yet in the recent finding for the California spotted owl, the Service concluded that vegetation management was necessary to reduce the overall potential for wildfires to be detrimental to California spotted owl habitat and ultimately concluded that the owl did not warrant listing.

Our Response: The Service relied on conservation efforts to reduce large-scale high severity fires within the range of California spotted owl that included specific measures to identify the greatest risks to known occupied California spotted owl activity centers, and prioritize fuels reduction work that helps to protect the greatest number of activity centers on Federal and private lands while not reducing quality of the highest quality owl habitat in treated areas. Since the 2019 Revised Proposed Rule, we received new MOUs designed to reduce high severity wildfire that include specific conservation measures to protect fisher habitat within the NCSO DPS. We have incorporated this new information into our analysis.

(74) Comment: One commenter stated that the Service acknowledges in the 2019 Revised Proposed Rule that it has no basis to conclude that fuels reduction, restoration thinning, or indeed any other management activity is a threat to the DPS; there is no information on how different vegetation management activities affect fisher subpopulations and their persistence within the DPS's range. The commenter also claimed that the Service proceeds to conclude that some forms of vegetative management, without specifying which kinds, "may threaten fisher." The commenter asserted that, based on this slim reed, the Service then identified vegetative

Commented [PA19]: From Bridget: Edit as appropriate. Need to do something to connect the dots between the previous sentence and our analysis herein. How about "These conservation measures do not necessarily translate into conservation measures for the fisher."

management as a threat to the species, specifically including fuels reduction and restoration thinning.

Our Response: As noted in our analyses, a wide range of activities fall under the broad term, “vegetation management.” Thus, fisher response to vegetation management activities can vary, depending on the type of activity and its duration and magnitude (Service 2016,, p. 110; see Vegetation Management section). Our analysis of the effects of vegetation management (changes in OGSi-80 stands or in and GNN analyses; actual loss of fisher habitat within the SSN) is somewhat driven by the features measured in the data sets we used. That is, in the case of OGSi-80 stands, activities that reduce canopy cover to below 10 percent or remove large structural elements would be recorded as a reduction in that stand condition. Such activities may include clearcuts and some fuels reduction activities, but likely not thinning activities. Hence, our analysis focuses on those vegetation management activities that likely have the greatest effect on fishers in terms of removing canopy cover or structural elements. These types of vegetation management activities seem to have the greatest effect on fishers, although portion of the DPS’ affected by vegetation management is small.

Wildfire

(75) Comment: One commenter stated that the duration of impact from high-severity wildfire is not adequately addressed. In particular, the commenter claimed that the Service assumes that habitat lost to high-severity wildfire is permanent, and therefore does not consider effects into the foreseeable future. The commenter specifically stated that we failed to consider fisher re-occupancy of the 1992 Fountain Fire, which was salvage logged with little retention of structures used by fisher.

Our Response: The Wildfire and Wildfire Suppression section of this rule and the 2016 final Species Report (Service 2016, pp. 62-66, 77) include discussions of short- and long-term effects of wildfire on fisher habitat. Further, the 2016 final Species Report includes a discussion of fisher re-occupancy of the 1992 Fountain Fire area (Service 2016, p. 66). Neither the 2019 Revised Proposed Rule, this final rule, nor the 2016 final Species Report assumes that habitat loss as a result of high-severity fire is permanent. The 2019 Revised Proposed Rule and this final rule also consider vegetation ingrowth (see Vegetation Management, above) and its ability to represent trends in forest structural conditions used by fishers. Therefore, we have already determined that habitat affected by fire is not permanent and that fishers may re-occupy burned areas in the foreseeable future.

(76) Comment: One commenter stated that the revised proposed rule does not make a conclusive statement regarding the degree to which wildfire threatens fisher. The commenter cites Powell *et al.* (2019, pp. 23– 27) and examples of fisher reoccupying burned areas (e.g., Fountain Fire) as a reason to reconsider the threat of extinction from wildfire within the foreseeable future. Specific to Powell *et al.* (2019), the commenter claimed that extinction risk for fisher did not exceed 0.25 unless over 40 percent of the simulated area burned, with a decrease in risk when SPI management was included. Thus, the commenter asserted there is a low risk of extinction when modeled at a high rate of short-term, high-intensity habitat loss. Lacking any analysis, the commenter believed the conclusion should be that the reported rate of loss of habitat (7 percent over 10 years; citing Service 2019, p. 60288) is not likely to lead to endangered status in the foreseeable future.

Our Response: Contrary to the comment, the 2019 Revised Proposed Rule and this final rule include statements regarding the degree of impacts of wildfire on fisher, at the species level

and for both subpopulations (see Wildfire and Wildfire Suppression). As we explain, the impacts are highly variable and depend on forest type, landscape location, size, and intensity of the wildfire. The conclusions reached by the commenter regarding data in Powell et al. (2019, pp. 23-27) appear to be extrapolations of data presented in figure 16 (Powell et al. 2019, p. 26). We acknowledge the point the commenter brings forward, but also note the model used by Powell et al. 2019 and the data used to determine the loss of habitat at 7 percent per year are different. As we describe in Wildfire and Wildfire Suppression above, our analysis addressed potential habitat loss from wildfires. The analysis completed by Powell et al. 2019 (entire) more generally addresses area burned rather than the potential fisher habitat loss within that area. Therefore, these two methods are not directly comparable.

(77) Comment: Multiple commenters indicated that we did not analyze the impact of fuel breaks and fuel reduction projects occurring under MOUs for the northern spotted owl and the California spotted owl across Federal, state, and private ownerships.

Our Response: The final rule includes an updated discussion of the MOUs (see Existing Regulatory Mechanisms and Voluntary Conservation Measures) suggested by the commenter. In summary, the MOUs have not been in place very long; therefore, it is difficult to understand their effectiveness and subsequently their actual benefits to fishers and their habitat. However, we view these MOUs as important collaboration tools that can achieve the conservation needs of the fisher across large landscapes. We will continue to monitor these efforts into the future.

(78) Comment: One commenter is concerned that entire populations and sub-populations of fisher could be eliminated by stochastic wildfire events unless steps are taken to increase protections. Two other commenters are similarly concerned that climate-related factors are

predicted to increase wildfire activity; thus, the commenters stated that forest management is a necessary tool to minimize the impacts and spread of wildfire.

Our Response: We agree that the impacts of wildfire are a significant concern for fisher (see Wildfire and Wildfire Suppression section of this rule). We are optimistic that actions implemented under voluntary conservation measures (e.g., MOUs, CCAAs, HCPs; see Existing Regulatory Mechanisms and Voluntary Conservation Measures section of this rule), including forest management will provide protection of fisher habitat in the near and long term.

(79) Comment: One commenter stated that the analysis of wildfire was not thoroughly evaluated. Specifically, the commenter raised concerns about the Service's use of OGS-80 to determine a less than 1 percent loss of habitat per decade from wildfire and an analysis conducted by the Service that showed a 7 percent of high and intermediate fisher habitat loss to wildfire since 2008.

Our Response: We have revised our discussion of wildfire threats to clarify the distinction between the Davis *et al.* (2015, entire) analysis of loss of OGS-80 forest to wildfire and the analysis done by us to more directly assess fisher habitat loss to wildfire. Please see our response to comments above and the Wildfire and Wildfire Suppression section of this rule.