DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 223 and 224

[Docket No. 230104–0002; RTID 0648–XR123]

Endangered and Threatened Wildlife; 90-Day Finding on a Petition To List Oregon Coast and Southern Oregon and Northern California Coastal Chinook Salmon as Threatened or Endangered Under the Endangered Species Act

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: 90-Day petition finding, request for information, and initiation of status review.

SUMMARY: We, NMFS, announce a 90-day finding on a petition to list the Oregon Coast (OC) and Southern Oregon and Northern California Coastal (SONCC) Chinook salmon (*Oncorhynchus tshawytscha*) Evolutionarily Significant Units (ESUs) as threatened or endangered under the Endangered Species Act (ESA) or, alternatively, list only the spring-run Chinook salmon components of the OC ESU and the SONCC ESU as threatened or endangered under the ESA. The Petitioners also requested that we designate critical habitat concurrently with the listing. With respect to the request to list the entire OC and SONCC ESUs, we find that the petition presents substantial scientific and commercial information indicating the petitioned actions may be warranted. For the request to list only the spring-run components of those ESUs, we do not find that the petition presents substantial scientific and commercial information indicating that the petitioned action is warranted. We will conduct status reviews of the OC and SONCC Chinook salmon ESUs to determine whether the petitioned actions are warranted. To ensure that the status reviews are comprehensive, we are soliciting scientific and commercial information pertaining to these species from any interested party.

DATES: Scientific and commercial information pertinent to the petitioned action must be received by March 13, 2023.

ADDRESSES: You may submit data and information relevant to our review of the status of Oregon Coast and Southern Oregon and Northern California Coastal Chinook salmon, identified by ''Oregon Coast and Southern Oregon and Northern California Coastal Chinook salmon Petition'' or by the docket number, NOAA–NMFS–2022–0116, using the following methods:

- *Electronic Submission:* Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to *https://www.regulations.gov* and enter NOAA–NMFS–2022–0116 in the Search box. Click on the ''Comment'' icon, complete the required fields, and enter or attach your comments.
- *Mail or Hand-Delivery:* Protected Resources Division, West Coast Region, NMFS, 1201 NE Lloyd Blvd., Suite #1100, Portland, OR 97232. Attn: Gary Rule.

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on *www.regulations.gov* without change. All personal identifying information (*e.g.,* name, address, *etc.*), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter ''N/A'' in the required fields if you wish to remain anonymous).

Electronic copies of the petition and related materials are available from the NMFS website at *https://www.fisheries.noaa.gov/endangered-species-conservation/candidate-species-under-endangered-species-act.*

FOR FURTHER INFORMATION CONTACT: Gary Rule, NMFS West Coast Region, at *gary.rule@noaa.gov,* (503) 230–5424; or Heather Austin, NMFS Office of Protected Resources, at *heather.austin@noaa.gov,* (301) 427–8422.

SUPPLEMENTARY INFORMATION:

Background

On August 4, 2022, the Secretary of Commerce received a petition from the Native Fish Society, Center for Biological Diversity, and Umpqua Watersheds (hereafter, the Petitioners) to list the OC and SONCC Chinook salmon ESUs as threatened or endangered under the ESA or, alternatively, list only spring-run Chinook salmon in both the OC and SONCC ESUs as threatened or endangered under the ESA. The Petitioners also request the designation of critical habitat concurrent with ESA listing. Copies of the petition are available as described above (see **ADDRESSES**).

ESA Statutory, Regulatory, and Policy Provisions, and Evaluation Framework

Section 4(b)(3)(A) of the ESA of 1973, as amended (16 U.S.C. 1531 *et seq.*), requires, to the maximum extent practicable, that within 90 days of receipt of a petition to list a species as threatened or endangered, the Secretary of Commerce make a finding on whether that petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted, and to promptly publish such finding in the **Federal Register** (16 U.S.C. 1533(b)(3)(A)). When it is found that substantial scientific or commercial information in a petition indicates the petitioned action may be warranted (a ''positive 90-day finding''), we are required to promptly commence a review of the status of the species concerned during which we will conduct a comprehensive review of the best available scientific and commercial information. In such cases, we conclude the review with a finding as to whether the petitioned action is warranted within 12 months of receipt of the petition. Because the finding at the 12-month stage is based on a more thorough review of the available information, as compared to the narrow scope of review at the 90-day stage, a ''may be warranted'' finding does not prejudge the outcome of the status review.

Under the ESA, a listing determination may address a species, which is defined to also include subspecies and, for any vertebrate species, any distinct population segment (DPS) that interbreeds when mature (16 U.S.C. 1532(16)). In 1991, we issued the Policy on Applying the Definition of Species Under the Endangered Species Act to Pacific Salmon (ESU Policy; 56 FR 58612, November 20, 1991), which explains that Pacific salmon populations will be considered a DPS, and hence a ''species'' under the ESA, if it represents an ''evolutionarily significant unit'' of the biological species. The two criteria for delineating an ESU are: (1) It is substantially reproductively isolated from other conspecific populations, and (2) it represents an important component in the evolutionary legacy of the species. The ESU Policy was used to define the OC and SONCC Chinook salmon ESUs in 1999 (64 FR 50394, September 16, 1999), and we use it exclusively for defining distinct population segments of Pacific salmon. A joint NMFS–U.S. Fish and Wildlife Service (USFWS) (jointly, ''the Services'') policy clarifies the Services' interpretation of the phrase ''distinct

population segment'' for the purposes of listing, delisting, and reclassifying a species under the ESA (DPS Policy; 61 FR 4722, February 7, 1996). In announcing this policy, the Services indicated that the ESU Policy for Pacific salmon was consistent with the DPS Policy and that NMFS would continue to use the ESU Policy for Pacific salmon.

A species, subspecies, or DPS is ''endangered'' if it is in danger of extinction throughout all or a significant portion of its range, and ''threatened'' if it is likely to become endangered within the foreseeable future throughout all or a significant portion of its range (ESA sections 3(6) and 3(20), respectively, 16 U.S.C. 1532(6) and (20)). Pursuant to the ESA and our implementing regulations, we determine whether species are threatened or endangered based on any one or a combination of the following five section 4(a)(1) factors: the present or threatened destruction, modification, or curtailment of habitat or range; overutilization for commercial, recreational, scientific, or educational purposes; disease or predation; inadequacy of existing regulatory mechanisms to address identified threats; or any other natural or manmade factors affecting the species' existence (16 U.S.C. 1533(a)(1), 50 CFR 424.11(c)).

ESA-implementing regulations issued jointly by NMFS and USFWS (50 CFR 424.14(h)(1)(i)) define ''substantial scientific or commercial information'' in the context of reviewing a petition to list, delist, or reclassify a species as ''credible scientific or commercial information in support of the petition's claims such that a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted.'' Conclusions drawn in the petition without the support of credible scientific or commercial information will not be considered ''substantial information.'' In reaching the initial (90-day) finding on the petition, we consider the information described in sections 50 CFR 424.14(c), (d), and (g) (if applicable).

Our determination as to whether the petition provides substantial scientific or commercial information indicating that the petitioned action may be warranted will depend in part on the degree to which the petition includes the following types of information: (1) Information on current population status and trends and estimates of current population sizes and distributions, both in captivity and the wild, if available; (2) identification of the factors under section 4(a)(1) of the ESA that may affect the species and where these factors are acting upon the species; (3) whether and to what extent any or all of the factors alone or in combination identified in section 4(a)(1) of the ESA may cause the species to be an endangered species or threatened species (*i.e.,* the species is currently in danger of extinction or is likely to become so within the foreseeable future), and, if so, how high in magnitude and how imminent the threats to the species and its habitat are; (4) information on adequacy of regulatory protections and effectiveness of conservation activities by States as well as other parties, that have been initiated or that are ongoing, that may protect the species or its habitat; and (5) a complete, balanced representation of the relevant facts, including information that may contradict claims in the petition. See 50 CFR 424.14(d).

If the petitioner provides supplemental information before the initial finding is made and states that it is part of the petition, the new information, along with the previously submitted information, is treated as a new petition that supersedes the original petition, and the statutory timeframes will begin when such supplemental information is received. See 50 CFR 424.14(g).

We may also consider information readily available at the time the determination is made (50 CFR 424.14(h)(1)(ii)). We are not required to consider any supporting materials cited by the petitioner if the petitioner does not provide electronic or hard copies, to the extent permitted by U.S. copyright law, or appropriate excerpts or quotations from those materials (*e.g.,* publications, maps, reports, letters from authorities). See 50 CFR 424.14(c)(6).

The ''substantial scientific or commercial information'' standard must be applied in light of any prior reviews or findings we have made on the listing status of the species that is the subject of the petition. Where we have already conducted a finding on, or review of, the listing status of that species (whether in response to a petition or on our own initiative), we will evaluate any petition received thereafter seeking to list, delist, or reclassify that species to determine whether a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted despite the previous review or finding. Where the prior review resulted in a final agency action—such as a final listing determination, 90-day not-substantial finding, or 12-month not-warranted finding—a petitioned action will generally not be considered to present substantial scientific and commercial information indicating that the action may be warranted unless the petition provides new information or analysis not previously considered. See 50 CFR 424.14(h)(1)(iii).

At the 90-day finding stage, we do not conduct additional research, and we do not solicit information from parties outside the agency to help us in evaluating the petition. We will accept the petitioners' sources and characterizations of the information presented if they appear to be based on accepted scientific principles, unless we have specific information in our files that indicates the petition's information is incorrect, unreliable, obsolete, or otherwise irrelevant to the requested action. Information that is susceptible to more than one interpretation or that is contradicted by other available information will not be dismissed at the 90-day finding stage, so long as it is reliable and a reasonable person conducting an impartial scientific review would conclude it supports the petitioners' assertions. In other words, conclusive information indicating that the species may meet the ESA's requirements for listing is not required to make a positive 90-day finding. We will not conclude that a lack of specific information alone necessitates a negative 90-day finding if a reasonable person conducting an impartial scientific review would conclude that the unknown information itself suggests the species may be at risk of extinction presently or within the foreseeable future.

To make a 90-day finding on a petition to list a species, we evaluate whether the petition presents substantial scientific or commercial information indicating the subject species may be either threatened or endangered, as defined by the ESA. First, we evaluate whether the information presented in the petition, in light of the information readily available in our files, indicates that the petitioned entity constitutes a ''species'' eligible for listing under the ESA. Next, we evaluate whether the information indicates that the species faces an extinction risk such that listing, delisting, or reclassification may be warranted; this may be indicated in information expressly discussing the species' status and trends, or in information describing impacts and threats to the species. We evaluate any information on specific demographic factors pertinent to evaluating extinction risk for the species (*e.g.,* population abundance and trends, productivity, spatial structure, age structure, sex ratio, diversity, current and historical range, habitat integrity or

fragmentation), and the potential contribution of identified demographic risks to extinction risk for the species. We then evaluate the potential links between these demographic risks and the causative impacts and threats identified in section 4(a)(1).

Information presented on impacts or threats should be specific to the species and should reasonably suggest that one or more of these factors may be operative threats that act or have acted on the species to the point that it may warrant protection under the ESA. Broad statements about generalized threats to the species, or identification of factors that could negatively impact a species, alone, do not constitute substantial information indicating that listing may be warranted. We look for information indicating that not only is the particular species exposed to a factor, but that the species may be responding in a negative fashion; then we assess the potential significance of that negative response.

Many petitions identify risk classifications made by nongovernmental organizations, such as the International Union for Conservation of Nature (IUCN), the American Fisheries Society, or NatureServe, as evidence of extinction risk for a species. Risk classifications by such organizations or made under other Federal or State statutes may be informative, but such classification alone may not provide the rationale for a positive 90-day finding under the ESA. For example, as explained by NatureServe, their assessments of a species' conservation status do ''not constitute a recommendation by NatureServe for listing under the U.S. Endangered Species Act'' because NatureServe assessments ''have different criteria, evidence requirements, purposes and taxonomic coverage than government lists of endangered and threatened species, and therefore these two types of lists should not be expected to coincide'' (*https://explorer.natureserve.org/AboutTheData/DataTypes/ConservationStatusCategories*). Additionally, species classifications under IUCN and the ESA are not equivalent; data standards, criteria used to evaluate species, and treatment of uncertainty are also not necessarily the same. Thus, when a petition cites such classifications, we will evaluate the source of information that the classification is based upon in light of the standards on extinction risk and impacts or threats discussed above.

Previous Federal Actions

On March 9, 1998, following completion of a comprehensive status review of Chinook salmon (*O. tshawytscha*) populations in Washington, Oregon, Idaho, and California, we published a proposed rule to list seven Chinook salmon ESUs as threatened or endangered under the ESA (63 FR 11482). In this proposed rule, we identified the OC Chinook salmon ESU as comprised of coastal populations of spring- and fall-run Chinook salmon from the Elk River north to the mouth of the Columbia River. We did not propose to list the OC ESU of Chinook salmon under the ESA, concluding that the ESU was neither in danger of extinction nor likely to become endangered in the foreseeable future.

On September 16, 1999, following an updated status review for four Chinook salmon ESUs, we published a final rule to list two Chinook salmon ESUs as threatened under the ESA (64 FR 50394). In that final rule, we identified the SONCC Chinook salmon ESU as composed of coastal populations of spring- and fall-run Chinook salmon from Euchre Creek, Oregon, through the Lower Klamath River, California (inclusive) (64 FR 50394). After assessing information concerning Chinook salmon abundance, distribution, population trends, and risks, and after considering efforts being made to protect Chinook salmon, we determined in that final rule that the SONCC ESU of Chinook salmon did not warrant listing under the ESA.

On September 24, 2019, the Secretary of Commerce received a petition from the Native Fish Society, Center for Biological Diversity, and Umpqua Watersheds to identify OC spring-run Chinook salmon as a separate ESU and list the ESU as threatened or endangered under the ESA. On May 4, 2020, the Secretary of Commerce received a petition from Richard K. Nawa to identify SONCC spring-run Chinook salmon as a separate ESU and list the ESU as threatened or endangered under the ESA.

We completed a comprehensive analysis of OC and SONCC spring-run Chinook salmon populations in response to the petitions and announced our 12-month findings on August 17, 2021 (86 FR 45970). Based on the best scientific and commercial data available we determined that listing the OC and SONCC spring-run Chinook salmon populations as threatened or endangered ESUs was not warranted. We determined that the OC and SONCC spring-run Chinook salmon populations do not meet the ESU Policy criteria to be classified as ESUs separate from the OC and SONCC fall-run Chinook salmon populations and, therefore, do not meet the statutory definition of a species under the ESA.

Evaluation of Petition and Information Readily Available in NMFS' Files

The petition contains information and assertions in support of listing the OC Chinook salmon ESU and SONCC Chinook salmon ESU, or, alternatively, listing only the spring-run components of the OC and SONCC Chinook salmon ESUs. Under the spring-run-only alternative, the Petitioners state that the entire contents of their previous petitions are expressly incorporated in the current petition by reference. As described above, in response to the previous petitions we completed a comprehensive analysis of OC and SONCC spring-run Chinook salmon populations and concluded that they do not meet the statutory definition of a species under the ESA. The Petitioners do not provide any new information to support identifying and listing spring-run only OC and SONCC Chinook salmon ESUs as threatened or endangered species under the ESA. Based on information provided by the Petitioners, we find that the petition does not present substantial scientific and commercial information indicating that identifying and listing a spring-run only OC and SONCC Chinook salmon ESUs may be warranted. Therefore, we will focus on the Petitioner's claims that the previously identified OC and SONCC Chinook salmon ESUs warrant listing as a threatened or endangered species under the ESA.

OC Chinook Salmon Status and Trends

Although the Petitioners request that we list the entire OC Chinook salmon ESU, which consists of spring-run and fall-run components, the Petitioners focus their analysis of status and trends and threats on the spring-run component of the ESU. There is very little information in the petition about the status and trends and threats facing the fall-run component of the ESU.

The Petitioners assert that spring-run Chinook salmon populations in the OC Chinook salmon ESU have suffered significant declines in numbers from historical abundance. The Petitioners assert that former spring-run populations in the Siuslaw, Coos, and Salmon rivers are apparently extirpated and that small, very depressed populations of spring-run Chinook salmon remain in the Tillamook, Nestucca, Siletz, Alsea, and Coquille Rivers (Percy *et al.,* 1974; Nicholas and Hankin 1989; Kostow *et al.,* 1995; ODFW 2005; ODFW 2017; ODFW 2018 unpublished data; Rasmussen and Nott 2019). The Oregon Department of Fish

and Wildlife (ODFW, 2005) concluded that the Siletz spring-run Chinook salmon population, although small, passed all assessment criteria and was not considered at risk. ODFW (2005) further found that spring-run Chinook salmon populations in the Coquille and Alsea Rivers were sufficiently spatially diverse, independent, and free of hybridization, but due to chronically low adult returns were still considered potentially at risk. Citing the above information sources and adult counts at Winchester Dam, the Petitioners also assert that the North Umpqua River supports the only remaining large spring-run Chinook salmon population in the OC Chinook salmon ESU, but conclude recent surveys by the U.S. Forest Service and viability analyses by other researchers (Ratner and Lande, 1996) indicate the South Umpqua River run has been severely depleted.

The Petitioners also call attention to the Oregon Department of Fish and Wildlife's Coastal Multi-Species Conservation and Management Plan (CMP) (ODFW, 2014) and fish counts at Winchester Dam (ODFW, 2019) in support of their assertions that spring-run Chinook salmon populations are at risk of extinction. The CMP is the State of Oregon's plan for long-term conservation of naturally-produced salmon, steelhead, and trout on the Oregon Coast. The CMP identifies populations within the OC Chinook salmon ESU, and recognizes that while there are spring-run life history variants present in many of the OC Chinook salmon populations, only the North and South Umpqua Rivers support runs that are sufficiently isolated to be considered independent spring-run Chinook salmon populations (ODFW, 2014). Spring-run Chinook salmon in the North Umpqua River were found to be viable, although with a decreasing trend in abundance (1972–2010). South Umpqua spring-run Chinook salmon had a low extinction risk (<5 percent) and an increasing trend in abundance (1972–2010), but the population was considered non-viable because the current abundance was low and carrying capacity estimated to be less than necessary to maintain evolutionary potential to persist in future conditions (ODFW, 2014). The CMP assessments for OC Chinook salmon populations outside of the Umpqua Basin, which use the predominant fall-run Chinook salmon to evaluate population viability, found all populations were viable except for Elk River.

The Oregon Department of Fish and Wildlife maintains a fish counting station at Winchester Dam on the North Umpqua River. Although the most recent (2011–2018) average Winchester Dam counts of spring-run Chinook salmon in the North Umpqua show an improvement over historic lows, these counts indicate a decreasing trend of natural-origin adult returns over the last 8 years (ODFW, 2019). Fieldwork conducted in 2019 by an inter-agency team confirmed that abundance of spring-run Chinook salmon in the South Umpqua remains low after recent declines (Kruzic, 2019).

Based on information provided by the Petitioners, as well as information readily available in our files, we find that a reasonable person would conclude current demographic risks indicate that OC Chinook salmon may be at risk of extinction and thus their status warrants further investigation.

Analysis of ESA Section 4(a)(1) Factors for OC Chinook Salmon

While the petition presents information on each of the ESA section 4(a)(1) factors, we find that the information presented, including information within our files, regarding the destruction, modification, or curtailment of the species habitat or range, the inadequacy of existing regulatory mechanisms, and other natural or manmade factors affecting the species continued existence is substantial enough to make a determination that a reasonable person would conclude that the species may warrant listing as endangered or threatened based on these factors alone. As such, we focus our below discussion on the evidence and present our evaluation of the information regarding these factors and their impact on the extinction risk of the species.

The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

The Petitioners assert that OC Chinook salmon face numerous threats to suitable habitat, including impacts from historical and ongoing logging practices, agricultural practices, channelization, and urbanization. NMFS' OC coho salmon 5-year review (NMFS, 2022) evaluated the status of habitat threats over an area almost completely co-extensive with the range of OC Chinook salmon and concluded that degraded habitat conditions in this area continue to be of concern, particularly with regard to land use and development activities that affect the quality and accessibility of habitats and habitat-forming processes.

The Petitioners assert that habitat degradation due to logging and roads reduces stream shade, increases fine sediment levels, reduces levels of in-stream large wood, and alters watershed hydrology, which is supported by similar conclusions in NMFS' 2011 Final Rule listing OC coho salmon under the ESA (76 FR 35755, June 20, 2011), describing habitat that is co-extensive with the range of OC Chinook salmon. The Petitioners specifically assert that extensive logging can be harmful to Chinook salmon populations by causing depletion of summer and early fall streamflows needed for adult migration, holding, and spawning. Perry and Jones (2017) found that after an initial delay, base streamflows were substantially decreased for decades in logged areas as compared to pre-logging conditions. The Petitioners also assert that timber harvest and road construction harm OC Chinook salmon by altering stream flow, increasing sediment loading, contaminant concentrations, and temperatures, and decreasing dissolved oxygen. References to NMFS' 2011 OC coho salmon listing (76 FR 35755, June 20, 2011) and U.S. Bureau of Land Management (USBLM) analysis of timber harvest in the Siletz River watershed (USBLM, 1996) support their assertion.

The Petitioners further assert that dams, water diversions, and other barriers impact OC Chinook salmon by blocking suitable riverine habitat, impeding migration, and reducing water quality and quantity. NMFS' 2011 OC coho listing concluded that fish passage has been blocked in many streams by improperly designed culverts and is limited in estuaries by tide gates in the range of the OC coho salmon ESU. The Petitioners assert that large dams significantly reduce the amount of spawning and rearing habitat accessible to migrating Chinook salmon. However, the Oregon Native Fish Status Report (ODFW, 2005) concluded that essentially all potential OC Chinook salmon habitat remains accessible (although recognizing this assessment did not capture fine-scale blockages, such those caused by culverts). The Petitioners also assert that dams (large and small), reservoirs, diversions, and other barriers can significantly delay upstream and downstream migration. The most recent NMFS 5-year review of OC coho salmon (NMFS, 2022) recognizes that impeded fish passage and habitat access is a concern in many watersheds within their range, although this is not considered a primary limiting factor.

The Petitioners assert that dams and diversions also have the potential to decrease downstream flows, and that decreased summer and fall baseflows can result in increased water temperatures that are harmful to OC

Chinook salmon. As referenced in the petition, Bottom *et al.* (1985) cited low streamflows and high summer temperatures exacerbated by water withdrawals as problems for many streams (notably Tillamook Bay tributaries and Alsea, Siletz, Siuslaw, and Umpqua Rivers). The 2022 NMFS 5-year review of OC coho salmon recognizes water quality and quantity as primary or secondary limiting factors for many coastal basins, and the Oregon CMP (ODFW, 2014) lists low flows and high temperatures as primary limiting factors for OC Chinook salmon.

The Petitioners also highlight other ongoing anthropogenic disturbances that may cause habitat degradation, including gravel mining, pollutants, and stream channelization, which is consistent with findings in NMFS' 2011 Final Rule to list OC coho salmon and limiting factors (particularly reduced habitat complexity) identified in the 2022 NMFS OC coho salmon 5-year review.

Based on information provided by the Petitioners, as well as information readily available in our files, we find that habitat destruction and curtailment of their range may be posing a threat to the continued existence of OC Chinook salmon.

Inadequacy of Existing Regulatory Mechanisms

The Petitioners assert that existing Federal and State regulatory mechanisms are not sufficient to protect and recover OC Chinook salmon and their habitat. Although the Petitioners found harvest to be a concern above, the focus of their discussion in this section is on regulatory mechanisms for habitat protection.

The Petitioners state that co-occurrence of OC Chinook salmon with other ESA-listed species does afford them some habitat benefits where their ranges overlap. The range of Chinook salmon overlaps substantially with listed OC coho salmon and therefore falls almost entirely within OC coho salmon designated critical habitat. However, the Petitioners assert that there is little evidence that improved habitat protections under the ESA since OC coho salmon were listed have resulted in actions sufficient to lead to recovery of either species.

The Petitioners assert that the USBLM's resource management plans do not provide adequate protection for OC Chinook salmon. The Petitioners assert that allowable logging practices and aquatic conservation strategies under the resource management plans do not effectively protect OC Chinook salmon habitat. The Petitioners cite NMFS' comments in its review of the draft Environmental Impact Statement for the revision of the resource management plans (NMFS, 2015b) and later comments by conservation groups (NFS, 2015; American Rivers *et al.,* 2016) to support their claim that the resource management plans are not sufficient to adequately maintain and restore riparian and aquatic habitat necessary for conservation of anadromous fish.

The Petitioners also assert that the U.S. Forest Service's forest plans do not provide adequate protection for OC Chinook salmon. The Petitioners contend that the National Forest Management Act does not effectively limit long-term impacts to salmon habitat in Oregon Coast watersheds because it does not prohibit the U.S. Forest Service from carrying out management actions and projects that harm the species or habitat. Petitioners also assert that National Forest Plans have limited ability to protect OC Chinook salmon habitat because National Forest lands make up a small portion of Oregon Coast watersheds relative to private lands.

The Petitioners further assert that the licensing process for non-Federal hydropower projects does not necessarily provide adequate protections for OC Chinook salmon. The Federal Power Act mandates that when issuing licenses the Federal Energy Regulatory Commission include conditions to protect, mitigate, and enhance fish and wildlife affected by hydropower projects. The Petitioners assert that although the Commission must seek recommendations from the USFWS and NMFS, the Commission can reject such measures if they determine there is not substantial evidence of need, and the timeline of most licenses (30–50 years) limits the opportunity for future improvements. Petitioners also assert that water quality protections under the Coastal Zone Management Act and Clean Water Act are not adequately protective of OC Chinook salmon habitat. The Petitioners cite to NOAA's and the Environmental Protection Agency's findings that Oregon's coastal nonpoint pollution control program is inadequate (NOAA and EPA, 2013), and NMFS' conclusion that Clean Water Act programs are not sufficient to protect Oregon Coast coho salmon habitat (NMFS, 2015).

The Petitioners additionally assert that State forest management is also not adequately protective of salmon habitat. The Petitioners cite NMFS' comments, from the 2011 Final Rule listing OC coho salmon under the ESA (76 FR 35755, June 20, 2011), that the Oregon Forest Practices Act may not adequately protect OC coho salmon habitat in support of their assertion that it is therefore unlikely to protect OC Chinook salmon habitat. The Petitioners further point to an evaluation by Talberth and Fernandez (2015), which found the Oregon Forest Practices Act does not provide stream buffers in all areas adequate to protect water quality and habitat for fish and wildlife and allows clearcutting in areas prone to landslides and with cold-water fish habitat, in support of their conclusion that the Act does not adequately limit harmful clearcutting practices. The Petitioners also assert that the 2010 Northwest Oregon Forest Management Plan and the Elliot Forest Management Plan do not contain sufficient measures to manage or protect OC Chinook salmon and, in support of this claim, reference NMFS' 2011 OC coho listing Final Rule which stated NMFS was unable to conclude these plans provide for OC coho salmon habitat capable of supporting viable populations during both good and poor marine conditions.

The Petitioners point out that there have been various State watershed and salmon management plans with goals for protecting and recovering salmon, including the 1991 Coastal Chinook Salmon Plan, 1997 Oregon Coastal Salmon Restoration Initiative, Siletz and Alsea River Basin Fish Management Plans, 2006 Oregon Conservation Strategy, and 2014 Coastal Multispecies Conservation and Management Plan. However, Petitioners assert that despite all of these plans, OC Chinook salmon populations have continued to decline or remain at depressed levels, and State land managers continue to allow logging and other activities and programs that may harm salmon and degrade their habitat, indicating these plans are inadequate to protect OC Chinook salmon.

Based on information provided by the Petitioners, as well as information readily available in our files, we conclude there is sufficient indication that the inadequacy of existing regulatory mechanisms may be posing a threat to the continued existence of OC Chinook salmon.

Other Natural or Manmade Factors Affecting Its Continued Existence

Hatcheries

The Petitioners assert that fish hatcheries have negative impacts on OC Chinook salmon by causing competition in the wild between hatchery and wild fish, supporting mixed-stock fisheries that have disproportionately harmed wild Chinook salmon, and promoting

hybridization between spring- and fall-run Chinook salmon. The Petitioners assert that hatchery programs within the OC Chinook salmon ESU are intended for fisheries augmentation, and there are no conservation or reintroduction hatchery programs at this time.

The Oregon CMP (ODFW, 2014) has recognized hatcheries as a primary limiting factor for OC Chinook salmon in the Elk River, a secondary risk factor for stocks in the Salmon River, and a potential limiting factor for other OC Chinook salmon populations in the ESU. The risk associated with hatcheries as a limiting factor for these populations is primarily due to the potential genetic impacts of hatchery fish interbreeding with natural-origin fish on spawning grounds, although not specifically interbreeding between fall- and spring-run Chinook salmon. The potential for competition between naturally-produced and hatchery-origin fish is also recognized. However, the specific effects of coastal hatchery programs have not been systematically assessed (ODFW, 2014).

Climate Change and Ocean Conditions

The Petitioners also assert that ongoing threats of poor ocean conditions and climate change are likely to threaten the continued existence of OC Chinook salmon. As described in NMFS' 5-year reviews (Stout *et al.,* 2012; NMFS, 2016; NMFS, 2022) and ESA listing of OC coho salmon (76 FR 35755, June 20, 2011), variability in ocean conditions in the Pacific Northwest is a concern for the persistence of Oregon Coast salmonids because it is uncertain how populations will fare in periods of poor ocean survival when freshwater and estuarine habitats are degraded. The Petitioners also cite these NMFS sources to support their assertions that predicted effects of climate change are expected to negatively affect Oregon Coast salmonids through many different pathways, and cite the Oregon CMP (ODFW, 2014) in support of their statement that regional changes in climate and weather patterns will negatively impact Oregon coastal aquatic ecosystems and salmonids.

The Petitioners also assert that predicted climate change impacts on streamflows will be exacerbated by continued forest land use practices. The Petitioners cite studies demonstrating recent declines in Pacific Northwest streamflows and predicting increasing temperatures in downstream reaches (Luce and Holden, 2009; Isaak *et al.,* 2018) in support of their assertion that decreases in streamflow caused by logging will exacerbate streamflow decreases and temperature increases likely to occur due to climate change.

Based on information provided by the Petitioners, as well as information readily available in our files, we conclude that hatcheries and climate change may be posing threats to the continued existence of OC Chinook salmon.

SONCC Chinook Salmon Status and Trends

Although the Petitioners request that we list the entire SONCC Chinook salmon ESU, which consists of spring-run and fall-run components, the Petitioners focus their analysis of status and trends and threats on the spring-run component of the ESU. There is very little information in the petition about the status and trends and threats facing the fall-run component of the ESU.

The Petitioners assert that spring-run Chinook salmon populations in the SONCC Chinook salmon ESU have suffered significant declines in numbers from historical abundance. The Petitioners cite findings by Nicholas and Hankin (1989) that all spring-run Chinook salmon populations on the Oregon coast are smaller than fall-run populations and are depressed from historical population sizes. The Petitioners present data from the Oregon Department of Fish and Wildlife (ODFW) that indicate a 25-year decline in abundance of spring-run Chinook salmon on the Rogue River (1981–2006) (ODFW, 2019). During a 10-year period (1970–1979) that spans the construction of the William Jess Dam (1977) on the Rogue River, an average of 28,052 adult spring-run Chinook salmon were counted annually. ODFW (2019) estimated that there were 10,240 adult spring-run Chinook salmon in 2017 and that the annual average for the years 2008–2017 was 9,663.

The Petitioners note that following ODFW's adoption of the Rogue Spring Chinook Conservation Plan in 2007, the average annual abundance of natural-origin adult spring-run Chinook salmon increased from 7,596 to 9,663 in 2017. The Petitioners assert that this increase of spring-run Chinook salmon in the Rogue River was likely a result of the removal of the Gold Hill, Savage Rapids, and Gold Ray dams, which allowed heterozygous and homozygous fall-run Chinook salmon to ascend upriver rapidly and spawn with homozygous spring-run Chinook. In the Final Rogue Spring Chinook Salmon Conservation Plan Comprehensive Assessment and Update, ODFW found that while the status of spring-run Chinook salmon improved over the past decade the 10-year average is below the desired threshold of 15,000 naturally produced adult spring-run Chinook salmon returning to the Rogue River annually (ODFW, 2019). The Petitioners also call attention to the Cole M. Rivers Hatchery and Genetic Management Plan that reports the smolt to adult return rate of Cole M. Rivers Hatchery spring-run Chinook salmon in the Rogue River has been below 1 percent since 2002 (ODFW, 2016). The Petitioners assert that the smolt to adult return rate for natural fish is also likely low.

The Petitioners further assert that the abundance of spring-run Chinook salmon in the Rogue River may actually be lower than reported. Hess *et al.* (2016), Prince *et al.* (2017) and Thompson *et al.* (2019) have studied the relationship between genetic material from a portion of the genome that includes the Greb1L gene (otherwise referred to as the Greb1L region of the genome) and run-timing in Chinook salmon and steelhead. The authors characterized the Greb1L region as two alleles (different forms) and three genotypes (different combinations of the alleles): Individuals with two early run-timing alleles (early-run homozygotes), individuals with two late run-timing alleles (late-run homozygotes), and individuals with one allele for the early and one for the late run-timing (heterozygotes). Thompson *et al.* (2019) asserted that there is a considerable amount of interbreeding between spring-run and fall-run Chinook salmon in the Rogue River as a result of dam construction. Thompson *et al.* (2019) analyzed samples from 2004 and reported that many of the spring-run Chinook salmon counted at Gold Ray dam were in fact heterozygotes.

The Petitioners also call attention to a declining trend in abundance of adult spring-run Chinook salmon in the Smith River. The Petitioners cite data from snorkel surveys of spring-run Chinook salmon in the South Fork, Middle Fork, and North Fork of the Smith River from 1982 to 2018 (Hanson, 2018). Hanson (2018) found that the number of adult spring-run Chinook salmon counted per mile (density) has been declining since survey counts peaked in 1996 at a density of 2.5 salmon per mile. Hanson (2018) reported that adult spring-run Chinook salmon densities have remained at less than 0.3 salmon per mile since 2007 (Hanson, 2018). The Petitioners assert that this decline in spring-run Chinook salmon indicates that the population within the Smith River is threatened with extinction.

Based on information provided by the Petitioners, as well as information readily available in our files, we conclude that SONCC Chinook salmon

populations may be at risk of extinction and thus their status warrants further investigation.

Analysis of ESA Section 4(a)(1) Factors for SONCC Chinook Salmon

While the petition presents information on each of the ESA section 4(a)(1) factors, we find that the information presented, including information within our files, regarding the destruction, modification, or curtailment of the species habitat or range, the inadequacy of existing regulatory mechanisms, and other natural or manmade factors affecting the species continued existence is substantial enough to make a determination that a reasonable person would conclude that the species may warrant listing as endangered or threatened based on these factors alone. As such, we focus our below discussion on the evidence and present our evaluation of the information regarding these factors and their impact on the extinction risk of the species.

The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

The Petitioners assert that SONCC Chinook salmon face numerous threats to suitable habitat, including impacts from dams, logging practices, road building, and mining operations. The Army Corps of Engineers completed construction of William Jess Dam/Lost Creek Reservoir on the upper Rogue River in 1977. The Petitioners cite the Rogue Spring Chinook Salmon Conservation Plan Comprehensive Assessment and Update (ODFW, 2019) in support of their assertion that artificially enhanced summer stream flows from Lost Creek Reservoir are adversely affecting Chinook salmon. ODFW (2019) found that enhanced summer stream flows allow fall-run Chinook salmon to spawn upstream in habitat that historically was utilized primarily by Chinook salmon.

The Petitioners assert that artificially augmented high flows in August and September in the Rogue River may reduce egg to fry survival of spring-run Chinook salmon. If spring-run Chinook salmon spawn during high river flows in September, redds may be dewatered and embryos desiccated when releases from the Lost Creek Reservoir decrease during the reservoir fill season, which begins in January (ODFW, 2019). ODFW (2019) states that egg to fry survival has likely decreased as a result of redds being dewatered.

The Petitioners also assert that other anthropogenic disturbances have degraded Chinook salmon spawning habitat in the Rogue and Smith Rivers. Specifically, the Petitioners assert that increased fine sediments due to logging, road building, and mining have adversely affected spawning habitat which is supported by similar conclusions in NMFS' 1997 final rule listing the SONCC coho salmon ESU under the ESA (62 FR 24588, May 6, 1997), describing habitat that is co-extensive with the range of SONCC Chinook salmon.

NMFS' most recent SONCC coho salmon 5-year review (NMFS, 2016) evaluated the status of habitat threats over an area that includes the range of SONCC Chinook salmon and concluded that degraded habitat conditions in this area continue to be of concern, particularly with regard to insufficient instream flow, unsuitable water temperatures, and insufficient rearing habitat due to a lack of floodplain and channel structure. While restoration and regulatory actions have been undertaken to improve freshwater and estuary habitat conditions in the SONCC coho salmon ESU, habitat concerns remain throughout the range of the ESU particularly in regards to water quality, water quantity, and rearing habitat.

Based on information provided by the Petitioners, as well as information readily available in our files, we conclude that habitat destruction and curtailment of their range may be posing a threat to the continued existence of SONCC Chinook salmon.

Inadequacy of Existing Regulatory Mechanisms

The Petitioners assert that existing Federal and State regulatory mechanisms are not sufficient to protect and recover SONCC Chinook salmon and their habitat. The Petitioners state that the Oregon Native Fish Conservation Policy, The Rogue Spring Chinook Salmon Conservation Plan, and the Coles M. Rivers Hatchery and Genetic Management Plan do not provide safeguards to stabilize or reverse increases in Chinook salmon heterozygous for run timing. The Petitioners assert that insufficient measures have been taken to prevent the interbreeding between naturally produced Chinook salmon and hatchery produced Chinook salmon from the Cole M. Rivers Hatchery. The Petitioners further assert that the Rogue Fall Chinook Conservation Plan (ODFW, 2007) does not adequately address the risks of interbreeding with spring-run fish as a result of artificially augmented summer flows (ODFW, 2013).

The Petitioners note that Chinook salmon on the Rogue River are not listed as threatened or endangered under the Oregon State Endangered Species Act. The Petitioners assert that while the Rogue Spring Chinook Species Management Unit/SONCC ESU is on the Oregon Sensitive Species List, the designation does not provide regulatory protection for SONCC Chinook salmon.

The Petitioners assert that the Oregon Forest Practices Act and California forest practice rules do not provide adequate habitat protections for SONCC Chinook salmon. In support of their assertions the Petitioners refer to NMFS' 5-year review for SONCC coho salmon (NMFS, 2016). NMFS' (2016) SONCC coho salmon 5-year review evaluated the inadequacy of existing regulatory mechanisms over an area in large part co-extensive with the range of SONCC Chinook salmon and concluded that the Oregon Forest Practices Act does not provide adequate protection for SONCC coho salmon. NMFS (2016) noted that particular areas of concern include: (1) whether the widths of riparian management areas (RMAs) are sufficient to fully protect riparian functions and stream habitats; (2) whether operations allowed within RMAs will degrade stream habitats; (3) operations on high-risk landslide sites; and (4) watershed-scale effects. NMFS (2016) similarly expressed concerns with the adequacy of California's forest practice rules to provide protection for SONCC coho salmon. Specifically, NMFS recommended the addition of the following standards to California's forest practice rules: (1) provide Class II–S (standard) streams with the same protections afforded Class II–L (large) streams, (2) include provisions to ensure hydrologic disconnection between logging roads and streams, and (3) include provisions to avoid hauling logs on hydrologically connected streams during winter periods. Furthermore, NMFS concluded that the effects of past and present timber harvest activities in California continue to be an ongoing threat to the SONCC coho salmon ESU.

Based on information provided by the Petitioners, as well as information readily available in our files, we find that the inadequacy of existing regulatory mechanisms may be posing a threat to the continued existence of SONCC Chinook salmon.

Other Natural or Manmade Factors Affecting Its Continued Existence

Hatcheries

The Petitioners assert that the Cole M. Rivers Hatchery threatens the future viability of Chinook salmon in the Rogue River. The Petitioners assert that operation of the Cole M. Rivers Hatchery poses a risk to natural origin

Chinook salmon due to multiple factors including competition, predation, disease, and interbreeding. The Petitioners assert that the release of an average of 1.6 million Chinook salmon annually from the Cole M. Rivers Hatchery results in increased competition between naturally produced Chinook salmon and the more abundant artificially produced salmonids. As previously mentioned the Petitioners assert that hatchery produced coho salmon and steelhead prey upon natural origin Chinook salmon fry. The Petitioners further note that the hatchery is a known source of disease in Chinook salmon. Amandi *et al.* (1982) found that Chinook salmon in the Cole M. Rivers Hatchery were found to be infected with *F. columnaris* and that pathogen concentrations in the outflow from the hatchery were greater than concentrations from the other water bodies sampled. ODFW (2019) reported that it is unknown if the infected salmon were infected with *F. columnaris* before entering the hatchery or if the salmon contracted *F. columnaris* after entering the hatchery.

Climate Change and Ocean Conditions

The Petitioners also assert that ongoing threats of poor ocean conditions and climate change are likely to threaten the continued existence of SONCC Chinook salmon. As described in NMFS' Oregon Coast coho salmon 5-year review (Stout *et al.,* 2012; 76 FR 35755, June 20, 2011), variability in ocean conditions in the Pacific Northwest is a concern for the persistence of coastal Oregon Chinook salmon. The Petitioners also cite Stout *et al.* (2012) in support of assertions that predicted effects of climate change are expected to negatively affect coastal Oregon salmonids through many different factors. The Petitioners cite the Oregon Coastal Management Plan (ODFW, 2014) in support of their assertions that regional changes in climate and weather patterns will negatively impact SONCC coastal aquatic ecosystems and salmonids. The Petitioners cite Reiman and Isaaks (2010) to support their assertions that variable weather and warming events will become more frequent in the Pacific Northwest and continue to threaten SONCC Chinook salmon.

Based on information provided by the Petitioners, as well as information readily available in our files, we find that hatcheries and climate change may be posing threats to the continued existence of SONCC Chinook salmon.

Petition Finding

After reviewing the information contained in the petition, as well as information readily available in our files, we conclude that the petition presents substantial scientific information indicating that the petitioned action to list the OC and SONCC Chinook salmon ESUs as threatened or endangered under the ESA may be warranted, and that the petition does not present substantial scientific and commercial information indicating that the petitioned action to list only the spring-run components of the OC and SONCC Chinook salmon ESUs may be warranted. Therefore, in accordance with section 4(b)(3)(A) of the ESA and NMFS' implementing regulations (50 CFR 424.14(h)(2)), we will commence a status review to determine whether the OC Chinook salmon ESU or the SONCC Chinook salmon ESU is in danger of extinction throughout all or a significant portion of their range, or likely to become so within the foreseeable future. After the conclusion of the status review, we will make a finding as to whether listing the OC or SONCC Chinook salmon ESU as endangered or threatened is warranted as required by section 4(b)(3)(B) of the ESA.

Information Solicited

To ensure that our status reviews are informed by the best available scientific and commercial data, we are opening a 60-day public comment period to solicit information on the OC and SONCC Chinook salmon ESUs. We request information from the public, concerned governmental agencies, Native American tribes, the scientific community, agricultural and forestry groups, conservation groups, fishing groups, industry, or any other interested parties concerning the current and/or historical status of OC and SONCC Chinook salmon ESUs. Specifically, we request information regarding: (1) species abundance; (2) species productivity; (3) species distribution or population spatial structure; (4) patterns of phenotypic, genotypic, and life history diversity; (5) habitat conditions and associated limiting factors and threats; (6) ongoing or planned efforts to protect and restore the species and their habitats; (7) information on the adequacy of existing regulatory mechanisms, whether protections are being implemented, and whether they are proving effective in conserving the species; (8) data concerning the status and trends of identified limiting factors or threats; (9) information on targeted harvest (commercial and recreational) and bycatch of the species; (10) other new information, data, or corrections including, but not limited to, taxonomic or nomenclatural changes; and (11) information concerning the impacts of environmental variability and climate change on survival, recruitment, distribution, and/or extinction risk.

We request that all information be accompanied by: (1) supporting documentation such as maps, bibliographic references, or reprints of pertinent publications; and (2) the submitter's name, and any association, institution, or business that the person represents.

References

A complete list of all references cited herein is available upon request (See **FOR FURTHER INFORMATION CONTACT**).

Authority: The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: January 4, 2023.

Samuel D. Rauch, III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

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