

prepare a budgetary impact statement to accompany any proposed or final rule that includes a Federal mandate that may result in estimated costs to State, local, or tribal governments in the aggregate; or to private sector, of \$100 million or more. Under section 205, EPA must select the most cost-effective and least burdensome alternative that achieves the objectives of the rule and is consistent with statutory requirements. Section 203 requires EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted by the rule.

EPA has determined that the approval action proposed does not include a Federal mandate that may result in estimated costs of \$100 million or more to either State, local, or tribal governments in the aggregate, or to the private sector. This Federal action approves pre-existing requirements under State or local law, and imposes no new requirements. Accordingly, no additional costs to State, local, or tribal governments, or to the private sector, result from this action.

The Regional Administrator's decision to approve or disapprove this SIP revision regarding Delaware's NSR program will be based on whether it meets the requirements of section 110(a)(2)(a)-(K) and part D of the Clean Air Act, as amended, and EPA regulations in 40 CFR part 51.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, New source review, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Authority: 42 U.S.C. 7401—7671q.

Dated: December 18, 1997.

Thomas Voltaggio,

Acting Regional Administrator, Region III.
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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 222 and 227

[Docket No. 971223310-7310-01; I.D. 101194C]

Endangered and Threatened Species; Withdrawal of Proposed Rule to List Snake River Spring/Summer Chinook Salmon and Fall Chinook Salmon as Endangered

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and

Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; withdrawal.

SUMMARY: NMFS is withdrawing the proposed rule which published on December 28, 1994, to reclassify Snake River spring/summer chinook salmon (*Oncorhynchus tshawytscha*) and Snake River fall chinook salmon (*O. tshawytscha*) from threatened to endangered under the Endangered Species Act of 1973 (ESA). Events have taken place since the proposal that make the reclassification action unnecessary. Increasing abundance, combined with the effects of improved management, indicate that the risks facing these species are now lower than they were at the time of the proposal. While the status of these species has improved since the proposal, conservation efforts must continue to recover Snake River chinook salmon to sustainable levels.

DATES: This proposed rule is withdrawn on January 12, 1998.

ADDRESSES: Environmental and Technical Services Division, NMFS, Northwest Region, 525 NE Oregon Street—Suite 500, Portland, OR 97232-2737.

FOR FURTHER INFORMATION CONTACT: Garth Griffin, NMFS, Protected Resources Division, Northwest Region, telephone (503) 231-2005, or Joe Blum, NMFS, Office of Protected Resources, telephone (301) 713-1401.

SUPPLEMENTARY INFORMATION:

Background

In response to a June 1990 petition to list under the ESA Snake River chinook salmon, NMFS prepared status review reports for Snake River spring and summer chinook salmon (Matthews and Waples, 1991) and Snake River fall chinook salmon (Waples *et al.*, 1991) providing detailed information, discussion, and references relevant to the level of risk faced by the species, including historical and current abundance, population trends, distribution of fish in space and time, and other information indicative of the health of the population.

NMFS proposed listing Snake River spring/summer chinook salmon (56 FR 29542) and Snake River fall chinook salmon (56 FR 29547) as threatened on June 27, 1991. The final determination listing Snake River spring/summer chinook salmon and Snake River fall chinook salmon as threatened was published on April 22, 1992 (57 FR 14653), and corrected on June 3, 1992 (57 FR 23458). The decision to list was based in part on a determination that the populations constituted

evolutionarily significant units (ESUs) pursuant to NMFS' policy on applying the ESA species definition to Pacific salmon published on November 20, 1991 (56 FR 58612). Critical habitat was designated for Snake River spring/summer chinook salmon and Snake River fall chinook salmon on December 28, 1993 (58 FR 68543).

In an emergency rule published in the **Federal Register** on August 18, 1994 (59 FR 42529), NMFS determined that the status of Snake River spring/summer chinook salmon and the status of Snake River fall chinook salmon warranted reclassification to endangered, based on projected declines and continued low abundance levels of adult chinook salmon. Under the ESA (16 U.S.C. 1533(b)(7)) and its implementing regulations at 50 CFR 424.20(a), an emergency rule ceases to have force after 240 days unless additional actions are taken.

NMFS published a proposed rule to reclassify Snake River spring/summer and Snake River fall chinook salmon as endangered on December 28, 1994 (59 FR 66784), and solicited comments from peer reviewers, the public, and interested parties.

After the proposed reclassification, a moratorium on listing actions was enacted by Congress which precluded work on this action. As a result of the moratorium and associated delays in its listing actions, NMFS prioritized its pending listing actions, with reclassifications receiving a low priority. NMFS has now assessed comments and information received in response to the proposed rule. A summary of this information, along with NMFS' analysis and conclusions follows.

Summary of Comments

One hundred fifty-four written comments were received in response to the proposed rule to reclassify Snake River chinook salmon as endangered. NMFS has considered all comments received, including oral testimony from two public hearings (60 FR 7744, February 9, 1995) on the proposal. The majority of comments received voiced opposition to the proposed rule on the basis of potential economic impacts of the designation and questions regarding NMFS' jurisdiction over Snake River spring/summer and fall chinook salmon. Only four of these comments contained information of a technical nature relevant to NMFS' status determination. Several commenters provided information pertinent to research needs and recovery planning; information of this type will be addressed in the

recovery plan for these species and is not addressed here.

Under a joint U.S. Fish and Wildlife Service/NMFS policy published July 1, 1994 (59 FR 34270), NMFS solicits the expert opinion of three appropriate and independent specialists regarding the pertinent scientific or commercial data and assumptions relating to the taxonomy, population models, and supportive biological and ecological information for species under consideration for listing. Accordingly, NMFS solicited independent review from the following experts: Dr. Lyle Calvin, Oregon State University; Dr. Jack Stanford, University of Montana; and Dr. Ray Hilborn, University of Washington. Comments were received from Dr. Stanford regarding the proposed rule.

Consideration of Economic and Jurisdictional Factors

Comment: Numerous commenters stated that the potential economic impacts of these Snake River spring/summer and fall chinook salmon listings have not been properly addressed.

Response: In determining whether to list a species as threatened or endangered, ESA implementing regulations 50 CFR 424.11(b) clearly state that such decisions must be made "solely on the basis of the best available scientific and commercial information regarding a species' status, without reference to possible economic or other impacts of such a determination." Therefore, in making its listing determination, NMFS did not consider the economic impacts associated with the listing action. However, during the process of designating critical habitat and identifying recovery measures, economic considerations are (and have been) taken into account. With regard to Snake River spring/summer and fall chinook salmon, descriptions of such analyses can be found in the final rule designating critical habitat published on December 28, 1993 (58 FR 68543).

Comment: Numerous commenters questioned NMFS' jurisdiction in dealing with matters in the state of Idaho.

Response: Under section 4(a)(1) of the ESA, the Secretary of Interior and the Secretary of Commerce (Secretaries) have authority to implement the ESA to protect and conserve threatened and endangered species. Authority for commercial fishery species (i.e., salmon species) management was transferred to the Department of Commerce from the Department of Interior under Reorganization Plan No. 4 of 1970. Therefore, based on the ESA and this

Reorganization Plan, NMFS retains ESA jurisdiction over Snake River spring/summer and fall chinook salmon.

Consideration as a Species

Comment: Several commenters contended that Snake River spring/summer and fall chinook salmon are likely to be "subspecies" of a species which is abundant in other portions of its range. Therefore, neither Snake River spring/summer nor fall chinook salmon should be considered a "species" under the ESA.

Response: In the final determination listing Snake River spring/summer and fall chinook as threatened under the ESA (57 FR 14653, April 22, 1992), NMFS determined that Snake River spring/summer and fall chinook salmon constitute "species" under the ESA. The present determination has no effect on the earlier determination. Section 3(15) of the ESA defines a "species" as including "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature." NMFS' final policy on how it will apply the ESA "species" definition in evaluating Pacific salmon was published on November 20, 1991 (56 FR 58612).

Further guidance on the application of this policy is contained in the NMFS policy paper "Pacific Salmon and the Definition of 'Species'" Under the Endangered Species Act" (Waples 1991). NMFS' determination is consistent with this policy and guidance.

Factors Contributing to the Decline of Snake River Spring/Summer and Fall Chinook Salmon

Comment: The majority of commenters identified specific factors that they believe to be responsible for causing the decline of these species. Many contended that mortality associated with dams on the Columbia and Snake Rivers has been the primary cause for decline, while others identified poor ocean conditions, in-river harvest, and predation as major factors for decline. Several commenters took exception to NMFS identifying mining as a factor for the species' decline.

Response: NMFS agrees that there are a variety of factors which have contributed to the decline of these species. In the proposed rule to reclassify Snake River spring/summer and fall chinook as endangered (59 FR 66784, December 28, 1994), NMFS identified a range of factors which have contributed to the decline of these species including: Hydropower

development, water withdrawal and storage, irrigation diversions, siltation and pollution from sewage, farming, grazing, logging, mining, harvest and hatchery impacts, predation, and drought. NMFS recognizes that, for some of these human-induced factors, steps have been taken by Federal, state, and private entities to identify and reduce adverse impacts on Snake River chinook salmon. NMFS is hopeful that continued attention to these factors will ultimately result in the recovery of Snake River chinook salmon.

Comment: Numerous commenters insisted that declines in Snake River spring/summer and fall chinook salmon have occurred as a result of natural evolutionary processes.

Response: The proposed rule to reclassify Snake River spring/summer and fall chinook salmon from threatened to endangered was based on the biological status of the species. Assessing the source or cause (either natural or manmade) of a species' decline does not affect the outcome of NMFS' status determination but, instead, focuses remedial action on those factors which contribute to the threat to the species. With respect to the commenters' concern, NMFS is unaware of scientific research which supports the claim that these species have declined primarily as a result of natural evolutionary processes. Available research has documented that mortality resulting from human activities has significantly contributed to the decline of these species. Therefore, NMFS believes that human activities, and not natural evolutionary processes, are the primary factors which have led to the decline of Snake River chinook salmon.

Existing Regulatory Mechanisms

Comment: Several commenters contended that existing state and Federal regulations are sufficient to guarantee that no adverse impacts to water quality or habitat will occur in the Snake River basin. Similarly, several commenters stated that management practices have improved such that further degradation of salmon habitat will not occur.

Response: NMFS believes that, since Snake River spring/summer and fall chinook salmon were proposed for reclassification as endangered species, progress has been made in improving salmon management, passage, harvest, and habitat conditions in the Columbia and Snake River systems. All of these improvements have likely resulted in increased survival by juvenile and adult Snake River chinook salmon. Further discussion of this issue is provided

under "Summary of Factors Affecting the Species."

Evaluating the Status of Snake River Spring/Summer and Fall Chinook Salmon

The state of Alaska, Department of Fish and Game (ADFG) submitted a report which addresses several issues pertaining to the proposed reclassification of Snake River fall chinook salmon (ADFG, 1995). In its report, ADFG asserts that an analysis of the following factors should occur prior

to reclassification: escapement, likelihood of extinction, probability of persistence with respect to survival, spawner/recruit relationship, and forecasts of adult returns. These comments also apply to the proposed reclassification of Snake River spring/summer chinook salmon since similar risk assessment methods were used for this species. A discussion of the major points in the comments submitted by ADFG follows.

Comment: ADFG concluded that reclassifying Snake River fall chinook

salmon from threatened to endangered is not warranted because the species has increased in abundance since the time the species was listed as threatened.

Response: NMFS agrees that since the time of this proposal, Snake River spring/summer and fall chinook salmon have increased in abundance. Below we present a brief summary of recent returns of Snake River spring/summer and fall chinook salmon. Table 1 summarizes this abundance data:

TABLE 1.—SUMMARY OF SNAKE RIVER SPRING/SUMMER AND FALL CHINOOK ADULT RETURNS AT LOWER GRANITE DAM

Year	Spring/summer chinook total adult returns	Spring/summer chinook naturally-spawning escapement	Fall chinook total adult returns	Fall chinook naturally-spawning escapement
1994 ^P	3,915	1,721	774	406
1995	1,799	1,116	1,042	350
1996	6,823	3,487	1,270	639
1997	45,082	^E 6,500	^E 2,100	^E 726

^P = Proposed rule published on December 28, 1994.

^E = Estimated return (Personal Communication, Robert Bayley, NMFS 1997; TAC 1997b).

Spring/Summer Chinook Salmon Abundance

In 1994 when NMFS proposed reclassifying Snake River spring/summer chinook salmon as endangered, total adult returns (hatchery-origin and naturally-spawning) of this species to Lower Granite Dam were 3,915 (FPC 1995). (Dam counts at Lower Granite Dam are typically used as an indicator for Snake River salmon escapement since this is the uppermost fish counting ladder in the Snake River.) In 1995, subsequent to the proposed listing, total adult returns to Lower Granite Dam were 1,799 (FPC 1996). In 1996, total adult returns to Lower Granite Dam increased to 6,823 (FPC 1997), about 1.7 times greater than 1994 returns. More recently, total returns of spring/summer chinook have increased substantially. In 1997, a total of 45,082 spring/summer chinook adults have returned to Lower Granite Dam (U.S. Army Core Of Engineers (COE), 1997), about 11 times greater than 1994 returns.

In 1994, at the time of the proposed reclassification, 1,721 naturally spawning spring/summer chinook salmon escaped past Lower Granite Dam, while in 1995, escapement decreased to 1,116 naturally spawning adults past Lower Granite Dam (Technical Advisory Committee (TAC) 1997a). In 1996, escapement increased to 3,487 (TAC, 1997a), about 2 times greater than 1994 escapement. Estimates indicate that about 6,500 naturally

spawning spring/summer chinook will escape past Lower Granite Dam in 1997 (Personal Communication, Robert Bayley, NMFS 1997; TAC 1997b).

Fall Chinook Salmon Abundance

In 1994 when NMFS proposed reclassifying Snake River chinook salmon as endangered, total adult returns of fall chinook (hatchery-origin and naturally spawning) to Lower Granite Dam numbered 774 (FPC, 1995). Adult returns to Lower Granite Dam in 1995 numbered 1,042 (FPC, 1996), about 1.3 times greater than 1994 returns. This increasing trend continued in 1996, with a total adult return of 1,270 at Lower Granite Dam (FPC, 1997)—about 1.6 times greater than 1994 returns. Estimates indicate that about 2,100 fall chinook will return to Lower Granite Dam in 1997 (Personal Communication, Robert Bayley, NMFS, 1997; TAC 1997b).

In 1994, at the time of the proposed reclassification, 406 naturally spawning, fall chinook salmon escaped past Lower Granite Dam (TAC, 1997c). In 1995, escapement decreased to 350 naturally-spawning fall chinook past Lower Granite Dam (TAC, 1997c). In 1996, 639 naturally spawning chinook salmon escaped past Lower Granite Dam (TAC, 1997c). Estimates indicate that in 1997, about 726 naturally-spawning fall chinook salmon will escape past Lower Granite Dam (Personal Communication, Robert Bayley, NMFS, 1997; TAC, 1997b).

Comment: In addition to comments regarding recent escapement, ADFG concluded that the risk for Snake River fall chinook salmon extinction (as measured by stochastic forecasts based on observed escapement) has declined since the initial listing of this species. The ADFG also commented on the difficulty of reproducing results of a "likelihood-of-extinction" model cited in the Snake River fall chinook salmon status review (Waples *et al.*, 1991).

Response: NMFS agrees that extinction risk for Snake River fall chinook salmon has decreased since 1994 due to conservation efforts and based on recent increased run sizes.

NMFS acknowledges that, due to a slight data error, the Dennis *et al.* model results reported in the NMFS' status review are difficult to reproduce. However, independent analyses provide estimates very similar to those cited in NMFS' status review (Cramer and Neeley, 1993).

Comment: ADFG concluded that forecasts for future adult fall chinook salmon run size cited in the reclassification proposal have significantly underestimated the actual escapements past Lower Granite Dam. Further, ADFG stated that these projections have so underestimated actual escapements that the use of these data is inconsistent with the ESA requirement to use the best available scientific and commercial data when a listing decision is made.

Response: Contrary to ADFG's comments, NMFS believes that projected natural-origin escapements have not significantly underestimated actual escapements. Based on run reconstruction data developed by the Columbia River Technical Advisory Committee established under *U.S. v. Oregon*, the 1994 Snake River fall chinook salmon run size at Lower Granite Dam was estimated to range from 269 to 488 adults (CRTS, 1994). Actual escapement past Lower Granite Dam in 1994 was estimated to be 406 adults (Washington Department of Fish and Wildlife (WDFW) and Oregon Department of Fish and Wildlife (ODFW), 1995). NMFS agrees, however, that it would be unwise to base a species status reclassification, such as this rulemaking, solely on the results of predictive models which are sensitive to unforeseeable environmental conditions.

Comment: ADFG derived estimates of the number of spawners needed to produce maximum sustainable yield (MSY) and maximum return ranging from 440 and 570 adult spawners above Lower Granite Dam, and estimated that escapements on the order of 1,000 adults would produce strong returns.

Response: While the estimates presented by ADFG appear reasonable given the data that were used, NMFS questions ADFG's treatment of the data in deriving these estimates. In addition, ADFG did not present any confidence intervals for its estimates of MSY. NMFS' previous experience with similar analyses suggests that such confidence intervals would be quite large; hence, conclusions regarding this analysis must be viewed as highly uncertain.

Comment: ADFG raised several concerns regarding stray hatchery fish and the genetic integrity of the Snake River fall chinook salmon ESU. The ADFG stated that, based on dilution models, the gene pool of the progeny of wild fish is likely different today than it was a few years ago.

Response: NMFS has not attempted to verify the results presented by ADFG for its dilution model, but agrees that unidirectional gene flow (from non-ESU stocks into the listed ESU) results in a dilution of the native gene pool. The potential and, given the evidence of past straying into the Snake River, likely adverse impacts of this cumulative dilution underscores NMFS' concern for the genetic integrity of the Snake River spring/summer and fall chinook salmon ESUs.

Summary of Factors Affecting the Species

Section 4(a)(1) of the ESA specifies five factors to be evaluated during a status review of a species or population proposed for listing or reclassification. A discussion of these factors with respect to Snake River spring/summer chinook salmon and Snake River fall chinook salmon follows.

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

In the December 1994 proposed rule to reclassify Snake River spring/summer and fall chinook, NMFS stated that hydropower development, water withdrawal and storage, irrigation diversions, and other land management activities had degraded Snake River salmon habitat. NMFS further stated in the proposed rule that changes in the operation of lower Snake and Columbia River Dams and changes in land and water management activities would likely result in long-term improvements in survival of adult and juvenile chinook salmon, but that such improvements had not yet been realized.

NMFS now concludes that migration conditions in the Columbia and Snake Rivers have improved since the time of listing due to increased spill and natural flow, as well as physical modifications to mainstem dams. For example, seven of eight Columbia and Snake River mainstem dams now have bypass systems through which outmigrating juvenile Snake River chinook salmon can pass more safely. Also, through the implementation of the proposed Snake River Salmon Recovery Plan, additional spill and flow augmentation have occurred during the juvenile outmigration.

Since the listing of Snake River chinook salmon, NMFS has undertaken numerous consultations on activities in the region. Examples of such activities include timber and grazing permits issued by the U.S. Forest Service and Bureau of Land Management, dredge and fill activities authorized by COE, and licensing of hydroelectric projects by the Federal Energy Regulatory Commission. Benefits of these actions include the following: Between 1991 and 1995, there has been a net loss of 622 miles of roads (sources of sediment) in nine Idaho National Forests; all irrigation diversions in critical habitat located in the state of Washington have been screened; and NMFS has successfully settled one of the largest Comprehensive Environmental Response, Compensation, and Liability

Act (CERCLA) claims in the history of the statute (Blackbird Mine), which will eventually result in reopening over 100 miles of spawning habitat historically used by chinook salmon in Idaho.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

At the time of the proposed reclassification, NMFS stated that several measures had been taken between 1991 and 1993 to reduce incidental harvest rates on Snake River fall chinook salmon to approximately 50 percent. However, continued and projected low returns indicated that these efforts had not reversed the decline of the species.

Since the proposed rule, returns of Snake River chinook have increased. This indicates that impacts from commercial and recreational fisheries have decreased. Commercial and recreational fisheries in the Columbia River basin remain restricted to low levels relative to previous years. For example, the Southeast Alaska troll fishery for fall chinook salmon was substantially curtailed in both 1995 and 1996. Current restrictions in this fishery have resulted in a catch of about 80,000 fewer chinook than early 1990 quotas. Furthermore, Canada has taken steps to substantially reduce its fisheries off the west coast of Vancouver Island and in other areas. Also, through the Columbia River Fisheries Management Planning process, harvest on spring/summer and fall chinook salmon has been set with specific constraints based on Snake River salmon run size. As an example, recent agreements regarding fall chinook salmon harvest in Columbia River fisheries will ensure under most circumstances that harvest rates achieve a 30-percent reduction relative to the 1988-93 average Snake River fall chinook harvest rate.

As stated in the proposed reclassification, there are a number of scientific research programs which involve handling, tagging, and moving fish in the Columbia and Snake Rivers. However, NMFS believes that the contribution of these programs to the decline of listed Snake River chinook salmon is negligible.

C. Disease or Predation

Chinook salmon are exposed to numerous bacterial, protozoan, viral, and parasitic organisms; however, these organisms' impacts on Snake River chinook salmon are largely unknown.

Predator populations, particularly northern squawfish (*Ptychocheilus oregonensis*), have increased due to hydroelectric development that created

impoundments providing ideal predator foraging areas. Turbulent conditions in dam turbines, bypasses, and spillways have increased predator success by stunning or disorienting passing juvenile salmon migrants. Increased efforts to reduce populations of northern squawfish should result in survival improvements of listed salmon, but the benefits are not yet fully known.

Marine mammal numbers, especially harbor seals (*Phoca vitulina*) and California sea lions (*Zalophus californianus*), are increasing on the West Coast, and increases in predation by pinnipeds have been noted in some Northwest salmonid fisheries. Since the time of this proposed reclassification, NMFS has published a report describing the impacts of California sea lions and Pacific harbor seals upon salmonids and on the coastal ecosystems of Washington, Oregon, and California (NMFS, 1997d). This report concludes that in certain cases where pinniped populations co-occur with depressed salmonid populations, salmon populations may experience severe impacts due to predation. An example of such a situation is Ballard Locks, Washington, where sea lions are known to consume significant numbers of adult winter steelhead. This study further concludes that data regarding pinniped predation is quite limited, and that substantial additional research is needed to fully address this issue. Existing information on the seriously depressed status of many salmonid stocks is sufficient to warrant actions to remove pinnipeds in areas of co-occurrence where pinnipeds prey on depressed salmonid populations (NMFS 1997).

D. The Inadequacy of Existing Regulatory Mechanisms

In the proposed reclassification, NMFS stated that improvements in existing regulatory mechanisms had been made since the original listing of Snake River chinook. However, due to projected declines in abundance during the 1991 through 1993 period, NMFS believed that regulatory mechanisms which were in place were inadequate.

NMFS now concludes that since the time of listing, existing regulatory mechanisms have improved. For example, regulations aimed at improving river flow and juvenile acclimation for upper Columbia River fall chinook salmon are believed to have reduced straying impacts on listed fall chinook populations. Commercial and recreational harvest regulations have been implemented which appear to be minimizing the impacts of these actions

on Snake River chinook. A single scientific advisory body (Independent Scientific Group) has been established to address Columbia River Basin scientific issues. A result of this board's formation should be to streamline the management and decision-making process with respect to Snake River salmon issues. Furthermore, implementation of the proposed Snake River Salmon Recovery Plan has begun; finalization of this document in 1997 will provide a clear direction for the region in achieving recovery of its Pacific salmon stocks.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Drought conditions have contributed to the decline of Snake River chinook salmon; however, these conditions have subsided in recent years. In the Northwest, annual mean streamflows for the 1977 water year (October to September) were the lowest recorded for many streams since the late nineteenth century (Columbia River Water Management Group (CRWMG), 1978). Precipitation levels in the Snake River Basin above Ice Harbor Dam also were below the 25-year average (1961–1985) in the 1979, 1981, 1985, 1987, 1988, and 1990 water years. The 1990 water year became a fourth consecutive year of drought condition (CRWMG, 1991). Drought conditions persisted in the Columbia River basin during the period of 1990 to 1994. However, changes in weather patterns in 1995, 1996, and 1997 have resulted in above average rainfall for Snake and Columbia River basins.

Long-term trends in marine productivity associated with atmospheric conditions in the North Pacific Ocean may have a major influence on salmon production. Unusually warm ocean surface temperatures and associated changes in coastal currents and upwelling, known as El Niño conditions, result in ecosystem alterations such as reductions in primary and secondary productivity and changes in prey and predator species distributions. The degree to which adverse ocean conditions can influence Snake River chinook salmon production is not known; however, juvenile salmon adapting to the nearshore ocean environment are probably particularly vulnerable.

Artificial propagation has, in some cases, impacted listed Snake River spring/summer chinook salmon. Potential problems associated with hatchery programs include genetic impacts on indigenous wild populations from stock transfers, reduced natural

production due to collection of wild adults for hatchery brood stocks, competition with wild salmon, predation of wild salmon by hatchery salmon, and disease transmission.

Changes have been made in many chinook salmon hatchery programs which should decrease the impacts associated with artificial propagation. For example, measures have been taken to reduce straying of Umatilla River fall chinook hatchery stock into the Snake River. These measures include increasing river flows, marking all hatchery-raised fish, and acclimating stocks in the Umatilla River prior to their release. NMFS continues to monitor, evaluate, and refine changes that have been made to chinook salmon hatchery programs. This process should help ensure that hatchery programs do not impede recovery of these stocks.

Finding and Withdrawal

At the time the reclassification proposal was made, Snake River spring/summer chinook salmon and Snake River fall chinook salmon appeared to be near critically low abundance levels. However, since that time, the abundance of both stocks has increased. These increases, combined with the effects of improved management, indicate that the risks facing these species are now lower than they were at the time of the reclassification proposal. Based on this information, NMFS concludes that reclassification of Snake River spring/summer and fall chinook salmon from threatened to endangered is not warranted at this time. Therefore, NMFS withdraws the proposed rule to reclassify Snake River spring/summer and fall chinook salmon as endangered under the ESA. NMFS will continue to closely monitor the status of these species as well as evaluate the effectiveness of existing and future protective and conservation measures to determine whether a change in the status of either species is warranted in the future.

References

A complete list of all references cited is available upon request (see ADDRESSES).

Authority: 16 U.S.C. 1531 *et seq.*

Dated: January 5, 1998.

Rolland A. Schmitten,

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National Marine Fisheries Service.*

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