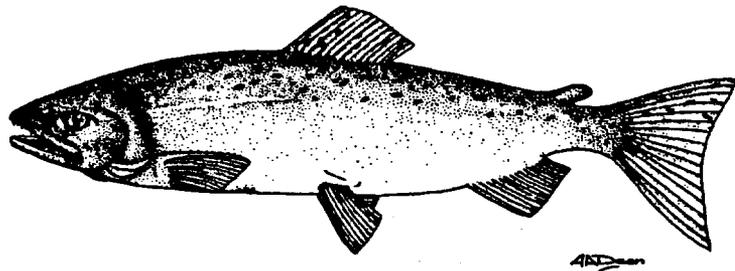
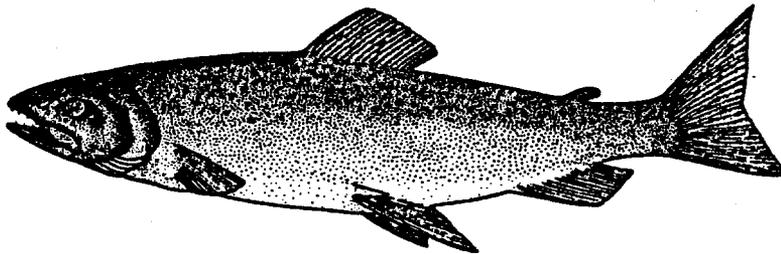


STATE OF ALASKA REVIEW COMMENTS CONCERNING NMFS PROPOSED RECOVERY PLAN FOR SNAKE RIVER SALMON

Prepared by:

**Staff of and
Consultants to the
Alaska Department of Fish and Game and the
Alaska Department of Law**



Regional Information Report No. 1J95-23

**Alaska Department of Fish and Game
Division of Commercial Fisheries Management and Development
Douglas, Alaska**

September, 1995

**STATE OF ALASKA REVIEW COMMENTS CONCERNING
NMFS PROPOSED RECOVERY PLAN FOR SNAKE RIVER SALMON**

Prepared by:

**Staff of and
Consultants to the
Alaska Department of Fish and Game and the
Alaska Department of Law**

Regional Information Report No.¹ 1J95-23

**Alaska Department of Fish and Game
Division of Commercial Fisheries Management and Development
Douglas, Alaska**

September, 1995

¹ The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse and ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may not be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Division of Commercial Fisheries Management and Development.

TABLE OF CONTENTS

SUMMARY REMARKS..... 1

CHAPTER 1 - INTRODUCTION..... 3

CHAPTER II - SNAKE RIVER SALMON BIOLOGY..... 6

CHAPTER III - INSTITUTIONAL STRUCTURE, ACCOUNTABILITY AND MONITORING..... 9

CHAPTER IV - DELISTING CRITERIA..... 11

CHAPTER V; SECTION 1 - TRIBUTARY ECOSYSTEM RECOVERY TASKS..... 17

CHAPTER V; SECTION 2 - MAINSTEM AND ESTUARINE ECOSYSTEM RECOVERY TASKS... 21

CHAPTER V; SECTION 3 - HARVEST MANAGEMENT RECOVERY TASKS..... 25

CHAPTER V; SECTION 4 - ARTIFICIAL PROPAGATION..... 28

CHAPTER V; SECTION 5 - ENFORCEMENT RECOVERY TASKS..... 33

CHAPTER VI - INCREMENTAL COSTS OF PROPOSED RECOVERY TASKS..... 35

APPENDIX A: LETTER FROM DAVE BENTON..... 36

APPENDIX B: TESTIMONY BY TONY KNOWLES, GOVERNOR, STATE OF ALASKA, TO
NATIONAL MARINE FISHERIES SERVICE CONCERNING PROPOSED
RECOVERY PLAN FOR SNAKE RIVER SALMON..... 39

APPENDIX C: TESTIMONY BY FRANK RUE, COMMISSIONER, ALASKA DEPARTMENT OF
FISH AND GAME, TO NATIONAL MARINE FISHERIES SERVICE
CONCERNING PROPOSED RECOVERY PLAN FOR SNAKE RIVER SALMON..... 47

STATE OF ALASKA REVIEW COMMENTS CONCERNING NMFS PROPOSED RECOVERY PLAN FOR SNAKE RIVER SALMON

SUMMARY REMARKS

This document sets forth comments of the State of Alaska concerning the Proposed Recovery Plan for Snake River Salmon (March 1995) (Proposed Recovery Plan) issued by the National Marine Fisheries Service (NMFS) under the Endangered Species Act (ESA), 16 U.S.C. 1531 et seq. As noted herein, the State of Alaska anticipates submitting further comments once NMFS completes the analysis of the socioeconomic effects of proposed recovery actions. Attached to this document as Appendix A is the transmittal letter from Dave Benton accompanying these comments. Appendix B is the testimony Governor Tony Knowles provided to NMFS on the Proposed Recovery Plan during the hearing in Ketchikan Alaska on June 8, 1995. Appendix C is the testimony Commissioner Frank Rue provided to NMFS on the Proposed Recovery Plan during the Ketchikan hearing.

The State of Alaska supports the efforts of the federal government to lay the groundwork for salmon recovery by preparing a draft recovery plan. The State of Alaska believes that the Proposed Recovery Plan is in a first draft stage that requires much revision before finalization and adoption by the federal government. As such, the State of Alaska believes that review comments on this draft of the recovery plan should be incorporated by NMFS staff and that a second draft recovery plan should be released for public comment.

In many cases, the draft recovery plan fails to identify site-specific management actions as specified in Section 4(f)(1)(B)(i) of the Endangered Species Act. While the State of Alaska recognizes the need of the federal government to use adaptive management as a tool to rebuild listed stocks of Snake River salmon, the adoption of a recovery plan that lacks site-specific management actions could result in a NMFS policy of imposing short-term measures without any accountability for whether such measures are justified on the basis of achieving recovery in a fair and efficient manner. Notable defects in this regard include the lack of site-specific standards by which the hydropower system is to be managed to improve survival of listed salmon and the lack of site-specific actions to be taken in management of freshwater habitat to improve survival of listed salmon. These major deficiencies in the draft recovery plan continue to place listed stocks of salmon at risk of extinction. The State of Alaska believes that artificial propagation should be a significant aspect of recovery for Snake River salmon; the draft recovery plan fails to embrace and fully utilize artificial propagation as a tool to rebuild Snake River chinook salmon stocks and fails to identify a site-specific plan of action for artificial propagation of these listed fish. The failure of the plan to identify a full suite of appropriate site-specific recovery measures has made the evaluation of the associated socioeconomic effects almost meaningless.

The State of Alaska continues to believe that recovery burden proportional to the cause of decline should be a central theme to the recovery plan. The

draft recovery plan fails to address recovery of Snake River salmon in this fashion.

Further review comments were prepared on a chapter by chapter basis and are presented hereafter in that format.

CHAPTER I - INTRODUCTION

Recognition of Tribal Treaty Rights and Trust Responsibility

The Proposed Recovery Plan includes a policy statement concerning the recognition of tribal treaty rights and trust responsibility in Chapter I, pp. I-12 to I-14. The State of Alaska questions whether "conservation necessity principles" developed in treaty litigation should be applied to harvest management strategies developed for purposes of the Proposed Recovery Plan. Treaty fisheries should be subject to regulation under the ESA to the same extent as non-treaty fisheries, and any harvest regime developed for purposes of the Recovery Plan should provide the opportunity for non-treaty fishing, as well as treaty fishing. To the extent the "conservation necessity principles" are applied in connection with the Recovery Plan, only the fisheries within the geographic area historically covered by the Columbia River tribes' treaties should be considered in determining whether conservation purposes can be achieved through reasonable regulation of non-treaty activities.

Last year, in the continuing case of United States v. Oregon, the Columbia River Tribes sought to enjoin NMFS from imposing any regulations under the ESA on their in-river harvest based, in part, on the argument that the NMFS could have imposed more restrictions on the Alaskan fisheries. See Warm Springs, Umatilla and Nez Perce Tribes' Joint Memorandum In Support of Motion For Temporary Restraining Order & Order to Show Cause Why Preliminary Injunction Should Not Enter, dated August 26, 1994, at 22. Alaska is not a party to the United States v. Oregon litigation and did not have an opportunity to respond to the Tribes' argument. The State of Alaska does not believe that NMFS is obligated to regulate Alaskan fisheries based on the federal government's trust obligations to the Columbia River Tribes.

The Columbia River Tribes cited to a number of cases in support of their contention that NMFS must regulate non-treaty activities before regulating treaty activities (Columbia River Tribes' Memorandum at 7). None of these cases, however, support the proposition that a federal agency is required to regulate non-treaty activities thousands of miles outside of the area within which the Indians exercise their treaty rights. Rather, the cases cited by the Tribes demonstrate that before a state can regulate treaty activities, it must first regulate non-treaty activities within the state. For example, United States v. Washington, 520 F. 2d 676 (9th Cir. 1975) holds that Washington must regulate non-treaty fishing before it regulates treaty fishing in Washington; and, LacCourte Oreilles Band of Indians v. Wisconsin, 668 F. Suppl. 1233 (W. D. Wisconsin 1987) holds that Wisconsin must regulate non-treaty hunting and fishing activities before it can regulate treaty hunting and fishing rights in Wisconsin.

The important point to be derived from these cases is that the states (and by analogy, the federal government as well) must not impose conservation restrictions on treaty activities in a discriminatory manner. None of these cases, however, purports to require the federal government to regulate non-treaty activities in an area where the Indians do not exercise any treaty rights. See, for example, Washington v. Washington State Commercial Passenger Fishing Vessel Association, 443 U.S. 658, 668-69 (1979) in which the Supreme

Court held that the U.S. had the responsibility to police the waters off of Washington, not the entire Pacific Ocean, to assure compliance with the Indians' treaty rights. Because the Columbia River Tribes do not exercise treaty fishing rights in Alaskan waters, to the extent that NMFS is obligated to restrict non-treaty activities, it should focus on non-treaty activities in the Columbia River basin which has historically been the "case area" covered by the treaties.

From a biological standpoint, the more compelling and pragmatic reason for restricting in-river activities (either treaty or non-treaty) or the PFMC fisheries, rather than the Alaskan fisheries, is that restrictions on the fisheries closer to the spawning grounds will provide benefits to the escapement needs of the listed fish, whereas restrictions in the distant Alaskan fisheries will not provide substantial benefits. In its 1995 Biological Assessment on the impacts of the Southeast Alaska salmon fisheries on listed Snake River salmon, Alaska demonstrated the futility of imposing restrictions on the Alaskan fisheries to benefit Snake River fall chinook salmon, the only listed Snake River salmon that is believed to be incidentally harvested in small numbers in the Alaskan fisheries. (For the purpose of these comments, Alaska's Biological Assessment Of Potential Incidental Impacts Of 1995-1998 Southeast Alaska Salmon Fisheries On ESA Listed Snake River Salmon, Regional Information Report No. 1J95-15, dated April 1995, is incorporated by reference.) Neither the federal government's trust obligation to the Columbia River Tribes nor the Endangered Species Act itself requires NMFS to impose pointless restrictions on the Alaskan fisheries that will not provide any meaningful biological benefit to the escapement needs of the listed Snake River salmon. This, of course, is consistent with the fourth "conservation necessity principle" in NMFS' policy statement, which provides that restrictions on the exercise of treaty-reserved fishing rights will not be imposed unless, among other things, "the restrictions are necessary because the conservation purpose cannot be achieved through reasonable regulation of non-treaty activities." (Proposed Recovery Plan for Snake River Salmon at I-14, emphasis added). Because Snake River fall chinook salmon are only incidentally harvested in small numbers in the fisheries off the coast of Alaska, because of the distance between the Alaska fisheries and the spawning grounds, and because of intervening harvests and hydropower mortality, it is clearly unreasonable to attempt to conserve Snake River fall chinook salmon through manipulation of Alaskan fisheries.

While the State of Alaska respects the NMFS' duty to honor the federal government's trust obligations to the Columbia River Tribes, we urge the NMFS not to impose senseless restrictions on the Alaskan fisheries out of some misguided belief that such restrictions are necessary in order to comply with the federal government's trust obligations to the Tribes.

Process for Completing the Recovery Plan

The Proposed Recovery Plan includes a statement on page I-15 as follows:

NMFS believes the tasks included in this Plan are sufficiently detailed to warrant immediate consideration in any biological assessments prepared by Federal agencies under section 7 of the ESA.

The State of Alaska believes that federal agencies are prevented from implementing ESA recovery plan tasks until such time as the agency has considered all information presented during the public comment period. The implementation of provisions of the Proposed Recovery Plan prior to public review and comment, is contrary to Section 4(f)(4) and (5) of the ESA, which provide:

- (4) *The Secretary shall, prior to final approval of a new or revised recovery plan, provide public notice and an opportunity for public review and comment on such plan. The Secretary shall consider all information presented during the public comment period prior to approval of the plan.*
- (5) *Each Federal agency shall, prior to implementation of a new or revised recovery plan, consider the public comment period under paragraph (4).*

16 U.S.C. 1533(f)(4) and (5).

The statutory language makes it clear that NMFS has a mandatory obligation not only to solicit public comments, but to consider all information presented during the public comment period, prior to implementation of the plan: "each federal agency, shall prior to implementation of a new or revised recovery plan, consider all information presented during the public comment period ..." 16 U.S.C. 1533(f)(5) (emphasis added). Obviously, there can be no meaningful opportunity for public review and comment on the provisions of the Proposed Recovery Plan if NMFS implements those provisions before the plan is adopted.

NMFS cannot circumvent the mandatory notice and comment provisions of Section 4 of the ESA by imposing recovery plan tasks through ESA Section 7 consultations. Yet that is what NMFS has attempted to do with regard to the Section 7 consultation on the 1995 and 1995/1996 winter season salmon fisheries off the coast of Alaska. See State of Alaska's 60-day notices of intent to sue dated April 5 and August 28, 1995.

Recovery plan tasks should not be considered in biological assessments or biological opinions prepared under Section 7 of the ESA unless and until a final recovery plan has been adopted in accordance with the notice and comment provisions of Section 4 of the ESA.

CHAPTER II - SNAKE RIVER SALMON BIOLOGY

Chapter II of the Proposed Recovery Plan includes a section entitled: *Snake River Salmon Status Under the ESA*. In this section it is stated:

The ESA, as amended, in 1978, defines a "species" to include any "distinct population segment of any species of vertebrate ... which interbreeds when mature." Thus, the ESA was written not only to protect taxonomic species, but also to protect distinct populations (or in this case, stocks of Pacific salmon) which are recognized on scientific grounds to be essential to the continued existence of that species.

The NMFS designated Snake River sockeye salmon, Snake River spring/summer chinook salmon, and Snake River fall chinook salmon as distinct population segments qualifying for protection under the ESA based upon the Evolutionary Significant Unit (ESU) policy as adopted by the NMFS. The NMFS policy requires that a salmon population must meet two criteria to be considered an ESU: (1) it must be substantially reproductively isolated from other conspecific population units; and, (2) it must represent an important component in the evolutionary legacy of the biological species.

The State of Alaska wants to take this opportunity (as part of the review of the recovery plan for Snake River salmon) to express serious scientific and legal concerns with the NMFS ESU policy approach on qualifying salmon populations for protection under the ESA. The NMFS adopted criteria for placing a salmon population within an ESU are open to a broad range of interpretation and as such, provides NMFS with too much latitude in determining which salmon populations will receive ESA protection and which populations will not. For example:

- (1) What degree of reproductive isolation is considered substantial?
- (2) What constitutes a significant component in the evolutionary legacy of a species?

The salmon ESU definition, as adopted and implemented by the NMFS, is not operational. Since its adoption and application, the State of Alaska believes that populations of listed salmon have been further reduced rather than being protected and enhanced. The State of Alaska believes that much of the problem is due to inappropriate and impractical policies being implemented to control genetic structure of listed salmon. The end result is that the "trees" are being "uprooted and destroyed" in the name of the "forest" without adequate concern for the "forest" itself. The State of Alaska concerns with regard to this issue are further discussed under Chapter V, Section 4 of this document as well as being further explained in the following paragraphs.

The ESU definition and policy has failed to serve as an adequate scientific interpretation of the words "distinct population segment" as provided in the ESA. The only scientifically quantifiable aspect of the ESU definition is the term "reproductive isolation"; the level (quantity) required is termed "substantial". The State of Alaska believes that this aspect of the policy is

so amorphous that as a practical matter it is meaningless. "Significance" of a population in terms of the "evolutionary legacy of a species" is a concept beyond scientific determination or definition. It is not within the capabilities of science to judge the evolutionary significance of one salmon spawning aggregate against that of another. However, based on an evaluation of phenotypic traits, it is appropriate to restore to viability those spawning aggregates which are adapted to specific environmental conditions. When such adaptive phenotypic traits have been lost from the spawners at a locality, it may be necessary to acquire phenotypically suitable individuals from other watersheds to replace these traits in order to promote the long term viability of the population.

The ESU policy sets no measurable standards by which to design and implement salmon recovery actions. The standards missing from the ESU policy include those for achieving conservation and providing sufficient geographic range. Achieving conservation by inclusion of appropriate life history types is a standard which defines sufficient geographic range. The present ESU definition and policy fails to define other standards related to sufficient geographic range, such as population viability and the minimum number of animals needed to maintain the population's normal function within the ecosystem, which is a threshold, or minimum viable population size. The ESU policy is silent on how to recognize significant geographic assemblages of spawning salmon populations and on how to determine threshold population levels that would require listing as either "threatened" or "endangered" under the ESA.

To more clearly explain the State of Alaska position on this matter, Snake River fall chinook salmon will be used as an example. If the federal government is going to extend ESA protection to this stock of salmon based upon the distinct population segment option of the ESA, then the animals that receive ESA protection should include all chinook salmon which return to the Snake River during the fall to reproduce; not some portion of this overall population that federal geneticists deem to be more worthy of protection than other portions. It is poor science to exclude hatchery fall chinook salmon from the protections afforded these fish from listing. Further, it is faulty public policy and an inappropriate recovery strategy to exclude use of these hatchery fish in the rebuilding of the natural run. The decision to list these fish can be based upon the simple premise that Snake River fall chinook salmon once were a major salmon stock of great importance to citizens of the U.S., the remnant population is numerically adequate to provide the basic genetic ingredients necessary to once again provide significant societal benefits, and the definition of the listed population (chinook salmon returning to the Snake River during the fall) can be readily understood by the nation's citizens and the fishery science community. The listing decision for Snake River fall chinook salmon does not need to be couched in terms of reproductive isolation as measured by relatively minor differences in LDH or similarly non-adaptive allelic frequencies. Further, by defining listed salmon on other than genetic characters, the federal government would not be entrained in the convoluted, confusing, and counter-productive exercise it is now in; one of protecting some naturally spawning fish in the Snake River during the fall while trying to eliminate other potential natural spawning fish in the same river at the same time. This federal debacle is taking place

for the sake of protecting genetic traits of questionable merit to the detriment of the listed fish. The State of Alaska position on this matter is addressed further in comments concerning Chapter V, Section 4 of the Proposed Recovery Plan as well as being included in a document previously submitted to the NMFS which is hereby incorporated by reference^{2-a}.

In addition to the flaws created by its biological discontinuities, the salmon ESU policy may be procedurally and legally superfluous. In attempting to provide objective biological criteria for defining species under the ESA, the salmon ESU policy has succeeded only in exchanging one arbitrary set of criteria for another. The intertwining of legal and biological problems within the salmon ESU policy is summarized by Rohlf^{2-b}. As Rohlf explains, the ESU concept is inconsistent with the policies established by Congress in implementing the ESA, and does not take into account biological factors which determine a species' persistence. Rohlf argues that Congress never intended to determine what constitutes a species under the ESA solely of scientific grounds, as NMFS attempts to do via the ESU policy. Rohlf concludes that the technical shortcomings of the ESU do not permit the NMFS to protect salmon using the best scientific data available. The State of Alaska concurs with Rohlf's critique of NMFS's ESU policy.

^{2-a} Clark, J. H., J. E. Clark, S. A. McPherson, and D. Gaudet. 1995. An analysis of Snake River fall chinook salmon with regard to the question of whether or not available scientific and commercial data supports the reclassification of the ESA listed stock from threatened to endangered status. Regional Information Report Number 1J95-06. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development Division, Juneau, Alaska. 60 pp.

^{2-b} Rohlf, D. J. 1994. There's something fishy going on here: a critique of the National Marine Fisheries Service's definition of species under the Endangered Species Act. Environmental Law (IV.F. Summation):650-651. Northwestern School of Law of Lewis and Clark College, Portland, Oregon.

CHAPTER III- INSTITUTIONAL STRUCTURE, ACCOUNTABILITY AND MONITORING

This chapter opens as many questions about the management structure of Snake River salmon recovery as it answers. NMFS proposes, through the recovery process, to create as many as a dozen new committees for the management of the recovery of three listed populations of salmon for which NMFS has clear statutory authority and lead responsibility under federal law. The stated purpose of many of these committees is to coordinate the vast array of already existing organizations and committees. The Proposed Recovery Plan is unclear as to how these new committees will integrate into the existing system. The State of Alaska questions whether enlarging the existing matrix of committees will be helpful and supports the Proposed Recovery Plan goal of using existing entities as much as possible.

Many of the committees potentially established by the Recovery Plan will address not only the three listed salmon stocks, but broad Columbia River management issues common to the rebuilding of all salmon stocks in the basin. The State of Alaska has concerns about whether NMFS has authority to carry out this broader management goal for Columbia River salmon absent the application of the ESA. If not, then the panels described in the Proposed Recovery Plan may not be the most effective method for integrating the ESA salmon recovery with a more comprehensive salmon rebuilding program. However, if that question can be resolved satisfactorily, Alaska would support the vesting of final decision-making authority with one agency as suggested in the Proposed Recovery Plan.

There are also questions as to how the various new and reformulated committees, as outlined in the Proposed Recovery Plan, will be integrated with the new Regional Forum proposed by NMFS. The Regional Forum alone proposes 2-4 new multi-agency entities which would apparently provide advise on recovery plan implementation. Before adoption of a Final Recovery Plan, the State of Alaska would like to see an organizational chart that shows the lines of authority and responsibility for all of the management/technical/scientific entities and how members are selected for each. Maybe in attempting to clearly explain how the institutional system is supposed to operate, it can be simplified and made understandable.

Finally, the State of Alaska has been increasingly frustrated that NMFS has ignored and continues to ignore Alaska's legitimate interest in the Snake River chinook salmon issue. Time after time, NMFS has neglected to include Alaska representatives on committees where each of the other northwestern states and tribes are represented. For example, despite the fact that the Alaska fishery has been restricted by NMFS under the ESA, NMFS originally scheduled no recovery plan hearings in Alaska. Alaska has also been totally overlooked as a legitimate participant in the Regional Forum established by NMFS. The Proposed Recovery Plan offers Alaska no seat at the table in the chapter on "Institutional Structure, Accountability and Monitoring". However, the chapter on "Harvest Management" makes it clear that Alaska fisheries may be subject to further restrictions in an attempt to improve Snake River fall chinook salmon returns. NMFS appears to view Alaska as part of the problem but not part of the solution.

Apparently we need to once again make it clear that Columbia River endangered species issues have a direct impact on Alaska and are likely to do so for the foreseeable future. As Alaskans have discovered throughout this process, decisions by distant entities can have surprising and potentially severe economic and social consequences within Alaska. Therefore, the State of Alaska specifically requests that NMFS acknowledge that Alaska has a stake in the successful recovery of the Columbia River salmon by explicitly including Alaska as a member on all salmon recovery plan panels, work groups, and committees that include state and tribal representation.

CHAPTER IV - DELISTING CRITERIA

The ESA states under Recovery Plans in section 4:

- (f) The Secretary, in developing and implementing recovery plans, shall to the maximum extent practical--
 - (B) incorporate in each plan--
 - (ii) objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of this section, that the species be removed from the list.

The State of Alaska believes that recovery is a process limited to the delisting of the listed species, not the restoration of the listed species to some higher level of abundance. NMFS has defined "recovery" as:

"improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria set out in Section 4(a)(1) of the Act."

50 CFR Section 402.02. Under the Act, a species is listed either as "endangered" or "threatened" if it is in danger of extinction (16 U.S.C. Sections 1532 (6) and (20)). Thus, the goal of recovery under the law is to avoid extinction, not to restore the species to some alternative higher level of abundance.

ESA delisting criteria for Snake River salmon should be defined at levels well below maximum sustained yield (MSY) escapement levels; the intent of the ESA is to prevent extinction. Further, scientifically estimated MSY escapement levels for salmon are lower than maximum sustainable production (MSP) escapement levels. MSY escapements are the estimated escapements that result in maximum harvest potential. MSP escapements are the estimated escapements that result in maximum recruitment. For salmon, MSY escapement is further left on the Ricker-type recruitment curve than is MSP escapement. These scientific concepts are pointed out because of the numerous references to MSP levels associated with listed salmon stocks in Chapter IV of the Proposed Recovery Plan.

The State of Alaska concurs with the threshold escapement levels as recommended by the Biological Requirements Work Group (BRWG) (and adopted by NMFS in the Proposed Recovery Plan) of 150 spawners for small salmon populations and 300 spawners for large salmon populations. These threshold escapement levels provide reasoned and adequate protection from the risks of extinction that salmon populations face from genetic and demographic factors associated with small population size.

The State of Alaska believes that delisting of salmon populations should occur when annual spawning populations reach a level of about three-fold the threshold escapement values. Because recovery of spring/summer chinook salmon and sockeye salmon ESUs involve more than one stock and because these stocks are composed of both small and large populations, appropriate overall recovery goals would be in excess of 1,000 spawners per year. The Snake River fall

chinook salmon ESU is composed of a single spawning population; hence, the appropriate ESA recovery goal is about 1,000 fish spawning per year. Because five or more year classes are included for each of the three listed salmon ESUs, the overall census population size is in excess of 5,000 fish for each of the three ESA-listed populations. This level of census population size (about 5,000 breeding animals) is consistent with the number of reproducing animals required to prevent extinction for populations with high variability in abundance. Required census population size to prevent extinction is lower for animal populations with lower variability; census population size for animals with normal population variability is about 1,000 reproducing animals per generation which would translate into an annual escapement of about 200 spawners per year. Hence, using about three-fold the threshold escapement values as the delisting criteria for Snake River salmon is an appropriate and conservative benchmark.

The State of Alaska believes that the NMFS has confused its role as defined by the ESA in preventing extinction of Snake River salmon with the role of NMFS and other agencies in rebuilding depressed salmon runs to a level that will more fully provide harvest benefits to dependent fisheries including the Columbia in-river tribal fishing interests. There is no reason to differentially increase escapements of some of these salmon stocks many fold above the threshold escapement level before delisting, while for other listed salmon stocks, the delisting criteria escapement levels included in the draft recovery plan are only slightly above threshold escapement levels. An illustration of the differential approach used by NMFS in the draft recovery plan for the three ESA listed stocks of Snake River salmon follows:

ESA Listed Snake River Salmon Stock	Threshold Level (TL) (Survival Standard)	Recovery Plan Delisting Criteria (DC) (Recovery Standard)	DC/TL Ratio	Estimated Maximum Sustainable Production (MSP)	MSP/DC Ratio
<u>Spring/Summer Chinook Salmon ESU:</u>					
Bear V./Elk Creek ¹	300	968	3.23	1,480	1.53
Imnaha River ¹	300	610	2.03	2,260	3.70
Marsh Creek ¹	150	441	2.94	1,480	1.53
Minam River ¹	150	389	2.59	865	2.22
Poverty Flats ¹	300	1,669	5.56	9,800	5.88
Sulphur Creek ¹	150	405	2.70	1,480	1.53
Lower Granite Dam²	11,000-22,000	31,440	1.90	200,000	6.36
<u>Sockeye Salmon ESU:</u>					
Redfish Lake ¹	150-300	1,000	4.44	2,900	2.90
Undetermined Site A ¹	150-300	500	2.22	?	
Undetermined Site B ¹	150-300	500	2.22	?	
All Snake River Sockeye¹	450-900	2,000	2.96	?	
Fall Chinook Salmon ESU¹	300	2,500	8.33	7,000	2.80

¹ Annual number of spawning salmon.

² Annual dam count.

As the table above illustrates, the proposed delisting escapement criteria or recovery standard for the Snake River fall chinook salmon ESU is considerably out of proportion to the threshold escapement level or survival standard (8.33-fold) in comparison to the recovery standard for both the Snake River spring/summer chinook salmon ESU and the sockeye salmon ESU (1.90-fold and 2.96-fold; respectively). The recovery plan provides no biological justification to conclude that, once Snake River fall chinook salmon are protected from the genetic and demographic risks associated with small population size, population numbers have to be increased by over four-fold the relative increase required for delisting of Snake River spring/summer chinook or by almost three-fold the relative increase required for delisting of Snake River sockeye salmon. The best available scientific and commercial data indicate that Snake River fall chinook salmon are presently in a relatively healthier condition than the other two listed stocks of Snake River salmon. Snake River fall chinook salmon currently face a lesser threat of extinction than do spring/summer chinook salmon or sockeye salmon^{4-a}.

The Snake River Salmon Recovery Team (SRSRT) recommended to NMFS that the delisting criteria for Snake River fall chinook salmon be set at 1,000 spawners. The SRSRT recovery or delisting criteria would result in a ratio of 3.33, in line with the ratios between threshold escapement values and delisting criteria that the NMFS has defined in the draft recovery plan for the Snake River spring/summer chinook salmon ESU and the sockeye salmon ESU; and, in line with the State of Alaska recommendation for an escapement delisting criteria for Snake River fall chinook salmon.

The NMFS Proposed Recovery Plan states on page IV-36:

The NMFS Proposed Recovery Plan sets a higher delisting number of 2,500 natural fall chinook; that higher number is significantly influenced by recently improved information on Snake River mainstem carrying capacity (information not available at the time of SRSRT deliberations). This is a significantly higher delisting objective than the SRSRT's tentative number which, in the absence of an adequate data base, was derived from the NPPC 1993 rebuilding target.

The State of Alaska submits that the increase in the delisting criteria for Snake River fall chinook salmon from the NPPC 1993 rebuilding target of 1,000 spawners (subsequently endorsed by the SRSRT) to a new NMFS defined level of 2,500 fish due to potentially new information concerning carrying capacity of the mainstem demonstrates that NMFS has confused its role under the ESA with the role that the NMFS and other fishery management agencies have to play in

^{4-a} Clark, J. H., J. E. Clark, S. A. McPherson, and D. Gaudet. 1995. An analysis of Snake River fall chinook salmon with regard to the question of whether or not available scientific and commercial data supports reclassification of the ESA listed stock from threatened to endangered status. Regional Information Report Number 1J95-06. Alaska Department of Fish and Game, Division of Commercial Fisheries Management, and Development. Juneau, Alaska. 60 pp.

the future in eventually rebuilding this stock to a level capable of supporting harvests in the range of maximum sustainable yield.

Additionally, this so-called new information is, in reality, little different than prior information concerning potential carrying capacity of the mainstem Snake River to produce fall chinook salmon. Staff from the states of Oregon and Washington estimated fall chinook salmon maximum sustainable production (MSP or carrying capacity) for the mainstem Snake River at about 4,800 spawners several years ago; and, other researchers estimated fall chinook salmon MSP in the mainstem Snake River at about 6,800 fish several years ago.

The recently improved information referred to in the Proposed Recovery Plan consists of a MSP estimate outlined in a seven page letter from a U.S. Fish and Wildlife Service employee to a NMFS employee. This new MSP estimate is based on the addition of three numbers:

- (1) an estimate of how many redds could be built, without super-imposition) in a 17 mile stretch of the Snake River (RM 150 - RM 167) by spawning fall chinook salmon based on habitat measurements and subsequently multiplying that number by a factor of 3.4; plus,
- (2) the assumption that no fall chinook salmon would spawn in a 19 mile stretch of the Snake River (RM 170 - RM 189); plus,
- (3) taking the highest historical redd count observed in 58 mile stretch of the Snake River (RM 189 - RM 247) and multiplying that number by a factor of 2.1.

The resultant estimate of 7,140 for MSP is, in reality, little different than the prior estimates of MSP of about 6,800 and 4,800 and is certainly not such a compelling piece of biological research as to increase by 2.5-fold the delisting criteria for Snake River fall chinook salmon from a prior accepted level of 1,000 spawners to a newly defined NMFS level of 2,500 spawners. At best this estimate of MSP is a rough guess of the carrying capacity of fall chinook salmon in the Snake River. The key assumption involved is that spawning area is the limiting factor for Snake River fall chinook salmon. Many other researchers believe that rearing conditions and associated factors are the limiting feature for Snake River fall chinook salmon production, not simply the number of available square yards of suitable spawning substrate, which this analysis assumes and is based upon.

The State of Alaska submits that delisting criteria for Snake River salmon stocks should be set at about three-fold the threshold escapement level; the delisting criteria included in the Proposed Recovery Plan for both spring/summer chinook salmon and sockeye salmon are fairly consistent with this view toward definition of delisting criteria. The delisting criteria defined by NMFS through the draft recovery plan for fall chinook salmon is too high and is based upon a false notion that delisting criteria need to be approximately 35% of the carrying capacity. The ESA delisting number for Snake River fall chinook salmon should be redefined to a level of 1,000 spawners per year, consistent with the recommendations of the NPPC and SRSRT.

Appropriate annual spawning escapements needed to trigger delisting can be confusing due to data available to measure Snake River fall chinook salmon escapements including the relationship between dam counts of adults and jacks and the actual effective number of spawners, fitness of chinook salmon termed strays, and the ratio of females to males. The State of Alaska submits that the yardstick for evaluating whether the delisting criteria of 1,000 spawners per year is met should be a count of 500 redds in the Snake River and in the lower portions of its' tributaries. A count of 500 redds per year in the Snake River implies that at least 500 female Snake River fall chinook salmon successfully spawned with their male counterparts. Use of adult counts at Snake River dams: (1) inappropriately discounts the role that jacks (small males) play in adding to genetic variability; (2) causes biologists to make speculative guesses concerning fall-back and pre-spawning mortality rates; and, (3) are site specific, not accounting for documented spawning below the dam where the count is made. Discounting of naturally spawning fish termed strays causes biologists to make speculative guesses concerning fitness. Ignoring sex ratio of chinook salmon spawning populations has a history of problems because of potential size selective mortality to spawning runs (such as fishery related mortality). An appropriate scientifically designed annual survey of the Snake River and the lower portions of its' tributaries, including the tail-races of Hells Canyon Dam, Lower Granite Dam, Little Goose Dam, Lower Monumental Dam, and Ice Harbor Dam to enumerate fall chinook salmon redds should be implemented immediately. Redd counts obtained from this annual survey should be used as a basis to make the delisting decision.

The Proposed Recovery Plan includes delisting criteria that require that listed salmon stocks achieve natural cohort replacement rates greater than unity. The State of Alaska takes issue with how these rates are measured. The spawning population of listed fish should be divided by the parental reproducing population of listed fish, not all spawners in order to calculate these replacement rates. Further, available age composition of spawning populations should be used, not unweighted averages of various annual escapements. This technical issue is further dealt with elsewhere in this document and was addressed previously in comments provided by the State of Alaska to NMFS^{4b}. The State of Alaska believes these spawner to spawner rate delisting criteria are unnecessary. When numerical delisting criteria for Snake River salmon are achieved (numbers of spawners), the stocks should be delisted under the ESA. The complex approaches that NMFS has proposed for determining when Snake River salmon should be delisted would extend federal management of these stocks beyond what is required under the ESA.

^{4b} Clark, John H., and J. E. Clark, David Gaudet, and John Carlile. 1995. Biological assessment of potential incidental impacts of 1995-1998 southeast Alaska salmon fisheries on ESA listed Snake River salmon. Regional Information report Number 1J95-15. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Douglas, Alaska. 79 pp. AND Benton, David. 1995. Letter to Peter H. Dygert, NMFS, Seattle, Washington, dated June 5, 1995. Available from the Alaska Department of Fish and Game, Commissioners Office, Juneau, Alaska. 9 pp.

The Proposed Recovery Plan states that delisting will only occur after eight year geometric means of annual natural escapements reach the delisting criteria for eight consecutive years. This means that when Snake River salmon stocks achieve their delisting escapement levels, the escapements for these stocks will have to remain above these levels continuously for a period of 12 to 16 years before these stocks are delisted under the ESA. This requirement is overly restrictive. The State of Alaska recommends that delisting of Snake River salmon occur when escapement levels for listed salmon exceed three-fold the threshold escapement values for a continuous five year period. Such an approach would ensure that all the year classes of salmon have exceeded the reproductive requirements associated with a threat to their extinction (census population size). Such an approach is simple and straight-forward, And, such an approach is consistent with the mandate of the federal government to prevent extinction.

Delisting of Snake River salmon under the ESA should occur when escapement levels for listed salmon exceed three-fold the threshold escapement values for a continuous five year period. Subsequent rebuilding of these runs to levels more in line with maximum sustained yield in dependent fisheries should be headed up from that point in time by those state and tribal agencies responsible for fishery management in concert with those governmental agencies responsible for salmon habitat protection and passage. If, for some reason, Snake River salmon populations fail to remain above these delisting criteria, the stocks can easily be relisted under the ESA and NMFS can again reassert federal control of these stocks to prevent extinction.

CHAPTER V; SECTION 1 - TRIBUTARY ECOSYSTEM RECOVERY TASKS

Introduction: Basis for Concern

The State of Alaska supports the ten ecological goals included in the Proposed Recovery Plan (pages V-1-8 to V-1-10) for protection and recovery of critical ecosystem components in the watersheds which support salmon spawning and rearing of the ESA listed salmon species. The ecological goals recognize the interdependence of all riparian species, including listed salmon, and they properly emphasize the importance to salmon recovery of restoring the connectivity within and between watersheds. In relation to the importance of connecting healthy spawning, rearing, and migratory habitats, it is laudable that the plan recognizes (page V-1-6) that integrated federal and non-federal land management is needed.

However, the Proposed Recovery Plan is disappointing to the State of Alaska because it offers no specific prescriptions for meeting the ecological goals on non-federal lands. Since the salmon's spawning, rearing and migratory habitats must each be healthy, and must each be connected to the other in order to effect recovery, restoring healthy salmon habitat on federal lands without insuring connectivity among those habitats is likely to waste money and time. It is a well known paradox of listed wildlife protection that, the legally appropriate distinction between federal and non-federal lands is counter-productive in an ecological context. All means available to protect spawning and rearing habitat on non-federal lands under existing statutes should be pursued.

Alaska recommends that all non-federal owners of property in the riparian zones be identified, noticed, and educated that they have an important role to play in salmon recovery. In order to encourage their voluntary cooperation with, and participation in salmon recovery, non-federal owners of critical habitat should be informed of steps which can be taken to recover and protect riparian habitat, and of specific actions which need to be avoided in order to protect critical riparian habitat. Sources of habitat protection information, such as state management agencies, and the availability of any financial assistance to non-federal owners of critical habitat should also be made known to non-federal owners of critical salmon habitat. Every attempt should be made to work cooperatively with private landowners. NMFS should also explore individual, local, and regional habitat conservation plans as a means of securing adequate habitat protection for listed salmon.

Recovery Tasks

1.1 Biological objective: Preserve remaining listed salmon by identifying and protecting important habitat.

1.1.a: The Habitat Committee

The identification phase of task 1.1.a is needlessly costly and bureaucratic. Habitat which is critically important for listed salmon spawning is already identified by standard reach redd count surveys conducted in the past by

states and tribes in the affected areas. The Coordinated Information System (Pacific States Marine Fisheries Commission, Gladstone, Oregon) has this information in electronic format by EPA reach number. Information on critical rearing habitat is also available from the Coordinated Information System project (CIS) and from federal, state and tribal fisheries management entities in the affected areas. For example, the National Biological Survey, Cooks, Washington, in conjunction with other agencies, has recently published habitat assessments for fall chinook salmon in the Snake River basin.

The comprehensive inventory of the quantity and quality of historic Snake River salmon habitat called for in the Proposed Recovery Plan (page V-1-12) duplicates functions already funded by the federal government under the Coordinated Information System project, previously referenced. One function of the CIS project was to reconcile the differing reporting methods used by the various fisheries agencies in the affected areas in order to create a common regional data base for salmon. If the proposed actions go beyond those of CIS, the distinction between the proposed actions and those already funded and/or conducted by the CIS should be explicitly identified. Time is critically short in the effort to recover listed salmon, so the unnecessarily bureaucratic and duplicative procedures described in task 1.1 should be avoided.

As a first step, the State of Alaska recommends identifying all historic redd count reaches in the affected areas which contained as many as 70 chinook salmon redds in any single spawning year since 1948 as "important spawning habitat". In the case of listed chinook salmon, all waters downstream of any redd count reach so identified should be designated, "important rearing habitat". These important habitat designations can be made in a matter of hours by using the CIS data base without calling a meeting of the Habitat Committee. Important habitats so identified should be the targets of aerial surveys conducted using still and video photography at regular time intervals during each year to capture time periods containing spawning, incubation, rearing, emigration, and immigration. The initial aerial survey data could be used to select key types of areas within each watershed so that aerial survey data can be ground truthed against foot survey data in a representative sample of the areas photographed.

Once these important habitat areas are identified as described above, NMFS can immediately, " ... take all appropriate steps to expedite action in the highest priority areas and situations (e.g. funding and human resource reallocations, emergency additional funding, etc.)." (page V-1-13). The State of Alaska recommends that the redd count reaches which historically contained the largest annual redd counts be identified as the highest priority habitat areas. NMFS does not need to wait for recommendations from the Habitat Committee in order to take the preceding reasonable and prudent actions on behalf of listed salmon. Once these actions are well underway, the Habitat Committee can help NMFS interpret the results, and plan further work.

Tasks 1.1.b.1 and 1.1.b.2 US Forest Service and Bureau of Land Management Habitat Actions

The State of Alaska supports the Riparian Management Objectives (RMOs) as recommended in the Proposed Recovery Plan in Table V-1-1 for priority watersheds. Modification of the PACFISH RMOs is necessary and appropriate. In addition, it is recommended to explicitly add the following to Table V-1-1 of the Proposed Recovery Plan (page V-1-19):

Eliminate livestock access to spawning reaches during spawning and incubation periods.

1.1.b.3 Identify Priority Watersheds

High Priority Watersheds are readily identifiable from historical redd count data, and from the collective experiences of state, tribal and federal salmon biologists. The High Priority Watersheds for spring/summer chinook salmon include the Lemhi River, and Bear Valley and Marsh Creeks within the Salmon River system. The formerly high density redd count areas for spring chinook salmon in the Imnaha and Grande Ronde Rivers are also High Priority Watersheds. The lower Imnaha and Grande Ronde are High Priority Watersheds for fall chinook salmon. The Stanley Basin lakes and Wallowa Lake are High Priority Watersheds for sockeye salmon. No matter how "dynamic" the salmon rearing environments may be, these watersheds are important to the futures of these listed salmon. Indeed, past management practices of the USFS and the BLM which emphasized timber, grazing, and irrigation to the exclusion of salmon are well known for making salmon spawning and rearing "dynamic" (page V-1-23, line 23). It is not necessary to, or consistent with, recovery objectives to give these federal agencies (USFS and BLM) latitude in designating which watersheds are High Priority for salmon. The USFS and the BLM manage timber and agricultural lands; the NMFS manages ESA-listed salmon.

Designate High Priority Watersheds from historic redd counts as the areas which consistently produced the most salmon of the listed species in question. Do not rely on federal agencies with management objectives contrary to the interests of salmon recovery to designate High Priority Watersheds with respect to salmon recovery.

1.2.b. ... ensure that all gravity and pumped water diversions in Washington, Oregon and Idaho within designated critical habitat ... meet NMFS screening criteria.

Allowing irrigation diversions within the State of Idaho until the year 2002 to meet screening criteria is unacceptable to the State of Alaska. In fact, as a matter of principle, no irrigation diversion which is in a position to entrain resident or migrant fish species should be in operation in any state at any time, now or in the future. Screening irrigation diversions to prevent mortality of fish is a basic part of the stewardship required from those who use public resources for personal economic gain. There is no excuse for further bureaucratic delay in the screening of irrigation diversions. As an

interim measure, the State of Alaska recommends that enforcement officers be permitted wide latitude in issuing citations for fish screen violations during 1996, while operators are attempting to comply with NMFS screening criteria. In 1997 there should be no latitude in any state, and violators of fish screening criteria should be vigorously prosecuted in all of the affected areas.

1.3.a. Fertilize Stanley Basin Lakes

The State of Alaska strongly supports fertilization of the Stanley Basin sockeye salmon lakes in accordance with procedures developed and tested by the Alaska Department of Fish and Game. Stocking of these lakes with catchable trout prior to recovery of sockeye salmon would be counter-productive.

1.4.b. ... develop and implement subbasin habitat management plans by September 1996.

This section of the Proposed Recovery Plan is full of good intentions; however, it contains no specific measures by which the federal government can discharge its responsibility to listed salmon in a comprehensive ecosystem context. Model watersheds and other multi-agency planning efforts notwithstanding, plans collecting dust on shelves in government offices are not going to effect recovery of listed salmon. The State of Alaska recommends that NMFS use this section to describe how it intends to take the Ecological Goals to the ground for salmon protection in any area designated a Priority Watershed. NMFS needs to explicitly describe how it intends to support application of the Ecological Goals with non-federal property owners, state, county, metropolitan and municipal governments. Relying on the undirected good will of agencies and processes which have failed to protect listed salmon in the past, which is basically what this section proposes, is not an appropriate course of action for NMFS to take.

1.7 ... Reduce losses of listed species associated with poor water quality.

The State of Alaska strongly supports enforcement of existing state and federal statutes regulating water quality as an immediate action essential to affect listed salmon recovery. Failure to enforce restrictions on point source pollution, and failure to develop and enforce standards on non-point source pollution has contributed to the continued decline of listed salmon. In this regard, controlling stream temperatures, as noted in the PACFISH RMOs is an essential component in control of non-point source pollution.

CHAPTER V; SECTION 2 - MAINSTEM AND ESTUARINE ECOSYSTEM RECOVERY TASKS

In preparing the comments in this section, the State of Alaska has abstracted only the most important points previously submitted to the NMFS either by the State of Alaska or by the States of Idaho, Oregon, and Washington and the Columbia River Inter-Tribal Fish Commission (CRITFC) under the IDFG et al. v NMFS et al. litigation settlement negotiations and from various documents published by the states and tribes (such as the Detailed Fishery Operating Plan or DFOP). In no way should the State of Alaska's comments in this section be construed to depart in concept from those comments submitted previously for the purpose of providing guidance in operation of the Federal Columbia River Power System (FCRPS). Comments are arranged in the order of the biological objectives as listed in the Proposed Recovery Plan.

2.1 Biological Objective: Reduce loss of juvenile fish through flow augmentation and improved water management.

NMFS must accept and adopt reasonable flow augmentation volumes over the length of the out-migration period and improve FCRPS water management. The preponderance of available scientific information as represented in works such as the Oak Ridge National Laboratory report by Cada et al., is supportive of the hypothesis that flow can contribute a survival advantage to juvenile emigrant salmonids, and that the survival of juvenile emigrants is proportional to flow over some flow regime which depends on the species, life history type, and hydraulic features of the water body, among other factors. Adequate flows also improve the effectiveness of spill, allow for more efficient turbine operations, reduce water temperatures, and improve juvenile bypass system performance. The State of Alaska recommends that NMFS adopt initial flow targets (kcfs) as follows:

<u>Season</u>	<u>Snake River</u>	<u>Columbia River</u>
Spring	140/85	300/200
Fall	85/50	200/160

Further, these flows should occur over 95% of the out-migration period by life history type. The benefit of flows for salmon must be measured by survivals of both juveniles and adults. In the long term, water flow actions should be based on an approach to recreate the natural hydrograph and reduce hourly and daily fluctuations due to power peaking. In the interim, during low and moderate flow years, as much flow as possible is needed and these flows should mimic the natural hydrograph and natural river speed as closely as possible. The NMFS should ensure that monitoring of salmon survivals in relation to flow occurs such that adaptive management can take these results into account. The NMFS team for operations should, in the view of the State of Alaska, include state and tribal fishery managers as outlined in DFOP. The federal operations team should incorporate the benefit of this added expertise represented by state and tribal fishery staff.

2.2 Biological Objective: Reduce loss of juvenile fish through increased spill at mainstem dams.

The State of Alaska believes that the NMFS has acted prudently in selecting spill as a recovery tool. As a management action, spill is the most prudent way to move listed salmon past a hydroelectric project. Controlled spill has been tested in a wide variety of situations, and it has been found to kill smaller numbers of juvenile salmon than the turbines and the mechanical bypass systems.

Nitrogen supersaturation can pose risk to migrating salmon and to resident species, since prolonged exposure to nitrogen saturation levels above approximately 115% as measured at the surface has been demonstrated in the laboratory and in net pens held in natural waters to be lethal to fish. The risks may be negligible or serious, depending upon the exposure time and the degree to which the distribution of the fish coincides with the distribution of the supersaturated waters. The State of Alaska does not regard the risks of mortality for salmon which are actively migrating through nitrogen supersaturated waters to be as serious as the risks posed to these fish by migrating through turbines or bypasses for a number of reasons. First, supersaturation drops off sharply with depth, declining 10% per meter. Second, migrating adult chinook salmon are known to travel closer to the bottom than to the surface of the reservoirs when they have the opportunity. Third, the majority of juvenile salmon are likely to travel at an average depth of about ten feet. Fourth, if gas bubble trauma is affecting large numbers of juveniles, there would be much larger rates of symptomatic juveniles than were reported by the Fish Passage Center in 1995. Fifth, monitoring studies have found that few resident fish show symptoms of gas bubble trauma. Sixth, the effects of nitrogen supersaturation on juvenile salmon appear to be reversible. Hence, the State of Alaska sees the risk of gas bubble trauma to resident and migratory fish species to be low, and the benefits of spill to listed salmon to be high. The State of Alaska believes that controlled spill must occur at collector projects even in moderate or low flow years.

2.3 Biological Objective: Reduce loss of juvenile fish through structural and operational improvements of bypass facilities and dams.

The Proposed Recovery Plan requires study and/or modification of the FCRPS to facilitate salmon passage to be completed by 1999. This is too lenient and too long a period of time. The NMFS should require the U.S. Army Corp of Engineers (COE) to immediately incorporate and maintain improved operating criteria. For example, operation of turbines outside the one percent efficiency criterion should not be permitted during migration of listed juvenile salmon for any reason other than maintaining public safety. Improvements to dam and bypass facilities, can and should be completed no later than the spring migration season of 1997 under emergency construction procedures now available to the U.S. Army Corp of Engineers.

2.4 Biological Objective: Reduce juvenile fish losses by improving transportation.

Transportation is at best a stop-gap measure. The consequences of transportation for returning adults is unknown beyond transport to benefit ratios measured at the point at which the fish were initially captured. Potential effects on homing ability of listed salmon are largely unknown. Even if little mortality occurs during transportation, the mortality due to release strategy is unknown. The ability of transportation to increase the numbers of spawners has never been adequately measured. Transportation is not acceptable as a long term recovery measure because collection of salmon for transportation inflicts mortality; and, it discriminates against certain species and life history types which are among the ESA-listed salmon. Transportation carries risks of its own. So far, in 1995, more than 20 thousand mortalities of juvenile salmonids have been reported during the process of collection and loading for transport. Two single instances of mass mortality involving thousands of juvenile salmon as a consequence of human error have been documented in the program since 1988. Because monitoring of the well being of the juveniles in the transport barges has not been undertaken to date, it is unlikely that anything other than catastrophic disasters have been detected. While transportation is being used, the State of Alaska recommends that the NMFS require an effective sorting and separation of collected juveniles to prevent small fish (primarily fall chinook salmon) from being consumed by larger fish (primarily steelhead) while being held and transported in crowded conditions. The State of Alaska also recommends that the NMFS require a monitoring program such that the number and composition of transported juveniles that are released alive below Bonneville Dam can be estimated. Due to the long history of transportation evaluation with equivocal results, the State of Alaska advises using transportation sparingly as an experimental interim measure. The State of Alaska believes that the burden of proof of the benefit of transportation lies with its advocates.

2.5 Biological Objective: Use reservoir drawdown to reduce loss of juvenile fish.

Because the flow/survival hypothesis is so strong, the State of Alaska believes that NMFS needs to implement drawdowns as soon as possible (whenever operational concerns for fish passage safety have been addressed). The Snake River pools should be operated at minimum operating pool (MOP) from April 10 through late October. The State of Alaska believes that the John Day pool should be operated at MOP continuously. Monitoring of the movement of listed salmon, both adults and juveniles, within the reservoirs in relation to ambient physical condition is absolutely essential in conjunction with this, and other recovery measures.

2.6 Biological Objective: Reduce loss of adult fish by improving structural and operational passage facilities at dams.

The State of Alaska agrees with this objective and adds that it is essential that modifications provide water with adequate depth and temperatures so that

fish are not subjected to additional stress. Also, these facilities should be operated for maximum effectiveness. Previous studies have shown that additional fish ladders are needed at Lower Granite and Little Goose dams. In addition, NMFS must further improve the monitoring of the number of adults and juveniles to evaluate the efficacy of these modifications. Improved application of video and hydro-acoustic technology is desirable.

2.7 Biological Objective: Reduce listed species loss at water withdrawal sites.

All gravity and pump water intakes should have operational screens that meet the NMFS screening criteria by 1996. A routine inspection of all such screens needs to be conducted within the month preceding the start of the juvenile migration. All irrigators should be required to annually renew a certificate of inspection for all water intakes.

2.8 Biological Objective: Reduce loss of listed species to predators and competitors.

The State of Alaska believes that a carefully conceived predator program could bring benefits, a broad program may not. Monitoring of resident fish species in the reservoirs for diet, age, and growth should be a routine part of salmon recovery. State agencies may not have the information needed for increased ESA management requirements on resident species.

2.9 Biological Objective: Reduce the loss of listed fish resulting from elimination and disruption of shallow water habitat.

The State of Alaska believes that shallow water rearing areas should receive protection. Monitoring of utilization of shallow water rearing habitat by both migratory and resident species is an essential part of the recovery program for listed salmon.

CHAPTER V; SECTION 3 - HARVEST MANAGEMENT RECOVERY TASKS

Under *Tasks to Avoid Extinction* the Proposed Recovery Plan states:

3.1 Biological Objective: Increase adult escapement for Snake River fall chinook by modifying existing ocean harvest management rules.

3.1.a Increase adult escapement for Snake River fall chinook by implementing a management strategy for PSC fisheries that is responsive to stock abundance and consistent with the PSC's objective to attain, by 1998, naturally spawning chinook escapement goals established in a rebuilding program begun in 1984.

The State of Alaska does not believe that existing ocean fisheries pose a threat of extinction to Snake River fall chinook salmon. Degradation of freshwater habitat due to irrigation, mining, grazing, etc coupled with the greatly diminished amount of riverine habitat due to hydropower development of the Snake River, and the concomitant difficulties these structures have created for both downstream and upstream migrants represent an extinction threat far greater than any which may be posed by ocean fisheries.

For decades, fisheries that are partially or wholly dependent upon Columbia and Snake River salmon stocks have paid a high price for losses of salmon due to degradation of freshwater habitat and hydropower activities. For many decades, these fisheries have been managed in an increasingly conservative fashion. Meanwhile the greatest source of juvenile and adult mortality, the hydropower system, has still not imposed the changes needed to significantly increase passage survivals and thereby rebuild depressed salmon stocks. Further, conservation mechanisms for all ocean fisheries harvesting Columbia/Snake River salmon have been in place for more than a decade through the U.S. - Canada Pacific Salmon Treaty. Ocean harvest restrictions triggered by ESA decisions are unnecessary since management of ocean fisheries, as they are currently regulated, will have little to no effect on whether these ESA-listed salmon will become extinct or recover. Snake River fall chinook salmon will become extinct, remain depressed, or fully recover depending upon decisions made with regard to: (1) quantity and quality of freshwater habitat; (2) decisions made concerning operations and management of the hydro complex that effect upstream and downstream passage survivals through the Snake and Columbia River waterways; and (3) decisions made with regard to hatchery supplementation of listed salmon stocks.

Although the State of Alaska does not agree that existing ocean harvest management rules need modification to increase adult escapement of Snake River fall chinook salmon to levels necessary to prevent their extinction, the State of Alaska agrees that if these rules are to change, the appropriate venue for change is the Pacific Salmon Commission. Therefore, the State of Alaska concurs with Task 3.1.a. Ocean fisheries should be managed through the PSC process to meet the PSC's objective to attain, by 1998, naturally spawning chinook salmon escapement goals established in the 1984 PSC chinook rebuilding program. The PSC process does not preclude the use of hatchery supplementation to rebuild depressed chinook salmon stocks.

While the State of Alaska supports the Proposed Recovery Plan as described in Section V.3.1.a (pages V-3-13 through V-3-15), the State of Alaska takes issue with how NMFS has used this section of the Proposed Recovery Plan in 1995 in the issuance of Section 7 Biological Opinions. For instance, the April 26, 1995, biological opinion^{5-3-a} issued by the NMFS to the Pacific Fishery Management Council for the commercial and recreational fisheries off the coasts of Washington, Oregon, and California characterizes the Proposed Recovery Plan as calling for a 30% or 50% reduction in exploitation rates as measured by the average 1988-1993 rate. The June 30, 1995, biological opinion^{5-3-b} issued by the NMFS to the North Pacific Fishery Management Council for the salmon fisheries off the coast of Alaska relies on a 1988-1993 base period analysis and states:

The preferred option for analyzing ocean impacts in the proposed recovery plan was to establish a schedule of harvest rates or other management objectives that would be implemented over the next four years designed to meet PSC chinook rebuilding objectives. Current bilateral discussions have focused only on fishing regimes for 1995. As a result, there will be no long term PSC agreement to cover chinook in 1995 and beyond.

The goal of the preferred multi-year rebuilding agreement is to achieve reductions in overall harvest impacts to listed fish. Having failed to reach a multi-year agreement, a substantial (30%) reduction in the overall ocean harvest impacts in this year, including the predominant Canadian fisheries, is consistent with the intent of the proposed Recovery Plan and alternative measures for evaluating ocean fisheries described to U.S. fishery managers during the pre-season planning process.

Utilization of draft recovery plan provisions in Section 7 consultations is improper for several reasons. First, it is presumptuous of NMFS to conclude that the PSC will not reach a long term agreement that includes chinook salmon fishing regimes before 1998. Second, the recovery plan makes no mention of a 1988-1993 base period nor mandated reductions of 30% or 50% from this base year average. Third, it is arbitrary and unlawful for NMFS to issue a draft recovery plan for public review on March 20, 1995, that is supposed to encompass a four year period and within a month of its public review release date, take an entirely different direction while claiming that this departure

^{5-3-a} National Marine Fisheries Service. 1995. Biological Opinion - 1995 Regulations under the fisheries management plan for commercial and recreational fisheries off the coasts of Washington, Oregon, and California of the Pacific Management Council. Issued April 26, 1995. Available from the National Marine Fisheries Service, Northwest Region, Seattle, Washington. 45 pp.

^{5-3-b} National Marine Fisheries Service. 1995. Biological Opinion - 1994/1995 and 1995/1996 winter season regulations under the fishery management plan for salmon fisheries off the coast of Alaska. Issued June 30, 1995. Available from the National Marine Fisheries Service, Northwest Region, Seattle, Washington. 29 pp.

from what the draft recovery plan says is "consistent with the intent of the Proposed Recovery Plan".

The Proposed Recovery Plan does not include a 1988-1993 base period analysis nor the specific 30% and 50% ocean harvest reduction measures. Nor is there another technical analysis by NMFS that has been made available for public comment that concludes that these specific ocean harvest reduction measures have any meaning what-so-ever in terms of needed recovery of the ESA-listed Snake River fall chinook salmon ESU. The State of Alaska believes these specific measures to be arbitrary, suffering from the same deficiencies as the 1986-1990 base year analysis invalidated in IDFG et al v NMFS et al. The State of Alaska believes that the Proposed Recovery Plan as described in Section V.3.1.a means that the PSC process should be fully implemented and utilized to establish appropriate ocean fishing regimes, not some arbitrary reduction to an arbitrary base year average. The base year approach has no logical and reasoned basis nor is there a technical analysis that supports these base-year related criteria. The base year approach is not anchored in the ESA requirement that the NMFS use best available scientific and commercial data. The arbitrary base year approach must not be forced upon the U.S. participants of the Pacific Salmon Commission nor upon those fishery management agencies with extensive expertise in ocean fishery management under the auspice of needed Snake River salmon ESA recovery action. NMFS should determine to what degree the ocean salmon fisheries have contributed to the listing of Snake River fall chinook salmon, determine, based upon a full technical analysis with full fishery agency and scientific peer review, the level of survival increase needed in ocean salmon fisheries which would be proportional to this potential cause in the decline of the Snake River fall chinook salmon ESU, and allow the PSC to address this fishery management need through the Pacific Salmon Treaty process.

The State of Alaska believes that the biological criteria evaluation associated with spawner-per-spawner rates, R/S rates, as described on pages V-3-19 and V-3-20 of the Proposed Recovery Plan is technically flawed. The number of spawners used for both the numerator and denominator portions of these calculated annual rates should be confined to listed fish, not all spawners. Further, available age composition estimates for the spawning stock should be used, not three year averages. The State of Alaska analysis on this technical matter has been provided to NMFS (Clark, Clark, Gaudet, and Carlile 1995 and Benton 1995^{5-3-c}) and is incorporated by reference with regard to this specific aspect of the Proposed Recovery Plan.

^{5-3-c} Clark, John H., John E Clark, David Gaudet, and John Carlile. 1995. Biological assessment of potential incidental impacts of 1995-1999 southeast Alaska salmon fisheries on ESA listed Snake River salmon. Regional Information Report Number 1J95-15. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Douglas, Alaska. 79 pp. AND Benton, David. 1995. Letter to Peter H. Dygert, NMFS, Seattle Washington, dated June 5, 1995. Available from the Alaska Department of Fish and Game, Commissioners Office, Juneau, Alaska. 9 pp.

CHAPTER V; SECTION 4 - ARTIFICIAL PROPAGATION

The ESA states in Section 4(f)(1)(B)(i):

Recovery Plans - The Secretary, in developing and implementing recovery plans, shall, to the maximum extent practicable, incorporate in each plan:

a description of such site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species.

Further, the ESA under Definitions in Section 3(3) states:

The terms "conserve", "conserving", and "conservation" mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and in the extraordinary case when population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

The Proposed Recovery Plan fails to meet the ESA requirement of providing a site-specific management action in the area of use of artificial propagation as a tool for ESA recovery (delisting) of Snake River fall chinook salmon. The State of Alaska believes this is a fatal flaw that must be remedied before NMFS adopts a final recovery plan for Snake River salmon.

NMFS listed Snake River fall chinook salmon under the ESA in 1992 and all fish in or originating from a hatchery were specifically excluded. In the Federal Register notice of final rule, NMFS went on to state:

"NMFS is now listing only the natural populations; however, it is also important to address whether any existing hatchery population is similar enough to the natural population that it can be considered part of the ESU and therefore, potentially used in recovery efforts."

Since 1992, various scientific analyses have demonstrated that salmon being propagated at Lyons Ferry Hatchery are more similar to the endemic population of Snake River fall chinook salmon than are the current natural spawners. These analyses have fully justified the inclusion of Lyons Ferry Hatchery fish in the ESU and ESA-listed population. Yet NMFS has been reticent to include Lyons Ferry Hatchery fish in the ESU and thus clear the roadblock to using these fish in recovery efforts. This NMFS process deficiency is continued in the Proposed Recovery Plan which fails to identify a site-specific strategy for use of fall chinook salmon produced at this hatchery or acknowledge the important role that these fish can play in the recovery of ESA listed Snake River fall chinook salmon. The draft recovery plan is replete with rhetoric about the role of artificial propagation in Snake River salmon recovery, about

considerations of using artificial propagation, and so forth, but the document never reaches the obvious decision points needed to put Lyons Ferry Hatchery to work as a recovery tool. This major deficiency is not because of ESA legal considerations nor because of technical considerations, nor because an adequate artificial propagation facility is not available; but instead, is due entirely to various policies adopted internally by NMFS.

NMFS has consistently demonstrated a bias against hatchery Snake River chinook salmon through various policies and actions since these fish were first petitioned for ESA listing. NMFS policies and practices with regard to hatchery supplementation and brood stock development of Snake River chinook salmon over the past five years have increased rather than diminished the threat of extinction for these chinook salmon stocks. For instance, NMFS sanctioned the potential destruction of more than 300 brood-year 1993 spawning spring chinook salmon that had returned to the Imnaha River. It was only through court action brought about by tribal fishery agencies that these fish were not destroyed. Based on genetics concerns, NMFS staff sanctioned excluding the entire 1989 brood-year production of Lyons Ferry Hatchery fall chinook salmon from the Snake River basin (this brood year has not been allowed to enter the hatchery population nor the wild population). Similarly, returning Lyons Ferry Hatchery fall chinook that migrate past the hatchery and attempt to spawn in the wild above Lower Granite Dam have been intercepted and removed from the potential natural spawning population since 1990.

NMFS internal policy in the area of artificial propagation of salmon and use of these fish toward ESA recovery is so misguided that the draft recovery plan states on page V-4-8:

Hatchery and hatchery fish research should be based on adaptive management needs; it should first answer questions relating to preserving natural population stock structure and then address the question of rebuilding.

This statement illustrates what the State of Alaska finds objectionable about Chapter V, Section 4 of the Proposed Recovery Plan. Lyons Ferry Hatchery produced Snake River fall chinook salmon are not presently included in the ESU as defined by NMFS and they have not been designated as part of the ESA listed stock of salmon. As a result, these fish have been relegated by NMFS to a research role only. These fish do not currently receive the protection of the Endangered Species Act.

The Proposed Recovery Plan continues to treat Lyons Ferry Hatchery produced Snake River fall chinook salmon as a research tool rather than using these fish as a major rebuilding tool that has the potential to result in a relatively rapid delisting of this ESA listed stock of salmon. NMFS's intentions with respect to hatchery produced Snake River fall chinook salmon are demonstrated by comparing the Snake River Salmon Recovery Team (SRSRT) recommendations with the Proposed Recovery Plan. The SRSRT called for immediate initiation of a captive brood-stock program for fall chinook salmon at Lyons Ferry Hatchery, recognizing that additional brood-stock were needed to fully utilize Lyons Ferry Hatchery as a recovery tool.

Although the Proposed Recovery Plan asserts that the gene bank program presently operating at Lyons Ferry Hatchery produces adequate numbers of fall chinook salmon for stock rebuilding, NMFS has no program for using Lyons Ferry Hatchery produced fall chinook salmon. Therefore, NMFS has no basis for defining "adequate brood-stock". NMFS biased attitude and policies concerning use of hatchery fish to rebuild Snake River chinook salmon populations is a major impediment to recovery of these ESA listed salmon populations which, if unchanged, will needlessly extend the recovery by many years, adding greatly to the governmental and social cost, and unnecessarily disrupting the many sectors of the economy affected by these ESA listings. To date, NMFS has shown neither the desire nor the inclination of using artificial propagation as a tool to delist Snake River chinook salmon, and has interfered with the efforts of other agencies who would do so. The State of Alaska believes that NMFS should either lead the way toward full use of Lyons Ferry Hatchery as a rebuilding (delisting) tool or set up a program to allow other agencies to accomplish this fully appropriate recovery action.

A site-specific plan of action using Lyons Ferry Hatchery produced Snake River fall chinook salmon as a recovery tool is needed. Lyons Ferry Hatchery is a modern facility that was specifically designed to produce Snake River fall chinook salmon as part of the Lower Snake River Compensation Program due to hydropower development of the Snake River and the blockage and inundation of salmon habitat that resulted. The facility came on line in the mid-1980's and uses brood-stock developed through the Snake River fall chinook salmon gene-bank program. Culture of Snake River fall chinook salmon by Lyons Ferry Hatchery is very successful with survival of fish to the smolt stage typically being close to 95%. The existing brood-stock are genetically more similar to the historic and native population of Snake River fall chinook salmon than the current natural spawning population above Lower Granite Dam (which currently receives full ESA protection). Based solely on allelic frequencies: the Lyons Ferry Hatchery population should be the listed species; the listed species is supposed to be in the habitat; and, the listed species should be afforded ESA protection.

The Lyons Ferry Hatchery should be used to supplement the natural spawning population through an out-planting program. Further, steps should be taken to increase the number of brood stock available to this hatchery in future years. The Lyons Ferry Hatchery has the capacity to produce 9.1 million sub-yearling fall chinook salmon or about twenty times the current production. Present production is far less than what would have been otherwise possible. This is due to restrictions NMFS imposed on the brood-stock program that was building nicely in terms of numbers prior to the ESA listing. Since 1990, brood-year 1989 fall chinook salmon have been banned from being raised and released in the Snake River and non-coded-wire-tagged fall chinook salmon from all brood years returning to Lyons Ferry Hatchery have been banned from being raised and released in the Snake River. Most of these non-tagged fish are likely hatchery or wild Snake River fall chinook salmon that are being exported out of the Snake River basin due to NMFS's restrictive policies. These actions have greatly reduced the numbers of brood-stock available to Lyons Ferry Hatchery annually since 1990 and the cumulative effect has been to set the Lyons Ferry Hatchery brood-stock development program for Snake River fall chinook salmon back by almost a decade.

It is inappropriate for NMFS to continue to limit the use of the Lyons Ferry Hatchery production for research instead of using these fish to supplement the natural spawning population. A significant portion of the juvenile fall chinook salmon now residing at Lyons Ferry Hatchery, as well as a portion of the production over the next five brood-years should be invested in a captive brood-stock program. The objective should be that brood-stock adequate to produce 9.1 million sub-yearling fall chinook salmon by the year 2000 and thereafter will be available. This level of production will require about 6,000 spawners per year being used as brood-stock at Lyons Ferry Hatchery. The production from this program should be committed for out-planting. The State of Alaska is unsure of exactly how many of the brood-year 1994 hatchery fish would be required to immediately initiate such a captive brood-stock program, but believes that it is reasonable and prudent to invest up to 25% of the current production, if needed, in such a program. If survival from the yearling stage through adulthood in a captive brood-stock program exceeds 5%, less than 25% of the brood-year 1994 production would be needed to get this program started. If NMFS staff are unable to make the needed captive brood-stock determinations, fishery scientists from the states (including Alaska) and tribes can quickly calculate the numbers of brood-year 1994-1999 hatchery fish required to jump-start the Lyons Ferry Hatchery brood-stock program. State and tribal fishery agencies could also implement the needed program and thereby bring this recovery effort up to full potential by the year 2000.

Additionally, the recovery plan must commit a significant portion of the juvenile fall chinook salmon now residing at Lyons Ferry Hatchery and a significant portion of future production for out-planting above Lower Granite Dam. In 1996, both yearlings (from the 1994 brood-year) and sub-yearlings (from the 1995 brood-year) should be out-planted. Brood year 1996 and future fall chinook salmon raised at Lyons Ferry Hatchery should only be reared to the sub-yearling stage before release into the Snake River. In 1997 and thereafter, only sub-yearlings should be out-planted. At a minimum, the hatchery production equivalent to the number of Lyons Ferry Hatchery fish removed at Lower Granite Dam should be out-planted starting in 1996. The State of Alaska believes it reasonable and prudent to out-plant a minimum of 25% of the remaining production in 1996 and we recommend that fishery scientists, including those from the states (including Alaska) and tribes be tasked to establish numeric out-planting goals and imprinting studies for the years 1996-1999, the time-frame before Lyons Ferry Hatchery brood-stock achieve full production potential from the previously described captive brood-stock program. The State of Alaska recommends that all Lyons Ferry Hatchery fall chinook salmon be out-planted above Lower Granite Dam in the year 2000 and thereafter. Brood-stock requirements thereafter can be met with a combination of Lyons Ferry Hatchery volunteers and removals (if needed) at up-river dams.

The Proposed Recovery Plan states in Chapter V, Section 4, under Tasks to Avoid Extinction Number 4.1.d:

By April 1, 1996, the fisheries agencies, Tribes, and IPC should work with NMFS, in consultation with the Fish production Committee, to develop and implement management plans for Snake River fall chinook

salmon gene bank and supplementation programs. These plans should include: (1) specific numerical goals, (2) genetic management strategy, (3) disease management strategy, (4) monitoring and evaluation strategy, (5) reintroduction and supplementation strategy, (6) facilities management strategy.

The State of Alaska wonders why it has taken the federal government six years to make such an obvious statement. Such a management plan should have been developed years ago, shortly after listing, and should be in place now. The Recovery Plan should include the site-specific Lyons Ferry Hatchery supplementation plan for Snake River fall chinook salmon called for in section 4.1.d of the Proposed Recovery Plan; the final plan should not merely call for such a plan to be developed at some time in the future.

The Proposed Recovery Plan in Chapter V, Section 4, under "Tasks to Avoid Extinction" Number 4.2.c includes:

NMFS, COE, states, and Tribes should trap and remove identifiable hatchery strays at Snake River dams to minimize the impact of strays on natural populations.

The State of Alaska believes that NMFS removal and destruction of salmon in the Snake River basin is part of a misguided policy. In particular, Alaska objects to the removal of Lyons Ferry Hatchery adult fall chinook salmon at up-river dams such as the on-going and NMFS sanctioned program at Lower Granite Dam. Any straying of these fish (Lyons Ferry Hatchery produced fish) will bolster the natural population making potential extinction of Snake River fall chinook salmon less likely than is the case under the current policy of removing these fish annually from the potential spawning population above Lower Granite Dam. Additionally, Alaska objects to the practice of killing all unmarked adult fall chinook salmon at Lyons Ferry Hatchery and exporting the eggs and sperm taken from these fish to lower Columbia River hatcheries. These unmarked fish should be placed back into the Snake River, upstream of the Lyons Ferry Hatchery out-fall and allowed to continue their migration. Natural processes should be allowed to judge the "evolutionary significance" of volunteer spawners and unmarked fall chinook salmon that enter the Lyons Ferry hatchery out-fall, as called for in the National Academy of Sciences, *Science in the Endangered Species Act* report. The final Recovery Plan should specifically exempt Lyons Ferry Hatchery fall chinook salmon from task 4.2.c; there is no biological justification for continuing to remove these fish from the natural escapement.

CHAPTER V, SECTION 5- ENFORCEMENT RECOVERY TASKS

A law enforcement coordinating group called the Columbia Basin Law Enforcement Council prepares an annual activity report which combines activities of the member agencies. Montana is just joining the Law Enforcement Council and the Shoshonne-Bannock Indian Tribe has asked to join. Alaska is not a member. There is a five-year Strategic Plan, basically an action plan put forth by NMFS Enforcement. NMFS anticipates that the action plan will be adopted by the members of the Law Enforcement Council and become a vehicle to implement the enforcement section of the Proposed Recovery Plan. The Strategic Plan is not available for the public to review so details of how actions will be set forth to enact, implement, or coordinate law enforcement activities under the Recovery Plan are not known. Discussions that staff of the Alaska Department of Fish Game have had with several NMFS law enforcement agents in the Northwest and the Columbia Basin area have provided no overall clarification of the direction of the NMFS enforcement efforts. Hence, only limited comments on this aspect of the Proposed Recovery Plan can be offered by the State of Alaska.

Tasks to Avoid Extinction

All the tasks listed for the law enforcement section appear well founded in a common sense approach to trying to achieve biological objectives. One of the important issues is task 5.1.b, increasing public awareness and education throughout the Columbia Basin. A serious public education program is needed to enlist public aid and support, not only associated with law enforcement, but with the accountability of the entire recovery process. Continued and coordinated enforcement of harvest regulations under a well defined plan is needed. Clarification of the role of law enforcement personnel in the enforcement of freshwater habitat protection laws, compliance in fish screening criteria, and compliance of structural alterations to hydro operations is needed. Clearly the land management agencies need to be brought into this forum on a sub-basin level and held responsible for compliance with appropriate regulations.

Task 5.3.b The NMFS, Northwest Enforcement Division, should implement a computer-based communication system and a standard data base for gathering and organizing information related to multi-agency enforcement activity.

The State of Alaska questions the value of this action and believes that before funding is dedicated to this task, biological and resource problems need to be addressed in a scientific manner.

CHAPTER VI - INCREMENTAL COSTS OF PROPOSED RECOVERY TASKS

The proposed recovery plan lacks a thorough and competent analysis of the socioeconomic effects of the suite of potential recovery options. Because Chapter VI of the proposed plan does not explicitly define a range of expected recovery options, it is difficult to comment on cost estimates or economic consequences. For a management or regulatory "plan" to be sufficient to project resulting economic consequences, it must provide detailed descriptions of what management actions would be implemented and what resultant and associated changes would occur in the use or consumption of resources. The proposed plan will fail to be a useful planning tool for government, interest groups, and the public until explicit alternative scenarios are developed and their associated probabilities of achieving recovery and resulting costs (and other socioeconomic effects) are clearly identified. The current recovery plan is more of a road-map to producing better information on potential effectiveness of the options than is it a plan for implementing recovery. The proposed plan only presents a narrow analysis of the public agency costs of the recovery plan to the public agencies. Economists refer to these budgetary inputs as "accounting costs", while the plan wrongly label them as "direct costs" or "incremental costs". The Chapter VI superficial discussion of the economic consequences of recovery is incomplete and potentially misleading. NMFS clearly needs to develop an assessment of socioeconomic effects that is appropriate to the magnitude of the proposed recovery program to the U.S. and regional economies.

Alaska realizes that NMFS recognizes some of the short-comings of Chapter VI of the Proposed Recovery Plan and that NMFS has reconvened the Economic Technical Team (ETT) to provide a more through economic analysis. Alaska plans to participate in the upcoming ETT meetings to provide technical assistance. Alaska intends to provide comments on the document developed by the ETT. The following list includes aspects of the economic analysis that Alaska believes are important in the ETT endeavor.

1. The revised analysis should thoroughly describe the socioeconomic consequences of recovery actions in order to be consistent with NMFS and USF&WS Policy Guidelines FR 59 34272 and 34273 and other economic standards of analysis used by NMFS.
2. The revised analysis should utilize a standard incremental approach and an essential group of established socioeconomic tools to analyze the short-term and long-term effects of recovery including:
 - A. Comparison of a range of recovery alternatives;
 - B. A description of how the recovery alternatives effect the use of resources;
 - C. Efficiency effects (measurement of net benefits or net social costs);
 - D. Distributional effects and analysis of the burden to industries, sub-regions, interest groups, and small entities; and,

E. Income and employment effects.

3. Economic benefits, costs, and other distributional effects of recovery cannot begin to be estimated without considering how these actions are interwoven with Northwest energy markets.
4. The harvest sector issues should be evaluated based upon by-catch analysis and include all regions of the coast. The economic burden of recovery that is imposed on various users, including the net, troll, in-river, and recreational fishermen should be part of the economic analysis as well as the estimated benefits to the recovery of the listed species.
5. It is not clear from the Recovery Plan how NMFS will determine the net benefits to resource users of recovery plan actions for the harvest sector when some anticipated level of recovery is achieved.

APPENDIX A

Transmittal Letter From:

Dave Benton, Deputy Commissioner
Alaska Department of Fish and Game

To:

National Marine Fisheries Service

Concerning:

Proposed Recovery Plan For Snake River Salmon

STATE OF ALASKA

TONY KNOWLES, GOVERNOR

DEPARTMENT OF FISH AND GAME

OFFICE OF THE COMMISSIONER

P.O. BOX 25526
JUNEAU, ALASKA 99802-5526
PHONE: (907) 465-4100
FACSIMILE: (907) 465-2332

September 11, 1995

Mr. William W. Stelle, Jr.
Northwest Regional Director
National Marine Fisheries Service
7600 Sand Point Way
Seattle, WA 98115-0070

Dear Mr. Stelle:

Enclosed are the initial comments of the State of Alaska on the March 1995 Proposed Recovery Plan for Snake River Salmon. These comments supplement the written and verbal testimony provided to you by Governor Tony Knowles and me at the National Marine Fisheries Service public hearing in Ketchikan on June 8. Additional comments may be offered prior to closing of the public comment period.

The State of Alaska has significant concerns about the manner in which the National Marine Fisheries Service has conducted its endangered species salmon program to date, and our concerns extend to many provisions in the proposed recovery plan. While we applaud your efforts at addressing the decade-old problems that have led to the salmon decline, we believe that substantial revisions will be necessary in order to accomplish the stated goal of the proposed recovery plan, "to restore the health of the Columbia and Snake River ecosystem and to recover the listed Snake River salmon stocks." The State of Alaska is particularly concerned about gaps in the recovery plan analysis that, if filled in, might alter our view of some of the elements of the plan. Given the magnitude of the salmon recovery effort and the significant changes we believe are necessary to satisfy the goals of this document, the State of Alaska requests that a second draft be issued for public review prior to final adoption of the final recovery plan.

Mr. William W. Stelle, Jr.

September 11, 1995

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Benton". The signature is written in a cursive style with a large, prominent "B" and a long, sweeping tail.

Dave Benton
Deputy Commissioner

Enclosure

APPENDIX B

Testimony By:

Tony Knowles, Governor
State of Alaska

To:

National Marine Fisheries Service

Concerning:

Proposed Recovery Plan For Snake River Salmon

TESTIMONY BY
TONY KNOWLES, GOVERNOR
STATE OF ALASKA
TO THE
NATIONAL MARINE FISHERIES SERVICE
ON THE
PROPOSED RECOVERY PLAN FOR SNAKE RIVER SALMON

KETCHIKAN, ALASKA
JUNE 8, 1995

Thank you for the opportunity to testify today on the Proposed Recovery Plan for Snake River Salmon. For the record, I am Tony Knowles, Governor of the State of Alaska. I want to welcome you to Alaska and hope that your willingness to listen to Alaskans also indicates your openness to truly considering the ideas and concerns that you hear in the next two days of hearings. After my testimony, Commissioner Frank Rue will present the testimony of the Alaska Department of Fish and Game. In addition, the State will, at a later date, submit detailed technical comments on the Recovery Plan.

My testimony today will address three concerns. First, the process and timeline that the federal government is using to implement the provisions of the Endangered Species Act for Snake River chinook in Alaska are bureaucratically flawed and unfair. Second, the approach and application of the Endangered Species Act in this case defies common sense by requiring Alaska harvest reductions without any measurable gain to the species in question. And third, the National Marine Fisheries Service is using the Endangered Species Act as a political and economic weapon

rather than, as intended, as a tool for making sound biological decisions.

First, lets look at the process and timeline National Marine Fisheries Service imposes on Alaska. Under the Endangered Species Act, the state must obtain a permit to harvest king salmon. In 1994, the National Marine Fisheries Service issued us a permit on June 30, to conduct a chinook salmon fishing season that was to begin just one day later on July 1st. Until we got that permit, no one in Alaska knew what the allowable harvest would be for 1994. This puts citizens of Southeast Alaska in an outrageous position of uncertainty and hardship. And yet, this year, the federal government has repeated that pattern. The State still has no permit, and the fishing season is only three weeks away.

Recently, Alaska filed a lawsuit seeking to prevent the National Marine Fisheries Service from conducting business this way. We have also filed a notice of our intent to sue the National Marine Fisheries Service over the 1995 season restrictions, even though we haven't been told what those restrictions will be. We are continually forced to file suits "just in case" because your track record makes us expect unreasonable reductions, and because you keep us guessing so long that we cannot wait until the numbers are finally released. We will keep after the federal government until you administer this act in a manner guided more by consideration for common sense and the lives of the citizens of Southeast Alaska, and less by blind bureaucratic timetables.

This leads to my second point: The federal administration of the Snake River fall chinook recovery program just doesn't make sense. Our biologists tell me that for each 10,000 chinook that are given up by Alaska, only one additional Snake River fall chinook will make it to the spawning grounds. Even if you made draconian cuts in all sport and commercial fisheries in Southeast Alaska, there would not be enough additional fall chinooks reaching the Snake River spawning grounds to make an appreciable contribution to saving that stock. At the same time, the federal government has handed the Columbia River dams a permit to kill up to 100 percent of the juvenile salmon and 40 percent of the adults. It is obvious where the responsibility for the virtual elimination of the salmon stocks lies and where, in turn, the responsibility for the recovery lies. Why are you looking to Alaska to solve the problems created by others? In Alaska we have a bar with the slogan, "We cheat the other guy and pass the savings on to you." I sincerely hope that the National Marine Fisheries Service hasn't applied this slogan to Alaska.

The year Alaska became a state, in 1959, our statewide salmon harvest was 25 million fish, lower than any previous year this century. Sixty years of federal fisheries mismanagement decimated Alaska's salmon populations. Now, after 36 years of state management, salmon stocks are at an all time high. In fact the three highest years of salmon harvest have occurred since 1990. The salmon harvest in 1994 was eight times higher than in our last year of federal management.

But rebuilding our fish stocks was not easy. The Alaska Department of Fish and

Game did not hesitate to protect our fishery resources for long term conservation purposes, even at the risk of short term economic costs to Alaskans who depended upon those fish. I bring this issue up, to point out that Alaska fisheries managers are willing to make hard choices, when necessary, for fisheries conservation. The State of Alaska has put an extraordinary amount of resources into ensuring the long-term health of our fish stocks in order to protect the long-term health of our largest employer in Alaska, the fishing industry.

For more than a decade, Southeast Alaska salmon fishers have accepted significant time, area and harvest level restrictions in the chinook salmon fishery to help rebuild depressed chinook stocks in Alaska and elsewhere. We have all demonstrated our commitment to fisheries conservation.

The Pacific Northwest on the other hand has taken a different approach to management of their fisheries resources. Blessed with historical salmon returns of 10 to 16 million fish, including the greatest chinook salmon runs in the world, the region has willingly sacrificed their fisheries for other resources and values. Massive hydropower production, vast irrigation projects, ocean shipping through high desert, and extensive habitat alteration through clearcut logging, intensive grazing, and urbanization have combined to endow the Columbia River basin with one of the strongest economies in the nation and one of the most abused watersheds. The Columbia River system has been altered beyond survival for most salmon, whose wild populations have declined by more than 85 percent. Grand

Coulee Dam, that symbol of the Pacific Northwest and depression-era economic resurgence, alone blocked over 500 mainstem river miles to all anadromous salmon. The remainder of the Columbia River system is so lethal to anadromous fish that the federal fisheries managers believe migrating juvenile fish are safer being shipped in trucks on Interstate 80 than negotiating the gauntlet of the dams. Now, after more than 60 years of policies known to be disastrous to fish populations, the federal government has to step forward to try to remedy the damage, using the provisions of the Endangered Species Act.

I am not here today to debate how realistic it is to expect the Endangered Species Act to shoulder the responsibility for repair of an abused river system burdened by decades of choices that favored other resource development at the expense of fish. But as the Columbia River Basin transitions to new conservation values more favorable to the survival of fish, it is unreasonable to expect that the burden of recovery be put on those regions that did not receive the benefits of the trade-offs made there. Simply put, the State of Alaska does not believe that the blame for the condition of the Snake River fall chinook lies with the Alaska harvest sector, nor do we believe that chinook harvest reductions in Alaska will contribute in any measurable way to the recovery of that stock. Common sense must be used in charting a course for the recovery of these salmon.

Finally, I would like to discuss one aspect of the Snake River fall chinook endangered species issue that particularly disturbs me: the use of the Endangered

Species Act as a political and economic weapon to reallocate fish to other regions. Let me explain.

Alaska must give up approximately 10,000 fish to put one additional Snake River fall chinook on the spawning grounds. Last year Alaska fishers were forced to give up some 23,000 fish, which boosted the spawning population by two fish. Does that seem reasonable? One might ask, "Why is the federal government doing this?" and, "What happened to those other 23,000 fish that were not caught in the Alaska fisheries?" The fact is that many of those fish denied to our fisheries ended up on the hooks and in the nets of Canadians and residents of other states. Some people might wonder whether the fate of those 23,000 fish was a more significant factor in the decision to reduce Alaska's chinook harvest than the two spawners Alaska contributed to the threatened Snake River fall chinook population. In fact, many Alaskans believe that just such a back-door reallocation of northwest chinook explains why the National Marine Fisheries Service has placed this unreasonable emphasis on the Alaska harvest sector when we can do virtually nothing to contribute to the recovery of the listed stock. Using the Endangered Species Act to redistribute harvests to southern fisheries is entirely inappropriate, and only lends support to those calling for a significant weakening of the Act.

In closing, I urge the National Marine Fisheries Service to get your house in order. Do not continue holding the Alaska fishing industry hostage to a fishing permit issued only hours before the season opens. Our 1995 permit should have been

issued months ago, allowing Alaska's fisheries managers and fishing families to plan for the upcoming season.

I urge you to inject some common sense into your administration of the Endangered Species Act. It is unreasonable to expect the State of Alaska and its citizens to accept large harvest reductions, for no benefit to the listed population.

And finally, the State is very concerned that the real reason behind the chinook harvest reductions in Alaska has nothing to do with the Endangered Species Act. Using the Act to reallocate chinook away from Alaskans is unacceptable.

The State of Alaska has initiated a wide array of administrative and legal challenges to the National Marine Fisheries Service and we will continue to do so until you apply this law in a fair and reasonable manner.

Again, I encourage you to listen carefully to those individuals who have come here today to explain their views. Under any analysis, the Alaska harvest is insignificant to the conservation of the threatened Snake River fall chinook. But to the Alaskan families who depend upon these resources this issue is crucial.

Thank you, and now I would like to have Commissioner Frank Rue offer his testimony.

APPENDIX C

Testimony By:

Frank Rue, Commissioner
Alaska Department of Fish and Game

To:

National Marine Fisheries Service

Concerning:

Proposed Recovery Plan For Snake River Salmon

TESTIMONY BY
FRANK RUE, COMMISSIONER
ALASKA DEPARTMENT OF FISH AND GAME

TO THE
NATIONAL MARINE FISHERIES SERVICE
ON THE
PROPOSED RECOVERY PLAN FOR SNAKE RIVER SALMON

For the record, I am Frank Rue, Commissioner of the Alaska Department of Fish and Game. I want to thank you for holding this public hearing in Ketchikan and a second hearing, tomorrow night, in Sitka. The Proposed Recovery Plan for Snake River Salmon is of great interest to the State of Alaska and the people of Southeast Alaska. Decisions made in implementing the plan will affect the livelihoods of many in the region, particularly in our small coastal communities where alternate sources of income may not exist. It is vital that the National Marine Fisheries Service hear, firsthand, Alaskans' concerns and use that information in re-writing and implementing the final recovery plan.

Three salmon stocks, each listed under the Endangered Species Act, are included in this recovery plan. Neither the Snake River sockeye nor the Snake River spring/summer chinook are known to enter Alaska waters and our fisheries are not known to have any impact on these listed stocks. The third stock, Snake River fall chinook, occur in Southeast Alaska and are caught in small numbers in our commercial and sport fisheries. This incidental take of the threatened Snake River fall chinook is the reason that Alaska is affected in the proposed Recovery Plan, which could result in a substantial reduction in chinook salmon harvests in

Southeast Alaska.

The Alaska Department of Fish and Game manages the fisheries of Alaska to ensure the long term health of fish populations. The people of Alaska expect this; in fact they depend upon it. We take this responsibility seriously. If we believed that any reasonable conservation measures by the Department of Fish and Game were warranted to ensure the survival and recovery of Snake River fall chinook, we would step forward to help. However, the scientific staff of the Alaska Department of Fish and Game do not believe that harvest reductions in Alaska will produce any measurable benefit nor are harvest reductions warranted or necessary in order to protect the listed Snake River fall chinook salmon. Alaska is not part of the problem, therefore we are not part of the solution.

The Alaska Department of Fish and Game is the largest salmon management agency in the world. About 80 percent of the North American production of wild Pacific salmon comes from Alaska. We also have one of the largest and most successful salmon hatchery programs in the world. Catches of wild salmon in Alaska were 161 million fish in 1994 with 35 million fish added by hatcheries. The Department of Fish and Game employs more than 300 full time professionals that are directly responsible for research, enhancement, development and management of our salmon stocks. No other agency, federal or state, compares to our department in depth of talent and expertise in salmon management.

These facts are important to bring out in the debate over what impact Southeast Alaska fisheries have on the survival of Snake River fall chinook. The State of Alaska believes that chinook catches in Southeast Alaska within the recent historical range of 360,000 fish or fewer, will have no significant impact on the survival of the Snake River fall chinook salmon. Harvest restrictions in Alaska will not prevent the extinction of Snake River fall chinook nor will it assist, in any significant manner, the survival and recovery of that population. It is as clear as an unobstructed stream, that the dominant cause of mortality of all salmon populations in the Columbia River system, including the Snake River fall chinook, is the web of dams that have so changed the watershed as to make spawning, rearing and migration a lethal experience for anadromous fish. **The biological opinion on the hydropower system, recently adopted by the National Marine Fisheries Service, acknowledges this by permitting the dams to kill from 62 to 100 percent of the migrating smolt and 39 percent of the returning adult salmon.** It is difficult to believe that the federal government has sanctioned this massive kill of fish as "reasonable and prudent" and that the National Marine Fisheries Service which produces such numbers expects its recovery plan to retain any credibility whatsoever.

Now let's look at a few facts. Virtually everyone acknowledges that dams on the Columbia/Snake river system are responsible for the vast majority of the decline in northwest salmon populations. More than 50 percent of the entire Columbia River watershed has been blocked to anadromous fish access. For Snake River fall

chinook, 70 percent of the river miles between the ocean and their Idaho spawning grounds are now lakes. Fifty nine Columbia Basin stocks are extinct, fifty more at risk. What this river needs is not a salmon recovery plan. What is needed is a river recovery plan.

Estimates of dam-induced mortality range up to 95 percent, with salmon harvest accounting for about 5 percent of the human-caused mortality. Analysis of coded wire tag recoveries of Snake River fall chinook hatchery fish as shown in the recovery plan, demonstrate that Alaska accounts for only 6 percent of the harvest-related mortality, the remainder occurring in Canada, California, Oregon and Washington. In other words, on average, Alaska fisheries are responsible for 6 percent of 5 percent, or three tenths of one percent of the human-caused mortality.

The number of Snake River fall chinook salmon estimated to have been taken in the Southeast Alaska fisheries between 1988 and 1993 ranges from a high of 224 fish in 1989 to a low of 39 fish in 1990. But a fish caught in Alaska does not necessarily return to the spawning grounds. We estimate that over the most recent six year period, approximately 20 percent of the Snake River fall chinook that leave Alaskan waters will survive the fisheries in Canada, Washington, Oregon and the Columbia River and then successfully negotiate the eight major dams to reach their Idaho spawning grounds. If all chinook harvest in Southeast Alaska were entirely eliminated, including incidental harvest, our figures show that,

depending upon the year, between 5 and 68 additional Snake River fall chinook would have returned to spawn and supplement the several hundred existing spawners. A 10 percent reduction in the Southeast Alaska harvest of Snake River fall chinook would have only bolstered the spawning population by between one half a fish and 7 fish depending upon the year.

We do not consider this minor level of increase in the Snake River fall chinook spawning population to be meaningful or significant. However, reductions in the chinook harvest in Southeast Alaska would cause serious economic hardships, particularly to our small resource-dependent coastal communities. The concentration of Snake River fall chinook in the Southeast Alaska harvest represent between .009 percent and .06 percent of the regional harvest. Put another way, Southeast fishermen catch only one Snake River fall chinook for 2000 chinook harvested. To add one more fish on the spawning grounds, Southeast Alaska fishermen have to forgo approximately 10,000 chinook with an estimated value of almost two million dollars. Economically, does it make any sense to put an entire industry and coastal economy at risk to add one or two, or even a few additional fish to a spawning population of several hundred? The State of Alaska does not believe so. Particularly when the dams of the Columbia River system have been handed a permit to take up to 100 percent of the juvenile salmon and 39 percent of the adults.

To assure ourselves that indeed, the chinook harvest in Southeast Alaska did not measurably affect the survival and recovery of the Snake River fall chinook, department biologists traveled to Oregon to work with the statistical models developed by the Pacific Salmon Commission. Our analysis shows that under every realistic modeling scenario the Southeast Alaska harvest has minimal effect on Snake River fall chinook survival and recovery and under all predicted conditions these fish will meet the minimal escapement goals. In order to achieve higher escapement levels, only substantial improvements in the dams and the habitat will ensure their full restoration as a healthy - though diminished - population in the long term.

In summary, the Department believes that the statistical, modeling, and tagging evidence all leads to the conclusion that traditional levels of Southeast Alaska harvest will not jeopardize the survival and recovery of the Snake River fall chinook.

The Department, on behalf of the state will be submitting detailed written comments to the National Marine Fisheries Service by the July 17 deadline. We will continue to advance our position that reductions in our fisheries are not appropriate and that the substantial improvements in the health of the Snake River fall chinook can only be achieved by major structural and management changes to the hydropower system of the Columbia and Snake Rivers. If the residents of the

northwest support the restoration of the Columbia River wild salmon populations, and public opinion polls indicate that they do, then the National Marine Fisheries Service should tackle the solution soon and forcefully. Stop looking for solutions 2000 miles from the source and resolve the issues where they belong, within the Columbia River basin.

ADA Publications Statement

The Alaska Department of Fish and Game administers all programs and activities free from discrimination on the basis of sex, color, race, religion, national origin, age, marital status, pregnancy, parenthood, or disability. For information on alternative formats available for this and other department publications, contact the department ADA Coordinator at (voice) 907-465-4120, (TDD) 907-465-3646. Any person who believes s/he has been discriminated against should write to: ADF&G, P.O. Box 25526, Juneau, AK 99802-5526; or O.E.O., U.S. Department of the Interior, Washington, DC 20240.