
Pacific Salmon Management — The View from Alaska

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SALMON MANAGEMENT ALASKA STYLE

The view from Alaska on Pacific salmon management is found in our constitution. Alaska's constitution is unique among those of the 50 states in that it has an article solely devoted to the management and utilization of natural resources. We do not believe that any of our sister states have placed this level of priority on management of natural resources. Article VIII, Section 4 states: "Fish, forests, wildlife, grasslands, and all other replenishable resources belonging to the State shall be utilized, developed, and maintained on the sustained yield principle, subject to preferences among beneficial uses."

With Statehood, the Alaska Department of Fish and Game was formed. Alaska Statute Sec. 16.05.020 states: "The Commissioner shall manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and general well-being of the state." Mandates of the Alaska Department of Fish and Game through Alaska Statute Sec. 16.05.092 include: "through rehabilitation, enhancement, and development programs do all things necessary to insure perpetual and increasing production and use of the food resources of state waters and continental shelf areas."

While the Alaska Department of Fish and Game was formed with a strong conservation mandate to manage salmon fisheries for sustained yield, the Alaska Board of Fisheries, on the other hand, was given the responsibility for allocating that yield of salmon to users. The clear separation of primary conservation authority from allocation authority is one of the strengths of the Alaskan fishery management system.

The state of Alaska does not have a preservation mandate for Pacific salmon; instead, we clearly have utilization, conservation, and development mandates.

In Alaska the term *conservation* implies controlled utilization of a resource to prevent its over-utilization, destruction, or neglect. The term *development* implies management of a resource to make it available for use. In Alaska, we are constitutionally mandated to manage salmon for sustained yield.

As a result of our mandates and the application of our governmental authorities, stocks of salmon spawning in Alaska are generally healthy and fisheries dependent upon these stocks have been sustained, statewide harvests ranging from about 100 to 200 million salmon per year over the past 15 years. Currently, the harvest in Alaska represents about 80% of the total North American harvest of salmon, harvests from Canada representing about 15% and harvests from Pacific Northwest states representing about 5%.

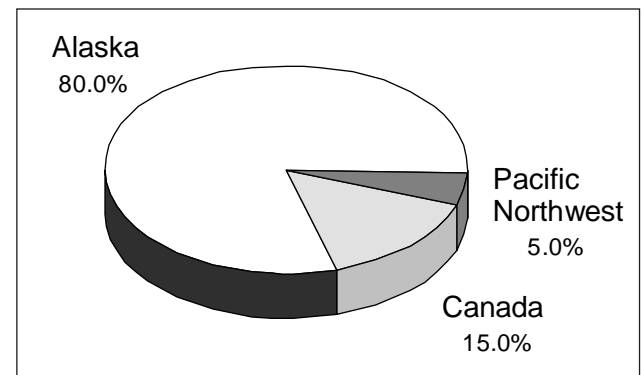


FIGURE 1. North Pacific salmon harvest percentages by region.

Alaska did not always have healthy salmon stocks. Prior to statehood, the federal government was responsible for salmon management in Alaska. Overfishing was a major factor in the declines of the Alaska salmon fishery that occurred between 1940 and the time of statehood, 1959. The federal government failed to pro-

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¹ A speech presented to the Western Association of Fish and Wildlife Agencies in May 1994 by Charles P. Meacham.

vide sound management practices needed to sustain Alaskan salmon fisheries.

Further, the federal government failed to provide the financial resources needed to manage and research salmon stocks and fisheries such that fishing could be properly regulated and depressed stocks could be rehabilitated. Salmon stocks and the fishing industry were in such bad shape that President Eisenhower declared Alaska a federal disaster area in 1953. This action was unique in that this disaster was attributed to an act of man rather than an act of nature.

At the time of statehood in 1959, statewide harvests totaled only about 25 million salmon, the lowest annual harvest since 1900 and a level equivalent to less than 20% of current sustainable production. To rebuild salmon runs from the dismal stock conditions inherited at statehood to the healthy levels experienced today, it took almost 20 years of salmon management by the state of Alaska under sound management principles with gradually increasing funding for research and management.

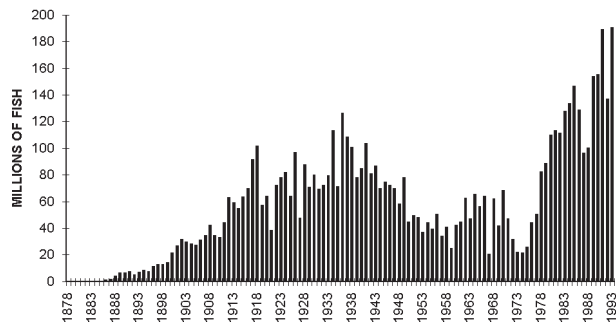


FIGURE 2. Alaska commercial salmon catches, 1878–1993.

Federal management was characteristically passive regulation under a central and remote authority. State of Alaska management has been intensive regulation implemented by local area biologists with a clear legal mandate and delegated authority. Delegated emergency order authority provides for immediate conservation by area biologists. Salmon managers open and close fisheries on a daily basis to ensure that adequate spawning escapements are annually achieved.

When run failures occur, managers close fisheries to provide for predetermined escapement needs and hence ensure long-term sustainable yields. When run strength is strong, managers liberalize harvest regulations to utilize surpluses. Alaska's focused emphasis on inseason management by local biologists with delegated regulatory authority to ensure sustained yields is a key ingredient to successful salmon management.

In the early 1970s Alaska experienced a series of exceedingly cold winters that depressed salmon production statewide. Shortly thereafter, Alaska implemented a major hatchery program. Strict policies were developed and implemented to provide guidance for hatchery practices in the areas of fish pathology and genetics, as well as in the area of hatchery fish marking. Strict harvest-management policies and practices were implemented to provide wild stocks with protection from potentially excessive harvest rates that could be inflicted upon hatchery stocks.

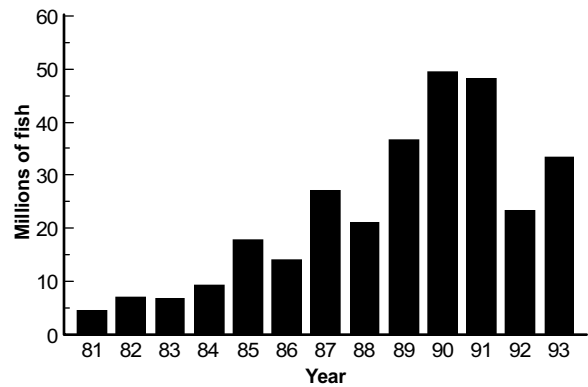


FIGURE 3. Total return of enhanced salmon.

Over the past 20 years, the private sector has been encouraged to construct and operate production-level salmon hatcheries. These facilities are regulated under the same strict hatchery policies and guidelines. In 1993 about 30 million hatchery-produced salmon were harvested in Alaska, of which more than 24 million, or almost 13% of the statewide salmon harvest, were taken in traditional fisheries.

The Alaskan salmon management program is described by W. F. Royce, a prominent Washington fishery scientist, as: "a model fishery management program that is produced, supported, and accepted politically by those that are managed."

In Alaska we have not been willing to forego the benefits provided by sustainable salmon management for other activities such as hydropower development. For example, although the option of constructing and operating large-scale, hydropower facilities on both the Susitna River and the Yukon River was closely examined, neither was built. The native salmon resources of these Alaskan drainages with their dependent fisheries was a major reason that Alaska choose the no-dam option. By way of comparison, the Yukon River is 1,980 miles long while the Columbia River is 1,243 miles long.

PACIFIC NORTHWEST SALMON FAILURE

	Columbia River	Yukon River
Length	1,243 miles	1980 miles
Flow	260,000 CFS	220,000 CFS

Alaskan people and government have always taken the approach of working toward long-term conservation of the salmon renewable resource. In 1981 the state of Alaska independently implemented a 15-year chinook salmon rebuilding program for the Southeast Alaska and transboundary chinook salmon stocks. The southern states and Canada joined our chinook salmon conservation efforts 3 years later by implementing a 15-year coastwide chinook salmon rebuilding effort through the auspices of the Pacific Salmon Treaty. The state of Alaska was and continues to be a leader in this large-scale chinook salmon conservation effort.

Based on data provided by the Pacific Salmon Commission, 85% of the Southeast Alaska harvest of chinook salmon come from hatchery stocks or wild stocks rebuilt or rebuilding, 9% from stocks categorized as indeterminate, and only 6% from stocks not rebuilding.

In summary, the view from Alaska on salmon management is that salmon resources should not be preserved, but instead they should be conserved and developed. To Alaskans, conservation and development means that salmon resources should be used to benefit people, and salmon fisheries should be managed to prevent over-utilization, destruction, or neglect. To Alaskans, this means sustained yield management.

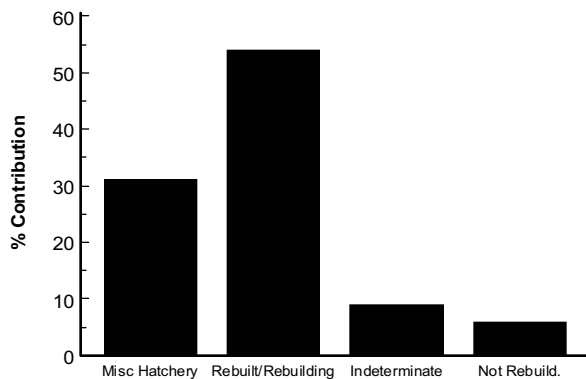


FIGURE 4. Proportions of far-north chinook salmon stocks contributing to Southeast Alaska ceiling catch.

The American Fisheries Society published a report in 1991 that identified 214 stocks of salmon in the Pacific Northwest that were at risk of extinction or of special concern. The report documented 106 additional stocks that were already extinct.

From Alaska's perspective, the demise of these salmon resources represents a tragic loss of cultural as well as economic values to both present and future generations. Recovery of salmon resources in the Pacific Northwest is important so that these valuable renewable resources can support healthy fisheries in the Pacific Northwest and continue to contribute to the historic fisheries in Southeast Alaska, as they have over the past 100 years.

Salmon stocks in the Pacific Northwest are at present severely impacted by drought conditions and *El Niño*, events beyond the control of man. However, these events have repeatedly occurred in the past without destroying salmon runs, and ocean conditions will return to normal at some point.

Setting drought and *El Niño* conditions aside, it seems clear that arresting the decline of salmon resources in the Pacific Northwest is not possible with continued habitat degradation, status quo operation of hydro-systems, or through a program that basically consists of limited fisheries management measures that fail to achieve escapement needs. In this regard, we applaud the Pacific Fisheries Management Council for finally adopting conservation-based management restrictions in offshore waters at their April 1994 meeting.

Meaningful conservation measures also need to be taken by individual states. It is cause for serious concern when biologists within state agencies feel compelled to step outside agency constraints to live up to their professional responsibilities. Such appears to be the case with a March 11, 1994, petition, filed by PRO-Salmon, to list nine salmon stocks in Washington state as threatened or endangered under the Endangered Species Act (ESA). PRO-Salmon consists of "professional fishery workers, primarily salmon biologists and technicians, within the Washington Department of Fisheries." According to the petition, "PRO-Salmon was formed as an advocacy group to be able to 'speak out' on fishery resource issues from a strictly biological point of view outside the constraints of their official duties within the Washington Department of Fisheries."

True recovery of these depressed salmon stocks will only take place when the Pacific Northwest places a higher priority on overcoming spawning escapement shortfalls brought about through neglect or by politically driven, overly exploitative fisheries management practices; hydropower development; and other habitat-degrading activities that appear so common to this area.

APPLICATION OF THE ENDANGERED SPECIES ACT

In 1991 the National Marine Fisheries Service listed Snake River sockeye salmon as endangered and in 1992 listed Snake River spring/summer and fall chinook salmon as threatened under the ESA.

Snake River sockeye and spring/summer chinook salmon are not present in Alaska fisheries. A low presence of Snake River fall chinook salmon is inferred from recovery of tagged fish from a nearby hatchery.

In determining reasonable and prudent measures necessary or appropriate to minimize human impacts on Snake River fall chinook salmon, the NMFS has failed, to date, to focus recovery efforts on those factors causing the decline.

Through biological opinions, NMFS has concluded that hydropower operations in the Snake and Columbia Rivers do not jeopardize the continued existence of Snake River fall chinook salmon. It is astounding to Alaskans that this conclusion was reached despite the NMFS finding that these hydropower fa-

cilities are associated with killing between 81% and 93% of the juvenile and 41% of the adult Snake River fall chinook salmon. There is no rational connection between the NMFS finding of severe salmon mortality due to operation of the hydropower system and their conclusion of "no jeopardy" from hydro-systems.

United States and Canadian fisheries account for about 5% of human-induced mortalities to Snake River fall chinook salmon. The Southeast Alaska fishery accounts for approximately 5% of the total 5% fishery harvest mortality, or in other words, the fishery in Alaska only accounts for about one-quarter of 1% (0.0025) of the total human-induced mortality to Snake River fall chinook salmon.

The concentration of Snake River fall chinook salmon in the Southeast Alaska fishery is estimated to be about 1 per 5,000. Thus, if reductions in chinook salmon catch quotas are required to reduce impacts on Snake River fall chinook salmon, for every one Snake River fall chinook salmon that is "saved" through fishery restrictions, Alaskan fishermen forego the harvest of 5,000 other chinook salmon, as well as other species that are harvested concurrently.

In 1993 Snake River fall chinook salmon that were passed through Alaskan fisheries were subsequently subject to fisheries in Canada, Pacific Northwest marine waters, and inriver Columbia River fisheries, as well as subject to hydropower-induced mortality as they attempted to migrate upstream to spawning beds. Thus, for each fish saved in Alaska, only about one-quarter of a fish was expected to ultimately reach the spawning grounds.

To date NMFS has refused to consider fishery conservation efforts from the perspective of equivalent numbers of chinook salmon on the spawning grounds. Thus, in none of the various biological opinions has NMFS evaluated the efficacy and benefits to the spawning grounds when evaluating various potential conservation efforts.

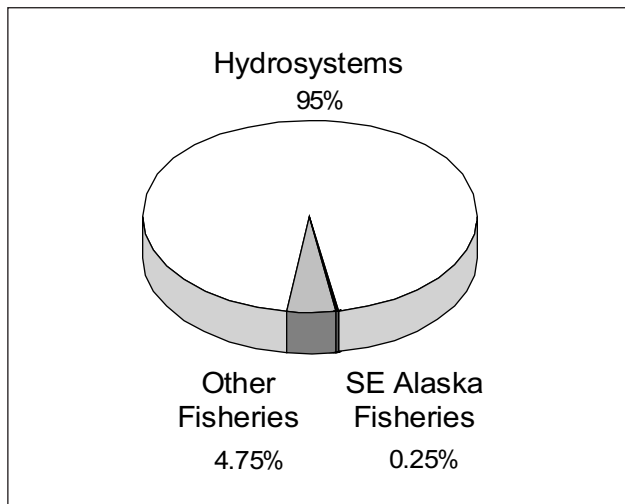


FIGURE 5. Estimated human-induced adult-equivalent mortalities of wild Snake River fall chinook salmon.

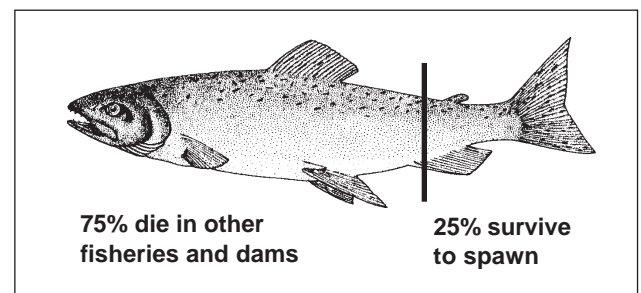


FIGURE 6. Fate of Snake River chinook salmon "saved" from Alaska fishery.

The view from Alaska is that what really counts in rebuilding Snake River fall chinook salmon is increased numbers of adult salmon returning to spawning beds in the Snake River.

NMFS arbitrarily selected 1986–1990 to use as a base period on which to apply fishery harvest minimization measures. The selection of these years captured the period of highest overall exploitation rates of Snake River fall chinook salmon documented in recent years for some fisheries.

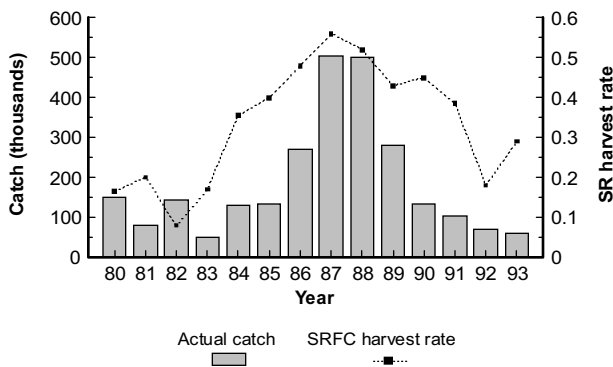


FIGURE 7. Total chinook salmon catch and Snake River fall chinook salmon harvest rate for Columbia inriver fisheries.

Harvest rates in southern fisheries were high during the 1986–1990 period because of near-term record levels of abundance of other healthy Columbia River stocks and associated heavy fishing that was accommodated through management under “pass-through” provisions (rather than quotas) of the Pacific Salmon Treaty for Pacific Northwest fisheries. Increased fishing effort in these fisheries resulted in accumulative catches of about 1.4 million chinook salmon above previous recent averages.

As a direct consequence of this heavy fishing effort and large harvests, weaker Snake River fall chinook salmon suffered the highest exploitation rate ever documented. The uniform adoption of this base period favors continuation of higher levels of take for fisheries which most directly and measurably impact Snake River fall chinook salmon.

During this same period, Alaska fisheries were managed under a “ceiling” (quota) approach that severely restricted catch levels of the very abundant and healthy Columbia River stocks. In fact, this abundance of healthy stocks greatly diluted the concentration of Snake River fall chinook salmon in Alaskan fisheries. With ceilinged fisheries, Alaska fishermen effected

some of their lowest-ever exploitation rates on listed fish.

Because NMFS has adopted a biologically unsound approach, the Southeast Alaska fishery has been required to operate at levels of take that fall below previously low harvest levels, levels that essentially demonstrated no measurable benefit to listed fish. Other

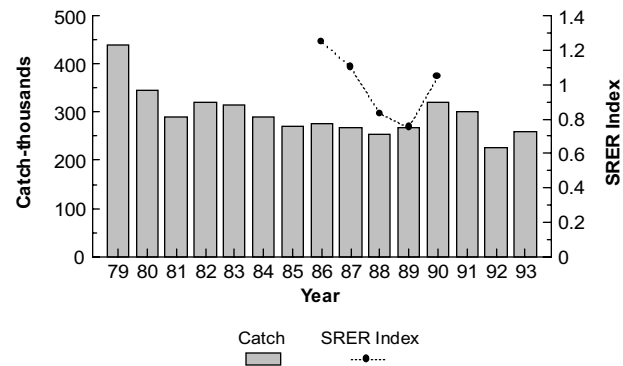


FIGURE 8. Southeast Alaska total chinook salmon catch and Snake River fall chinook salmon exploitation rate index.

fisheries have been allowed to continue their activities at levels substantially above their historical lows. And the primary cause of the stocks decline, hydropower operations, has not been required to take adequate corrective action.

The view from Alaska is that states should be a full partner in ESA rule-makings that directly affect them. And we believe that is exactly what Congress intended when the ESA was passed.

The view from Alaska is that what counts in recovery is greatly increased numbers of fall chinook salmon on the Snake River spawning grounds, not tokenism fisheries management efforts and providing a relatively “free-ride” to hydropower operations, such as occurred in 1993. Instead, salmon recovery measures:

1. should be proportional to factors causing decline; and
2. require significant improvements in hydro-system passage.

The view from Alaska is that the approach NMFS has taken to date on ESA rule-makings with regard to Snake River fall chinook salmon and other listed stocks will fail to ever result in full recovery to levels capable of sustaining maximum sustained yields.

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