

# Alaska Salmon

## INTRODUCTION

Salmon are important to Alaska's native culture and heritage. Salmon also provide increasing recreational and business opportunities in sport fishing to residents and visitors. Today, Alaska's rich abundance of Pacific salmon yields record harvests to fisheries that provide the state's largest nongovernmental source of employment.

Alaska salmon catches have been on a general increase (Fig. 13-1). After the depressed stock levels in the 1970s, most populations have rebuilt to high levels. The all-time peak catch of 196 million fish was taken in 1994. Sport and subsistence harvest of salmon totaled over 1 million fish in all waters in 1992. Recreational harvest is now 24% above the 1982-1991 average. The large hatchery program begun in 1974 by Alaska now provides 35 million salmon to the commercial catch, primarily in pink and chum salmon.

The value of the 1994 statewide catch (391,800 t) has been estimated at \$427 million (ex-vessel value). This is slightly higher than the \$390 million ex-vessel value of the 1993 harvest but down from the \$575 million for the 1992 season.

Several factors contribute to the high abundance of salmon. These include: (1) informed management by State and Federal agencies; (2) extant pristine habitats; (3) elimination of high-seas driftnet fisheries; (4) reduction of bycatch; (5) hatchery production; and (6) favorable ocean rearing conditions.

Alaska's 34,000-mile coast is nearly two-thirds the length of the coastline of the "lower 48" states. Along this coastline, over 14,000 water bodies support salmon populations. Salmon management in such a vast area requires a complex mixture of domestic and international bodies, treaties, regulations, and agreements. Federal and state agencies participate in their management. The Alaska Department of Fish and Game (ADF&G) manages all fisheries in state waters where the majority of harvest occurs. Management in the EEZ is the responsibility of NOAA Fisheries and the North Pacific FMC.

Salmon management is also negotiated with Canada through the Pacific Salmon Commission. Recent U.S. and Canada negotiations stalled when agreement was not reached on the catch allocations needed in northern fisheries under the Pacific Salmon Treaty. In particular, major disagreements arose over chinook salmon catches in SE Alaska where Canadian salmon are caught along with U.S. stocks.

Table 13-1.		Alaska Salmon			
<i>Productivity in metric tons and status of fisheries resources</i>					
Species	Recent Average Yield (RAY) <sup>1</sup>	Current Potential Yield (CPY)	Long-Term Potential Yield (LTPY) <sup>2</sup>	Fishery Utilization Level	Stock Level Relative to LTPY
Pink	138,400	119,700	119,700	Full	Above
Sockeye	151,300	114,200	114,200	Full	Above
Chum	43,900	39,400	39,400	Full	Near
Coho	26,100	17,600	17,600	Full	Above
Chinook	5,100	5,600	5,600	Full	Below
Total	364,800	296,500	296,500		

<sup>1</sup> 1992-94 average.  
<sup>2</sup> 1980-94 average.

On a broader international scope, the management of salmon in the high seas of the North Pacific Ocean from 1957 to 1992 was authorized by the International North Pacific Fisheries Commission (INPFC), and via bilateral and multilateral talks and negotiations with Taiwan and the Republic of Korea. In 1993, the North Pacific Anadromous Fish Commission (NPAFC) was formed to replace INPFC. This Commission of four countries (Canada, Japan, the Russian Federation, and the United States) now provides a framework for international cooperation in salmon management and research in the North Pacific Ocean. The NPAFC Convention clearly prohibits high seas salmon fishing and trafficking of illegally caught salmon. Coupled with United Nations General Assembly (UNGA) Resolution 46/215, which bans large-scale pelagic driftnet fishing in the world's oceans, salmon harvesting in the high seas should cease, and management control can return to the salmon-producing nations.

### SPECIES AND STATUS

Pacific salmon are anadromous species that spend a portion of their life (1-7 years) at sea and return to freshwater streams to spawn and die. From their freshwater spawning grounds, the young salmon migrate to nearshore rearing areas and may migrate thousands of miles out to sea outside of the U.S. EEZ before returning to natal waters to spawn.

Alaska's five salmon species (chinook, coho, chum, sockeye, and pink) are fully utilized, and stocks generally have rebuilt to or beyond previous high levels (Table 13-1). Research has been extensive into all aspects of the salmon's life history, and the

Alaska Salmon Landings (Number of Fish)	
1993	193,000,000
1994	196,000,000

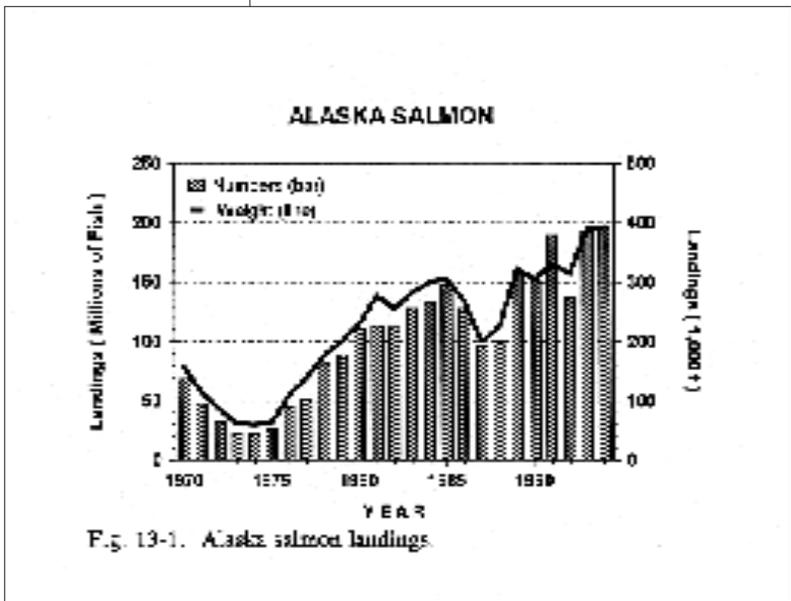


Fig. 13-1. Alaska salmon landings.

Alaska Salmon Landings (t)	
1993	389,700
1994	391,800

information has been used to regulate fisheries on stocks by monitoring escapement size and catch numbers by season and area. The unprecedented recent high catches should not be interpreted as an absence, in Alaska, of the same factors affecting declines of salmon in the Pacific Northwest.

Problems associated with overfishing, incidental take as bycatch in other fisheries, and loss of spawning and rearing habitat in freshwater and nearshore ocean areas are also present in the Alaska region.

### ISSUES

#### Bycatch and Multispecies Interactions

Bycatch of salmon by U.S. groundfish fisheries in the Bering Sea and the Gulf of Alaska remains a problem in groundfish management. About 60,000 chinook salmon were taken incidentally each year between 1992 and 1994 in these trawl fisheries. In that same period, about 173,000 other salmon per year were taken as trawl bycatch. The problem is currently being addressed by the North Pacific FMC through time-area closures and bycatch limits set for the groundfish fisheries.

#### Habitat Degradation

Responsible management of Alaska's salmon resource is a national responsibility shared between the state and federal government. Maintaining this renewable resource requires considered and planned use for thousands of miles of riparian habitat that support salmon production. Competing uses for this habitat include logging, mining, oil and gas development, and industrial and urban development. Although progress has been made in setting Federal and State land use guidelines, conflicts still occur. Natural resource managers continually face increasing demands from extractive industries to log, drill or fill on riparian habitats while working to change land use laws. An example is the continuing debate over the required size of clear cuts and buffer zones along anadromous fish streams. In its recent review of timber harvest in the Tongass National Forest, the U.S. Forest Service concluded that long term application of current timber harvest procedures could lead to, or continue, declines in habitat productivity and eventual loss of salmonid stocks. The recent buy-back of Federal gas and oil leases in Bristol Bay is another example of long-term protection granted to the salmon resource.

#### Hatchery Enhancement

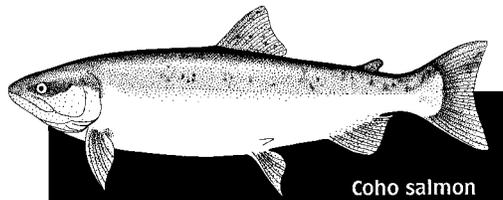
Alaska's salmon enhancement program produces significant numbers of fish for commercial and sport harvest. While most hatcheries are now operated by the private sector, the State manages fisheries to minimize catches of wild fish where large numbers of returning hatchery salmon are caught. Overfishing is particularly a

concern where wild stocks are in low abundance and spawning escapement goals may not be achieved. One area of concern is Prince William Sound (PWS) where large returns of hatchery pink salmon mix with much lower numbers of wild fish. State managers are particularly concerned because wild stocks in Prince William Sound continue at low abundance.

## PROGRESS

Significant progress has been made to control the interception and incidental take of Alaska's salmon resources. First, a formerly legal high-seas salmon fishery by Japan, which was authorized by an international Convention from 1952-1992, was terminated under a new Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean. Second, high seas driftnet fisheries for squid by various countries that also intercepted U.S.-origin salmon stocks in the central North Pacific Ocean have been terminated by United Nations General Assembly Resolution 46/215. A remaining problem of salmon bycatch in U.S. groundfish

fisheries in the Bering Sea and the Gulf of Alaska is actively being managed by the North Pacific FMC through time-area closures and bycatch limits set for the groundfish fisheries. Negotiations continue with Canada, in the Pacific Salmon Commission, to resolve long-standing interception issues, particularly in the northern British Columbia and Alaska boundary area. Natural resource managers in Alaska are dealing with increasing demands of industrial developments while working to maintain the productive natural habitats that support Alaska's wild salmon. To assist in meeting the need for better understanding wild stock status, a cooperative effort has begun in SE Alaska between ADF&G and the Alaska Chapter of the American Fisheries Society which will provide a population status inventory of the state's salmon and steelhead resources. □



**Coho salmon**  
*Oncorhynchus kisutch*