Regional Information Report No. 5J23-04

Alaska Salmon Fisheries Enhancement Annual Report 2022

by

Lorna Wilson

February 2023

Alaska Department of Fish and Game **Division of Commercial Fisheries**

Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, Special Publications and the Division of Commercial Fisheries Regional Reports. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat or long
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$\log_2$, etc.
minute (angular)	'
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

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by

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February 2023

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This document should be cited as follows:
Wilson, L. 2023. Alaska salmon fisheries enhancement annual report 2022. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report No. 5J23-04, Juneau.

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF FIGURES

LIST OF FIGURES (Continued)

LIST OF APPENDICES

ABSTRACT

This annual report reviews Alaska's salmon fisheries enhancement program. This program's success is attributable to the development of statutes, regulations, and policies that require hatcheries to be located away from important natural salmon stocks and to use local broodstock sources. To maintain genetic diversity, Alaska hatcheries do not selectively breed for size or other traits and use large numbers of broodstock. Most hatchery releases are marked so that fishery managers can estimate the strength of wild stocks in the harvest inseason and manage wild stocks conservatively. Hatchery production is intended to supplement—not replace—wild stock production. Harvests in 2013, 2015, and 2017 were 3 of the 4 highest wild stock salmon harvests dating back to the late 1800s. Abundance-based wild stock management priority, habitat protection, and record wild stock harvests reflect the state's commitment to conservation of wild stocks and provide the foundation of its salmon fisheries enhancement program.

Currently, 30 salmon hatcheries are operating in the state. Twenty-six facilities are operated by private nonprofit (PNP) corporations, which are funded primarily from the sale of a portion of hatchery returns. Of these, 11 are state owned and operated by PNPs on the state's behalf at no cost to the state. Non-PNP operated hatcheries include two sport fish hatcheries operated by the state, one research hatchery operated by the National Marine Fisheries Service, and one hatchery operated by the Metlakatla Indian Community under federal regulation.

In 2022, the commercial fleet caught 40 million Alaska hatchery-produced salmon worth an estimated $163 million in exvessel value. Hatchery fish contributed 25% of the statewide commercial salmon harvest and 23% of the statewide commercial harvest exvessel value. Additionally, 168 thousand hatchery fish were caught in sport, personal use, and subsistence fisheries. In preparation for future production, Alaska hatcheries took 2.1 billion salmon eggs and released 1.9 billion juvenile salmon.

Keywords: Alaska salmon hatchery, hatchery, pink salmon, chum salmon, Chinook salmon, coho salmon, sockeye salmon

PREFACE

This report is a review of Alaska's hatchery production based on information provided by hatchery operators, preliminary fish ticket data, and reports from area managers. The report is intended to update the Alaska State Legislature on the status of Alaska's hatchery program in fulfillment of Alaska Statute 16.05.092.

In this document, *wild* fish refer to fish that are offspring of parents that naturally spawned in watersheds and intertidal areas. *Hatchery* fish are fish reared in a hatchery to a juvenile stage and released. *Farmed* fish are fish reared in captivity to market size for sale. Farming of finfish, including salmon, is not legal in Alaska. Also, note that a small number (less than 200,000) in the overall statewide catch—primarily in the Southeast Alaska Chinook salmon harvest—are hatchery fish from hatcheries outside Alaska; these fish are included with the wild catch. *Broodstock* are fish used for egg and milt collection at the hatchery.

The *commercial harvest* is composed of the *common property* and *cost-recovery* harvests. The *commercial common property* harvest is fish available for harvest by commercial fishing permit holders. Sport, personal use, and subsistence users also harvest *common property* fish. The *cost-recovery* harvest is fish harvested in designated special harvest areas to pay for hatchery operations.[1] A *tender* vessel is a boat that transports the catch from a fishing boat to a processing facility. Tenders are usually larger vessels that can transport the catch from numerous fishing boats to a shore-based processor so that the vessels can stay on the fishing grounds and continue fishing.

[1] Fish harvested in regulatory designated special harvest areas in a commercial common property fishery may be subject to a special cost-recovery fishery assessment tax to pay for operations.

Exvessel value is the value paid to fishermen by a processor for their harvest and are presented in this report. *First wholesale value* is the value of processed product sold by a processor. Exvessel values by region were estimated as the percentage of the hatchery harvest in the region for each species multiplied by the total exvessel value for that species in the region, by year.

Values and numbers of hatchery fish are for Alaska hatcheries only, and do not include harvest in Alaska from non-Alaska hatcheries, such as hatcheries in Canada or the Pacific Northwest states. Numbers in tables may be rounded for clarity. Monetary values are not adjusted for inflation unless otherwise noted. Contributions of hatchery fish are in numbers of fish, and not weight of fish.

References in this document to the ADF&G commissioner refer to the commissioner or delegates.

INTRODUCTION

ALASKA HATCHERY HISTORY

Alaska's modern hatchery program was developed in response to historically low salmon abundance in the early 1970s (Figure 1). Alaska's modern hatchery program began in 1971, when the Alaska Legislature established the Division of Fisheries Rehabilitation, Enhancement and Development (FRED) within the Alaska Department of Fish and Game (ADF&G). See Appendix A1 for a fisheries enhancement timeline of events.

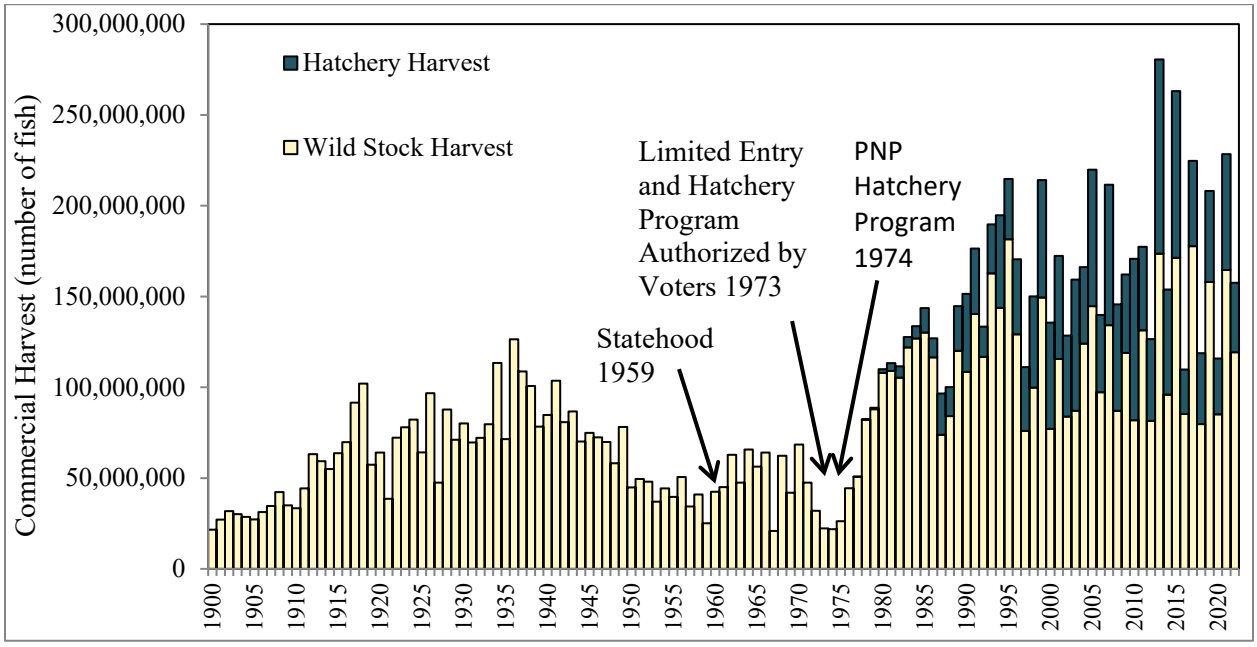

Figure 1.–Commercial salmon harvest in Alaska, 1900–2022.

In 1972, Alaska voters amended Article 8, Section 15 of Alaska's Constitution to provide tools for restoring and maintaining the state's fishing economy. The amendment provided an exemption to the "no exclusive right of fishery" clause in the state constitution, enabling limited entry to Alaska's state fisheries and allowing the development of aquaculture in the state. Alaska's salmon hatchery program developed under this authority and was designed to supplement—not replace—sustainable natural production. Alaska's salmon fishery harvests were just 22 million fish in 1973 and 1974 (Figure 1).

In 1974, the Alaska Legislature expanded the hatchery program, authorizing private nonprofit (PNP) corporations to operate salmon hatcheries:

> It is the intent of this Act to authorize the private ownership of salmon hatcheries by qualified nonprofit corporations for the purpose of contributing, by artificial means, to the rehabilitation of the state's depleted and depressed salmon fishery. The program shall be operated without adversely affecting natural stocks of fish in the state and under a policy of management which allows reasonable segregation of returning hatchery-reared salmon from naturally occurring stocks.[2]

This means that PNP hatcheries have a fishery enhancement objective and hatchery permits are issued for production-scale hatcheries.

The State of Alaska funded the construction of 18 hatcheries between 1969 and 1983 with general obligation bonds. These state-built hatcheries were initially operated by ADF&G FRED Division. PNP corporations began building hatcheries in the mid-1970s. In 1988, the legislature passed an act that allowed the state hatcheries to be operated by PNP hatchery corporations (AS 16.10.480). Since then, all state-owned commercial production hatcheries still in operation have been contracted to PNP hatchery operators. PNP corporations hold their own hatchery permits[3] to operate the facilities and are responsible for funding hatchery operations. In 1993, FRED Division was merged with the Division of Commercial Fisheries. Two Division of Sport Fish hatcheries continue under state operation.

ADF&G, PNP hatcheries, and other agencies such as the U.S. Forest Service, engaged in a variety of activities to increase salmon production. New hatcheries were built to raise salmon. Fish ladders were constructed around barriers to provide adult salmon access to new spawning and rearing areas. Lakes with waterfall outlets too high for adult salmon to ascend were stocked with salmon fry. Log jams were removed in streams to enable returning adults to reach spawning areas. Nursery lakes were fertilized to increase the available feed for juvenile salmon.

A combination of favorable environmental conditions, limited fishing effort, abundance-based harvest management, habitat improvement and protection, and hatchery production gradually boosted salmon catches. Recent wild commercial salmon harvests (2013–2022) annually averaged 185 million fish—an increase of 477% from the 10 years of harvests before hatchery contribution (1967–1976). Alaska's hatchery program has produced significant contributions to the fisheries alongside sustainable, healthy, well-managed wild production. The 5 largest wild stock harvests in Alaska history occurred, in order of descending rank, in 1995, 2017, 2013, 2015, and 2021.

ALASKA FISHERY ENHANCEMENT PLANNING

Regional Aquaculture Associations

Regional Aquaculture Associations (RAAs) exist for many of Alaska's salmon planning regions (5 AAC 40.300–40.370). The ADF&G commissioner determines whether an RAA is qualified and can assist in the formation of one for each region. Where RAAs operate hatcheries, they also form PNP corporations, and have a board of directors whose membership is composed of commercial

[2] Alaska Legislature 1974. An act authorizing the operation of private nonprofit salmon hatcheries. Section 1, Chapter 111, SLA 1974, in the Temporary and Special Acts.

[3] An exception to this is the Crystal Lake Hatchery in Petersburg, which is owned by the state, operated by the Southern Southeast Regional Aquaculture Association, and has no hatchery permit.

salmon fishing permit holders and representatives of other stakeholder groups such as sport and subsistence harvesters, processors, and city officials. PNP boards establish hatchery production goals and oversee business operations.

Salmon fishery enhancement efforts are guided by comprehensive salmon plans for each region. These plans are developed by Regional Planning Teams (RPTs). RPTs are composed of 6 voting members: 3 from ADF&G and 3 appointed by the RAA's board of directors. Plans are developed in a public process based on the needs of fishery user groups and communities of the region. The plans can be periodically reviewed and updated to meet changing needs. RPT meetings are public.

Private Nonprofit Hatchery Permit Process

Each hatchery is permitted separately. Acquisition of a hatchery permit is an extensive process (5 AAC 40.110–40.230). A hatchery application consists of production goals, hatchery site information, water flow, water chemistry data, land ownership, water rights, hatchery design, initial proposed broodstock for the hatchery, and a financial plan. ADF&G staff draft a fishery management feasibility analysis for the proposed hatchery. The PNP Hatchery Program Coordinator reviews the application with the applicant, who addresses any deficiencies. ADF&G management and regional staff review the application. The application is then provided for public review.

The RPT reviews hatchery permit applications within their region. The RPT determines whether the hatchery operation is compatible with the regional comprehensive salmon plan. Following review by the RPT, a public hearing is held regarding the hatchery permit. At the public hearing, the hatchery applicant describes the proposed hatchery plan, and ADF&G staff present the basic management plan (BMP, described in the next section) for the hatchery. Public testimony and questions follow the presentations. ADF&G must respond in writing to any specific objections to the proposed permit.

The application is then sent to the ADF&G commissioner for final review. By regulation (5 AAC 40.220), the commissioner's decision is based on consideration of (1) the suitability of the site for making a reasonable contribution to the common property fishery, not adversely affecting management of wild stocks, and not requiring significant alterations of traditional fisheries; (2) the operation of the hatchery makes the best use of the site's potential to benefit the common property fishery; (3) the harvest area size at the hatchery is sufficient in size to provide a segregated harvest of hatchery fish of acceptable quality for sale; (4) proposed donor sources can meet broodstock needs for the hatchery for the first cycle; (5) water sources for the hatchery are secured by permit and are of appropriate quality and quantity; and (6) the hatchery has a reasonable level of operational feasibility and an acceptable degree of potential success.

Hatchery permits cannot be transferred. When hatcheries change operators, a new permit must be issued by the process described above.

Private Nonprofit Hatchery Permits and Plans

Alaska PNP hatcheries operate under 4 documents: *PNP hatchery permit*, *basic management plan* (BMP), *fish transport permits* (FTP), and *annual management plans* (AMP). Each of these documents are approved by the commissioner.

The *PNP hatchery permit* (AS 16.10.400–16.10.470) authorizes operation of the hatchery and specifies the species, egg source, release location(s), and other conditions. Hatchery permits remain in effect unless relinquished by the permit holder or revoked by the ADF&G commissioner.

The *basic management plan* (BMP; 5 AAC 40.820) is an addendum to the PNP hatchery permit and specifies the maximum number of eggs of each species that a facility can incubate, the authorized release locations, and may identify stocks for broodstock. PNP hatchery permits and BMPs may be amended by the permit holder through a *permit alteration request* (PAR). Requested changes are reviewed by the RPT and ADF&G staff. Recommendations to approve PARs are sent to the ADF&G commissioner for consideration.

A *fish transport permit* (FTP; 5 AAC 41.001–41.060) is required for egg collection, transport, and release of live fish. An FTP authorizes specific activities described in the hatchery permit and management plans including broodstock source, gamete collection, and release site, and must be consistent with the previously approved guiding documents for the program, such as the PNP hatchery permit. FTP applications are reviewed by the ADF&G fish pathologist, fish geneticist, regional resource development biologist, and other ADF&G staff as delegated by the ADF&G commissioner. Reviewers ensure activities described in the FTP are consistent with ADF&G policies and may suggest conditions for the FTP. Reviewers recommend approval, and final consideration of the application is made by the ADF&G commissioner. FTPs are issued for a fixed period. When an FTP is renewed or amended, the FTP application goes through the same review process as the original FTP. Continual review of hatchery activities provides an ongoing assessment of all hatchery projects over time.

An *annual management plan* (AMP; 5 AAC 40.840) outlines operation for the current year and is written cooperatively between ADF&G regional and PNP hatchery staff in a process that is coordinated by the PNP Hatchery Coordinator. Typically, AMPs include the current year's egg-take goals, juvenile releases, remaining fish inventory, expected adult returns, harvest management plans, FTPs required or in place, production strategies, and evaluation plans. AMPs must be consistent with the PNP Hatchery Permit and BMP. Final consideration of the plan is made by the ADF&G commissioner.

ALASKA HATCHERY POLICIES

The success of Alaska's hatchery program can be attributed to the various policies, statutes, and regulations that were instituted by ADF&G, the legislature, and the Alaska Board of Fisheries to control hatchery development and concurrently to protect wild stocks (Evenson et al. 2018). Numerous Alaska mandates and policies for hatchery operations were specifically developed to minimize potential adverse effects to wild stocks. Through a comprehensive permitting and planning process, PNP hatchery operations are subject to continual review by ADF&G staff.

Genetic Policy

The ADF&G *Genetic Policy* (Davis et al. 1985) sets out restrictions and guidelines for stock transport, protection of wild stocks, and maintenance of genetic variance. Policy guidelines include banning importation of salmonids from outside the state (except U.S./Canada transboundary rivers); restricting transportation of stocks between the major geographic areas in the state (Southeast, Kodiak Island, Prince William Sound, Cook Inlet, Bristol Bay, Arctic-Yukon-Kuskokwim, and Interior); requiring the use of local broodstock; maintaining genetic diversity by use of large populations of broodstock collected across the entire run and without regard to any

physical trait such as size; and limiting the number of hatchery stocks derived from a single donor stock. This policy and other relevant information are used by ADF&G geneticists when they review hatchery permits.

Fish Health and Disease Policy

The Alaska Fish Health and Disease Control Policy (5 AAC 41.080) is designed to protect fish health and prevent spread of infectious disease in fish and shellfish. The policy is used by ADF&G fish pathologists to review hatchery plans and permits. The policy and associated guidelines are discussed in *Policies and Guidelines for Alaska Fish and Shellfish Health and Disease Control* (Meyers 2010), which includes policy guidelines for FTPs, broodstock screening, disease histories, and transfers between hatcheries. Previously suggested regulation changes published in an earlier description of the Alaska hatchery program were codified into state regulations in Title 5 of the Alaska Administrative Code in February 2011. These regulations and guidelines are used by ADF&G fish pathologists when they review hatchery permits.

Fishery Management Policies

The Alaska state constitution, statutes, and regulations mandate that ADF&G manage salmon returns for wild stock conservation. This means that escapement goals are established for important salmon systems, and the fisheries are managed to meet these goals. The Alaska Policy for the Management of Sustainable Salmon Fisheries (5 AAC 39.222), the Policy for the Management of Mixed-Stock Salmon Fisheries (5 AAC 39.220), the Salmon Escapement Goal Policy (5 AAC 39.223), and local fishery management plans (5 AAC 39.200) guide fisheries management for the protection of wild salmon stocks. These regulations require fishery managers to consider the interactions of wild and hatchery salmon stocks when reviewing hatchery management plans and permits.

ABOUT HATCHERIES

PNP hatcheries are funded from a variety of sources. Commercial salmon fishing permit holders may vote to impose a salmon enhancement tax on sale of salmon in their region. These funds are collected by the state and distributed to the RAA to finance hatchery operations or other enhancement and rehabilitation activities. Independent PNP corporations,[4] not affiliated with an RAA, also operate hatcheries in several areas of the state. The RAAs and independent PNP hatchery organizations may contract processors to harvest hatchery salmon in designated areas[5] to pay for operations. Such harvests are called *cost-recovery* fisheries, in contrast to *common property* fisheries, which are fisheries open to all qualified commercial, subsistence, personal use, and sport harvesters.

Economy of Scale

There are tradeoffs between the costs of production and the value of fish at harvest that make some salmon more economical to produce than others. Hatchery production is limited by the available freshwater capacity, freshwater rearing space, rearing time, and costs of production. Costs of production include feed, the rearing facility, and facility operations. The potential value of fish at

[4] Independent PNP operators do not receive salmon enhancement tax funds; only RAAs receive the tax funds.

[5] Designated areas are called special harvest areas.

harvest is limited by the value of fish at return and the number of fish that return. Hatcheries balance fish production costs with potential value of harvest when making production decisions.

Some salmon species are more economical to rear. Pink salmon are the most economical to rear because they have a short rearing time—1 winter in the hatchery—and have the shortest life cycle of Pacific salmon, 2 years. This means pink salmon provide a quick return on investment and provide the highest economic return for the production costs. Chum salmon have the same rearing time in the hatchery but have a longer life cycle (3–4 years); therefore, they have a longer return on investment. Pink and chum salmon are the bulk of Alaska hatchery production because they have the highest return on investment for the cost of production. Chinook, sockeye, and coho salmon are less economical to produce than pink and chum because they have long rearing times at the hatchery, typically a year or more, and have longer life cycles, so they have a long return on investment. Although Chinook, sockeye, and coho salmon garner higher prices per pound at harvest, the longer rearing time required at the hatchery mean that they are expensive to rear and less economical to produce.

Hatcheries and Fishery Managers Work Together

Hatchery egg takes, rearing strategies, and releases are planned with the goal of eventual harvest; accordingly, hatchery activities are integrated with harvest management. Harvests of hatchery-produced salmon occur at specific locations because juvenile salmon imprint on the water at release and then, when salmon return as adults, they home to that location (Dittman and Quinn 1996). Release site selection allows hatcheries to plan the number of salmon that will return to an area and allows hatcheries and fishery managers to anticipate for hatchery salmon contribution to various fisheries.

Segregation of hatchery-origin and naturally spawned returns allows fishery managers to work toward fishery objectives for wild stocks, such as salmon escapement goals, and increases diversity in fishing opportunity. When wild stock production provides surplus fish for harvest, fishers may target those fish during open fishing periods in traditional fishing areas. Hatchery returns may be intercepted in traditional fisheries. When traditional wild stock fishing periods close, fishers can move to the hatchery release sites that remain open and continue fishing until the wild stock areas reopen. In some seasons, fishers may exclusively target hatchery fish in the terminal harvest areas, even when wild stock areas are open, which may reduce harvest rates on wild stocks. Hatchery salmon return areas provide the fishing fleet more time and area to fish.

Although most of the harvest of a species in a region may be made up of hatchery production—pink salmon in Prince William Sound or chum salmon in Southeast Alaska, for example—this does not mean that hatchery production is intended to replace wild stock production. Hatchery production grew at a pace that allowed managers to assess all salmon returns and understand how to manage for wild stock returns in the presence of hatchery returns and provide for adequate escapement of wild stocks.

Salmon Return Evaluation

Alaska's PNP hatchery salmon return evaluation program has a track record of active assessment and innovation. Hatcheries use coded wire tags, otolith marks, or both, to differentially mark releases. Differentially marking salmon allows for apportioning the commercial fishery catch between hatchery and wild salmon where both hatchery and wild stocks return simultaneously (Hagen et al. 1995). Tags and marks from salmon caught on the high seas can be used to determine

origins and migration patterns, and salmon carcasses can be collected during stream surveys to assess straying.

Over time, Alaska hatcheries have increased the proportion of juvenile salmon releases that are marked (Figure 2). Starting in the 1970s, few hatchery salmon releases had any type of mark, although some had 1 or 2 fins clipped. In the 1980s, hatcheries started tagging juvenile salmon by inserting a coded wire tag (CWT) into the nose of a portion of released salmon (Jefferts 1963). CWTs are etched with a numeric code that can be read when the fish is recovered as an adult; the numeric code can determine the salmon's release group and estimate that release group's contribution to fisheries. In Alaska, fish that are CWT-tagged also receive an external mark: their adipose fin (a small fatty fin on the fish's back) is clipped to allow visual separation of fish that have a CWT from those that do not.

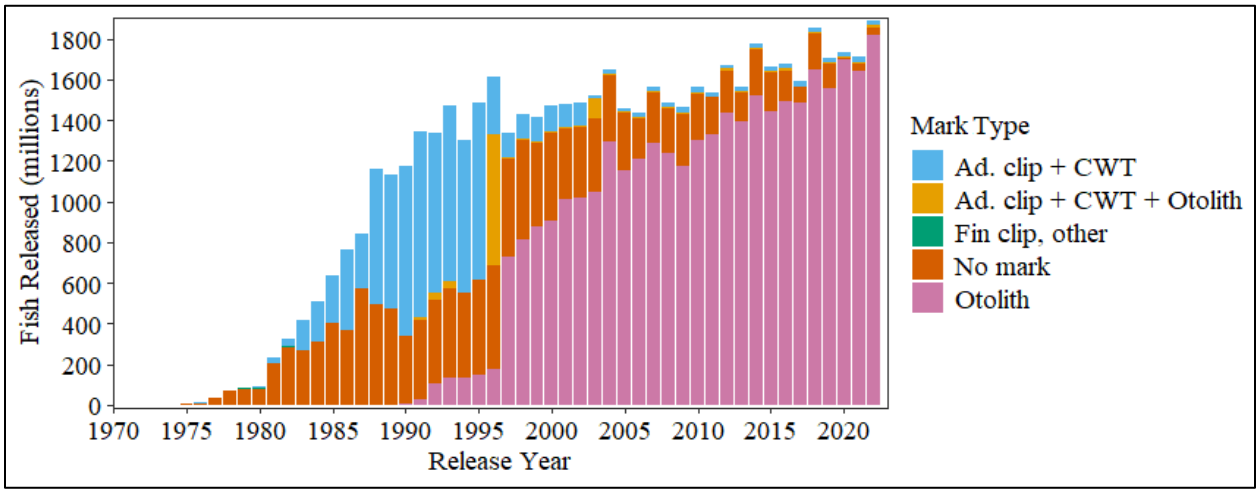

Figure 2.–Juvenile salmon released by Alaska hatcheries by mark type, 1970–2022.

Otolith marking was first used on a production scale in 1988 at Snettisham Hatchery near Juneau. Cook Inlet hatcheries began releasing otolith-marked salmon in 1991 and Northern Southeast hatcheries began releasing otolith-marked fish in 1992. Prince William Sound hatcheries released juvenile salmon that were otolith marked, CWT-tagged, and adipose clipped in 1996 before transitioning to only otolith marks in 1997. Southern Southeast hatcheries started consistently releasing otolith-marked salmon in 2002. Kodiak hatcheries released their first otolith-marked fish in 2014, and by 2020 nearly all (97.8%) salmon releases from Alaska were otolith marked.

Otolith marking is commonly performed by alternating warmer and colder incubation water over a 12-hour to 6-day period, usually during the egg stage. This action will lay down alternating dense and less dense patterns of growth on the fish's ear bone (called the otolith), similar to rings on a tree (Figure 3; Volk et al. 1999). Growth patterns on otoliths of naturally spawned salmon are less distinct and irregular, so hatchery and natural-produced salmon can be separated by visual inspection of their otoliths. Regulation of temperature or stress means fish can be marked with distinct patterns, allowing for separation of stocks among hatcheries, release sites, and brood years. As manipulation of rearing area is used to mark the fish, 100% of the fish are marked. This allows for high accuracy in the assessment of the number of hatchery fish in a sample, which is an improvement over marking fish with coded wire tags that can only be applied to a fraction of the release.

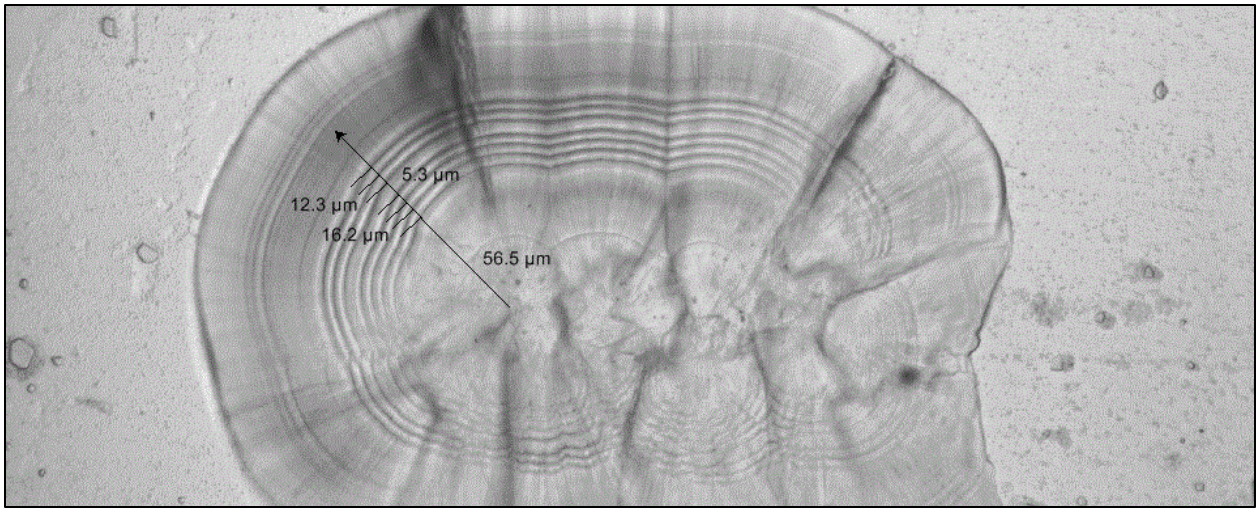

Figure 3.–Salmon otolith (ear stone) with a thermal mark. This otolith was taken from a juvenile sockeye salmon at Snettisham Hatchery in Juneau, AK.

Source: Mark Characteristic Report. https://mtalab.adfg.alaska.gov/OTO/reports/VoucherSummary.aspx?mi=TAHLTAN16 (accessed 3/3/2021).

All PNPs and nearly all Alaska hatcheries' release data are publicly available in online reports maintained by the ADF&G Mark, Tag, and Age Laboratory. The release report shows species, number of fish released, the type of mark applied to the fish, and other release information.[6] The thermal mark voucher report characterizes each thermal mark applied at a hatchery so that upon recovery, a thermal mark can be matched to its release group.[7]

Hatchery operators and ADF&G staff sample tags and otoliths from fisheries to estimate hatchery contribution. Otoliths are read for mark presence and identification by hatchery operators and by ADF&G. The ADF&G Mark, Tag, and Age Laboratory maintains several online reports that summarize fishery data. For example, the ADF&G Mark Summary Report provides the number of otolith-marked salmon recovered in Alaska and Canada in commercial and test fisheries.[8] Fisheries are sampled for CWTs by ADF&G and hatchery operators, and nearly all CWTs are dissected and decoded by the ADF&G CWT Lab. The ADF&G Agency Report lists CWT recoveries by release group and provides fishery contribution.[9]

Hatchery and Wild Salmon Interaction

Straying of hatchery-produced fish to wild stock systems has been monitored for many years. Hatchery chum salmon straying has been assessed in Southeast Alaska (Piston and Heinl 2012a, 2012b) and Prince William Sound systems (Brenner et al. 2012). Hatchery Chinook salmon straying has been monitored on several Southeast Alaska systems for decades (Ed Jones, ADF&G Fishery Biologist, Juneau, personal communication). Hatchery sockeye salmon straying has been studied in Kodiak (Baer and Honnold 2002), in the Copper River basin

[6] Hatchery Release Report Form. https://mtalab.adfg.alaska.gov/CWT/reports/hatcheryrelease.aspx (accessed March 3, 2021).

[7] Find Voucher Information. https://mtalab.adfg.alaska.gov/OTO/reports/VoucherSummary.aspx (accessed March 3, 2021).

[8] Mark Summary Report Form. https://mtalab.adfg.alaska.gov/OTO/reports/MarkSummary.aspx (accessed March 3, 2021).

[9] Agency Report Form. https://mtalab.adfg.alaska.gov/CWT/reports/agency.aspx (accessed March 3, 2021).

(Bidlack and Valentine 2009), and the Kenai River (Habicht et al. 2013; Stopha 2012). Pink salmon straying has been monitored in Prince William Sound (Brenner et al. 2012) and Cook Inlet (Hollowell et al. 2017).

A long-term study is underway to investigate interactions between hatchery and wild salmon in Alaska.[10] A panel composed of scientists with broad experience in salmon fishery enhancement, research, and management—from ADF&G, University of Alaska, aquaculture associations, and National Marine Fisheries Service—was assembled by ADF&G in 2011. The panel designed and guides a research program entitled *Interactions of Wild and Hatchery Pink and Chum Salmon in Prince William Sound and Southeast Alaska*. Study funding is shared among the PNP operators, salmon processors, and the State of Alaska, and is administered by ADF&G. Field work is conducted by the Prince William Sound Science Center and the Sitka Sound Science Center. The study will improve understanding of hatchery and wild stock interactions and provide Alaska-specific scientific guidance for assessing Alaska's hatchery program.

NON-PRIVATE NONPROFIT SALMON PROPAGATION

ADF&G Division of Sport Fish hatcheries in Anchorage and Fairbanks produce fish for sport fisheries in Cook Inlet, Resurrection Bay, Prince William Sound, Southeast, and the Interior. The hatcheries are primarily funded from the federal excise tax on fishing-related equipment under the Dingell-Johnson Sport Fish Restoration Act. The funding, policy, and planning for these hatcheries is described in the current Statewide Stocking Plan.[11]

A non-ADF&G agency may propagate salmon in Alaska's waters under one of 2 types of permits: a PNP salmon hatchery permit, or an aquatic resource permit (ARP). ARPs have a scientific or educational objective, see regulation 5 AAC 41.600. ARPs are issued for feasibility studies for potential hatchery production, vocational programs, small-scale production for the purpose of salmon research, and the extensive *Salmon in the Classroom* program conducted in schools across the state.

Tamgas Creek Hatchery (TCH) operated by Metlakatla Indian Community (MIC) is on Annette Islands Reserve, the only Indian Reserve in Alaska. TCH is managed solely by MIC under federal regulation.

2022 SUMMARY

CURRENT HATCHERIES

30 hatcheries operated in Alaska during 2022 (Figure 4; Appendices C1, C2). Most (26) hatcheries were operated by PNPs. Of these, 11 are owned by the state and 15 are owned by PNPs. The 11 hatcheries owned by the state were operated by PNPs on the state's behalf at no cost to the state. There were several non-PNP hatcheries operating in Alaska. Little Port Walter operations by NMFS were authorized for research and not PNP operations. ADF&G operated 2 sport fish hatcheries, William Jack Hernandez Hatchery in Anchorage and Ruth Burnett Hatchery in Fairbanks. Metlakatla Indian Community governed and operated Tamgas Creek Hatchery (TCH). Activities at non-PNP hatcheries are included in this report, as available. There are 4 PNP hatchery facilities that are

[10] Study findings can be found at http://www.adfg.alaska.gov/index.cfm?adfg=fishingHatcheriesResearch.findings_updates (accessed February 23, 2022).

[11] https://www.adfg.alaska.gov/index.cfm?adfg=fishingSportStockingHatcheries.stockingPlan (accessed February 23, 2022).

permitted but did not take eggs or contribute to salmon returns in 2022: Haines Projects (Southeast), Perry Island Hatchery (Prince William Sound), Eklutna Hatchery (Cook Inlet), and Little Port Walter operated by AKI (Southeast).

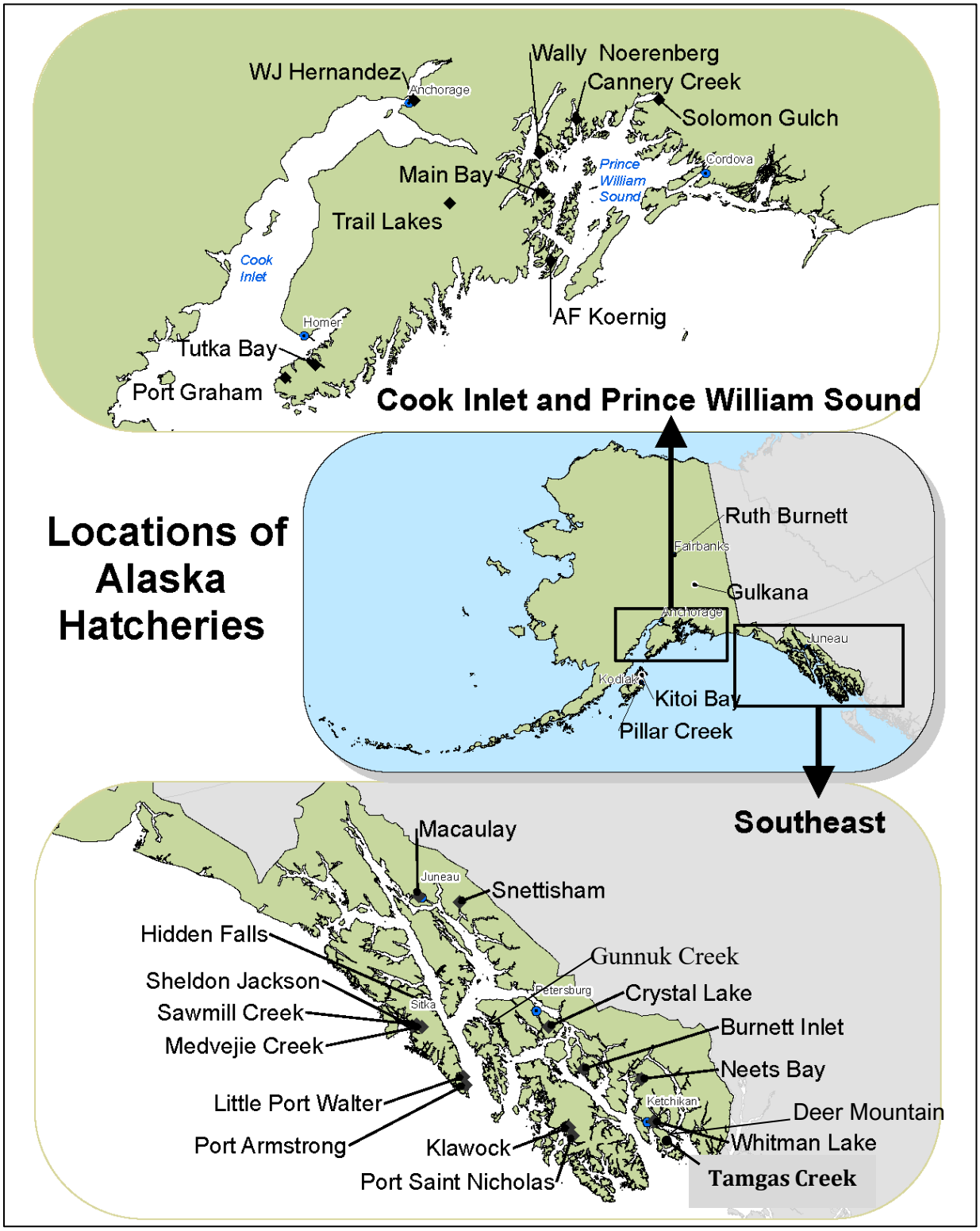

Figure 4.–Salmon hatcheries currently operating in Alaska.

FISHERY ENHANCEMENT REGIONS

There are 12 planning regions established by the commissioner: Northern Southeast, Southern Southeast, Yakutat, Prince William Sound, Cook Inlet, Kodiak, Chignik, Bristol Bay, Alaska Peninsula/Aleutian Islands/Area M, Kuskokwim, Yukon, and Norton Sound/Bering Strait.

Regional planning teams have developed comprehensive salmon plans for Southeast (Duckett et al. 2010), Yakutat (YRPT 2014), Prince William Sound (ADF&G 1994), Cook Inlet (CIRPT 2007), Kodiak (KRPT 2011), Chignik (ADF&G 1993b), Alaska Peninsula/Aleutian Islands/Area M (ADF&G 1993a), Bristol Bay (ADF&G 1989), Yukon (Holder and Senecal-Albrecht 1998), and Norton Sound (NSBSRPT 2015).

Commercial fishing participants elected for a salmon enhancement tax (SET) in 8 of these regions: Southern Southeast (3%), Northern Southeast (3%), Cook Inlet (2%), Prince William Sound (2%), Kodiak (2%), Chignik (2%), and Yakutat (2%). Of regions with SET, there are fishery enhancement activities in Southern Southeast, Northern Southeast, Cook Inlet, Prince William Sound, and Kodiak.

STATEWIDE HATCHERY PRODUCTION

Hatchery Return

About 43.3 million adult hatchery salmon returned to Alaska waters in 2022 (Table 1; Figure 5). Pink and chum salmon were the dominant species to return from Alaska hatchery production, followed by sockeye, coho, and Chinook salmon.

Table 1.–Estimated total salmon returns attributed to Alaska hatcheries (including common property harvest, cost-recovery harvest, broodstock, and other) as reported by operators, by area and species, in 2022.

Area	Chinook	Sockeye	Coho	Pink	Chum	Total
Southeast	78,349	150,723	739,967	1,041,264	9,363,048	11,373,351
Prince William Sound	0	778,176	66,573	23,380,069	2,780,701	27,005,519
Cook Inlet	7,286	265,487	13,680	126,733	0	413,186
Kodiak	99	293,927	23,891	4,010,686	175,929	4,504,532
Total	85,734	1,488,313	844,111	28,558,752	12,319,678	43,296,588

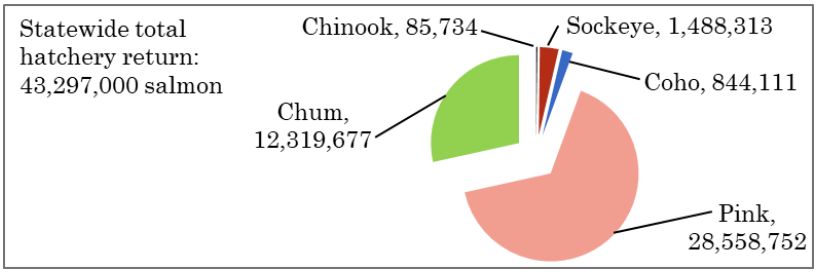

Figure 5.–Alaska hatchery total salmon return as reported by operators by species, 2022.

Note: Landlocked salmon harvest is not shown because it includes multiple species.

Alaska hatcheries contributed approximately 40 million hatchery-produced salmon to commercial fisheries[12]. Hatchery fishery contributions had an estimated exvessel value of $163 million and made up 23% of the statewide commercial harvest exvessel value (Appendix D1). The exvessel value of the commercial hatchery harvest was 56% chum salmon, followed by pink (29%), sockeye (8%), coho (4%), and Chinook salmon (2%) (Figure 6).[13] The total commercial harvest of hatchery-produced salmon, including cost recovery, was the 27th largest since 1977 (Appendix K1) and was approximately 25% of the statewide commercial salmon harvest (Appendix D1).

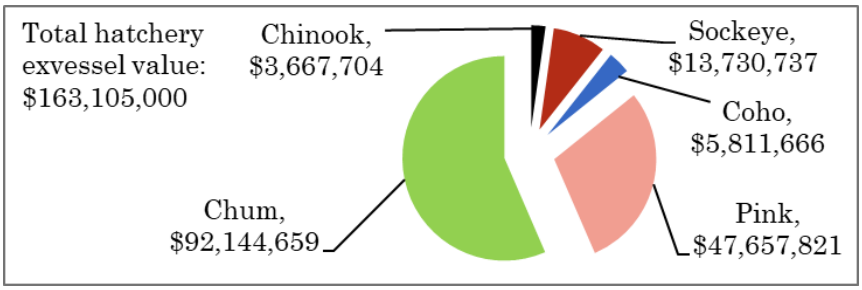

Figure 6.–Species composition of the 2022 Alaska hatchery contribution to the exvessel value of commercial harvest by species.

Note: Exvessel value for hatchery harvest total commercial harvest multiplied by the hatchery percent of the commercial harvest. Exvessel value source: https://www.adfg.alaska.gov/static/fishing/pdfs/commercial/2022_preliminary_salmon_summary_table.pdf (accessed 1/17/2022).

Alaska hatchery salmon contributed approximately 32 million fish to commercial common property fisheries and approximately 8 million fish in cost-recovery fisheries (Figure 7). Approximately 2.9 million salmon were taken for broodstock in preparation for future production.

[12] The commercial fishery is composed of 2 components: (1) the common property fisheries, which are open to fishermen holding salmon permits, and (2) cost-recovery fisheries, which are fish harvested to pay for PNP hatchery operations. Some broodstock sold as commercial cost recovery harvest and is shown here as broodstock.

[13] Note that hatchery contribution to the statewide harvest can differ from the contribution to the statewide exvessel value because of differences in exvessel values paid for salmon in different regions of the state. For example, Chinook salmon and chum salmon hatchery production is largely in Southeast Alaska, where exvessel price per pound is usually among the highest in the state for these 2 species.

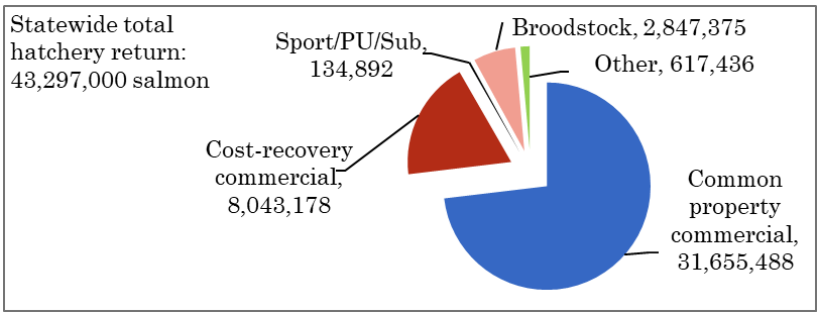

Figure 7.–Alaska salmon hatchery returns as reported by operators by return category, 2022. *Other* includes escapement, sea lion mortality, lagoon die-off, etc. *PU* is Personal Use and *Sub* is Subsistence. Some broodstock carcasses sold as commercial cost-recovery harvest at low value and is shown here as broodstock.

Hatchery-produced salmon harvested in the commercial common property fisheries had an estimated exvessel value of $123 million and made up 17% of the statewide commercial harvest exvessel value (Appendix D2). Cost-recovery harvest, which pays for hatchery operations, had an estimated exvessel value of $40 million, was 6% of the total commercial harvest exvessel value, and 20% of the hatchery harvest exvessel value of commercial fisheries (Figure 6; Appendix I1).

An estimated 168,100 hatchery-produced salmon, rainbow trout, Arctic char, and grayling were harvested in the sport, personal use, and subsistence fisheries in 2022 (Table 2). Hatchery-produced coho salmon were the greatest part of this harvest (64,000), followed by sockeye salmon (43,400), rainbow trout (17,500), Arctic grayling (14,400), pink salmon (12,900), Chinook salmon (11,700), landlocked salmon (2,300), Arctic char (1,300), and chum salmon (600). Hatchery contribution to sport harvest is an underestimate because the hatchery contribution is not estimated at all locations and some sport harvest is put and take and not counted as harvest.

Table 2.–Estimated sport, personal use, and subsistence harvest of hatchery-produced fish, 2022.

Region	Chinook	Sockeye	Coho	Pink	Chum	Arctic char	Rainbow trout	Arctic grayling	Landlocked salmon	Total
Southeast	6,649	5,145	32,529	1,192	560	0	0	0	0	46,075
Prince William Sound	0	11,249	20,986	9,652	0	0	0	0	0	41,887
Cook Inlet	5,059	26,900	9,695	2,100	0	0	0	0	0	43,754
Kodiak	25	60	800	0	0	0	0	0	0	885
Southcentral lakes	0	0	0	0	0	572	17,173	0	0	17,745
Interior lakes	0	0	0	0	0	714	323	14,427	2,291	17,755
Total	11,733	43,354	64,010	12,944	560	1,286	17,496	14,427	2,291	168,101

Hatchery Egg Takes

Private nonprofit hatcheries in Alaska are currently permitted to take a total of 2.6 billion eggs (Appendix B1). Prince William Sound hatcheries are permitted to take the highest number of eggs (1.02 billion), followed by Southeast (979 million), Cook Inlet (309 million), and Kodiak (275 million). Although hatcheries are permitted to take a certain number of eggs of a species and stock each year, hatcheries do not always take their permitted capacity. Failure to take their

permitted capacity can be due to low numbers of returning salmon, shifting program priorities, the hatchery building their rearing capacity, building their broodstock returns, or other reasons.

Eggs also are taken for production at non-PNP hatcheries, including William Jack Hernandez Sport Fish Hatchery in Anchorage, Ruth Burnett Sport Fish Hatchery in Fairbanks, Crystal Lake Hatchery near Petersburg, and Tamgas Creek Hatchery operated by Metlakatla Indian Community on Anette Island.

Egg collections has grown steadily from the late 1970s until about 1995, when production increases slowed (Figure 8).

In 2022, 2.1 billion eggs were collected for Alaska hatcheries (Figures 8 and 9, Table 3). Most of these eggs were from pink salmon (1.1 billion), followed by chum (891 million), sockeye (51 million), coho (45 million), and Chinook salmon (17 million). The number of eggs by area, operator, species, and location are in Appendix G1.

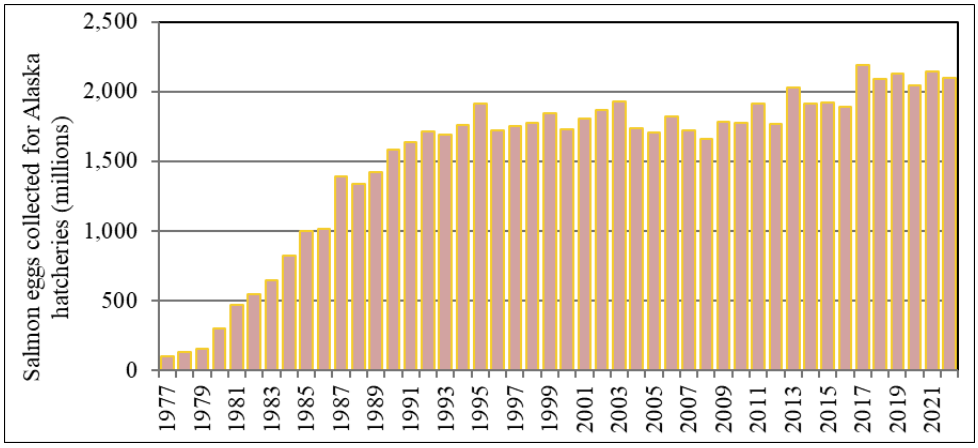

Figure 8.–Salmon eggs collected for Alaska salmon hatchery programs, 1977–2022.

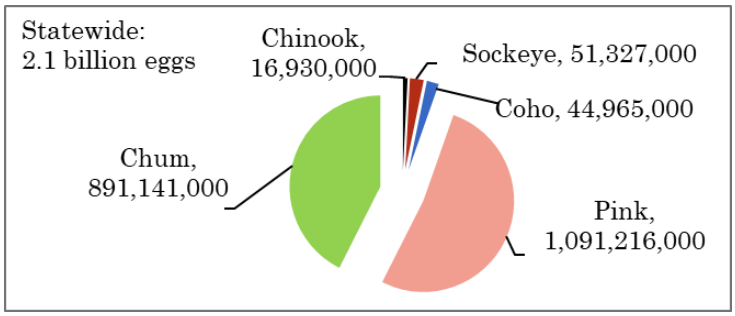

Figure 9.–Salmon eggs collected for Alaska hatchery programs by species, 2022. Eggs taken from rainbow trout and Arctic char are not shown.

Table 3.–Estimated salmon egg takes for Alaska hatcheries as reported by operators, by area, 2022.

Area	Chinook	Sockeye	Coho	Pink	Chum	Total[a]
Southeast	13,796,440	17,235,600	37,040,390	68,215,366	702,569,026	838,856,822
Prince William Sound	0	19,024,200	3,443,644	778,632,372	152,790,000	953,755,216
Cook Inlet	3,065,721	10,099,841	1,777,998	30,381,922	0	47,556,470
Interior	60,008	0	125,000	0	0	920,454
Kodiak	8,237	4,967,189	2,577,500	213,986,683	35,781,557	257,521,166
Total	16,930,406	51,326,830	44,964,532	1,091,216,343	891,140,583	2,100,180,000

[a] Includes Arctic char (281,948) and rainbow trout (4,319,358) eggs taken in in Cook Inlet and Interior areas.

Hatchery Releases

Since 1995, annual hatchery releases have ranged from about 1.4 to 1.9 billion juvenile salmon (Figure 9). About 1.9 billion juvenile salmon were released in 2022 (Figure 10; Table 4). Most of the 2022 releases were from eggs collected in 2021 and were pink (1 billion) and chum (760 million) salmon. The remainder of the releases were from eggs taken mainly in 2020 and were sockeye (43 million), coho (35 million), and Chinook (11 million) salmon.

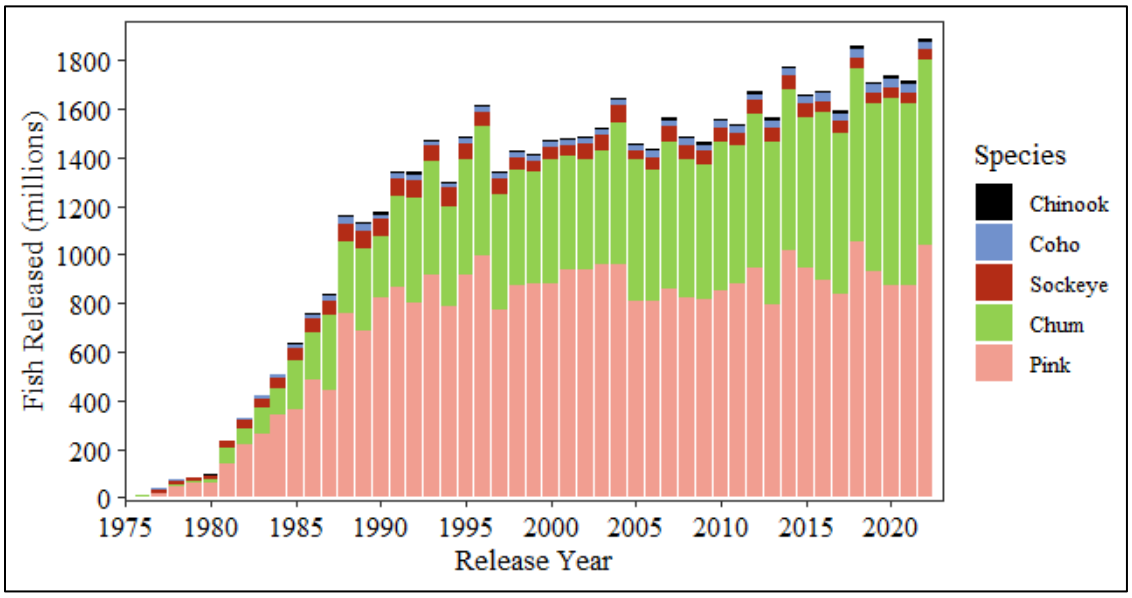

Figure 10.–Total salmon released for Alaska hatchery programs, 1975–2022.

Table 4.–Estimated juvenile salmon releases from Alaska hatcheries by region, 2022.

Region	Chinook	Sockeye	Coho	Pink	Chum	Rainbow trout	Total[a]
Southeast	8,444,159	10,877,300	27,367,231	65,228,975	597,714,595	47,500	709,679,760
Prince William Sound	251,202	20,292,597	4,927,685	720,327,980	130,291,000	1,008	875,886,210
Cook Inlet	2,106,682	8,055,281	1,477,515	57,065,441	0	958,621	69,920,625
Interior	36,726	0	77,700	0	0	223,158	358,127
Kodiak	8,148	3,477,868	1,609,674	196,429,159	32,452,207	58,188	234,035,244
Total	10,846,917	42,703,046	35,459,805	1,039,051,555	760,457,802	1,288,475	1,889,923,919

[a] Includes Arctic char (72,366) and lake trout (43,953) releases in Cook Inlet and Interior regions.

Projected Hatchery Return in 2023

Hatchery operators forecast a total return of about 68.2 million salmon in 2023. This includes returns of 52.7 million pink, 12.9 million chum, 1.5 million sockeye, 0.9 million coho, and 91 thousand Chinook salmon to hatchery projects. Details of forecasted returns by area and project are in Appendix E1.

The 2022 hatchery return was 43.3 million fish, 98% the forecast of 44.2 million fish (Wilson 2022). Returns of all species but chum salmon were less than forecasted; returns were 108% of forecasted chum, 95% of sockeye, 94% of Chinook, 77% of coho, and 95% of forecasted pink salmon.

The forecasted hatchery returns in 2023 for most species and areas are about the same (±25%) or higher than the 2022 returns. Southeast Chinook, sockeye, pink and chum salmon returns are forecasted to be about the same as the 2022 returns, whereas the coho salmon return is forecasted to be 70% of the 2022 return. Prince William Sound sockeye, coho, and pink salmon returns are forecasted to be 1.3–3.3 times greater than 2022 returns, whereas chum salmon returns are forecasted to be about the same as 2022 returns. The Cook Inlet sockeye return is forecasted to be similar to the 2022 returns, whereas pink salmon are forecasted to be much greater than the 2023 returns. Kodiak sockeye and chum salmon returns are both forecasted to be approximately half of this year's returns, whereas Kodiak coho and pink salmon returns are forecasted to be 6 and 1.5 times greater than the 2022 returns.

For comparison, the National Oceanic and Atmospheric Administration-ADF&G 2023 Southeast Alaska pink salmon commercial harvest forecast, which includes hatchery and naturally spawned fish, is 19 million pink salmon.[14] The 2022 Southeast area pink salmon commercial harvest, which was an estimated 6% hatchery production, was 16.1 million pink salmon and was 101% of the forecast of 16 million pink salmon.

PROPAGATIVE RESEARCH

In 2022, ARPs were issued for small-scale production, including for salmon research, feasibility studies for potential hatchery production, vocational programs, and the extensive salmon in the classroom program conducted in schools across the state (Appendix F1).

HATCHERY ACTIVITY BY REGION

Southeast

Southeast Alaska has 2 planning regions: Northern Southeast and Southern Southeast. Hatchery production from both planning regions is presented together.

The Southern Southeast Alaska PNP hatcheries operated by Southern Southeast Regional Aquaculture Association (SSRAA) are Burnett Inlet, Neets Bay, Whitman Lake, Deer Mountain, Klawock River, and Port Saint Nicholas (Figure 4). Since 2000, ADF&G has contracted SSRAA to operate the Crystal Lake Hatchery. Metlakatla Indian Community (MIC) operates Tamgas Creek Hatchery, located on Annette Island (the only Indian Reserve in Alaska), which is not a PNP hatchery and is managed solely by MIC under federal regulation.

[14] *Source*: https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1444357143.pdf (accessed December 7, 2022).

The Northern Southeast Alaska PNP hatcheries operated by Northern Southeast Regional Aquaculture Association (NSRAA) are Gunnuk Creek, Hidden Falls, Medvejie Creek, and Sawmill Creek. Other PNP hatcheries in Northern Southeast are Port Armstrong operated by Armstrong-Keta Incorporated, Macaulay and Snettisham operated by Douglas Island Pink and Chum, Incorporated (DIPAC), and Sheldon Jackson operated by the Sitka Sound Science Center. There is a joint use agreement between NMFS and AKI for Little Port Walter Hatchery in lower Chatham Strait. Little Port Walter Hatchery operated by AKI is a PNP hatchery. Little Port Walter hatchery operations under NMFS are authorized for research and not PNP operations.

The dominant species produced by southeast Alaska hatcheries is chum salmon. Hatchery-produced chum salmon are caught in fisheries that are managed for sockeye or pink salmon harvest. Chum salmon that are not harvested in the sockeye and pink salmon fisheries return to release sites in bays where they can be harvested with minimal impact to wild stocks.

In 2022, there were 9 stocks of concern located in Southeast Alaska: 7 Chinook salmon stocks (Chilkat, King Salmon, Unuk, Stikine, Andrew, Chickamin, and Taku Rivers), and 2 sockeye salmon stocks (McDonald Lake and Klukshu River).[15] Management actions to reduce harvest of these stocks were taken throughout Southeast Alaska fisheries.

Hatchery returns in Southeast

In 2022, southeast Alaska had the 2nd-ranked hatchery return out of the 4 planning areas, with a total return of 11.4 million salmon (Table 1).

About 6.6 million hatchery fish were caught in the Southeast Alaska commercial common property fisheries in 2022, worth an estimated exvessel value of $56 million, or 47% of the exvessel value for commercial common property salmon fisheries in the region (Figure 11; Appendices D1, D2). Chum salmon contributed most to the value of the commercial common property harvest ($49.3 million), followed by coho ($3.0 million), Chinook salmon ($2.4 million), sockeye ($554 thousand), and pink salmon ($400 thousand). The 6.6 million hatchery-produced salmon harvested in the Southeast commercial common property fishery accounted for 27% of the total commercial common property catch in the region (Appendix D1). By species, hatcheries contributed an estimated 86% of the chum, 28% of the coho, 16% of the Chinook, 4% of the sockeye, and 2% of the pink salmon harvest, in numbers of fish, to commercial common property fisheries.

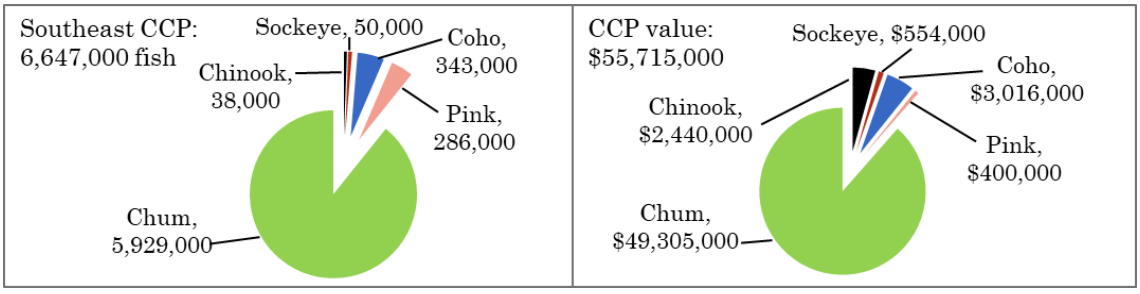

Figure 11.–Commercial common property (CCP) hatchery harvest in numbers of fish and exvessel value of commercial common property hatchery harvest in Southeast Alaska, 2022.

[15] *Source*: http://www.adfg.alaska.gov/index.cfm?adfg=specialstatus.akfishstocks (accessed December 12, 2022).

An additional 3.6 million salmon hatchery returns were harvested for cost recovery. Hatchery harvest including cost recovery accounted for 36% of the commercial harvest and 57% of the total commercial harvest value in Southeast Alaska. The total commercial harvest of hatchery-produced salmon reported by operators, including cost recovery, was 10.1 million fish, the 19th largest for Southeast Alaska since 1977 (Appendix K2).

For the sport, personal use, and subsistence fisheries, coho salmon contributed the most hatchery-produced fish (32,500), followed by Chinook (6,600), sockeye (5,100), pink (1,200), and chum salmon (560) (Table 2).

Details of the salmon returns to the southeast region, by return type and project for Chinook, sockeye, coho, pink, and chum salmon as reported by operators are in Appendices J1–J5.

Egg takes and releases in Southeast

In 2022, there were 839 million eggs taken in Southeast Alaska: 703 million chum, 68 million pink, 37 million coho, 17 million sockeye, and 14 million Chinook salmon eggs (Figure 12; Table 3). The number of eggs by area, operator, location, and species are in Appendix G1.

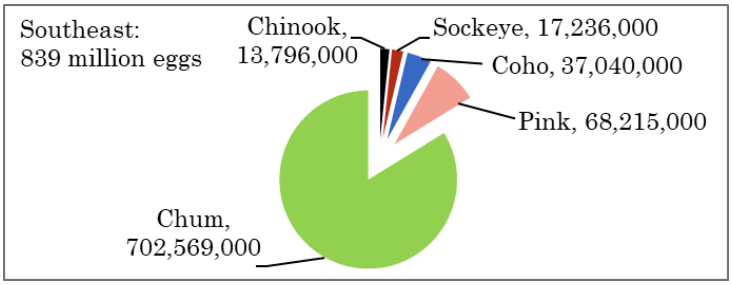

Figure 12.–Eggs collected, by species, for salmon hatchery programs in Southeast Alaska, 2022.

There were 710 million salmon released in Southeast Alaska in 2022: 598 million chum, 65 million pink, 27 million coho, 11 million sockeye, and 8 million Chinook salmon (Figure 13; Table 4). There were 47 thousand rainbow trout stocked in southeast lakes. The number of releases by area, operator, hatchery, release site, and species are in Appendix H1.

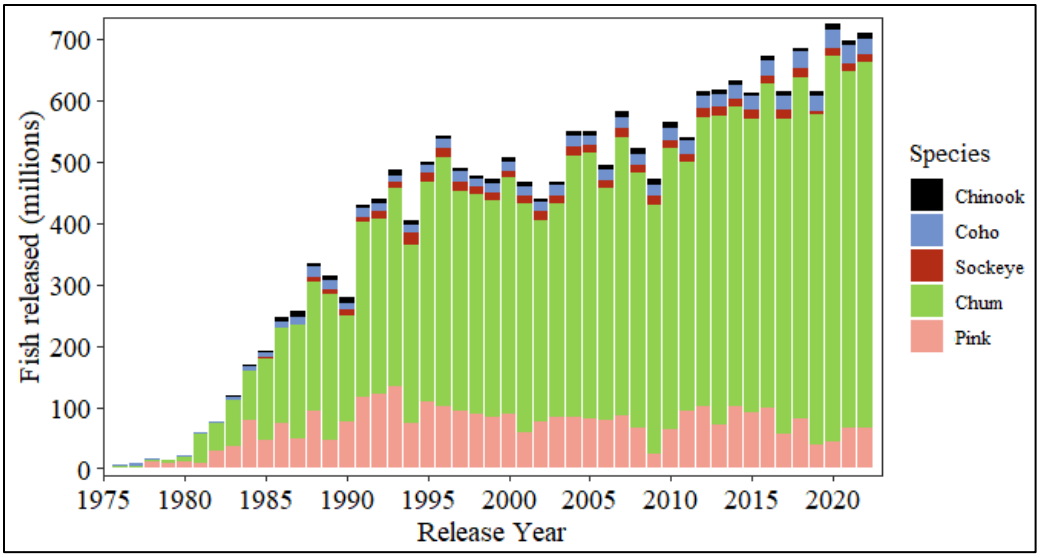

Figure 13.–Total salmon released for Southeast Alaska hatchery programs, 1975–2022.

Permit alterations for Southeast hatcheries

Southern Southeast

In southern southeast, 1 PNP Hatchery PAR was submitted for review that was approved with an amendment effective for 2 years.

Southern Southeast Regional Aquaculture Association submitted a PAR for Neets Bay Hatchery to add Port Asumcion as a release site for fry resulting from 15 million summer chum salmon eggs. This alteration was not to increase egg capacity or total release numbers but to the transfer existing Neets Bay Hatchery chum salmon production away from Neets Bay to an existing release site. The NBH permit was altered to include Port Asumcion as a release site for 7.5 million Carroll River (summer) chum salmon green eggs taken in 2022 and 2023 and then 15 million Carroll River (summer) chum salmon green eggs thereafter.

Northern Southeast

In northern southeast, 3 PNP Hatchery PARs were submitted for review. Two PARs were approved, and one PAR was approved amended.

The Hidden Falls Hatchery permit was amended to include Little Port Walter as a release site for up to 1 million Chinook salmon smolt. This alteration was not to increase egg capacity or total release numbers. The purpose of this amendment was to provide an alternate release site for Keta River Chinook salmon returns during broodstock development, providing less overlap with other species' returns and less overlap with ongoing fisheries.

The Macaulay Salmon Hatchery permitted release of Chinook salmon at Fish Creek was increased from 300,000 to 370,000 for brood year 2020 to be released in 2022. This increase is for one year only and was not an increase in permitted egg capacity or in total number of Chinook salmon released.

Armstrong-Keta Incorporated submitted a PAR for Port Armstrong Hatchery to increase the coho salmon egg capacity from 5 million to 8 million, with no more than 2 million being Chinook

salmon eggs. The PAR had two purposes, to make greater use of an early saltwater rearing technique for coho and to increase fishery contribution. The Port Armstrong Hatchery coho salmon permitted capacity of was increased to 6 million eggs, with no more than 2 million being Chinook salmon eggs.

Prince William Sound

Most of Alaska's hatchery production is in Prince William Sound, where pink, chum, and sockeye salmon are the primary species produced at hatcheries. Hatcheries operated by Prince William Sound Aquaculture Corporation, an RAA, are Armin F. Koernig, Cannery Creek, Gulkana, Main Bay, and Wally Noerenberg. Solomon Gulch Hatchery is operated by Valdez Fisheries Development Association (Figure 4).

Coghill Lake sockeye salmon stock in Prince William Sound has been a concern for Prince William Sound fishery managers in recent years. Although the total run to Coghill Lake (catch plus escapement) was estimated to be well above escapement needs each year between 2013 and 2016, escapements to the lake were below the lower bound of the escapement goal in 2013, 2015, and 2016. Although no fishery openings occurred to target Coghill Lake sockeye salmon in any of these years, Coghill Lake sockeye salmon were harvested along their migration routes in fisheries targeting primarily hatchery returns. Managers were more restrictive in the amount of fishing area opened along the Coghill Lake sockeye salmon migration corridors in 2017 and 2018 and were successful in achieving the escapement goal. In 2022, the Coghill River weir count was 34,092 sockeye salmon, within the Sustainable Escapement Goal range of 20,000–75,000 fish.[16] There are no longer any stocks of concern in Prince William Sound.[17]

Hatchery returns in Prince William Sound

In 2022, Prince William Sound had the highest-ranked hatchery return of 4 planning areas with active hatcheries with a total return of 27 million salmon (Table 1).

About 21.9 million hatchery fish were caught in the commercial common property (CCP) fisheries, worth an estimated exvessel value of $61 million, or 69% of the exvessel value for CCP salmon fisheries in the region (Figure 14; Appendices D1, D2). Pink salmon contributed most to the value of the CCP harvest ($36.5 million), followed by chum ($16.8 million), sockeye ($7.3 million), and coho salmon ($367 thousand). The 21.9 million hatchery-produced salmon harvested in the CCP fishery accounted for 76% of the total CCP catch in the region (Appendix D1). By species, hatcheries contributed an estimated 78% of the pink, 86% of the chum, 40% of the sockeye, and 41% of the coho salmon harvest in numbers of fish, to CCP fisheries.

An additional 3.1 million salmon were harvested for cost recovery. Hatchery harvest including cost recovery accounted for 79% of the commercial harvest and 72% of the total commercial harvest value in Prince William Sound. The total hatchery-reported commercial harvest, including cost recovery, was the 24th largest (approximately mid-ranking) for Prince William Sound since 1977 (Appendix K3).

[16] *Source*: 2022 Prince William Sound salmon season summary advisory announcement. https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1442856406.pdf (accessed January 23, 2023).

[17] *Source*: http://www.adfg.alaska.gov/index.cfm?adfg=specialstatus.akfishstocks (accessed January 23, 2023).

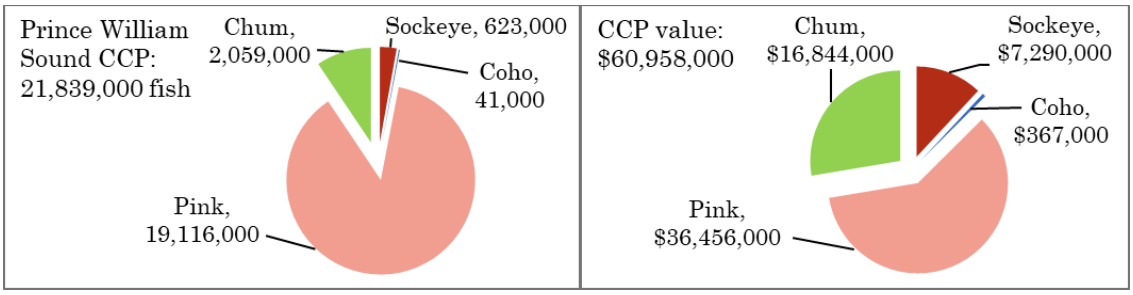

Figure 14.–Commercial common property (CCP) hatchery harvest in numbers of fish and exvessel value of commercial common property hatchery harvest in Prince William Sound, Alaska, 2022.

For the sport, personal use, and subsistence fisheries, coho salmon contributed the most hatchery-produced fish (21,000), followed by sockeye (11,200), and pink salmon (9,600) (Table 2).

Details of the salmon returns to the Prince William Sound region, by return type and project for Chinook, sockeye, coho, pink, and chum salmon as reported by operators are in Appendices J1–J5.

Egg takes and releases in Prince William Sound

In 2022, there were 954 million eggs taken in Prince William Sound: 779 million pink, 153 million chum, 19 million sockeye, and 3 million coho salmon (Figure 15; Table 3). The number of eggs by area, operator, location, and species are in Appendix G1.

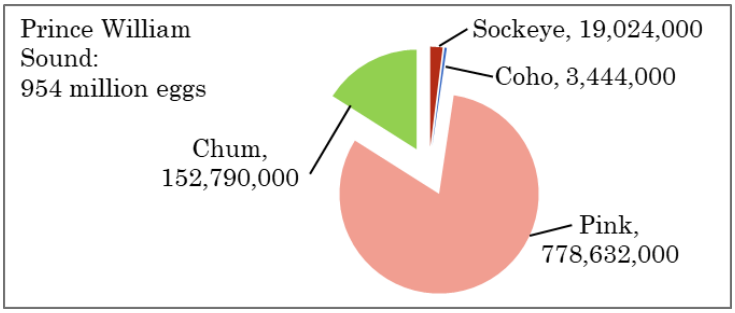

Figure 15.–Eggs collected by species for salmon hatchery programs in Prince William Sound, Alaska, 2022.

In 2022, there were 876 million juvenile salmon released in the Prince William Sound area: 720 million pink, 130 million chum, 20 million sockeye salmon, 5 million coho, and 251 thousand Chinook salmon (Figure 16, Table 4). There were 1 thousand rainbow trout stocked in Prince William Sound lakes. The number of releases by area, operator, hatchery, release site, and species are in Appendix H1.

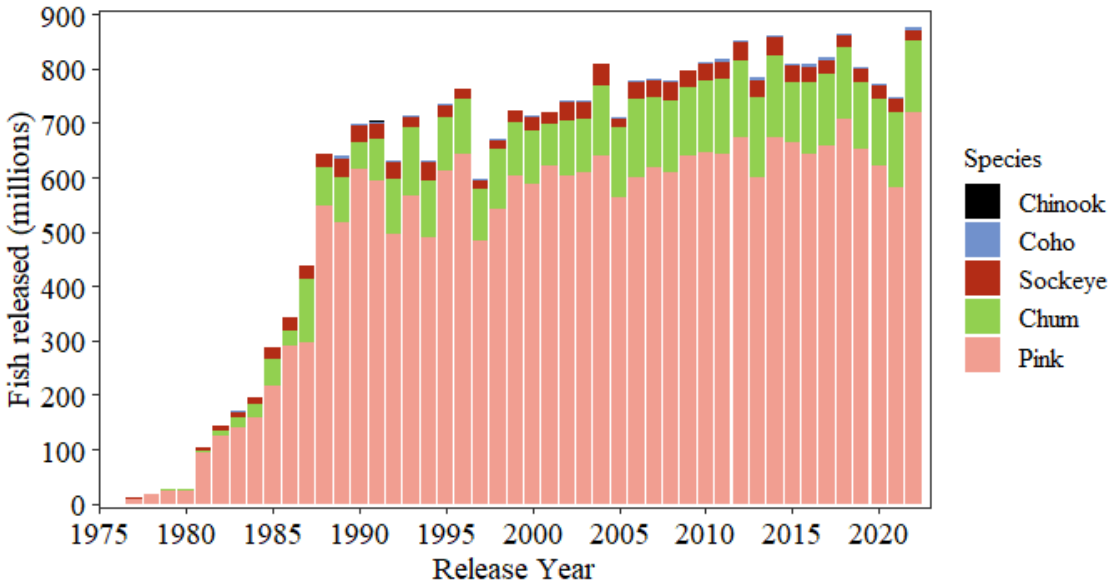

Figure 16.–Total salmon released for Prince William Sound Alaska hatchery programs, 1975–2022.

Permit alterations for Prince William Sound hatcheries

One PAR was submitted for consideration in 2022 for Prince William Sound area hatcheries.

The Wally Noerenberg Hatchery Permit was altered to include Copper River delta coho salmon stocks, Power Creek and Ibeck Creek, for release at Fleming Spit. Up to 135,000 Power Creek or Ibeck Creek stock coho salmon green eggs can be taken for a release of up to 100,000 smolt at Fleming Spit. This alteration was not to increase egg capacity or total release numbers. The purpose of this amendment was to provide an alternate local coho salmon stock, consistent with the genetic policy (Davis et al. 1985), for release at Fleming Spit after good returns of the non-local Corbin Creek stock but poor returns of the local Mile 18 stock.

Cook Inlet

The hatcheries in Cook Inlet operated by Cook Inlet Aquaculture Association are Trail Lakes, Tutka Bay Lagoon, and Port Graham (Figure 4). Cook Inlet hatcheries produce primarily sockeye and pink salmon. Additionally, ADF&G operates the William Jack Hernandez Sport Fish Hatchery in Anchorage.

In Cook Inlet, there are 4 Chinook salmon and 1 chum salmon stocks of concern.[18] The Chinook salmon stocks of concern are the Chuitna River, Theodore River, Alexander Creek, and East Susitna River stocks. The chum salmon stock of concern is the McNeil River stock.

Hatchery returns in Cook Inlet

In 2022, Cook Inlet had the 4th-ranked hatchery return of the 4 planning areas with active hatcheries with a total return of 413 thousand salmon (Table 1).

About 63 thousand hatchery fish were caught in the Cook Inlet CCP fisheries, worth an estimated exvessel value of $630,000, or 4% of the exvessel value for CCP salmon fisheries in the region (Appendices D1 and D2). Only sockeye salmon contribution to the CCP harvest was reported. The

[18] *Source*: http://www.adfg.alaska.gov/index.cfm?adfg=specialstatus.akfishstocks (accessed December, 12, 2022).

contribution of pink salmon to common property fisheries could not be estimated because of limited catch sampling. The 63 thousand hatchery-produced sockeye salmon harvested in the Cook Inlet CCP fishery accounted for 5% of the sockeye salmon harvest and 3% of the total CCP harvest, in numbers of fish, to CCP fisheries in the region (Appendix D1).

An additional 177 thousand salmon were harvested for cost recovery. Hatchery harvest including cost recovery accounted for 11% of the commercial harvest and 12% of the total commercial harvest value in Cook Inlet. The total hatchery commercial harvest, including cost recovery, was the 9th lowest for Cook Inlet since 1977 (Appendix K3).

For the Cook Inlet sport, personal use, and subsistence fisheries, sockeye salmon contributed the most hatchery-produced fish (26,900), followed by coho (9,700), Chinook (5,100), and pink salmon (2,100) (Table 2). Additionally, rainbow trout (17,200) and Arctic char (600) were caught in southcentral area lakes.

Details of the salmon returns to the Cook Inlet region, by return type and project for Chinook, sockeye, coho, pink, and chum salmon as reported by operators are in Appendices J1–J5.

Egg takes and releases in Cook Inlet

In 2022, there were 45 million salmon eggs taken in Cook Inlet: 30.4 million pink, 10.1 million sockeye, 3.1 million Chinook, and 1.8 million coho salmon (Figure 17; Table 3). The number of eggs by area, operator, location, and species are in Appendix G1.

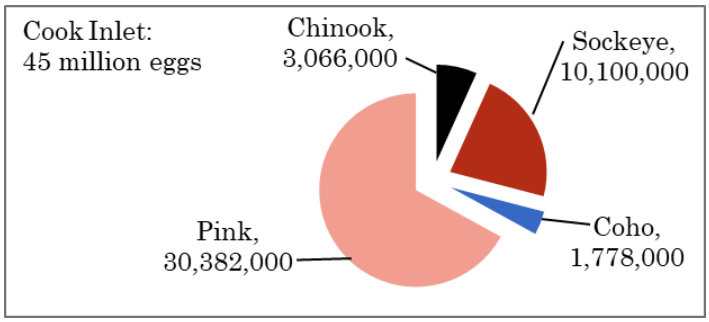

Figure 17.–Eggs collected, by species, for salmon hatchery programs in Cook Inlet, Alaska, 2022.

In 2022, there were 69 million salmon released from Cook Inlet hatcheries: 57 million pink, 8 million sockeye, 2 million Chinook, and 1.5 million coho salmon (Figure 18; Table 4). Additionally, there were 960 thousand rainbow trout, 52 thousand Arctic char, and 20 thousand lake trout stocked in southcentral lakes. The number of releases by area, operator, hatchery, release site, and species are in Appendix H1.

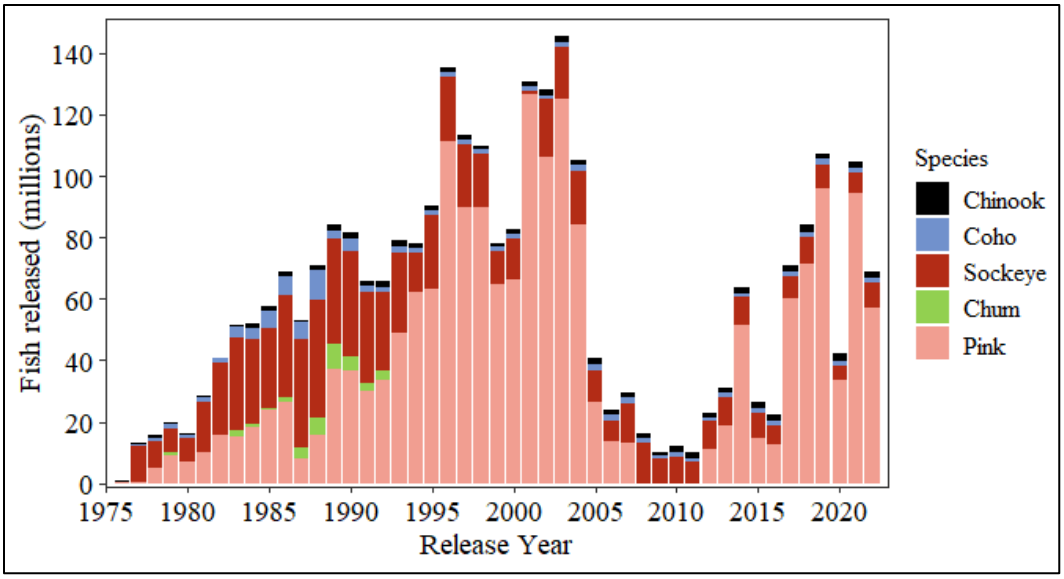

Figure 18.–Total salmon released for Cook Inlet Alaska hatchery programs, 1975–2022.

Permit alterations for Cook Inlet hatcheries

There were no PARs submitted for consideration in 2022 for Cook Inlet area hatcheries.

Kodiak

The hatcheries in Kodiak include Kitoi Bay and Pillar Creek, operated by Kodiak Regional Aquaculture Association.

For several years, pink salmon were not marked because they return to a release site on Afognak Island where there are no substantial wild pink salmon stocks. In recent years, Kodiak Regional Aquaculture Association has been using innovative techniques to increase the number of otolith-marked fish including using thermally stratified lake water, dry marking, and saltwater marking. These techniques are useful for when traditional otolith thermal marking methods are logistically challenging. Starting in 2012, a portion of sockeye were otolith marked using a dry mark technique. Starting in 2013, 100% of chum salmon were otolith marked using thermally stratified lake water and a portion of coho salmon were otolith marked with a dry mark. In 2017 and 2018, a portion of pink salmon were otolith marked using salt water. Starting in 2018, 100% of late-run sockeye salmon were otolith marked with a dry mark; and starting in 2019, 100% of pink salmon were otolith marked using salt water, and 100% of coho were otolith marked with a dry mark technique.

There are 2 stocks of concern in the Kodiak area: Karluk River and Ayakulik River Chinook salmon.[19]

Hatchery returns in Kodiak

In 2022, Kodiak had the 3rd-ranked hatchery return of the 4 planning areas with active hatcheries with a total return of 4.5 million salmon (Table 1).

About 3.1 million hatchery fish were caught in the CCP fisheries, worth an estimated exvessel value of $6.0 million, or 15% of the exvessel value for CCP salmon fisheries in the region

[19] *Source*: http://www.adfg.alaska.gov/index.cfm?adfg=specialstatus.akfishstocks (accessed January 23, 2023).

(Figure 19; Appendices D1, D2). Pink salmon contributed most to the value of the CCP harvest ($3.6 million), followed by sockeye ($1.7 million), chum ($566 thousand), and coho ($51 thousand) salmon. The 3.1 million hatchery-produced salmon harvested in the Kodiak CCP fishery accounted for 18% of the total CCP catch in the region (Appendix D1). By species, hatcheries contributed an estimated 19% of the pink, 11% of the coho, 21% of the chum, and 10% of the sockeye salmon harvest, in numbers of fish, to CCP fisheries.

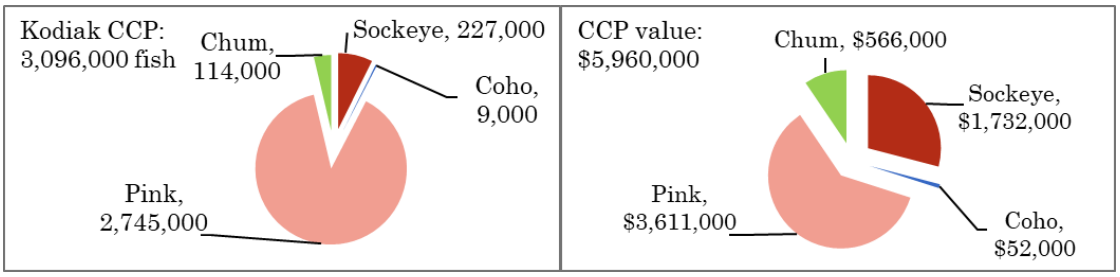

Figure 19.–Commercial common property (CCP) hatchery harvest in numbers of fish and exvessel value of commercial common property hatchery harvest in Kodiak, Alaska, 2022.

An additional 1.0 million salmon were harvested for cost recovery. Hatchery harvest including cost recovery accounted for 23% of the commercial harvest and 19% of the commercial harvest value in Kodiak. The total hatchery commercial harvest, including cost recovery, was the 21st largest (approximately mid-ranking) for Kodiak since 1977 (Appendix K3).

Of the sport, personal use, and subsistence fisheries, coho salmon contributed the most hatchery-produced fish (800), followed by sockeye (60) and Chinook salmon (25) (Table 2).

Details of the salmon returns to Kodiak, by return type and project for Chinook, sockeye, coho, pink, and chum salmon as reported by operators are in Appendices J1–J5.

Egg takes and releases in Kodiak

In 2022, there were 257 million salmon eggs taken in Kodiak: 214.0 million pink, 35.8 million chum, 5.0 million sockeye, 2.6 million coho, and 8 thousand Chinook salmon (Figure 20; Table 3). The number of eggs taken by area, operator, location, and species are in Appendix G1.

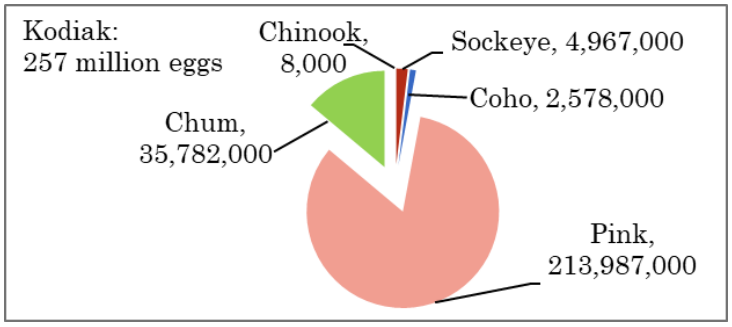

Figure 20.–Eggs collected, by species, for salmon hatchery programs in Kodiak, Alaska, 2022.

In 2022, there were 234 million salmon released in Kodiak: 196 million pink, 32 million chum, 3.5 million sockeye, 1.6 million coho, and 8 thousand Chinook salmon (Figure 21, Table 4). There

were 58 thousand rainbow trout stocked in Kodiak lakes. See Appendix H1 for releases by species and release site.

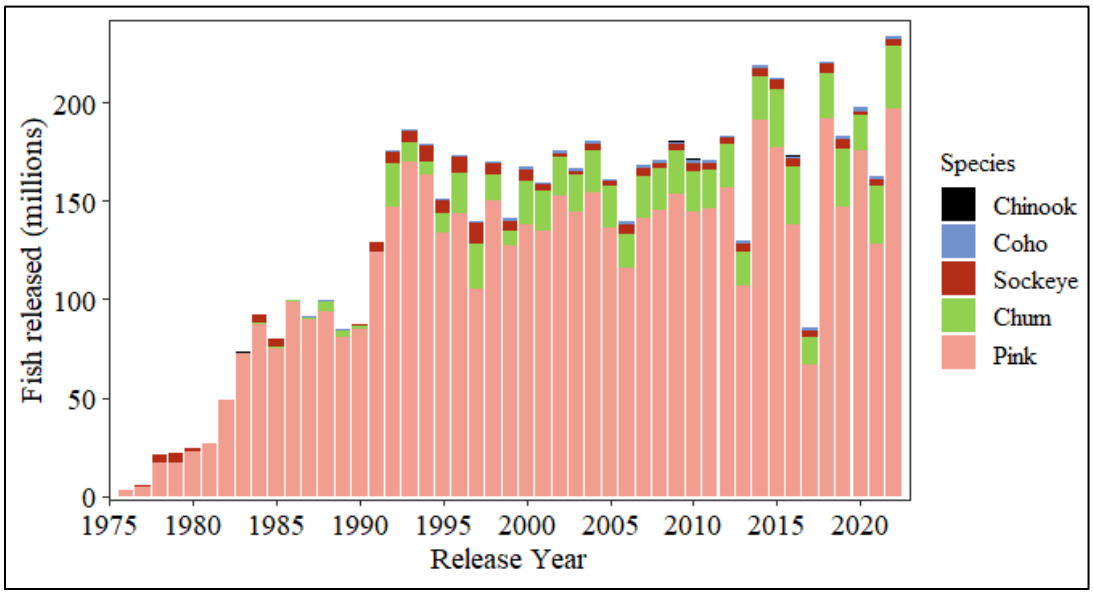

Figure 21.–Total salmon released for Kodiak Alaska hatchery programs, 1975–2022.

Permit alterations for Kodiak hatcheries

There were no permit alterations submitted for consideration in 2022 for Kodiak hatcheries.

Interior

There is one hatchery in Interior Alaska, Ruth Burnett Sport Fish Hatchery operated by ADF&G.

Hatchery returns in Interior

In 2022, an estimated combined total of 17,800 rainbow trout, Arctic char, grayling, Chinook salmon, and coho salmon were caught in Interior Alaska lakes (Table 2).

Egg takes and releases in Interior

In 2022, there were 1 million eggs taken in Interior: 650,000 rainbow trout, 197,000 Arctic char, 125,000 coho, and 60,000 Chinook salmon eggs taken in Interior Alaska. The number of eggs by area, operator, location, and species are in Appendix G1.

In 2022, there were 223,000 rainbow trout, 78,000 coho salmon, 37,000 Chinook salmon, 24,000 lake trout, and 20,000 Arctic char stocked in Interior Alaska lakes (Table 3). The number of releases by area, operator, hatchery, release site, and species are in Appendix H1.

Permit alterations for Interior hatcheries

There are no PNP hatchery permits issued in the interior area and there were no PARs submitted for consideration.

ACKNOWLEDGEMENTS

Thank you to the many hatchery operator staff members at the Alaska Department of Fish and Game, Armstrong-Keta Inc., Cook Inlet Aquaculture Association, Douglas Island Pink and Chum

Inc., Kodiak Regional Aquaculture Association, Metlakatla Indian Community, National Marine Fisheries Service, Northern Southeast Regional Aquaculture Association, Prince William Sound Aquaculture Association, Southern Southeast Regional Aquaculture Association, Sitka Sound Science Center, and Valdez Fisheries Development Association who complete annual reports that are the basis for this document. Additionally, thank you to programming staff Tim Frawley and Bil Rosky who developed and maintains the data entry, management, and storage applications used by hatchery operators and Alaska Department of Fish and Game staff statewide.

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APPENDIX A: ALASKA SALMON FISHERIES ENHANCEMENT PROGRAM TIMELINE

Appendix A1.–Alaska salmon fisheries enhancement program timeline.

Year	Event	No. of state operated hatcheries	No. of PNP owned or operated hatcheries	No. of federal hatcheries
1934	Federal research station Little Port Walter constructed			1
1950	Federal hatchery at Auke Creek constructed			2
1953	1 territorial hatchery constructed at Kitoi Bay	1		
1954	1 territorial hatchery constructed at Deer Mountain	2		
1958	1 territorial hatchery constructed at Fort Richardson	3		
1959	Statehood. Alaska becomes the 49th US state.			
1965	1 state hatchery constructed at Fire Lake	4		
1969	1 state hatchery constructed at Crystal Lake	5		
1971	Fisheries Rehabilitation, Enhancement and Development Division created by Legislature			
1973	2 state hatcheries constructed: Crooked Creek and Gulkana	7		
	State enhancement projects at Starrigavan and Halibut Cove started			
	Limited Entry law enacted, creating fishery limitations for the purpose of conservation.			
1974	2 state hatcheries constructed: Beaver Falls and East Creek	9		
	Legislature authorizes permitting for PNP corporations to operate hatcheries.			
1975	4 PNP permits issued: Perry Island (#1), Port San Juan (renamed Armin F. Koernig Hatchery in 1985; #2), Sheldon Jackson (#3), and Sandy Bay (#4)		4	
	2 state hatcheries constructed: Big Lake and Tutka Bay Lagoon	11		
1976	AS 16.10.375 passed, designating regions for Regional Planning Teams and enhancing salmon			
	1 state hatchery constructed at Elmendorf	12		
	2 PNP permits issued: Burnett Inlet (#5) and Kowee Creek (#6)		6	
1977	1 PNP permit issued to Gunnuk Creek (#7)		7	
	2 state hatcheries constructed: Klawock River and Russell Creek	14		
	State enhancement project at Karluk Lake started			
1978	1 PNP permit issued to Whitman Lake (#8)		8	
	2 state hatcheries constructed: Cannery Creek and Hidden Falls	16		
1979	3 PNP permits issued: Salmon Creek (#9), Meyers Chuck (#10), Sheep Creek (#11)		11	
	1 state hatchery constructed: Snettisham	17		
	1 state hatchery closed (Fire Lake) and Starrigavan project ended	16		
1980	1 PNP permit issued to Burro Creek (#12)		12	
	2 state hatcheries constructed: Clear and Main Bay; and	18		
	1 hatchery at Tamgas Creek constructed (Metlakatla Indian Community/Bureau of Indian Affairs)			3

-continued-

Year	Event	No. of state operated hatcheries	No. of PNP owned or operated hatcheries	No. of federal hatcheries
1981	1 state hatchery closed: East Creek	17	12	3
	2 state hatcheries constructed: Sikusuilaq and Trail Lakes	19		
	1 PNP hatchery permit rescinded and new permit issued to new operator at Salmon Creek (#9, new #14)		12	
	3 PNP permits issued: Port Armstrong (#13), Solomon Gulch (#15), Medvejie Creek (#16)		15	
1982	2 PNP permits issued: Eklutna (#17) and Favorite Bay (#18)		17	
1983	3 PNP permits issued: Neets Bay (#19), Esther Island (renamed Wally Noerenberg Hatchery in 1990; #20), Crittenden Creek (#22)		20	
	1 state hatchery completed: Broodstock Development Center	20		
1984	1 PNP permit issued to Santa Anna (#21)		21	
1985	1 PNP permit issued to Port Camden (#23)		22	
1986	1 PNP permit issued to Beaver Falls (#24) jointly operated ADF&G/SSRAA	19	23	
1987	1 PNP permit issued to Gastineau (renamed Macaulay Salmon Hatchery in 2000; #25)		24	
1988	4 state hatcheries contracted to private sector (Cannery Creek, Trail Lakes, Hidden Falls, Kitoi Bay)	15		
	4 PNP permits issued: Cannery Creek (#26), Trail Lakes (#27), Hidden Falls (#28), Kitoi Bay (#29)		28	
	1 state hatchery constructed (Pillar Creek)	16		
	1 PNP permit rescinded: Sandy Bay PNP (#4)		27	
	1 PNP permit rescinded: Salmon Creek (#14)		26	
1990	CSHB432 becomes law (AS 16.40.210) prohibiting finfish farming in Alaska			
	1 PNP permit issued to Bell Island (#30)		27	
1991	5 state hatcheries contracted to private sector: Beaver Falls (#24), already operated by PNP; Main Bay, Tutka, Pillar Creek, Gulkana	12	31	
	Portions of 6 state hatcheries paid for by private or federal funds			
1992	1 state hatchery closed: Russell Creek	11		
	2 PNP permits issued: Port Graham (#33), Haines Projects (#34)		33	
	1 PNP permit revoked: Meyers Chuck (#10)		32	
1992	3 state hatcheries transferred from Commercial Fisheries Management and Development to Sport Fish Division (Broodstock Development Center, Elmendorf, and Ft. Richardson)	11	32	3

-continued-

Year	Event	No. of state operated hatcheries	No. of PNP owned or operated hatcheries	No. of federal hatcheries
1993	Fisheries Rehabilitation, Enhancement and Development Division merged with the Commercial Fisheries Division to form the Commercial Fisheries Management and Development Division			
	2 state hatcheries contracted to private sector: Crooked Creek and Klawock River	9	34	
	1 state hatchery closed: Big Lake	8		
1994	1 state hatchery conveyed: Deer Mountain	7		
	3 PNP permits issued: Tutka Bay Lagoon (#32), Crooked Creek (#35), Klawock River (#36), Deer Mountain (#37)		35	
	Ft. Richardson Hatchery merged with Broodstock Development Center	6		
1995	1 PNP hatchery permit rescinded and new permit issued to new operator at Klawock River (#36, new #38)		35	
	1 state hatchery transferred from Division of Commercial Fisheries Management & Development to Division of Sport Fish: Crystal Lake			
	1 state hatchery closed: Sikusuilaq	5		
1996	1 state hatchery contracted to private sector: Snettisham (#39)	4	36	
	1 state hatchery transferred from Commercial Fisheries Management and Development Division to Sport Fish Division: Clear			
	3 PNP permits revoked: Crittenden Creek (#22), Santa Anna (#21), and Favorite Bay (#18)		33	
1997	1 state hatchery closed: Clear	3		
	2 state contracted (PNP) hatcheries closed: Beaver Falls (#24), Crooked Creek (#35)		31	
	1 PNP hatchery rescinded and new permit issued to new operator at Burnett Inlet (#5, new #40)		31	
1998	1 PNP hatchery permit issued: Pillar Creek (#41), already operating under contract			
2000	1 state hatchery contracted to private sector: Crystal Lake Hatchery (PNP permit not issued)	2	32	
	1 PNP hatchery permit rescinded: Port Camden (# 23)		31	
	1 PNP hatchery permit issued: Gulkana (#42), already operating under contract			
2001	1 PNP hatchery permit rescinded: Kowee Creek (#6)		30	
	1 PNP permit issued: Main Bay (#31)			

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Appendix A1.–Page 4 of 4.

Year	Event	No. of state operated hatcheries	No. of PNP owned or operated hatcheries	No. of federal hatcheries
2002	1 PNP hatchery closed: Bell Island (#30)		29	
2004	1 PNP hatchery permit issued: Port Saint Nicholas (#43)		30	
2007	1 PNP hatchery permit issued: Sawmill Creek (#44)		31	
2008	1 PNP hatchery permit rescinded: Burro Creek (#12)		30	
2011	1 PNP hatchery permit rescinded and new permit issued to new operator at Sheldon Jackson (#3, new #45)		30	
	1 state hatchery closed (Elmendorf), 1 state hatchery opened (William Jack Hernandez)	2		
2012	1 state hatchery opened: Ruth Burnett	3		
	1 PNP hatchery permit rescinded (#33) and a new permit issued to new operator at Port Graham (#46)		30	
2014	1 state hatchery closed: Fort Richardson	2	30	
2015	1 PNP Hatchery, Sheep Creek in Juneau, permit was voluntarily rescinded		29	
2016	1 PNP hatchery permit rescinded (#38) and a new permit issued to new operator at Klawock River (#47)		29	
	1 PNP hatchery permit rescinded (#43) and a new permit issued to new operator at Port St. Nicholas (#48)			
2017	1 PNP hatchery permit rescinded (#37) and a new permit issued to new operator at Deer Mountain (#49)	2	29	3
2018	1 PNP hatchery permit rescinded (#7) and a new permit issued to new operator at Gunnuk Creek Hatchery (#50)	2	30	
	1 PNP hatchery permit issued: Little Port Walter Hatchery (#51)	2		3

Note: Four private nonprofit (PNP) hatchery facilities are permitted but currently inactive: Perry Island Hatchery (Prince William Sound), Eklutna Hatchery (Eklutna), Little Port Walter operated by Armstrong-Keta Incorporated (southeast), and Haines Projects (Haines).

Note: There are 11 state-owned hatcheries that are contracted to PNP operators.

Note: Of the 3 federal facilities, 2 are hatchery research: Little Port Walter Hatchery (active) and Auke Creek Hatchery (inactive). Tamgas Creek Hatchery (Metlakatla, active) is a tribal hatchery under tribal and federal regulation.

APPENDIX B: PERMITTED CAPACITY OF ALASKA PRIVATE NONPROFIT HATCHERIES, 2022

Appendix B1.–Permitted capacity of Alaska private nonprofit hatcheries, in millions of eggs, 2022.

Region/Area	Corp.	Hatchery	Chinook	Sockeye	Coho	Pink	Chum	Other	Total
Southeast									
Southern Southeast	SSRAA	Burnett Inlet	0	2.70	4.50	0	97.20	0	104.40
		Neets Bay	2.00	0	5.00	0	102.70	0	109.70
		Whitman Lake	2.30	0	7.50	0	45.10	0	54.70
		Deer Mountain	0.60	0	0	0	0	0.20	0.80
		Klawock River	0	1.00	5.50	0	0	0	6.6
		Port Saint Nicholas	0.77	0	0	0	8.00	0	8.77
Southern Southeast total			5.67	3.70	22.50	0	253.00	0.20	285.07
Northern Southeast	NSRAA	Gunnuk Creek	0	0	0.50	20.00	65.00	0	85.50
		Haines projects[a]	0	2.00	0	0	4.80	0	6.80
		Hidden Falls	3.80	0	7.70	0	101.00	0	112.50
		Medvejie Creek	5.20	0	3.30	0.30	77.00	0	85.80
		Sawmill Creek	2.00	0	4.33	0	30.00	0	36.33
	AKI	Port Armstrong[b]	2.00	0	6.00	105.00	60.00	0	171.00
		Little Port Walter[a,c]	0.60	0	0	0	0	0	0.60
	DIPAC	Macaulay	1.25	0	1.50	0	135.00	0.05	137.80
		Snettisham	0	33.50	0	0	0	0	33.50
	SSSC	Sheldon Jackson	0	0	0.25	3.00	12.00	0	15.25
		Medvejie	0	0	0	0	9.00	0	9.0
Northern Southeast total			12.85	35.50	23.58	128.30	493.80	0.05	694.08
Southeast total			18.52	39.20	46.08	128.30	746.80	0.25	979.15
Southcentral									
Prince William Sound	PWSAC	Armin F. Koernig	0	0	0	190.00	34.00	0	224.00
		Cannery Creek	0	0	0	187.00	0	0	187.00
		Gulkana	0	36.75	0	0	0	0	36.75
		Main Bay	0	12.40	0	0	0	0	12.40
		Wally Noerenberg	4.00	0	4.00	148.00	131.00	0	287.00
	VFDA	Solomon Gulch	0.30	0	2.00	270.00	0	0	272.30
Prince William Sound total			4.30	49.15	6.00	795.00	165.00	0	1,019.45
Cook Inlet									
	CIAA	Eklutna[a]	0	18.00	0.16	0	0	0	18.16
		Trail Lakes	4.00	30.00	6.00	0	0	0	40.00
		Tutka Bay	0	0.66	0	125.00	0	0	125.66
		Port Graham	0	0	0	125.00	0	0	125.00
Cook Inlet total			4.00	48.66	6.16	250.00	0	0	308.82
Southcentral total			8.30	97.81	12.16	1,045.00	165.00	0	1,328.27
Kodiak/Westward									
Kodiak	KRAA	Kitoi Bay	0	0.85	2.30	215.00	36.00	0	254.15
		Pillar Creek	0.45	20.00	0.50	0	0	0.20	21.15
Kodiak/Westward total			0.45	20.85	2.80	215.00	36.00	0.20	275.30
Statewide total			27.27	157.86	61.04	1,388.30	947.80	0.45	2,582.72

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Note: Perry Island Hatchery (Prince William Sound) is permitted but currently has zero capacity.

Note: SSRAA = Southern Southeast Regional Aquaculture Association; NSRAA = Northern Southeast Regional Aquaculture Association; AKI = Armstrong-Keta Inc.; DIPAC = Douglas Island Pink and Chum, Incorporated; SSSC = Sitka Sound Science Center; PWSAC = Prince William Sound Aquaculture Association; VFDA = Valdez Fisheries Development Association, Inc.; CIAA = Cook Inlet Aquaculture Association; KRAA = Kodiak Regional Aquaculture Association.

[a] Inactive.

[b] Port Armstrong can take up to 6.0 million Chinook and coho salmon eggs in combination, not to exceed 2.0 million Chinook salmon eggs. Egg capacity is broken out by species in table cells, and the coho capacity but not the Chinook capacity are added in the totals.

[c] Little Port Walter operated by AKI is under a use agreement with NMFS. Little Port Walter operated by NMFS is under Aquatic Resource Permits and not a PNP permit and does not have a permitted capacity.

APPENDIX C: ACTIVE ALASKA HATCHERIES AND CONTACT INFORMATION

Appendix C1.–Active Alaska hatcheries, 2022.

Type[a]	Region	Agency	Corporate name	Hatchery	PNP Permit #	PNP permit issued	Species permitted	Website
	Southern Southeast							
R		SSRAA	Southern Southeast Regional Aquaculture Assoc.	Burnett Inlet	40	09/30/1997	sockeye, coho, chum	http://ssraa.org
				Crystal Lake[b]	NA		Chinook, coho	
				Neets Bay	19	06/17/1983	chum, coho, Chinook	
				Whitman Lake	8	03/09/1978	chum, coho, Chinook	
				Klawock River[b]	47	07/01/2016	coho, sockeye	
				Port Saint Nicholas	43	06/25/2004	Chinook, chum	
				Deer Mountain	49	08/17/2017	Chinook	
F		MIC	Tamgas Creek Hatchery	Tamgas Creek[c]	NA		chum, coho, Chinook, sockeye, pink	
	Northern Southeast							
R		NSRAA	Northern Southeast Regional Aquaculture Assoc.	Hidden Falls[b]	28	06/22/1988	chum, Chinook, coho	https://www.nsraa.org/
				Medvejie Creek	16	08/17/1981	chum, coho, Chinook, pink	
				Sawmill Creek	44	03/11/2007	coho, chum	
				Gunnuk Creek	50	04/11/2018	coho, pink, chum	
N		AKI	Armstrong-Keta, Inc.	Port Armstrong	13	02/23/1981	pink, chum, Chinook, coho	https://www.armstrong-keta.org/
N		DIPAC	Douglas Island Pink and Chum, Inc.	Macaulay	25	06/03/1987	chum, coho, Chinook	http://www.dipac.net/
				Snettisham[b]	39	07/15/1996	sockeye	
N		SSSC	Sitka Sound Science Center	Sheldon Jackson	45	04/13/2011	pink, chum, coho	https://sitkascience.org/
F		NMFS	National Marine Fisheries Service	Little Port Walter[d]	NA		Chinook	https://www.fisheries.noaa.gov/about/auke-bay-laboratories
	Prince William Sound							
R		PWSAC	Prince William Sound Aquaculture Assoc.	AF Koernig	2	09/29/1975	pink, chum	https://pwsac.com
				Cannery Creek[b]	26	06/22/1988	pink	
				Gulkana[b]	42	07/05/2000	sockeye	
				Main Bay[b]	31	04/17/2001	sockeye	
				W. Noerenberg	20	06/17/1983	pink, chum, Chinook, coho	
N		VFDA	Valdez Fisheries Development Association, Inc.	Solomon Gulch	15	06/26/1981	pink, coho, Chinook	https://www.valdezfisheries.org

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Type[a]	Region	Agency	Corporate name	Hatchery	PNP Permit #	PNP permit issued	Species permitted	Website
	Cook Inlet							
R		CIAA	Cook Inlet Aquaculture Association	Trail Lakes[b]	27	06/22/1988	sockeye, coho, Chinook	https://www.ciaanet.org/
				Tutka Bay Lagoon[b]	32	01/03/1994	pink, sockeye	
				Port Graham	46	01/14/2014	pink	
S		ADF&G	Alaska Department of Fish and Game	W.J. Hernandez[e]	NA		char, grayling, rainbow trout, Chinook, coho	https://www.adfg.alaska.gov/index.cfm?adfg=fishingSportStockingHatcheries.main
	Kodiak							
R		KRAA	Kodiak Regional Aquaculture Association	Kitoi Bay[b]	29	07/05/1988	pink, chum, coho, sockeye	
				Pillar Creek[b]	41	05/01/1998	sockeye, coho, Chinook, rainbow trout	https://kraa.org/
	Arctic-Yukon-Kuskokwim							
S		ADF&G	Alaska Department of Fish and Game	Ruth Burnett[e]	NA		char, grayling, rainbow trout, Chinook, coho	https://www.adfg.alaska.gov/index.cfm?adfg=fishingSportStockingHatcheries.main

Note: MIC = Metlakatla Indian Community.

[a] R = Regional Aquaculture Association PNP hatchery, N = Nonregional Association PNP hatchery, F = Federal/Bureau of Indian Affairs hatchery, S = State hatchery.

[b] State-owned facility contracted to the private sector to operate.

[c] Federally recognized tribal reservation hatchery.

[d] Hatchery research facility.

[e] ADF&G Sport Fish Division hatchery.

Appendix C2.–Actively operated Alaska hatcheries contact information, 2022.

Type[a]	Region	Agency	Address	Office phone	Hatchery	Hatchery manager	Director	Email
	Southern Southeast							
R		SSRAA	14 Borch St., Ketchikan, AK 99901	(907) 225-9605			Susan Doherty	sdoherty@ssraa.org
				(907) 254-1242	Burnett Inlet	Charlie Currit		burnettinlet@ssraa.org
				(907) 650-7181	Crystal Lake[b]	Loren Thompson		crystallake@ssraa.org
				(907) 225-8790	Neets Bay	Justin Rose		neetsbay@ssraa.org
				(907) 225-2635	Whitman Lake	Cody Pederson		whitman@ssraa.org
				(907) 225-9606	Deer Mountain	Matt Allen		deermountain@ssraa.org
				(907) 846-5211	Neck Lake Project	Ron Parsley, Jr.		necklake@ssraa.org
				(907) 755-2231	Klawock River[b]	Jeff Lundberg		jlundberg@ssraa.org
				(907) 755-2231	Port Saint Nicholas	Jeff Lundberg		jlundberg@ssraa.org
F		MIC	PO Box 8, Metlakatla, AK 99929	(907) 886-3150	Tamgas Creek[c]	Steve Leask		tchsteve@hughes.net
	Northern Southeast							
R		NSRAA	1308 Sawmill Cr. Rd., Sitka, AK 99835	(907) 747-6850			Scott Wagner	scott_wagner@nsraa.org
				(907) 747-6850	Gunnuk Creek	Ryan Schuman		ryan_schuman@nsraa.net
				(907) 725-0995	Hidden Falls[b]	Jon Pearce		jon_pearce@nsraa.org
				(907) 738-1438	Medvejie Creek	Jared Nelson		jared_nelson@nsraa.org
				(907) 747-5863	Sawmill Creek	Rebecca Olson		rebecca_olson@nsraa.org
N		AKI	PO Box 1075, Sitka, AK 99835	(907) 586-3443			Bryanna Graham	aki@ak.net
				(907) 568-2228	Port Armstrong	Ben Contag		portarmstronghatchery@gmail.com
N		DIPAC	2697 Channel Dr., Juneau, AK 99801	(907) 463-5114			Katie Harms	katie_harms@dipac.net
				(907) 463-5114	Macaulay Salmon	Chris Holmes		chris_holmes@dipac.net
				(907) 586-3830	Snettisham[b]	Kevin Steck		kevin_steck@dipac.net
N		SSSC	834 Lincoln St., Sitka, AK 99835	(907) 747-8878			Lisa Busch	lbusch@sitkascience.org
					Sheldon Jackson	Bill Coltharp		wcoltharp@sitkascience.org
F		NMFS	17109 Lena Pt Loop Rd., Juneau, AK 99801	(907) 789-6033	Little Port Walter[d]	Charlie Waters		Charlie.waters@noaa.gov

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Appendix C2.–Page 2 of 2.

Type[a]	Region	Agency	Address	Office phone	Hatchery	Hatchery manager	Director	Email
	Prince William Sound							
R		PWSAC	Cordova, AK 99574	(907) 424-7511			Goeff Clark	geoff.clark@pwsac.net
					A F Koernig	Craig Parry		afk.pwsac@ak.net
					Cannery Creek[b]	Dan Orlando		cch.pwsac@ak.net
					Gulkana[b]	Steve Hilton		gkh.cvinternet@ak.net
					Main Bay[b]	Jason Myhrer		mbh.pwsac@ak.net
					W Noerenberg	Mike Anderson		wnh.pwsac@ak.net
N		VFDA	PO Box 125, Valdez, AK 99686	(907) 835-4874			Mike Wells	mike.wells@valdezfisheries.com
				(907) 835-1329	Solomon Gulch	Rob Unger		rob.unger@valdezfisheries.com
	Cook Inlet							
R		CIAA	40610 Kalifornsky Beach Rd., Kenai, AK 99611	(907) 283-5761			Dean Day	dday@ciaanet.org
				(907) 288-3688	Trail Lakes[b]	Alyson Crocker		acrocker@ciaanet.org
				(866) 309-6301	Tutka Bay Lagoon[b]	Riley Waterman		rwaterman@ciaanet.org
				(907) 284-2233	Port Graham	Brett Jenkins		bjenkins@ciaanet.org
	Kodiak							
R		KRAA	104 Center St., Suite 205, Kodiak, AK 99615	(907) 486-6555			Tina Fairbanks	kraa.fairbanks@gci.net
								kraa@gci.net
				(877) 628-4449	Kitoi Bay[b]	Mike Wachter		kitoi@gci.net
				(907) 486-4730	Pillar Creek[b]	Al Seale		pch@gci.net
S		ADF&G, Division of Sport Fish					Chuck Pratt	charles.pratt@alaska.gov
			941 N. Reeve Blvd., Anchorage, AK 99501	(907) 269-0296	WJ Hernandez	Andrew Garry		andrew.garry@alaska.gov
			1150 Wilbur St., Fairbanks, AK 99701	(907) 451-2661	Ruth Burnett	Travis Hyer		travis.hyer@alaska.gov

Note: SSRAA = Southern Southeast Regional Aquaculture Association; MIC = Metlakatla Indian Community; NSRAA = Northern Southeast Regional Aquaculture Association; AKI = Armstrong-Keta Inc.; DIPAC = Douglas Island Pink and Chum, Incorporated; SSSC = Sitka Sound Science Center; NMFS = National Marine Fisheries Service; PWSAC = Prince William Sound Aquaculture Association; VFDA = Valdez Fisheries Development Association, Inc.; CIAA = Cook Inlet Aquaculture Association; KRAA = Kodiak Regional Aquaculture Association.

[a] R=Regional Aquaculture Association PNP hatchery, N=Nonregional Association PNP hatchery, F=Federal/Bureau of Indian Affairs hatchery, S=State hatchery.

[b] State-owned facility contracted to the private sector to operate.

[c] Federally recognized tribal reservation hatchery.

[d] Hatchery research facility.

APPENDIX D: COMMERCIAL SALMON HARVEST AND VALUE, 2022, INCLUDING HATCHERY CONTRIBUTION AND COST RECOVERY

Appendix D1.–Alaska (preliminary) commercial harvest and Alaska hatchery-produced harvest by region, 2022.

Area	Harvest	Chinook	Sockeye	Coho	Pink	Chum	Total
Southeast[a]	Total commercial harvest[b]	253,638	1,177,613	1,476,151	16,143,097	9,524,873	28,575,372
	Hatchery commercial cost-recovery harvest	19,244	24,743	270,530	679,746	2,625,627	3,619,890
	Common property commercial harvest	234,000	1,153,000	1,206,000	15,463,000	6,899,000	24,955,000
	Hatchery-produced fish in comm. common prop. harvest[c]	38,000	50,000	343,000	286,000	5,929,000	6,646,712
	% of hatchery-produced fish in comm. common prop. harv.	16%	4%	28%	1.9%	86%	27%
	Hatchery-produced fish in total commercial harvest	58,000	74,000	614,000	966,000	8,555,000	10,266,602
	% of hatchery-produced fish in total commercial harvest	23%	6%	42%	6%	90%	36%
Prince William Sound	Total commercial harvest[b]	14,000	1,693,000	101,000	27,116,000	2,842,000	31,766,000
	Hatchery commercial cost-recovery harvest	0	125,000	0	2,569,253	438,992	3,133,000
	Common property commercial harvest	14,000	1,569,000	101,000	24,547,000	2,403,000	28,633,000
	Hatchery-produced fish in comm. common prop. harvest[c]	0	623,000	41,000	19,116,000	2,059,000	21,839,000
	% of hatchery-produced fish in comm. common prop. harv.	0%	40%	41%	78%	86%	76%
	Hatchery-produced fish in total commercial harvest	0	747,000	41,000	21,685,000	2,498,000	24,972,000
	% of hatchery-produced fish in total commercial harvest	0%	44%	41%	80%	88%	79%
Cook Inlet	Total commercial harvest[b]	2,000	1,411,000	101,000	490,000	153,000	2,157,000
	Hatchery commercial cost-recovery harvest	0	128,000	1	49,915	9	177,494
	Common property commercial harvest	2,000	1,283,000	101,000	440,000	153,000	1,980,000
	Hatchery-produced fish in comm. common prop. harvest[c]	0	63,000	0	0	0	63,000
	% of hatchery-produced fish in comm. common prop. harv.	0%	5%	0%	0%	0%	3%
	Hatchery-produced fish in total commercial harvest	0	190,000	1	50,000	9	240,000
	% of hatchery-produced fish in total commercial harvest	0%	14%	0%	10%	0%	11%
Kodiak	Total commercial harvest[b]	9,000	2,365,000	88,000	15,220,000	550,000	18,233,000
	Hatchery commercial cost-recovery harvest	0	67,000	0	967,013	776	1,035,000
	Common property commercial harvest	9,000	2,298,000	88,000	14,253,000	550,000	17,198,000
	Hatchery-produced fish in comm. common prop. harvest[c]	0	227,000	9,000	2,745,000	114,000	3,096,000
	% of hatchery-produced fish in comm. common prop. harv.	0%	10%	11%	19%	21%	18%
	Hatchery-produced fish in total commercial harvest	0	294,000	9,000	3,712,000	115,000	4,131,000
	% of hatchery-produced fish in total commercial harvest	0%	12%	11%	24%	21%	23%
Chignik, AK Peninsula	Common property commercial harvest	18,000	8,301,000	94,000	6,858,000	897,000	16,167,000
	Hatchery-produced fish in total comm. harvest	0	0	0	0	0	0
	% of hatchery-produced fish in comm. common prop. harv.	0%	0%	0%	0%	0%	0%
Bristol Bay	Common property commercial harvest	8,000	60,530,000	18,000	115,000	303,000	60,974,698
	Hatchery-produced fish in total comm. harvest	0	0	0	0	0	0
	% of hatchery-produced fish in comm. common prop. harv.	0%	0%	0%	0%	0%	0%

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Appendix D1.–Page 2 of 2.

Area	Harvest	Chinook	Sockeye	Coho	Pink	Chum	Total
Arctic-Yukon-Kuskokwim	Common property commercial harvest	0	1,000	13,000	84,000	507,000	606,000
	Hatchery-produced fish in total comm. harvest	0	0	0	0	0	0
	% of hatchery-produced fish in comm. common prop. harv.	#DIV/0!	0%	0%	0%	0%	0%
Statewide[d]	Total commercial harvest[a,b]	304,000	75,479,000	1,892,000	66,026,000	14,777,000	158,478,345
	Hatchery commercial cost-recovery harvest	19,000	344,000	271,000	4,266,000	3,100,000	7,999,318
	Common property commercial harvest	285,000	75,135,000	1,621,000	61,760,000	11,677,000	150,479,027
	Hatchery-produced fish in comm. common prop. harvest[c]	38,000	962,000	394,000	22,148,000	8,102,000	31,644,554
	% of hatchery-produced fish in comm. common prop. harv.	13%	1%	24%	36%	69%	21%
	Hatchery-produced fish in total commercial harvest	58,000	1,306,000	664,000	26,414,000	11,240,000	39,643,872
	% of hatchery-produced fish in total commercial harvest	19%	2%	35%	40%	76%	25%

[a] Does not include Annette Island Reserve harvest.

[b] Total commercial harvest by all commercial gear types, including fish harvested by hatcheries for cost recovery from ADF&G Oceans AK statewide salmon fish ticket database [URL not publicly available; accessed January 13, 2023].

[c] Hatchery-produced fish in CCP harvest data is as reported by operators.

[d] Some figures may not total exactly due to rounding.

Appendix D2.–Estimated exvessel value of the total Alaska CCP harvest (preliminary), by region, 2022.

Area	Harvest	Chinook	Sockeye	Coho	Pink	Chum	Total
Southeast[a]	Value of the commercial harvest[b,c]	$16,178,591	$13,159,740	$12,973,061	$22,530,666	$79,202,788	$144,044,846
	Value of hatchery-produced fish in cost recovery harvest	$1,227,501	$276,501	$2,377,536	$948,711	$21,833,045	$26,663,294
	Value of the CCP harvest	$14,951,090	$12,883,239	$10,595,525	$21,581,955	$57,369,743	$117,381,552
	Value of hatchery-produced fish in CCP	$2,440,203	$554,053	$3,015,955	$399,527	$49,305,486	$55,715,224
	% value of hatchery-produced fish in CCP	16%	4%	28%	1.9%	86%	47%
	Value of hatchery-produced fish in total comm. harvest	$3,667,704	$830,554	$5,393,491	$1,348,238	$71,138,531	$82,378,518
	% of hatchery-produced fish in total comm. harvest value	23%	6%	42%	6%	90%	57%
Prince William Sound	Value of the commercial harvest[b,c]	$2,255,622	$19,822,531	$893,324	$51,712,718	$23,255,298	$97,939,493
	Value of hatchery-produced fish in cost-recovery harvest	$0	$1,458,428	$0	$4,899,805	$3,591,874	$9,950,107
	Value of the CCP harvest	$2,255,622	$18,364,103	$893,324	$46,812,913	$19,663,424	$87,989,386
	Value of hatchery-produced fish in CCP	$0	$7,290,465	$366,633	$36,456,166	$16,844,422	$60,957,686
	% value of hatchery-produced fish in CCP	0%	40%	41%	78%	86%	69%
	Value of hatchery-produced fish in total comm. harvest	$0	$8,748,893	$366,633	$41,355,971	$20,436,296	$71,000,000
	% of hatchery-produced fish in total comm. harvest value	0%	44%	41%	80%	88%	72%
Cook Inlet	Value of the commercial harvest[b,c]	$64,364	$14,128,037	$336,254	$711,817	$787,239	$16,027,711
	Value of hatchery-produced fish in cost-recovery harvest	$0	$1,277,569	$3	$72,565	$46	$1,350,183
	Value of the CCP harvest	$64,364	$12,850,468	$336,251	$639,252	$787,193	$14,677,528
	Value of hatchery-produced fish in CCP	$0	$630,000	$0	$0	$0	$630,000
	% value of hatchery-produced fish in CCP	0.0%	4.9%	0.0%	0.0%	0.0%	4%
	Value of hatchery-produced fish in total comm. harvest	$0	$1,910,000	$3	$73,000	$46	$1,983,000
	% of hatchery-produced fish in total comm. harvest value	0%	14%	0%	10%	0%	12%
Kodiak	Value of the commercial harvest[b,c]	$148,878	$18,054,165	$482,532	$20,015,558	$2,724,105	$41,425,238
	Value of hatchery-produced fish in cost-recovery harvest	$0	$509,000	$0	$1,270,000	$3,800	$1,800,000
	Value of the CCP harvest	$148,878	$17,545,165	$482,532	$18,745,558	$2,720,305	$39,642,438
	Value of hatchery-produced fish in CCP	$0	$1,732,290	$51,539	$3,610,612	$565,986	$5,960,427
	% value of hatchery-produced fish in CCP	0%	10%	11%	19%	21%	15%
	Value of hatchery-produced fish in total comm. harvest	$0	$2,241,290	$51,539	$4,880,612	$569,786	$7,743,227
	% of hatchery-produced fish in total comm. harvest value	0%	12%	11%	24%	21%	19%
Chignik, AK Penin., Aleut. Is.	Value of the CCP harvest	$84,580	$57,600,743	$151,062	$7,108,947	$1,768,041	$66,713,373
	Value of hatchery-produced fish in total comm. harvest	$0	$0	$0	$0	$0	$0
	% Value of hatchery-produced fish in CCP	0%	0%	0%	0%	0%	0%
Bristol Bay	Value of the CCP harvest	$53,230	$351,052,195	$37,945	$44,493	$534,094	$351,721,957
	Value of hatchery-produced fish in total comm. harvest	$0	$0	$0	$0	$0	$0
	% Value of hatchery-produced fish in CCP	0%	0%	0%	0%	0%	0%

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Appendix D2.–Page 2 of 2.

Area	Harvest	Chinook	Sockeye	Coho	Pink	Chum	Total
Arctic-Yukon-Kuskokwim	Value of the CCP harvest	$0	$16,693	$167,437	$100,345	$2,288,707	$2,573,182
	Value of hatchery-produced fish in total comm. harvest	$0	$0	$0	$0	$0	$0
	% Value of hatchery-produced fish in CCP	#DIV/0!	0%	0%	0%	0%	0%
Statewide[d]	Value of the commercial harvest	$18,785,265	$473,834,104	$15,041,615	$102,224,544	$110,560,272	$720,445,800
	Value of hatchery-produced fish in cost-recovery harvest	$1,227,501	$3,523,929	$2,377,539	$7,191,516	$25,428,765	$40,152,669
	Value of the CCP harvest	$17,557,764	$470,310,175	$12,664,076	$95,033,028	$85,131,507	$680,604,392
	Value of hatchery-produced fish in CCP	$2,440,203	$10,206,808	$3,434,127	$40,466,305	$66,715,894	$123,263,337
	% value of hatchery-produced fish in CCP	13%	2%	23%	40%	60%	17%
	Value of hatchery-produced fish in total comm. harvest	$3,667,704	$13,730,737	$5,811,666	$47,657,821	$92,144,659	$163,104,745
	% of hatchery-produced fish in total comm. harvest value	20%	3%	39%	47%	83%	23%

Note: CCP = commercial common property harvest.

[a] Does not include Annette Island Reserve harvest.

[b] Total commercial harvest by all commercial gear types, including fish harvested by hatcheries for cost recovery.

[d] Value source: https://www.adfg.alaska.gov/static/fishing/pdfs/commercial/2022_preliminary_salmon_summary_table.pdf (accessed 1/5/2023).

[d] Some figures may not total exactly due to rounding.

APPENDIX E: PROJECTED HATCHERY RETURN BY SPECIES, 2023

Appendix E1.–Projected adult return, by species, to Alaska fisheries enhancement projects in 2023.

Region/Operator/Hatchery/Location			Chinook	Sockeye	Coho	Pink	Chum	Rainbow trout	Landlocked salmon	Total
Southern Southeast										
SSRAA	Burnett Inlet	Burnett Inlet	0	0	0	0	475,000	0	0	475,000
		Nakat Inlet	0	0	0	0	270,000	0	0	270,000
		Anita Bay	0	0	0	0	274,000	0	0	274,000
		Port Asumcion	0	0	0	0	321,000	0	0	321,000
	Crystal Lake	Anita Bay	7,600	0	0	0	0	0	0	7,600
		Crystal Cr	2,700	0	3,200	0	0	0	0	5,900
	Neets Bay	Neets Bay	4,800	0	80,300	0	857,000	0	0	942,100
		Nakat Inlet	0	0	0	0	73,000	0	0	73,000
	Whitman Lake	Kendrick Bay	0	0	0	0	732,000	0	0	732,000
		Carroll Inlet	10,000	0	0	0	0	0	0	10,000
		Herring Cove	11,700	0	14,200	0	0	0	0	25,900
		Nakat Inlet	0	0	18,600	0	270,000	0	0	288,600
		Anita Bay	0	0	10,100	0	0	0	0	10,100
	Deer Mountain	Ketchikan Cr	a	0	0	0	0	0	0	0
	Klawock River	Klawock L	0	0	148,300	0	0	0	0	148,300
	Port Saint Nicholas	Port Saint Nicholas	5,600	0	0	0	0	0	0	5,600
MIC	Tamgas Creek	Tamgas Creek	a	a	a	a	a	0	0	0
Southern Southeast total			42,400	0	274,700	0	3,272,000	0	0	3,589,100
Northern Southeast										
NSRAA	Hidden Falls	Hidden Falls	441	0	38,000	0	806,000	0	0	844,441
		Deer L	0	0	44,000	0	0	0	0	44,000
		Southeast Cove	0	0	0	0	570,000	0	0	570,000
		Thomas Bay	0	0	0	0	97,000	0	0	97,000
	Medvejie	Bear Cove	12,993	0	0	2,660	172,000	0	0	187,653
		Crawfish Inlet	372	0	0	0	0	0	0	372
		Crescent Bay	1,818	0	0	0	0	0	0	1,818
		Deep Inlet	0	0	0	0	657,000	0	0	657,000
	Sawmill Creek	Bear Cove	0	0	12,000	0	0	0	0	12,000
		Deep Inlet	0	0	26,000	0	0	0	0	26,000
		Crawfish Inlet	0	0	0	0	867,000	0	0	867,000
	Gunnuk Creek	Gunnuk Creek	405	0	0	0	26,000	0	0	26,405

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Appendix E1.–Page 2 of 4.

Region/Operator/Hatchery/Location			Chinook	Sockeye	Coho	Pink	Chum	Rainbow trout	Landlocked salmon	Total
AKI	Port Armstrong	Port Armstrong	0	0	110,198	569,417	212,369	0	0	891,984
DIPAC	Macaulay	Amalga Harbor	0	0	0	0	1,278,000	0	0	1,278,000
		Boat Harbor	0	0	0	0	587,900	0	0	587,900
		Limestone Inlet	0	0	0	0	127,400	0	0	127,400
		Fish Cr	1,502	0	0	0	0	0	0	1,502
		Lena Cove	250	0	0	0	0	0	0	250
		Gastineau Channel	3,530	0	6,400	0	806,300	0	0	816,230
		Auke Bay	103	0	0	0	0	0	0	103
		Thane	250	0	0	0	0	0	0	250
	Snettisham	Speel Arm	0	150,900	0	0	0	0	0	150,900
		Stikine River	0	a	0	0	0	0	0	0
		Sweetheart L	0	4,400	0	0	0	0	0	4,400
		Taku River	0	a	0	0	0	0	0	0
SSSC	Sheldon Jackson	Crescent Bay	0	0	8,197	236,000	145,000	0	0	389,197
		Deep Inlet	0	0	0	0	118,968	0	0	118,968
NMFS	Little Port Walter	Little Port Walter	3,162	0	0	0	0	0	0	3,162
Northern Southeast total			24,826	155,300	244,795	808,077	6,470,937	0	0	7,703,935
Southeast total			67,226	155,300	519,495	808,077	9,742,937	0	0	11,293,035
Prince William Sound										
PWSAC	A F Koernig	Sawmill Bay	0	0	0	6,800,000	190,000	0	0	6,990,000
	Cannery Creek	Unakwik Inlet	0	0	0	11,300,000	0	0	0	11,300,000
	Gulkana	Crosswind L	0	27,000	0	0	0	0	0	27,000
		Paxson L	0	28,300	0	0	0	0	0	28,300
	Main Bay	Main Bay	0	934,000	0	0	0	0	0	934,000
	Wally Noerenberg	Lake Bay	0	0	122,000	6,100,000	2,210,000	0	0	8,432,000
		Chenega Bay	37	0	0	0	0	0	0	37
		Chenega Cove	192	0	2,900	0	0	0	0	3,092
		Fleming Spit	0	0	5,900	0	0	0	0	5,900
		Port Chalmers	0	0	0	0	650,000	0	0	650,000
		Whittier	0	0	4,600	0	0	0	0	4,600
VFDA	Solomon Gulch	Solomon Gulch	0	0	79,893	20,380,703	0	0	0	20,460,596
		Boulder Bay	0	0	811	0	0	0	0	811

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Appendix E1.–Page 3 of 4.

Region/Operator/Hatchery/Location			Chinook	Sockeye	Coho	Pink	Chum	Rainbow trout	Landlocked salmon	Total
ADFG	William Jack Hernandez	Whittier	1,085	0	0	0	0	0	0	1,085
		Fleming Spit	1,113	0	0	0	0	0	0	1,113
		PWS lakes	0	0	0	0	0	201	0	201
	Ruth Burnett	Glennallen lakes	0	0	0	0	0	1,665	14	1,699
Prince William Sound total			2,427	989,300	216,104	44,580,703	3,050,000	1,866	14	48,840,434
Cook Inlet										
CIAA	Trail Lakes	Hazel L	0	20,312	0	0	0	0	0	20,312
		Leisure L	0	17,960	0	0	0	0	0	17,960
		Hidden L	0	22,691	0	0	0	0	0	22,691
		Kirschner L	0	31,958	0	0	0	0	0	31,958
		Tutka Bay	0	37,060	0	0	0	0	0	37,060
		Bear L/Resurrection B	0	89,915	0	0	0	0	0	89,915
		Bear Cr	0	0	11,832	0	0	0	0	11,832
	Tutka Bay	Tutka Bay	0	0	0	1,579,671	0	0	0	1,579,671
	Port Graham	Port Graham	0	0	0	63,146	0	0	0	63,146
ADFG	William Jack Hernandez	Bird Cr	0	0	8,246	0	0	0	0	8,246
		Campbell Cr	0	0	3,533	0	0	0	0	3,533
		Eklutna Tailrace	4,304	0	8,337	0	0	0	0	12,641
		Ship Cr	5,957	0	16,027	0	0	0	0	21,984
		Crooked Cr	1,413	0	0	0	0	0	0	1,413
		Ninilchik River	1,580	0	0	0	0	0	0	1,580
		Homer Spit	3,153	0	7,840	0	0	0	0	10,993
		Seldovia	1,025	0	0	0	0	0	0	1,025
		Seward Lagoon	3,172	0	15,854	0	0	0	0	19,026
		Anchorage lakes	1,287	0	0	0	0	7,864	0	9,586
		Kenai lakes	0	0	0	0	0	7,735	0	7,826
		Matanuska lakes	0	0	0	0	0	8,991	0	9,286
Cook Inlet total			21,891	219,896	71,669	1,642,817	0	24,590	0	1,981,684
Southcentral total			24,318	1,209,196	287,773	46,223,520	3,050,000	26,456	14	50,822,118

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Region/Operator/Hatchery/Location			Chinook	Sockeye	Coho	Pink	Chum	Rainbow trout	Landlocked salmon	Total
Arctic-Yukon-Kuskokwim										
ADFG	Ruth Burnett	Delta Junction lakes	0	0	0	0	0	2,867	980	4,031
		Fairbanks lakes	0	0	0	0	0	9,895	1,298	11,703
Arctic-Yukon-Kuskokwim total			0	0	0	0	0	12,762	2,278	15,734
Westward/Kodiak										
KRAA	Kitoi Bay	Kitoi Bay	0	0	132,500	5,700,000	109,500	0	0	5,942,000
		Little Kitoi Bay	0	10,750	0	0	0	0	0	10,750
		Ouzinkie Village	0	504	0	0	0	0	0	504
	Pillar Creek	Pillar Cr	0	0	3,200	0	0	0	0	3,200
		Island L	0	0	1,300	0	0	0	0	1,300
		Monashka Cr	0	0	3,000	0	0	0	0	3,000
		Mission L	0	0	900	0	0	0	0	900
		Crescent L	0	133	0	0	0	0	0	133
		Hidden L	0	800	0	0	0	0	0	800
		Spiridon L	0	68,000	0	0	0	0	0	68,000
		Telrod Cove	0	57,000	0	0	0	0	0	57,000
Westward/Kodiak total			0	137,187	140,900	5,700,000	109,500	0	0	6,087,587
Statewide total			91,544	1,501,683	948,168	52,731,597	12,902,437	39,218	2,292	68,218,474

Note: SSRAA = Southern Southeast Regional Aquaculture Association; MIC = Metlakatla Indian Community; NSRAA = Northern Southeast Regional Aquaculture Association; AKI = Armstrong-Keta Inc.; DIPAC = Douglas Island Pink and Chum, Incorporated; SSSC = Sitka Sound Science Center; NMFS = National Marine Fisheries Service; PWS = Prince William Sound; PWSAC = Prince William Sound Aquaculture Association; VFDA = Valdez Fisheries Development Association, Inc.; CIAA = Cook Inlet Aquaculture Association; KRAA = Kodiak Regional Aquaculture Association.

[a] Data not available at the time of publication.

[b] The forecasted harvest of Arctic grayling, statewide total = 330, is not shown.

APPENDIX F: EGG PRODUCTION FROM AQUATIC RESOURCE PERMITS, 2022

Appendix F1.–Summary of salmon production of eggs collected in 2021 from Aquatic Resource Permits issued by the Alaska Department of Fish and Game.

The egg number represented is the maximal number allowed to be collected, not necessarily the number allowed to be released, by the issued permit for the project.

Bioenhancement Research Permits

Eggs collected under this type of propagation permit are for bioenhancement research by accredited institutions of higher learning and cooperative governmental projects.

Area	Permittee	Stock/Species	Max. no. allowed to be collected
Southeast			
	NOAA Little Port Walter	Keta River king at LPW	100 spawning pair
	NOAA Little Port Walter	Unuk River king at LPW	100 spawning pair
Southcentral			
	Seldovia Village Tribe	Jakolof Creek coho	10 adults
Arctic-Yukon-Kuskokwim			
	Norton Sound Economic Development Corporation	Snake River coho	50 spawning pair
	Norton Sound Economic Development Corporation	Solomon River chum	60 spawning pair
	Norton Sound Economic Development Corporation	Unalakleet River king	20 spawning pair

Educational and Vocational Permits

Eggs collected under this type of propagation permit are for educational and vocational purposes.

Area	Permittee	Stock/Species	Max. no. allowed to be collected
Southeast			
	Petersburg High School	Five Mile pink	30 spawning pair
Westward			
	Unalaska City School	Iliuliuk River coho	3 spawning pair

Scientific and Educational Permits

Eggs collected under this type of propagation permit are for Classroom Incubation Projects and in most cases are provided by hatcheries. Resultant fry can be released at approved locations or are destroyed.

Area	Permittee	Species	Max. no. to be collected
Southeast	Fawn Mountain Elementary	coho	150
	Point Higgins Elementary School	coho	100
	Skagway Traditional Council	coho	500
	Skagway Traditional Council	pink	500
Southcentral	Airport Heights	coho	500
	Alaska Native Cultural Charter School	coho	500
	Alpenglow	coho	500
	Anchor Lutheran School	coho	500
	Anchorage ADF&G lobby	coho	500
	Anchorage Christian School	coho	500
	Aurora Borealis Charter School	coho	500
	Big Lake Elementary	coho	500

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Area	Permittee	Species	Max. no. to be collected
Southcentral (cont.)	Bartlett High School	coho	500
	Bear Valley	coho	500
	Birchwood ABC School	coho	500
	Bowman Elementary	coho	500
	Campbell STEM	coho	500
	Chapman Elementary	coho	500
	Chugiak Elementary	coho	500
	College Gate Elementary	coho	500
	Cook Inlet Academy	coho	500
	Cooper Landing Elementary	coho	500
	Copper River Watershed Project	coho	200
	Cottonwood Creek Action School	coho	500
	Denaina Elementary	coho	500
	Denali Montessori Elementary	coho	500
	Dimond High School	coho	500
	Eagle Academy Charter School	coho	500
	Eagle River Elementary	coho	500
	East Anchorage High School	coho	500
	Finger Lake Elementary	coho	500
	Fireweed Academy Charter School	coho	500
	Gladys Wood	coho	500
	Gladys Wood Elementary	coho	500
	Glennallen School	coho	200
	Government Hill Elementary	coho	500
	Grace Christian Elementary	coho	500
	Grace Lutheran School	coho	500
	Homer Flex High School	coho	500
	Homer High School	coho	500
	Homer Middle School	coho	500
	IDEA Homeschool	coho	500
	Kaleidoscope Elementary	coho	500
	Kalifornsky Beach Elementary	coho	500
	Kasuun Elementary	coho	500
	Kenai Classic School	coho	500
	Kenai Middle School	coho	500
	Kenny Lake School	coho	200
	Kincaid Elementary	coho	500
	Lake Hood (2 tanks)	coho	500
	Lake Otis Elementary	coho	500
	McNeil Canyon Elementary	coho	500
	Mentasta Lake School	coho	200
	Mountain View Elementary	coho	500
	North Star Elementary	coho	500
	Nikolaevsk Elementary/High School	coho	500
	Ninilchik School	coho	500
	O'Malley Elementary	coho	500

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Area	Permittee	Species	Max. no. to be collected
Southcentral (cont.)	Ocean View Elementary	coho	500
	Orion Elementary	coho	500
	PAIDEIA Cooperative School	coho	500
	Ravenwood Elementary	coho	500
	Redoubt Elementary	coho	500
	Rilke Schule	coho	500
	Rogers Park Elementary	coho	500
	Service High School	coho	500
	Seward Elementary School	coho	500
	Shaw Elementary	coho	500
	Sherrod Elementary	coho	500
	Slana School	coho	200
	Soldotna ADF&G lobby	coho	500
	Soldotna Elementary School	coho	500
	Spring Hill Elementary	coho	500
	St. Elizabeth Ann Seton School	coho	500
	St. John's Orthodox Christian School	coho	500
	Steller Secondary School	coho	500
	Sterling Elementary	coho	500
	Su Valley High School	coho	500
	Susitna Elementary	coho	500
	Talkeetna Elementary	coho	500
	Tebughna School	coho	500
	Teeland Middle School	coho	500
	The Study (Soldotna)	coho	500
	Upstream Learning School	coho	200
	Voznesenka School	coho	500
	West Homer Elementary	coho	500
	William Tyson Elementary	coho	500
	Winterberry School	coho	500
	Ya Ne Dah Ah School	coho	400
Arctic-Yukon-Kuskokwim	Barnette Magnet School	coho	300
	Nome-Beltz High School	coho	500
	Pearl Creek Elementary	coho	300
	Salcha Elementary	coho	300
	Two Rivers Elementary	coho	300
	Watershed School	coho	300
	Weller Elementary	coho	300
Westward	Chignik Bay School	pink	300
	Chignik Bay School	coho	300
	East Elementary School	coho	500
	Kodiak Christian School	coho	500
	Main Elementary School	coho	500
	North Star Elementary School	coho	500
	Peterson Elementary School	coho	500
	Sand Point School	coho	500

APPENDIX G: HATCHERY EGG COLLECTION, 2022

Appendix G1.–Eggs collected at Alaska hatcheries as reported by operators, 2022 (transferred eggs are listed with the receiving hatchery).

Region	Area	Operator	Egg-take location	Receiving hatchery	Chinook	Sockeye	Coho	Pink	Chum	R. Trout	Total
Southeast											
	Southern Southeast										
		SSRAA	Burnett Inlet	Burnett Inlet	0	0	0	0	90,160,000	0	90,160,000
				Neets Bay	0	0	0	0	440,000	0	440,000
			Crystal Lake	Crystal Lake	1,700,000	0	190,000	0	0	0	1,890,000
			Deer Mountain	Deer Mountain	45,000	0	0	0	0	0	45,000
			Neets Bay	Neets Bay	0	0	4,200,000	0	91,500,000	0	95,700,000
				Whitman Lake	0	0	0	0	40,000,000	0	40,000,000
				Port Saint Nicholas	0	0	0	0	8,000,000	0	8,000,000
			Whitman Lake	Whitman Lake	2,200,000	0	3,450,000	0	0	0	5,650,000
				Crystal Lake	510,000	0	0	0	0	0	510,000
			Klawock River	Klawock River	0	0	5,310,000	0	0	0	5,310,000
		MIC	Tamgas Creek	Tamgas Creek	1,320,000	0	4,590,000	11,200,000	22,590,000	0	39,700,000
	Southern Southeast total				5,775,000	0	17,740,000	11,200,000	252,690,000	0	287,405,000
	Northern Southeast										
		NSRAA	Hidden Falls	Hidden Falls	157,500	0	7,699,890	0	123,514,894	0	131,372,284
				Medvejie	0	0	0	0	36,536,460	0	36,536,460
			Medvejie	Medvejie	5,719,500	0	0	198,100	38,880,475	0	44,798,075
				Hidden Falls	724,637	0	0	0	0	0	724,637
				Sawmill Creek	328,603	0	0	0	49,460,958	0	49,789,561
				Gunnuk Creek	0	0	0	0	5,112,626	0	5,112,626
			Sawmill Creek	Sawmill Creek	0	0	3,832,500	0	0	0	3,832,500
			Gunnuk Creek	Gunnuk Creek	0	0	0	0	13,819,195	0	13,819,195
			Sheldon Jackson	Medvejie	0	0	0	0	800,000	0	800,000
		AKI	Port Armstrong	Port Armstrong	0	0	6,000,000	53,604,539	34,385,386	0	93,989,925
		DIPAC	Macaulay	Macaulay	1,091,200	0	1,500,000	0	135,130,000	0	137,721,200
`			Snettisham	Snettisham	0	14,607,000	0	0	0	0	14,607,000
			Tahltan L (BC)	Snettisham	0	446,000	0	0	0	0	446,000
			Tatsamenie L (BC)	Snettisham	0	1,715,300	0	0	0	0	1,715,300
			Trapper L (BC)	Snettisham	0	467,300	0	0	0	0	467,300
		SSSC	Sheldon Jackson	Sheldon Jackson	0	0	268,000	3,212,727	3,239,032	0	6,719,759
			Medvejie	Medvejie	0	0	0	0	9,000,000	0	9,000,000
	Northern Southeast total				8,021,440	17,235,600	19,300,390	57,015,366	449,879,026	0	551,451,822
Southeast total					13,796,440	17,235,600	37,040,390	68,215,366	702,569,026	0	838,856,822

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Appendix G1.–Page 2 of 3.

Region	Area	Operator	Egg-take location	Receiving hatchery	Chinook	Sockeye	Coho	Pink	Chum	R. Trout	Total
Southcentral											
	Prince William Sound										
		PWSAC	A F Koernig	A F Koernig	0	0	0	182,000,000	0	0	182,000,000
			Cannery Creek	Cannery Creek	0	0	0	178,400,000	0	0	178,400,000
			Gulkana	Gulkana	0	6,624,200	0	0	0	0	6,624,200
			Main Bay	Main Bay	0	12,400,000	0	0	0	0	12,400,000
			Wally Noerenberg	Wally Noerenberg	0	0	576,536	141,399,000	132,660,000	0	274,635,536
				A F Koernig	0	0	0	0	20,130,000	0	20,130,000
			Power Creek	Wally Noerenberg	0	0	135,000	0	0	0	135,000
		VFDA	Solomon Gulch	Solomon Gulch	0	0	2,000,632	276,833,372	0	0	278,834,004
				Wally Noerenberg	0	0	731,476	0	0	0	731,476
	Prince William Sound total				0	19,024,200	3,443,644	778,632,372	152,790,000	0	953,890,216
	Cook Inlet										
		CIAA	Port Graham	Port Graham	0	0	0	21,179,087	0	0	21,179,087
			Trail Lakes	Trail Lakes	0	10,099,841	0	0	0	0	10,099,841
			Bear Cr	Trail Lakes	0	0	514,668	0	0	0	514,668
			Tutka Bay	Tutka Bay	0	0	0	9,202,835	0	0	9,202,835
		ADFG	William Jack Hernandez	William Jack Hernandez	1,800,283	0	1,043,853	0	0	3,469,358	6,509,996
				Wally Noerenberg	50,043	0	0	0	0	0	50,043
			Bear Cr	William Jack Hernandez	0	0	219,477	0	0	0	219,477
			Crooked Cr	William Jack Hernandez	543,748	0	0	0	0	0	543,748
			Ninilchik R	William Jack Hernandez	671,647	0	0	0	0	0	671,647
	Cook Inlet total				3,065,721	10,099,841	1,777,998	30,381,922	0	3,469,358	47,556,470
Southcentral Total					3,065,721	29,124,041	5,221,642	809,014,294	152,790,000	3,469,358	1,002,881,558
Arctic-Yukon-Kuskokwim											
		ADFG	Ruth Burnett	Ruth Burnett	60,008	0	0	0	0	0	60,008
			William Jack Hernandez	Ruth Burnett	0	0	125,000	0	0	650,000	860,446
Arctic-Yukon-Kuskokwim total					60,008	0	125,000	0	0	650,000	920,454

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Region	Area	Operator	Egg-take location	Receiving hatchery	Chinook	Sockeye	Coho	Pink	Chum	R. Trout	Total
Kodiak											
		KRAA	Kitoi Bay	Kitoi Bay	0	0	2,300,000	213,986,683	35,781,557	0	252,068,240
			Saltery Lake	Kitoi Bay	0	774,416	0	0	0	0	774,416
			Saltery Lake	Pillar Creek	0	3,633,878	0	0	0	0	3,633,878
			Afognak Lake	Pillar Creek	0	558,895	0	0	0	0	558,895
			Karluk River	Pillar Creek	8,237	0	0	0	0	0	8,237
			Pillar Creek	Pillar Creek	0	0	277,500	0	0	0	277,500
			William Jack Hernandez	Pillar Creek	0	0	0	0	0	200,000	200,000
Kodiak total					8,237	4,967,189	2,577,500	213,986,683	35,781,557	200,000	257,521,166
Statewide total					16,930,406	51,326,830	44,964,532	1,091,216,343	891,140,583	4,319,358	2,100,180,000

Note: SSRAA = Southern Southeast Regional Aquaculture Association; MIC = Metlakatla Indian Community; NSRAA = Northern Southeast Regional Aquaculture Association; AKI = Armstrong-Keta Inc.; DIPAC = Douglas Island Pink and Chum, Incorporated; SSSC = Sitka Sound Science Center; NMFS = National Marine Fisheries Service; PWSAC = Prince William Sound Aquaculture Association; VFDA = Valdez Fisheries Development Association, Inc.; CIAA = Cook Inlet Aquaculture Association; KRAA = Kodiak Regional Aquaculture Association.

[a] These eggs were taken and reared at Medvejie Hatchery on behalf of Sheldon Jackson Hatchery operated by Sitka Sound Science Center.

[b] Total eggs at William Jack Hernandez Sport Fish Hatchery includes 196,502 Arctic char eggs. Rainbow trout ("R. trout") eggs were transferred to Pillar Creek Hatchery in early 2022.

[c] Total eggs at Ruth Burnett Sport Fish Hatchery includes 85,446 Arctic char eggs transferred from William Jack Hernandez Sport Fish Hatchery.

APPENDIX H: HATCHERY RELEASES, 2022

Appendix H1.–Alaska hatchery releases as reported by operators, 2022.

Region	Area	Operator	Hatchery	Release site	Chinook	Sockeye	Coho	Pink	Chum	R. Trout	Total
Southeast											
	Southern Southeast										
		SSRAA	Burnett Inlet	Burnett Inlet	0	0	0	0	36,626,000	0	36,626,000
				Anita Bay	0	0	0	0	24,067,000	0	24,067,000
				Nakat Inlet	0	0	0	0	14,515,000	0	14,515,000
				Port Asumcion	0	0	0	0	12,000,000	0	12,000,000
			Crystal Lake	Crystal Cr	625,974	0	129,495	0	0	0	755,469
				City Cr	93,240	0	0	0	0	0	93,240
				Anita Bay	464,692	0	0	0	0	0	464,692
			Neets Bay	Neets Bay	0	0	3,209,738	0	64,585,998	0	67,795,736
			Whitman Lake	Nakat Inlet	0	0	532,463	0	0	0	532,463
				Anita Bay	0	0	506,258	0	0	0	506,258
				Carroll Inlet	571,150	0	0	0	0	0	571,150
				Ketchikan Cr	89,610	0	0	0	0	0	89,610
				Herring Cove	706,633	0	406,068	0	0	0	1,112,701
				Kendrick Bay	0	0	0	0	23,519,480	0	23,519,480
				McLean Arm	0	0	0	0	17,478,750	0	17,478,750
			Klawock River	Klawock L	0	0	3,801,342	0	0	0	3,801,342
			Port Saint Nicholas	Port St. Nicholas	492,251	0	0	0	0	0	492,251
				Port Asumcion	0	0	0	0	7,270,000	0	7,270,000
			Deer Mountain	Harriet Hunt L	0	0	0	0	0	36,000	36,000
				Ketchikan Cr	20,745	0	0	0	0	0	20,745
				Carlanna L	0	0	0	0	0	10,500	10,500
				City Park	0	0	0	0	0	1,000	1,000
		MIC	Tamgas Creek	Tamgas	298,901	0	1,630,581	4,920,000	20,700,000	0	27,549,482
				Port Chester	267,267	0	5,898,323	0	10,100,000	0	16,265,590
				Melanson L	0	0	554,261	0	0	0	554,261
	Southern Southeast total				3,630,463	0	16,668,529	4,920,000	230,862,228	47,500	256,128,720

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Appendix H1.–Page 2 of 5.

Region	Area	Operator	Hatchery	Release site	Chinook	Sockeye	Coho	Pink	Chum	R. Trout	Total
	Northern Southeast										
		NSRAA	Hidden Falls	Thomas Bay	0	0	0	0	14,846,799	0	14,846,799
				Kasnyku Bay	0	0	3,375,361	0	50,982,098	0	54,357,459
				Southeast Cove	312,054	0	0	0	36,087,907	0	36,399,961
				Gunnuk Cr	186,704	0	0	0	8,484,195	0	8,670,899
				Mist Cove	0	0	1,413,417	0	0	0	1,413,417
			Medvejie	Bear Cove	2,054,932	0	0	266,382	33,727,565	0	36,048,879
				Deep Inlet	0	0	0	0	31,524,875	0	31,524,875
				Crescent Bay	354,164	0	0	0	0	0	354,164
				Crawfish Inlet	517,632	0	0	0	0	0	517,632
			Sawmill Creek	Bear Cove	0	0	199,977	0	0	0	199,977
				Deep Inlet	0	0	1,649,843	0	15,869,540	0	17,519,383
				Crawfish Inlet	311,123	0	0	0	23,858,727	0	24,169,850
			Gunnuk Creek	Gunnuk Cr	0	0	0	0	8,262,904	0	8,262,904
		AKI	Port Armstrong	Port Armstrong	0	0	3,673,263	56,941,710	15,817,167	0	76,432,140
		DIPAC	Macaulay	Gastineau Ch	443,468	0	222,886	0	12,249,000	0	12,915,354
				Fish Cr	364,403	0	0	0	0	0	364,403
				Lena Cove	206,536	0	0	0	0	0	206,536
				Amalga Harbor	0	0	0	0	45,914,000	0	45,914,000
				Boat Harbor	0	0	0	0	22,196,000	0	22,196,000
				Limestone Inlet	0	0	0	0	14,404,000	0	14,404,000
				Sheep Cr	0	0	0	0	22,252,000	0	22,252,000
			Snettisham	Speel Arm	0	7,648,500	0	0	0	0	7,648,500
				Sweetheart L	0	246,200	0	0	0	0	246,200
				Tahltan L (BC)	0	1,079,400	0	0	0	0	1,079,400
				Trapper L (BC)	0	188,600	0	0	0	0	188,600
				Tatsamenie L	0	1,714,600	0	0	0	0	1,714,600
		NMFS	Little Port Walter	L Port Walter	62,680	0	0	0	0	0	62,680
		SSSC	Sheldon Jackson	Crescent Bay	0	0	163,955	3,100,883	2,952,590	0	6,217,428
				Deep Inlet	0	0	0	0	7,423,000	0	7,423,000
	Northern Southeast total				4,813,696	10,877,300	10,698,702	60,308,975	366,852,367	0	453,551,040
Southeast total					8,444,159	10,877,300	27,367,231	65,228,975	597,714,595	47,500	709,679,760

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Region	Area	Operator	Hatchery	Release site	Chinook	Sockeye	Coho	Pink	Chum	R. Trout	Total
Southcentral											
	Prince William Sound										
		PWSAC	A F Koernig	Sawmill Bay	0	0	0	171,100,000	18,300,000	0	189,400,000
			Cannery Creek	Unakwik Inlet	0	0	0	161,300,000	0	0	161,300,000
			Gulkana	Crosswind L	0	3,740,342	0	0	0	0	3,740,342
				Paxson L	0	5,951,221	0	0	0	0	5,951,221
			Main Bay Wally Noerenberg	Main Bay	0	10,601,034	0	0	0	0	10,601,034
				Lake Bay	0	0	2,689,900	131,889,000	71,701,000	0	206,279,900
				Port Chalmers	0	0	0	0	40,290,000	0	40,290,000
				Fleming Spit	0	0	100,000	0	0	0	100,000
				Chenega Cove	45,940	0	50,000	0	0	0	95,940
				Whittier	0	0	100,000	0	0	0	100,000
		VFDA	Solomon Gulch	Solomon Gulch	0	0	1,967,802	256,038,980	0	0	258,006,782
				Boulder Bay	0	0	19,983	0	0	0	19,983
		ADFG	William Jack Hernandez	Ruth L	0	0	0	0	0	1,008	1,008
				Whittier	100,462	0	0	0	0	0	100,462
				Fleming Spit	104,800	0	0	0	0	0	104,800
	Prince William Sound total				251,202	20,292,597	4,927,685	720,327,980	130,291,000	1,008	876,091,472
	Cook Inlet										
		CIAA	Trail Lakes	Bear L	0	2,115,385	450,000	0	0	0	2,565,385
				Bear Cr	0	0	30,180	0	0	0	30,180
				Resurrection B	0	1,393,778	0	0	0	0	1,393,778
				Kirschner L	0	250,000	0	0	0	0	250,000
				Hazel L	0	1,073,596	0	0	0	0	1,073,596
				Leisure L	0	1,735,350	0	0	0	0	1,735,350
				Tutka Lagoon	0	452,172	0	0	0	0	452,172
				Hidden L	0	1,035,000	0	0	0	0	1,035,000
			Tutka Bay	Tutka Lagoon	0	0	0	55,092,122	0	0	55,092,122
			Port Graham	Port Graham	0	0	0	1,973,319	0	0	1,973,319
		ADFG	William Jack Hernandez	Bird Cr	0	0	122,157	0	0	0	122,157
				Campbell Cr	0	0	52,347	0	0	1,980	54,327

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Appendix H1.–Page 4 of 5.

Region	Area	Operator	Hatchery	Release site	Chinook	Sockeye	Coho	Pink	Chum	R. Trout	Total
				Ship Cr	593,774	0	237,431	0	0	0	831,205
				Southcentral L's	87,210	0	120,532	0	0	956,497	1,216,062
				Eklutna Tailrace	439,726	0	113,855	0	0	0	553,581
				Crooked Cr	97,562	0	0	0	0	0	97,562
				Ninilchik R	142,833	0	0	0	0	0	142,833
				Homer Spit	348,437	0	116,145	0	0	0	464,582
				Seldovia Harbor	83,611	0	0	0	0	0	83,611
				Seward Lagoon	313,529	0	234,868	0	0	0	548,397
			Ruth Burnett	Southcentral L's	0	0	0	0	0	144	19,756
	Cook Inlet total				2,106,682	8,055,281	1,477,515	57,065,441	0	958,621	69,715,363
Southcentral total					2,357,884	28,347,878	6,405,200	777,393,421	130,291,000	959,629	945,806,835
Arctic-Yukon-Kuskokwim											
		ADFG	Ruth Burnett	Interior Lakes	36,726	0	77,700	0	0	223,158	358,127
Arctic-Yukon-Kuskokwim Total					36,726	0	77,700	0	0	223,158	358,127
Kodiak											
		KRAA	Kitoi Bay	Kitoi Bay	0	0	1,386,835	196,429,159	32,452,207	0	230,268,201
				Little Kitoi L	0	392,916	0	0	0	0	392,916
				Ouzinkie	0	49,958	0	0	0	0	49,958
			Pillar Creek	Pillar Cr	0	0	92,038	0	0	0	92,038
				Crescent L	0	205,887	0	0	0	0	205,887
				Hidden L	0	341,636	0	0	0	0	341,636
				Jennifer L	0	50,000	0	0	0	0	50,000
				Monashka R	0	0	80,052	0	0	0	80,052
				Ruth L	0	6,079	0	0	0	0	6,079
				Salonie Cr	8,148	0	0	0	0	0	8,148
				Spiridon L	0	1,992,241	0	0	0	0	1,992,241
				Telrod Cove	0	439,151	0	0	0	0	439,151
				Kodiak Lakes	0	0	50,749	0	0	58,188	108,937
Kodiak/Westward total					8,148	3,477,868	1,609,674	196,429,159	32,452,207	58,188	234,035,244
Statewide total					10,846,917	42,703,046	35,459,805	1,039,051,555	760,457,802	1,288,475	1,889,923,919

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Note: SSRAA = Southern Southeast Regional Aquaculture Association; MIC = Metlakatla Indian Community; NSRAA = Northern Southeast Regional Aquaculture Association; AKI = Armstrong-Keta Inc.; DIPAC = Douglas Island Pink and Chum, Incorporated; SSSC = Sitka Sound Science Center; NMFS = National Marine Fisheries Service; PWSAC = Prince William Sound Aquaculture Association; VFDA = Valdez Fisheries Development Association, Inc.; CIAA = Cook Inlet Aquaculture Association; KRAA = Kodiak Regional Aquaculture Association.

[a] William Jack Hernandez and Ruth Burnett Sport Fish hatcheries released 101,743 Arctic char in southcentral and Interior lakes.

APPENDIX I: COMMERCIAL HARVEST SUMMARY, 2022

Appendix I1.–Summary of commercial harvest of salmon from Alaska fisheries enhancement projects, 1977–2022.

Year	Total commercial harvest (includes cost recovery)	Total cost-recovery harvest	Commercial common property harvest	Hatchery-produced fish in commercial common property harvest	% Hatchery-produced fish in total commercial harvest	% Hatchery-produced fish in commercial common property harvest
1977	50,811,833	108,718	50,703,115	17,183	0	0
1978	82,288,581	114,188	82,174,393	15,976	0	0
1979	88,761,967	253,303	88,508,664	581,717	1	1
1980	110,012,352	346,834	109,665,518	1,710,649	2	2
1981	113,332,999	856,408	112,476,591	3,501,065	4	3
1982	111,579,999	1,363,885	110,216,114	4,893,392	6	4
1983	127,706,450	856,231	126,850,219	4,873,509	4	4
1984	133,643,554	1,043,376	132,600,178	5,728,203	5	4
1985	144,727,522	640,062	144,087,460	12,861,393	9	9
1986	126,855,984	1,310,047	125,545,937	9,140,199	8	7
1987	95,985,203	4,796,866	91,188,337	17,918,802	24	20
1988	99,440,396	3,178,175	96,262,221	12,784,051	16	13
1989	151,139,205	8,555,258	142,583,947	16,063,656	17	11
1990	153,223,864	10,201,029	143,022,835	32,834,148	28	23
1991	183,957,665	7,913,961	176,043,704	28,105,818	20	16
1992	135,386,575	6,747,075	128,639,500	9,934,815	13	8
1993	191,209,924	4,958,010	186,251,914	21,992,600	14	12
1994	194,505,686	17,344,697	177,160,989	33,679,696	26	19
1995	215,199,444	9,039,811	206,159,633	24,156,917	15	12
1996	173,033,261	13,560,684	159,472,577	27,815,855	24	17
1997	122,047,351	18,980,612	103,066,739	16,144,523	32	16
1998	150,090,563	15,698,677	134,391,886	34,553,704	33	26
1999	215,180,312	21,980,570	193,199,742	42,656,151	30	22
2000	135,897,068	18,742,415	117,154,653	39,780,299	43	34
2001	172,628,831	18,234,573	154,394,258	38,500,563	33	25
2002	128,681,347	18,875,218	109,806,129	25,743,907	35	23
2003	159,891,040	22,316,043	137,574,997	49,881,589	45	36
2004	164,996,473	22,000,394	142,996,079	20,106,465	25	14
2005	219,700,831	21,574,730	198,126,101	53,566,262	34	27
2006	139,935,878	18,823,333	121,112,545	23,723,769	30	20
2007	211,522,916	19,649,615	191,873,301	57,682,118	37	30
2008	144,910,315	13,630,339	131,279,976	44,920,941	40	34
2009	160,855,846	15,030,525	145,825,321	28,139,179	27	19
2010	169,685,008	11,589,578	158,095,430	77,324,429	52	49
2011	175,821,745	13,765,986	162,055,759	32,209,872	26	20
2012	125,755,329	8,124,458	117,630,871	36,903,254	36	31
2013	280,189,539	9,878,645	270,310,894	97,104,919	38	36
2014	154,120,223	7,118,906	147,001,317	50,782,796	38	35
2015	263,703,546	13,852,398	249,851,148	78,028,937	35	31

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Year	Total commercial harvest (includes cost recovery)	Total cost-recovery harvest	Commercial common property harvest	Hatchery-produced fish in commercial common property harvest	% Hatchery-produced fish in total commercial harvest	% Hatchery-produced fish in commercial common property harvest
2016	109,207,332	8,380,917	100,826,415	16,147,000	22	16
2017	221,629,159	9,328,168	212,300,991	37,580,000	21	18
2018	113,492,143	7,759,899	105,732,244	31,559,018	33	30
2019	204,266,688	9,124,586	195,142,102	40,967,787	24	21
2020	116,258,888	7,208,680	109,050,208	23,480,281	26	22
2021	228,405,329	10,767,897	217,637,432	53,215,470	28	24
2022	157,553,077	6,578,794	150,974,283	31,655,488	25	21

Source: Total commercial and cost-recovery harvest 1977–1984 from ADF&G Headquarters fish ticket staff, 1985–2022 from OceanAK statewide salmon fish ticket database [URL not publicly available]. Common property hatchery harvest from PNP annual reports in the PNP hatchery database [URL not publicly available].

APPENDIX J: HATCHERY RETURNS, 2022

Appendix J1.–Details of the estimated Chinook salmon returns to Alaska fisheries enhancement projects, as reported by operators, 2022.

Region	Area	Agency	Hatchery	Project	Common property harvest				Broodstock	Cost recovery	Other[b]	Total return
					Seine	Gillnet	Troll	Sp/PU/S[a]				
Southeast												
	Southern Southeast											
		SSRAA	Crystal Lake	Crystal Lake	0	66	526	242	1,097	0	2,658	4,589
				Anita Bay	2,437	4,728	500	30	0	868	0	8,563
				City Cr	0	35	98	0	0	0	0	133
				Neets Bay	3,269	2,906	930	124	0	4	1,178	8,411
			Whitman Lake	Whitman Lake	0	270	2,634	207	1,050	8,840	467	13,468
				Carroll Inlet	5,294	2,206	2,089	264	0	2,800	0	12,653
			Deer Mountain	Ketchikan Cr	0	64	230	85	0	0	0	379
			Port Saint Nicholas	Port Saint Nick Bay	0	5	672	56	0	2,913	0	3,646
		MIC	Tamgas Creek[c]	Tamgas	149[c]	25[c]	269[c]	51[c]	985	0	0	1,479[c]
				Port Chester	0[c]	12[c]	242[c]	32[c]	0	0	0	286[c]
	Southern Southeast total				11,149	10,317	8,190	1,091	3,132	15,425	4,303	53,607
	Northern Southeast											
		NSRAA	Hidden Falls	Kasnyku Bay	3	0	15	0	0	3	342	363
				Gunnuk Cr	19	11	229	8	0	0	606	873
			Medvejie	Medvejie Cr	888	1,914	2,801	1,255	2,845	1,332	2,153	13,188
				Halibut Point	0	0	31	0	0	0	0	31
				Crawfish Inlet	45	60	670	94	8	0	1	878
				Crescent Bay	26	281	413	297	589	323	76	2,005
		DIPAC	Macaulay	Macaulay Hatchery	0	637	191	3,869	652	0	278	5,627
		NMFS	Little Port Walter	L Port Walter - Keta	29	17	77	7	682	0	81	893
				L Port Walter - Unuk	2	3	238	28	527	0	86	884
	Northern Southeast total				1,012	2,923	4,665	5,558	5,303	1,658	3,623	24,742
Southeast total					12,161	13,240	12,855	6,649	8,435	17,083	7,926	78,349
Southcentral												
	Prince William Sound											
		PWSAC	Wally Noerenberg	Chenega	0	0	0	0[d]	0	0	0	0
	Prince William Sound total				0	0	0	0	0	0	0	0

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Appendix J1.–Page 2 of 2.

Region	Area	Agency	Hatchery	Project	Common property harvest				Broodstock	Cost recovery	Other	Total return
					Seine	Gillnet	Troll	Sp/PU/S[a]				
	Cook Inlet											
		ADF&G	WJ Hernandez	Crooked Cr	0	0	0	0	0	0	0	0
				Eklutna Tailrace	0	0	0	532	0	0	0	532
				Ninilchik R	0	0	0	0	0	0	0	0
				Ship Creek	0	0	0	842	967	0	1,260	3,069
				RII Lakes	0	0	0	3,685	0	0	0	3,685
	Cook Inlet total				0	0	0	5,059	967	0	1,260	7,286
Southcentral total					0	0	0	5,059	967	0	1,260	7,286
Kodiak/Westward												
	Kodiak											
		KRAA	Pillar Creek	Kodiak road system	0	0	0	25	4	0	70	99
	Kodiak total				0	0	0	25	4	0	70	99
Kodiak/Westward total					0	0	0	25	4	0	70	99
Statewide total					12,161	13,240	12,855	11,733	9,406	17,083	9,256	85,734

Note: SSRAA = Southern Southeast Regional Aquaculture Association; MIC = Metlakatla Indian Community; NSRAA = Northern Southeast Regional Aquaculture Association; AKI = Armstrong-Keta Inc.; DIPAC = Douglas Island Pink and Chum, Incorporated; NMFS = National Marine Fisheries Service; PWSAC = Prince William Sound Aquaculture Association; KRAA = Kodiak Regional Aquaculture Association.

[a] Sp/PU/S is the sum of the sport, personal use, and subsistence harvest.

[b] Other includes raceway returns excess to broodstock needs, holding mortalities, bear and sea lion mortality, channel and bay mortality, escapement to watershed, and donations.

[c] Tamgas Creek Hatchery harvest contribution does not include Metlakatla Indian Community-managed fisheries.

[d] Wally Noerenberg Hatchery contribution to fisheries cannot be estimated.

Appendix J2.–Details of the estimated sockeye salmon returns to Alaska fisheries enhancement projects, as reported by operators, 2022.

Region	Area	Agency	Hatchery	Project	Common property harvest					Broodstock	Cost recovery	Other[b]	Total return
					Seine	Gillnet	Set Net	Other	Sp/PU/S[a]				
Southeast													
		DIPAC	Snettisham	Snettisham	489	27,792	0	0	0	6,876	20,788	430	56,375
				Sweetheart L	18	2,820	0	0	4,400	0	0	0	7,238
				Tahltan-Stikine R	0	6,596	0	0	542	1,293	0	55,439	63,870
				Taku R	0	11,865	0	0	203	401	0	10,771	23,240
Southeast total					507	49,073	0	0	5,145	8,570	20,788	66,640	150,723
Southcentral													
	Prince William Sound												
		PWSAC	Gulkana	Gulkana	0	3,581	0	0	624	1,091	0	0	5,296
				Crosswind L	0	11,833	0	0	2,062	1,092	0	1,694	16,681
				Gulkana II	0	1,020	0	0	178	1,127	0	0	2,325
			Main Bay	Main Bay	33,864	418,769	153,695	0	8,385	10,794	125,923	2,444	753,874
	Prince William Sound total				33,864	435,203	153,695	0	11,249	14,104	125,923	4,138	778,176
	Cook Inlet												
		CIAA	Trail Lakes	Bear L/Resurrection Bay	0	0	0	0	25,000	2,799	77,222	12,760	117,781
				Hidden L	0	0	0	0	0	1,027	0	30,543	31,570
				Kirschner L	0	0	0	0	0	0	21,800	0	21,800
				Leisure/Hazel L	62,925	0	0	0	1,600	0	0	0	64,525
				Tutka Bay	0	0	0	0	300	3,390	26,121	0	29,811
	Cook Inlet total				62,925	0	0	0	26,900	7,216	125,143	43,303	265,487
Southcentral total					96,789	435,203	153,695	0	38,149	21,320	251,066	47,441	1,043,663
Kodiak/Westward													
	Kodiak												
		KRAA	Kitoi Bay	Kitoi Bay	25,792	0	0	0	0	0	0	206	25,998
			Pillar Creek	Spiridon L	0	0	0	200,635[c]	60	0	66,723	0	267,418
				Foul Bay	511	0	0	0	0	0	0	0	511
	Kodiak total				26,303	0	0	200,635[c]	60	0	66,723	206	293,927
Kodiak/Westward total					26,303	0	0	200,635[c]	60	0	66,723	206	293,927
Statewide total					123,599	484,276	153,695	200,635[c]	43,354	29,890	338,577	114,287	1,488,313

[a] Sp/PU/S is the sum of the sport, personal use, and subsistence harvest.

[b] Other includes Canadian harvest, raceway returns excess to broodstock needs, and escapement to watershed.

[c] Gillnet and seine combined.

Appendix J3.–Details of the estimated coho salmon returns to Alaska fisheries enhancement projects, as reported by operators, 2022.

Region	Area	Agency	Hatchery	Project	Common property harvest				Broodstock	Cost recovery	Other[b]	Total return
					Seine	Gillnet	Troll	Sp/PU/S[a]				
Southeast												
	Southern Southeast											
		SSRAA	Burnett Inlet	Neck L	0	903	238	1,231	0	4,454	0	6,826
			Crystal Lake	Crystal L	39	51	476	0	311	0	1,136	2,013
			Neets Bay	Neets Bay	500	17,570	27,645	2,880	2,328	42,360	3,945	97,228
			Whitman Lake	Anita Bay	6	8,633	1,782	123	0	0	0	10,544
				Nakat Inlet	779	9,320	9,208	0	0	0	0	19,307
				Whitman L	481	1,030	3,437	312	2,746	1,378	1,629	11,013
				Whitman L-Sum	327	129	88	0	0	50	0	594
			Klawock River	Klawock	31,565	309	109,106	10,526	4,293	91,772	6,968	254,539
		MIC	Tamgas Creek[c]	Tamgas	1,008[c]	2,890[c]	6,011[c]	324[c]	7,116	0	0	17,349
				Port Chester	323[c]	1,374[c]	2,872[c]	381[c]	0	0	0	4,950
	Southern Southeast total				35,028	42,209	160,863	15,777	16,794	140,014	13,678	424,363
	Northern Southeast											
		NSRAA	Hidden Falls	Hidden Falls	534	64	7,691	3,518	19,520	22	15,899	47,248
				Deer L	829	0	41,667	5,821	0	77,696	15,941	141,954
				Banner L	0	0	1,639	220	0	1,178	440	3,477
				Blanchard L	91	0	398	0	0	0	0	489
			Sawmill Creek	Deep Inlet	5,141	840	2,310	862	710	1,215	0	11,078
				Bear Cove	1,387	206	4,269	1,452	3,394	222	1,475	12,405
		AKI	Port Armstrong	Port Armstrong	334	0	35,281	3,467	6,426	41,357	5,920	92,785
		DIPAC	Macaulay	Macaulay Hatchery	0	935	0	839	730	406	18	2,928
		SSSC	Sheldon Jackson	Sheldon Jackson	251	201	1,005	573	888	162	160	3,240
	Northern Southeast total				8,567	2,246	94,260	16,752	31,668	122,258	39,853	315,604
Southeast total					43,595	44,455	255,123	32,529	48,462	262,272	53,531	739,967

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Region	Area	Agency	Hatchery	Project	Common property harvest				Broodstock	Cost recovery	Other[b]	Total return
					Seine	Gillnet	Troll	Sp/PU/S[a]				
Southcentral												
	Prince William Sound											
		PWSAC	Wally Noerenberg	Lake Bay	0	38,874	0	0	361	0	300	39,535
				Chenega	0	0	0	645	0	0	0	645
				Whittier	0	0	0	1,032	0	0	0	1,032
		VFDA	Solomon Gulch	Solomon Gulch	2,490	0	0	19,309	3,070	426	66	25,361
	Prince William Sound total				2,490	38,874	0	20,986	3,431	426	366	66,573

Region	Area	Agency	Hatchery	Project	Common property harvest				Broodstock	Cost recovery	Other	Total return
					Seine	Gillnet	Troll	Sp/PU/S				
	Cook Inlet											
		CIAA	Trail Lakes	Bear L	0	0	0	500	496	0	306	1,302
		ADF&G	WJ Hernandez	Bird Cr	0	0	0	2,369	0	0	0	2,369
				Campbell Cr	0	0	0	732	0	0	0	732
				Eklutna Tailrace	0	0	0	1,314	0	0	0	1,314
				Ship Creek	0	0	0	4,780	1,316	0	1,363	7,459
				RII Lakes	0	0	0	504	0	0	0	504
	Cook Inlet total				0	0	0	9,695	1,812	0	1,669	13,680
Southcentral total					2,490	38,874	0	30,681	5,243	426	2,035	80,253
Kodiak/Westward												
	Kodiak											
		KRAA	Kitoi Bay	Kitoi Bay	9,430	0	0	0	9,114	0	3,886	22,430
			Pillar Creek	Kodiak Road System	0	0	0	800	130	0	531	1,461
	Kodiak total				9,430	0	0	800	9,244	0	4,417	23,891
Kodiak/Westward total					9,430	0	0	800	9,244	0	4,417	23,891
Statewide total					55,515	83,329	255,123	64,010	62,949	262,698	59,983	844,111

Note: SSRAA = Southern Southeast Regional Aquaculture Association; MIC = Metlakatla Indian Community; NSRAA = Northern Southeast Regional Aquaculture Association; AKI = Armstrong-Keta Inc.; DIPAC = Douglas Island Pink and Chum, Incorporated; SSSC = Sitka Sound Science Center; NMFS = National Marine Fisheries Service; PWSAC = Prince William Sound Aquaculture Association; VFDA = Valdez Fisheries Development Association, Inc.; CIAA = Cook Inlet Aquaculture Association; KRAA = Kodiak Regional Aquaculture Association.

[a] Sp/PU/S is the sum of the sport, personal use, and subsistence harvest.

[b] Other includes raceway returns excess to broodstock needs, holding mortalities, bear and sea lion mortality, channel and bay mortality, escapement to watershed, and donations.

[c] Tamgas Creek Hatchery harvest contribution does not include Metlakatla Indian Community-managed fisheries.

Appendix J4.–Details of the estimated pink salmon returns to Alaska fisheries enhancement projects, as reported by operators, 2022.

Region	Area	Agency	Hatchery	Project	Common property harvest					Broodstock	Cost recovery	Other[b]	Total return
					Seine	Gillnet	Troll	Set Net	Sp/PU/S[a]				
Southeast													
	Southern Southeast												
		MIC	Tamgas Creek	Tamgas	0	0	0	0	0	18,490	0	0	18,490
	Southern Southeast total				0	0	0	0	0	18,490	0	0	18,490
	Northern Southeast												
		NSRAA	Medvejie	Medvejie Cr	0	0	0	0	0	769	0	400	1,169
		AKI	Port Armstrong	Port Armstrong	191,839	0	0	0	0	79,946	146,172	0	417,957
		SSSC	Sheldon Jackson	Sheldon Jackson	59,238	24,682	10,500	0	1,192	14,380	493,656	0	603,648
	Northern Southeast total				251,077	24,682	10,500	0	1,192	95,095	639,828	400	1,022,774
Southeast total					251,077	24,682	10,500	0	1,192	113,585	639,828	400	1,041,264
Southcentral													
	Prince William Sound												
		PWSAC	A F Koernig	Armin F Koernig	178,436	14,113	0	2,612	0	316,214	495,107	66,000	1,072,482
			Cannery Creek	Cannery Creek	358,007	9,085	0	1,046	0	254,100	598,965	160,000	1,381,203
			Wally Noerenberg	Lake Bay	250,974	127,510	0	6,059	0	271,665	747,323	30,000	1,433,531
		VFDA	Solomon Gulch	Solomon Gulch	18,177,963	0	0	1,223	9,652	298,911	983,311	21,793	19,492,853
	Prince William Sound total				18,965,380	150,708	0	10,940	9,652	1,140,890	2,824,706	277,793	23,380,069
	Cook Inlet												
		CIAA	Tutka Bay	Tutka Bay	0[c]	0	0	0	300	14,210	53,639	29,912	98,061
			Port Graham	Port Graham	0[c]	0	0	0	1,800	26,872	0	0	28,672
	Cook Inlet total				0[c]	0	0	0	2,100	41,082	53,639	29,912	126,733
Southcentral total					18,965,380	150,708	0	10,940	11,752	1,181,972	2,878,345	307,705	23,506,802
Kodiak/Westward													
	Kodiak												
		KRAA	Kitoi Bay	Kitoi Bay	2,745,286	0	0	0	0	311,274	929,126	25,000	4,010,686
	Kodiak total				2,745,286	0	0	0	0	311,274	929,126	25,000	4,010,686
Kodiak/Westward total					2,745,286	0	0	0	0	311,274	929,126	25,000	4,010,686
Statewide total					21,961,740	175,390	10,500	10,940	12,940	1,606,830	4,447,300	333,110	28,558,752

Note: NSRAA = Northern Southeast Regional Aquaculture Association; AKI = Armstrong-Keta Inc.; SSSC = Sitka Sound Science Center; PWSAC = Prince William Sound Aquaculture Association; VFDA = Valdez Fisheries Development Association, Inc.; CIAA = Cook Inlet Aquaculture Association; KRAA = Kodiak Regional Aquaculture Association.

[a] Sp/PU/S is the sum of the sport, personal use, and subsistence harvest.

[b] Other includes raceway unharvested returns, sea lion predation, beach and brood pond area mortalities, brackish water spawners, and escapement to watershed.

[c] The contribution to common property fisheries could not be estimated because of limited catch sampling.

Appendix J5.–Details of the estimated chum salmon returns to Alaska fisheries enhancement projects, as reported by operators, 2022.

Region	Area	Agency	Hatchery	Project	Common property harvest					Broodstock	Cost recovery	Other[b]	Total return
					Seine	Gillnet	Troll	Set Net	Sp/PU/S[a]				
Southeast													
	Southern Southeast												
		SSRAA	Burnett Inlet	Anita Bay	109,472	55,462	218	0	0	0	112,436	0	277,588
				BI-Summer	54,022	45,956	557	0	0	100,433	264,762	12,700	478,430
				Burnett Inlet	1,450	3,970	0	0	0	1,428	0	0	6,848
				Port Asumcion	239,110	990	0	0	0	0	287,513	0	527,613
			Neets Bay	Neets Bay	86,431	29,618	25,709	0	0	158,588	161,632	0	461,978
				Neets Bay-Fall	8,834	4,879	339	0	0	27,740	0	0	41,792
				Nakat Inlet	4,093	73,653	0	0	0	0	0	0	77,746
			Whitman Lake	Kendrick Bay	667,752	39,973	51	0	0	0	147,224	0	855,000
				Nakat Inlet-Summ	27,458	202,085	0	0	0	0	58,134	0	287,677
		MIC	Tamgas Creek	Tamgas-Summer	0	0	0	0	0	21,343	0	0	21,343
				Tamgas-Fall	0	0	0	0	0	2,278	0	0	2,278
	Southern Southeast total				1,198,622	456,586	26,874	0	0	311,810	1,031,701	12,700	3,038,293
	Northern Southeast												
		NSRAA	Hidden Falls	Hidden Falls	165,396	3,023	0	0	0	203,986	80,282	32,944	485,631
				Southeast Cove	163,805	47,570	0	0	0	0	1,210	7,982	220,567
				Thomas Bay	91,430	787	0	0	0	0	0	3,290	95,507
			Medvejie	Medvejie Cr	851,427	365,899	658,363	0	0	81,993	68,598	9,534	2,035,814
				Medvejie Creek-Kadashan	23,165	18,377	2,778	0	0	5,484	787	3,000	53,591
			Sawmill Creek	Crawfish Inlet	25,731	7,466	186,839	0	0	0	493,350	24	713,410
			Gunnuk Creek	Gunnuk Creek	4,939	2,433	0	0	0	15,551	532	908	24,363
		AKI	Port Armstrong	Port Armstrong	0	0	13,412	0	0	38,901	81,847	0	134,160
		DIPAC	Macaulay	Gastineau	6,279	272,918	663	0	500	184,365	53,733	17,064	535,522
				Amalga Harbor	97,981	340,616	1,354	0	0	0	654,662	130	1,094,743
				Boat Harbor	5,885	495,395	621	0	0	0	0	60	501,961
				Limestone Inlet	1,133	95,419	120	0	0	0	0	11	96,683
		SSSC	Sheldon Jackson	Sheldon Jackson	16,478	3,614	26,958	0	60	5,399	9,511	360	62,380
				Deep Inlet	113,068	48,591	87,429	0	0	11,037	9,031	1,266	270,422
	Northern Southeast total				1,566,717	1,702,108	978,537	0	560	546,716	1,453,543	76,573	6,324,754
Southeast total					2,765,339	2,158,694	1,005,411	0	560	858,526	2,485,244	89,273	9,363,047

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Appendix J5.–Page 2 of 2.

Region	Area	Agency	Hatchery	Project	Common property harvest					Broodstock	Cost recovery	Other[b]	Total return
					Seine	Gillnet	Troll	Set Net	Sp/PU/S[a]				
Southcentral													
	Prince William Sound												
		PWSAC	Wally Noerenberg	Lake Bay	82,905	1,075,375	0	6,922	0	219,999	492,009	10,000	1,887,210
				Port Chalmers	651,785	23,178	0	709	0	0	0	0	675,672
			A F Koernig	Armin F Koernig	137,819	69,884	0	10,116	0	0	0	0	217,819
	Prince William Sound total				872,509	1,168,437	0	17,747	0	219,999	492,009	10,000	2,780,701
Southcentral total					872,509	1,168,437	0	17,747	0	219,999	492,009	10,000	2,780,701
Kodiak/Westward													
	Kodiak												
		KRAA	Kitoi Bay	Kitoi Bay	114,356	0	0	0	0	59,775	271	1,527	175,929
	Kodiak total				114,356	0	0	0	0	59,775	271	1,527	175,929
Kodiak/Westward total					114,356	0	0	0	0	59,775	271	1,527	175,929
Statewide total					3,752,200	3,327,130	1,005,410	17,750	560	1,138,300	2,977,520	100,800	12,319,677

Note: SSRAA = Southern Southeast Regional Aquaculture Association; NSRAA = Northern Southeast Regional Aquaculture Association; AKI = Armstrong-Keta Inc.; DIPAC = Douglas Island Pink and Chum, Incorporated; SSSC = Sitka Sound Science Center; PWSAC = Prince William Sound Aquaculture Association; KRAA = Kodiak Regional Aquaculture Association.

[a] Sp/PU/S is the sum of the sport, personal use, and subsistence harvest.

[b] Other includes commercial test fishery harvest, donations, bear and sea lion predation mortalities, other mortalities, and hatchery watershed escapement.

APPENDIX K: STATEWIDE COMMERCIAL HARVEST SUMMARIES, 1977–2022

Appendix K1.–Summary of statewide commercial harvest (including cost recovery) of hatchery-produced salmon from Alaska's fisheries enhancement projects as reported by operators, 1977–2022.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1977	0	183	0	125,718	0	125,901
1978	42	720	0	127,188	2,214	130,164
1979	445	300,758	0	532,303	1,514	835,020
1980	4,388	638,408	102	1,406,028	8,557	2,057,483
1981	1,609	362,326	49,258	3,904,308	39,972	4,357,473
1982	3,652	27,590	84,703	6,067,429	73,869	6,257,243
1983	2,075	158,000	82,320	5,274,149	212,871	5,729,415
1984	5,454	236,762	139,124	4,838,680	1,550,559	6,770,579
1985	10,339	447,448	243,382	12,891,224	1,000,279	14,592,672
1986	14,644	872,507	442,285	7,630,445	1,317,833	10,277,714
1987	24,594	613,433	203,990	19,819,167	1,432,853	22,094,037
1988	30,336	1,001,421	143,768	12,099,427	1,824,455	15,099,407
1989	36,770	1,342,578	324,436	28,403,238	946,973	31,053,995
1990	69,942	1,366,792	764,794	39,580,126	1,482,413	43,264,067
1991	79,391	2,289,246	1,058,694	36,240,498	1,828,535	41,496,364
1992	61,985	1,518,875	1,231,079	12,213,636	2,358,376	17,383,951
1993	59,688	2,061,517	772,961	17,821,439	5,892,177	26,607,782
1994	46,271	1,610,445	1,120,161	38,814,084	7,984,962	49,575,923
1995	81,554	1,076,829	1,085,229	22,714,552	8,634,008	33,592,172
1996	92,490	2,333,381	1,097,666	26,178,537	14,154,597	43,856,671
1997	70,688	2,505,559	808,105	30,982,804	11,823,168	46,190,324
1998	40,362	1,882,080	1,087,110	34,564,050	12,629,120	50,202,722
1999	52,467	2,587,967	1,278,359	47,193,297	14,151,687	65,263,777
2000	97,295	1,531,510	1,257,104	38,191,003	17,684,623	58,761,535
2001	114,098	2,518,183	1,336,430	44,616,086	8,359,543	56,944,340
2002	95,041	2,749,745	1,707,789	28,443,301	11,815,552	44,811,428
2003	90,028	3,772,798	1,102,657	55,071,886	12,780,879	72,818,248
2004	126,723	2,679,459	925,231	28,309,396	10,081,119	42,121,928
2005	81,091	2,003,742	1,118,220	64,949,983	6,675,803	74,828,839
2006	58,321	2,138,461	1,074,512	24,773,517	14,621,065	42,665,876
2007	86,964	2,044,914	890,020	62,677,909	11,583,661	77,283,468
2008	100,165	1,515,874	1,200,067	42,075,688	12,927,247	57,819,041
2009	88,167	1,537,602	931,506	27,483,685	11,887,347	41,928,307
2010	74,148	2,061,331	1,115,518	72,484,852	12,052,096	87,787,945
2011	102,897	2,683,149	1,146,754	29,876,986	10,553,999	44,363,785
2012	72,677	2,312,464	770,101	26,699,246	14,375,480	44,229,968
2013	95,916	1,801,171	1,517,608	88,942,840	14,227,394	106,584,929
2014	66,173	2,294,284	1,772,277	47,234,781	6,881,646	58,249,161
2015	79,313	2,338,510	950,071	77,896,371	11,327,248	92,591,513
2016	43,900	1,665,477	757,140	11,526,801	10,451,756	24,445,074
2017	42,045	1,448,104	625,796	30,211,670	14,316,104	46,643,719
2018	54,073	1,752,377	718,611	23,280,676	13,151,690	38,957,427
2019	54,188	1,320,643	891,504	35,360,231	12,002,307	49,628,873
2020	41,721	1,150,972	496,519	22,919,135	5,738,021	30,346,368
2021	50,170	1,272,642	633,214	53,783,540	8,386,160	64,125,726
2022	55,339	1,300,782	656,665	26,605,872	11,080,017	39,698,675
Grand total	2,504,300	69,828,237	34,956,175	1,346,231,910	341,231,732	1,794,752,354

Source: ADF&G PNP hatchery database. [URL not publicly available].

Appendix K2.–Summary of commercial harvest (including cost recovery) of hatchery-produced salmon from Southeast Alaska fisheries enhancement projects as reported by operators, 1977–2022.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1977	0	0	0	108,173	0	108,173
1978	0	0	0	0	2,214	2,214
1979	445	0	0	33,555	1,514	35,514
1980	4,388	0	0	500	5,627	10,515
1981	1,504	0	48,224	139,000	3,286	192,014
1982	3,352	0	83,128	16,568	64,874	167,922
1983	1,175	0	80,418	181,494	199,623	462,710
1984	5,234	0	138,082	235,694	1,466,670	1,845,680
1985	10,039	0	227,701	911,977	933,167	2,082,884
1986	14,219	18,600	427,244	116,114	1,095,304	1,671,481
1987	23,719	36,000	155,405	1,370,029	1,296,283	2,881,436
1988	28,585	20,400	51,674	124,571	1,290,171	1,515,401
1989	34,810	36,672	93,208	859,426	601,039	1,625,155
1990	68,207	114,167	526,611	1,319,810	785,933	2,814,728
1991	78,387	112,332	901,169	1,774,348	1,190,607	4,056,843
1992	58,359	208,034	1,027,697	3,515,448	2,114,365	6,923,903
1993	55,124	363,605	690,645	688,861	4,672,092	6,470,327
1994	43,876	171,702	930,116	5,787,031	6,965,625	13,898,350
1995	78,449	211,343	876,909	1,530,366	7,645,023	10,342,090
1996	89,123	494,246	848,507	2,009,727	12,041,241	15,482,844
1997	68,934	358,572	619,917	2,447,974	9,931,592	13,426,989
1998	38,565	237,127	873,054	2,235,834	11,559,308	14,943,888
1999	51,355	157,351	1,075,022	4,087,903	11,393,715	16,765,346
2000	96,569	270,520	629,963	438,750	12,689,973	14,125,775
2001	113,512	409,979	1,002,482	2,346,847	5,643,197	9,516,017
2002	94,286	120,186	1,449,192	1,924,064	5,615,259	9,202,987
2003	89,256	196,852	884,916	929,740	8,963,620	11,064,384
2004	124,715	565,425	732,886	1,464,011	8,096,243	10,983,280
2005	80,465	271,566	737,311	1,582,244	4,664,919	7,336,505
2006	57,682	380,323	565,156	528,023	12,409,239	13,940,423
2007	86,497	200,087	598,084	1,218,852	7,803,377	9,906,897
2008	100,165	119,859	781,451	173,914	8,090,814	9,266,203
2009	88,137	140,276	737,684	1,318,308	8,808,558	11,092,963
2010	74,148	91,763	963,854	1,198,717	7,791,660	10,120,142
2011	102,897	180,213	869,686	1,339,987	8,583,049	11,075,832
2012	72,677	227,300	710,674	340,783	10,760,144	12,111,578
2013	95,916	179,181	1,206,772	2,500,909	10,489,177	14,471,955
2014	66,173	216,118	1,360,945	511,684	5,733,451	7,888,371
2015	79,313	164,351	836,003	527,887	9,145,108	10,752,662
2016	43,900	289,541	736,677	358,762	7,457,181	8,886,061
2017	42,041	211,774	570,985	1,287,528	9,743,777	11,856,105
2018	54,071	241,256	575,731	401,665	9,988,561	11,261,284
2019	54,188	141,045	577,395	348,367	7,411,387	8,532,382
2020	41,721	101,051	345,592	1,294,350	4,001,338	5,784,052
2021	50,170	36,904	493,361	495,181	6,039,619	7,115,235
2022	55,339	70,368	605,445	926,087	8,414,688	10,071,927
Grand total	2,521,687	7,366,089	27,646,976	52,951,063	263,603,612	354,089,427

Source: ADF&G PNP hatchery database. [URL not publicly available].

Appendix K3.–Summary of commercial harvest (including cost recovery) of hatchery-produced salmon from Prince William Sound fisheries enhancement projects as reported by operators, 1977–2022.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1977	0	183	0	17,545	0	17,728
1978	0	720	0	114,188	0	114,908
1979	0	900	0	498,748	0	499,648
1980	0	350	0	1,405,528	2,930	1,408,808
1981	0	3,600	0	2,138,544	36,686	2,178,830
1982	0	3,600	0	5,679,161	1,569	5,684,330
1983	0	6,600	0	4,385,455	13,108	4,405,163
1984	0	5,318	0	4,037,386	82,991	4,125,695
1985	0	31,955	0	8,067,647	64,137	8,163,739
1986	0	30,404	3,263	6,792,641	199,077	7,025,385
1987	100	47,347	23,640	17,304,638	127,397	17,503,122
1988	231	92,552	66,452	10,533,495	524,894	11,217,624
1989	340	175,643	202,497	20,173,723	341,374	20,893,577
1990	235	73,917	218,455	37,553,433	643,123	38,489,163
1991	184	582,200	129,270	32,870,650	250,408	33,832,712
1992	1,311	644,020	192,062	7,479,216	237,546	8,554,155
1993	2,045	502,536	43,635	4,418,071	1,177,483	6,143,770
1994	1,195	300,248	116,745	29,409,289	939,605	30,767,082
1995	891	369,198	139,430	14,246,639	662,712	15,418,870
1996	588	903,047	166,824	22,751,594	2,076,445	25,898,498
1997	924	1,463,155	62,944	24,686,332	1,878,810	28,092,165
1998	978	768,074	45,585	24,760,828	1,031,706	26,607,171
1999	0	440,326	80,249	37,968,264	2,617,072	41,105,911
2000	0	490,077	478,633	33,040,270	4,690,867	38,699,847
2001	0	972,582	175,083	28,466,847	2,499,721	32,114,233
2002	0	1,163,539	36,232	18,771,143	6,111,569	26,082,483
2003	0	1,571,592	76,843	46,935,174	3,351,054	51,934,663
2004	0	694,501	46,578	20,422,252	1,745,266	22,908,597
2005	0	517,890	227,644	47,620,680	1,919,070	50,285,284
2006	0	1,183,213	340,551	19,835,604	2,034,278	23,393,646
2007	0	1,234,571	166,107	53,461,389	3,559,558	58,421,625
2008	0	856,523	297,900	39,783,382	4,743,408	45,681,213
2009	0	949,481	39,260	17,225,812	2,977,790	21,192,343
2010	0	1,510,501	37,989	68,047,457	4,069,152	73,665,099
2011	0	1,757,043	206,733	26,362,128	1,650,418	29,976,322
2012	0	1,622,566	11,074	23,390,393	3,396,596	28,420,629
2013	0	1,041,824	258,104	74,616,332	3,640,837	79,557,097
2014	0	1,494,284	180,742	40,921,607	1,102,613	43,699,246
2015	0	1,660,967	74,728	70,375,473	2,138,730	74,249,898
2016	0	926,203	8,653	9,930,534	2,924,763	13,790,153
2017	0	723,773	25,888	26,714,899	4,420,141	31,884,701
2018	0	1,040,335	5,751	18,190,368	2,996,641	22,233,095
2019	0	883,032	279,732	29,907,940	4,574,274	35,644,978
2020	0	741,757	22,864	16,079,204	1,712,336	18,556,161
2021	0	752,256	42,814	42,289,886	2,297,807	45,382,763
2022	0	748,685	41,790	21,951,734	2,550,702	25,292,911
Grand total	9,022	30,983,088	4,572,744	1,111,633,523	84,016,664	1,231,215,041

S*ource*: ADF&G PNP hatchery database. [URL not publicly available].

Appendix K4.–Summary of commercial harvest (including cost recovery) of hatchery-produced salmon from Cook Inlet fisheries enhancement projects as reported by operators, 1978–2022.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1978	42	0	0	0	0	42
1979	0	299,858	0	0	0	299,858
1980	0	638,058	102	0	0	638,160
1981	105	358,726	1,034	963,350	0	1,323,215
1982	300	23,990	1,575	181,400	7,426	214,691
1983	900	151,400	1,902	577,200	140	731,542
1984	220	231,444	1,042	230,000	898	463,604
1985	300	415,493	3,681	463,600	1,875	884,949
1986	350	808,503	11,178	380,190	23,152	1,223,373
1987	670	521,349	24,945	84,500	5,313	636,777
1988	1,450	676,669	22,042	836,000	8,423	1,544,584
1989	1,620	330,263	28,731	877,600	4,560	1,242,774
1990	1,500	378,708	14,728	167,400	49,257	611,593
1991	820	483,514	18,546	204,800	25,801	733,481
1992	2,315	388,021	10,580	373,577	2,933	777,426
1993	2,519	497,376	22,681	637,807	38,002	1,198,385
1994	1,200	256,977	26,516	1,563,101	74,725	1,922,519
1995	2,214	324,248	18,655	2,423,894	110,962	2,879,973
1996	2,779	425,709	25,485	442,816	22,711	919,500
1997	830	274,873	16,304	2,637,370	1,745	2,931,122
1998	819	192,548	18,638	1,295,388	106	1,507,499
1999	1,112	1,150,784	7,188	1,080,130	0	2,239,214
2000	726	310,815	15,270	1,052,285	0	1,379,096
2001	586	724,095	7,133	530,265	0	1,262,079
2002	755	840,439	13,106	1,051,320	0	1,905,620
2003	772	1,204,972	5,849	619,079	0	1,830,672
2004	2,008	1,142,202	7,631	2,460,712	0	3,612,553
2005	626	999,050	1,536	2,143,317	0	3,144,529
2006	639	460,023	600	251,781	0	713,043
2007	467	402,332	48	112,801	0	515,648
2008	0	223,062	350	0	0	223,412
2009	30	201,778	0	0	0	201,808
2010	0	148,478	0	0	0	148,478
2011	0	254,223	0	0	0	254,223
2012	0	138,961	0	0	0	138,961
2013	0	118,069	0	66,581	0	184,650
2014	0	209,311	0	25,430	0	234,741
2015	0	209,789	0	2,166,733	0	2,376,522
2016	0	218,624	0	84,002	0	302,626
2017	4	135,709	201	211,822	246	347,982
2018	2	288,499	79	1,487,933	82	1,776,595
2019	0	193,468	3	190,408	163	384,042
2020	0	153,012	143	929,977	192	1,083,324
2021	0	204,658	0	338,472	0	543,130
2022	0	188,068	0	53,639	0	241,707
Grand total	28,680	17,798,148	327,502	29,196,680	378,712	47,729,722

Source: ADF&G PNP hatchery database. [URL not publicly available].

Appendix K5.–Summary of commercial harvest (including cost recovery) of hatchery-produced salmon from Kodiak fisheries enhancement projects as reported by operators, 1981–2022.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1977	0	0	0	0	0	0
1978	0	0	0	13,000	0	13,000
1979	0	0	0	0	0	0
1980	0	0	0	0	0	0
1981	0	0	0	663,414	0	663,414
1982	0	0	0	190,300	0	190,300
1983	0	0	0	130,000	0	130,000
1984	0	0	0	335,600	0	335,600
1985	0	0	12,000	3,448,000	1,100	3,461,100
1986	75	15,000	600	341,500	300	357,475
1987	105	8,737	0	1,060,000	3,860	1,072,702
1988	70	211,800	3,600	605,361	967	821,798
1989	0	800,000	0	6,492,489	0	7,292,489
1990	0	800,000	5,000	539,483	4,100	1,348,583
1991	0	1,111,200	9,709	1,390,700	361,719	2,873,328
1992	0	278,800	740	845,395	3,532	1,128,467
1993	0	698,000	16,000	12,076,700	4,600	12,795,300
1994	0	881,518	46,784	2,054,663	5,007	2,987,972
1995	0	172,040	50,235	4,513,653	215,311	4,951,239
1996	0	510,379	56,850	974,400	14,200	1,555,829
1997	0	408,959	108,940	1,211,128	11,021	1,740,048
1998	0	684,331	149,833	6,272,000	38,000	7,144,164
1999	0	839,506	115,900	4,057,000	140,900	5,153,306
2000	0	460,098	133,238	3,659,698	303,783	4,556,817
2001	0	411,527	151,732	13,272,127	216,625	14,052,011
2002	0	625,581	209,259	6,696,774	88,724	7,620,338
2003	0	799,382	135,049	6,587,893	466,205	7,988,529
2004	0	277,331	138,136	3,962,421	239,610	4,617,498
2005	0	215,236	151,729	13,603,742	91,814	14,062,521
2006	0	114,902	168,205	4,158,109	177,548	4,618,764
2007	0	207,924	125,781	7,884,867	220,726	8,439,298
2008	0	316,430	120,366	2,118,392	93,025	2,648,213
2009	0	246,067	154,562	8,939,565	100,999	9,441,193
2010	0	310,589	113,675	3,238,678	191,284	3,854,226
2011	0	491,670	70,335	2,174,871	320,532	3,057,408
2012	0	323,637	48,353	2,968,070	218,740	3,558,800
2013	0	462,097	52,732	11,759,018	97,380	12,371,227
2014	0	374,571	230,590	5,776,060	45,582	6,426,803
2015	0	303,403	39,340	4,826,278	43,410	5,212,431
2016	0	231,109	11,810	1,153,503	69,812	1,466,234
2017	0	376,848	28,722	1,997,421	151,940	2,554,931
2018	0	182,287	137,050	3,200,710	166,406	3,686,453
2019	0	103,098	34,374	4,913,516	16,483	5,067,471
2020	0	155,152	127,920	4,615,604	24,155	4,922,831
2021	0	278,824	97,039	10,660,001	48,734	11,084,598
2022	0	293,661	9,430	3,674,412	114,627	4,092,130
Grand total	250	14,981,694	3,065,618	179,056,516	4,312,761	201,416,839

Source: ADF&G PNP hatchery database. [URL not publicly available].