Fishery Management Report No. 22-20

2020 Lower Cook Inlet Area Finfish Annual Management Report

by

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and

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Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

Symbols and Abbreviations

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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

FISHERY MANAGEMENT REPORT NO. 22-20

2020 LOWER COOK INLET AREA FINFISH ANNUAL MANAGEMENT REPORT

by

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ABSTRACT

The Lower Cook Inlet consists of all coastal waters and inland drainages entering waters north of Cape Douglas, west of Cape Fairfield, and south of Anchor Point. In 2020, commercial harvest was approximately 2.8 million salmon and was composed of 2.5 million pink *Oncorhynchus gorbuscha*, 226,273 sockeye *O. nerka*, 16,585 chum *O. keta*, 4,302 coho *O. kisutch*, and 581 Chinook salmon *O. tshawytscha*. Approximately 67.7% of the harvest (1.9 million salmon) was sold as common property harvest, and 894,981 salmon were sold for hatchery cost recovery, including carcass sales. Homepack and donated fish (1,258 salmon) accounted for less than 1% of the harvest. Based on fish ticket reporting of prices, the preliminary value of the commercial salmon harvest was $5.3 million, including hatchery sales. This amount does not include postseason adjustments, bonuses, etc. During the 2020 season, 17 set gillnet and 16 purse seine permit holders reported deliveries. Set gillnet harvest value was an estimated $195,202, with average permit earnings of $11,482. Purse seine fishery exvessel harvest value was an estimated $2.7 million, with average permit earnings of $168,703. Revenue generated by cost recovery for hatchery operations was approximately $2.4 million. A total of 2,004 salmon were harvested in personal use and subsistence fisheries. Approximately 215 subsistence and personal use permits were issued to Alaska residents and 748 coho salmon were landed by sport fish permit holders in a derby in Seward. Although these fish were subsequently sold commercially, they were not included in the total commercial harvest.

Keywords: Sockeye salmon, *Oncorhynchus nerka*, pink salmon, *O. gorbuscha*, chum salmon, *O. keta*, Chinook salmon, *O. tshawytscha*, coho salmon *O. kisutch*, Annual Management Report

INTRODUCTION

LOWER COOK INLET MANAGEMENT AREA COMMERCIAL SALMON FISHERIES

The Lower Cook Inlet (LCI) Management Area is composed of waters of the Cook Inlet Management Area (Area H) south of the latitude of Anchor Point, including the western shore of Cook Inlet south to Cape Douglas, and the eastern shore of Cook Inlet along the Kenai Peninsula to Cape Fairfield. (Figures 1 and 2).

Lower Cook Inlet is divided into 5 districts that correspond to local geography and distribution of the 5 species of Pacific salmon (*Oncorhynchus* spp.) harvested by commercial fisheries (Figure 1). These districts are further divided into subdistricts and sections for management and harvest reporting purposes (Figure 2). The primary management objective for all districts is to achieve spawning escapement goals for major salmon stocks, and also to allow orderly fisheries to harvest fish surplus to spawning requirements.

Four hatcheries currently contribute to the LCI salmon fisheries. These facilities and their annual production are presented in detail in Alaska Salmon Fisheries Enhancement Annual Report 2020 (Wilson 2021).

Gear utilized in commercial salmon fisheries includes purse seine and set gillnet. Purse seine gear is permitted to fish in the Southern, Outer, Eastern, and Kamishak Bay Districts (Figure 1). Set gillnet gear is permitted to fish in designated portions of the Southern District. The Barren Islands District is closed by regulation to salmon harvest.

OVERVIEW OF AREAWIDE SALMON FISHERIES

In 2020, the LCI commercial harvest of 2.8 million salmon included 581 Chinook *O. tshawytscha,* 226,273 sockeye *O. nerka*, 4,302 coho *O. kisutch*, 2.5 million pink *O. gorbuscha*, and 16,585 chum salmon *O. keta* (Table 1). Hatchery runs of sockeye and pink salmon were below forecast at hatchery release sites. Approximately 69% of the harvest (1,876,435 fish) was attributed to the common property fishery, whereas 31% (894,981 fish) came from hatchery cost recovery.

Homepack harvest (458 fish) accounted for less than 1% of the commercial harvest from LCI districts (Table 1). The 2020 preliminary exvessel value estimates by gear group from the common property fishery for both wild and enhanced salmon were $2.7 million (93.3%) for purse seine and $195,202 (6.7%) for set gillnet (Table 2). The average price per pound paid to commercial fishing operators was generally below the 10-year average for all salmon species (Table 3). Hatchery harvest in 2020 was estimated at $2.4 million (Table 2), which was higher than the recent 10-year average for hatchery sales (Table 4). Of that, $1.1 million was from sockeye salmon sales and most of the remainder was from pink salmon sales.

SALMON SEASON SUMMARY BY DISTRICT

SOUTHERN DISTRICT

The Southern District includes the waters of eastern Cook Inlet south of Anchor Point and north of a line from Cape Elizabeth to Cape Douglas, excluding waters east of a line from Point Adam to the tip of Cape Elizabeth (Figure 1). Commercial fishing in this district is restricted by regulation to waters primarily along the south shore of Kachemak Bay from Chugachik Island near the terminus of Kachemak Bay to Point Bede approximately 4 miles south of the village of Nanwalek (English Bay; Figures 1 and 2). Purse seine gear is permitted in all open waters of this district during periods established by emergency order (EO). Commercial set gillnet harvest is restricted to approximately 15 miles of shoreline in 5 subdistricts within the Southern District: the east shore of Ismailof Island near Halibut Cove; waters surrounding McDonald Spit extending to Jakolof Bay; waters east of Barabara Point extending approximately 1.4 miles; waters along the west shore of outer Seldovia Bay; and waters of a portion of the south shore of Port Graham and English Bay (Figure 1). Although any Area H commercial set gillnet permit holder may register to fish in these areas, this registration would preclude that permit holder from fishing in the Northern District and Upper Subdistrict of the Central District for the remainder of that calendar year. Other areas in the "Greater Cook Inlet Area," as defined in 5 AAC 21.345, may be fished by set gillnet permit holders in the Southern District. The primary salmon species harvested in the Southern District for both purse seine and set gillnet permit holders are sockeye and pink salmon, although modest numbers of chum and coho salmon are also harvested. The major producer of wild sockeye salmon in this district is the English Bay River. Pink salmon historically have returned in large numbers to Humpy Creek and Seldovia River, as well as numerous smaller streams in the Southern District.

PRESEASON OUTLOOK AND HARVEST STRATEGY

The 2020 commercial wild stock salmon harvest forecast for the Southern District was 116,300 pink and 80,900 sockeye salmon (Appendix F1). The enhanced sockeye salmon run to hatchery release sites was forecast to be 621,100 fish. A total of 2.9 million hatchery-produced pink salmon were forecast to return to the LCI Area in 2020 (Appendix F1).

As specified in regulation (5 AAC 21.310(b)(4)(B)), the set gillnet fishing season in the Southern District opens on or after June 1 with two 48-hour periods per week unless modified by EO. The seine fishing season and fishing periods are opened and closed by EO, depending on the available harvestable surplus of salmon.

Early-season management of the Southern District (excluding the Port Graham Subdistrict) was based on actual harvest versus anticipated harvest. Port Graham Subdistrict management was based on anticipated run strength versus actual run strength to the English Bay Lakes, as measured by the English Bay River weir. Environmental conditions, fishing effort, and harvest consistency

throughout the period were also considered for management decisions. By early July, ground survey estimates of chum and early pink salmon escapement began to weigh more heavily when scheduling commercial fishing periods. These surveys became primary tools in late July and August when management focus shifted to pink salmon in this district.

SEASON SUMMARY

The 2020 Southern District total sockeye salmon commercial common property harvest, excluding homepack, was 81,161 fish, with 12,463 (15.4%) harvested by the set gillnet fleet and 68,698 harvested by seine permit holders (Appendices A1–A3). Total common property pink salmon harvest was 155,994 fish, with 120,861 (77.5%) harvested by the seine fleet and 35,133 harvested by set gillnet permit holders. A total of 514 Chinook salmon were harvested by the common property fishery in the Southern District, with 405 harvested by set gillnet permit holders and the remaining by seine permit holders. A total of 2,992 chum salmon were harvested, with 1,918 (64.1%) by set gillnet and 1,074 by seine permit holders. In addition, 3,206 coho salmon were harvested, with 2,680 by set gillnet and 526 by seine permit holders (Appendices A1 and A2, Table 1).

Set gillnet

The Southern District set gillnet commercial fishing season was opened by EO at 6:00 AM on Monday, June 1 (Table 5). This and all following commercial set gillnet fishing periods were 48 hours in length. There is only 1 sockeye salmon sustainable escapement goal (SEG) in the Southern District, which is an SEG of 6,000–13,500 fish (Table 6), assessed via a weir in the English Bay River.

Early-season sockeye salmon harvest in the Southern District and escapement through the English Bay weir were both within expectations. Prior to June 15, a total of 1,482 sockeye salmon had been counted at the weir versus an anticipated range of 755–1,700 fish by this date in order to achieve the SEG on July 31 (Appendix A4). The anticipated range is achieved by multiplying anticipated run completion for this date by the minimum SEG to get the lower end of the range and multiplying by the maximum SEG to achieve the upper end of the range for this date. Through June 30, sockeye salmon passage through the English Bay weir was estimated at 6,544 fish, which was within the management objective of 3,013–6,780 fish for this date required to achieve the SEG (Appendix A4). Weir passage through July remained steady with 31,486 sockeye salmon counted through August 1. This was the last date that counts were reported and is above the upper end of the 6,000–13,500 fish SEG range (Appendix A5).

The commercial set gillnet salmon season in the Southern District was closed by regulation on October 1, with a total harvest of 405 Chinook, 12,463 sockeye, 2,680 coho, 35,133 pink, and 1,918 chum salmon (Appendix A3).

Purse seine

The Southern District commercial purse seine season was opened by EO on Monday, June 15, with a fishing schedule of 3 weekly 16-hour periods (6:00 AM to 10:00 PM) on Mondays, Wednesdays, and Fridays in portions of the district east of McDonald Spit (Table 5).

Harvest in the early portion of the season prior to mid-July targets enhanced sockeye salmon returns to hatchery release sites in the Southern District. Pink salmon returns to wild systems in

the Southern District were lower relative to the greater-than-expected returns in the Outer District where much of the fleet fished from late July through August.

Escapement

Of the 6 pink salmon index streams in the Southern District, 4 had final escapement estimates that were above the SEG ranges (Tutka Lagoon Creek, Barabara Creek, Seldovia Creek, and Port Graham River), whereas 2 fell below the lower bound of the SEG range (China Poot and Humpy Creeks; Table 6). The only chum salmon SEG in the Southern District is for the Port Graham River. The final chum salmon escapement in this system was 660 fish and was below the SEG range of 1,200–2,700 fish (Table 6). This is below the previous 10-year average escapement of 2,652 chum salmon (Appendix A6). The final spawning escapement for the English Bay River was 31,486 sockeye salmon, which was above the SEG range of 6,000–13,500 (Table 6). The 10-year average spawning escapement was 11,458 sockeye salmon for this system (Appendix A5). In addition, 210 adult sockeye salmon were observed in Hazel Lake during a July 25 aerial survey.

Summary

The total 2020 Southern District commercial harvest of 81,161 sockeye salmon was well above the 10-year average harvest of 59,011 (Appendix A3) and above the forecast wild-only harvest of 80,900 (Appendix F1). The pink salmon commercial harvest of 155,994 was above the forecast wild-only harvest of 116,300 (Appendix F1), and also above the 10-year average harvest of 148,923 (Appendix A3).

OUTER DISTRICT

The Outer District includes the waters of LCI along the Kenai Peninsula south and east of a line from Point Adam to Cape Elizabeth, and east of the longitude of Cape Elizabeth to the longitude of Aligo Point, which is 35 miles southwest of Seward (Figures 1 and 2). Purse seine gear is permitted in all open waters of this district during periods established by EO. Historically, the primary target species have been sockeye and pink salmon. The major producers of wild sockeye salmon in this district are Delight, Desire, and Delusion Lakes. All 3 of these lakes were reported to have been glaciated in the early part of the 20th century, with the McCarty Glacier terminus stretching from James Lagoon on the west to McCarty Lagoon on the east (Cook and Norris 1998). Pink salmon return in large numbers to Rocky, Port Dick, and Windy Bays, as well as several smaller systems. In addition, chum salmon are regularly harvested from Dogfish Lagoon and Port Dick.

Preseason Outlook and Harvest Strategy

The 2020 commercial wild stock harvest forecast for the Outer District was 3,800 sockeye and 78,400 pink salmon (Appendix F1). As specified in regulation, the seine fishing season and periods are opened and closed by EO depending on the available harvestable surplus of wild stock salmon returning to spawning systems in the Outer District.

Historically, management of commercial sockeye, pink, and chum salmon fisheries in this district have relied heavily on aerial and ground surveys of major spawning systems for those species. From 1997 to 2014, daily monitoring of sockeye salmon returning to Delight Lake was conducted using a picket weir staffed by ADF&G field personnel. Funding for the weir was discontinued in 2015 and escapement monitoring through 2017 was conducted using aerial surveys. However, since 2018, Cook Inlet Aquaculture Association (CIAA) has staffed the weir and provided daily

inseason escapement counts to ADF&G fishery managers in Homer. Typically, sockeye salmon runs to this lake, as well as to Desire and Delusion Lakes, peak in late July. Escapement into these lakes is frequently driven by rain events, with weeks of limited passage followed by a significant spike in escapement as the result of increased water volume in the lake outflow. By early August, chum and pink salmon runs to this district may increase to harvestable levels.

Season Summary

In 2020, the weir at Delight Lake was installed on July 2. An aerial survey of the lake prior to weir installation (June 22) counted no sockeye salmon. The current SEG for this system, 5,100–10,600 fish, was established at the 2016 Alaska Board of Fisheries (BOF) meeting using the 3-tier Percentile Approach (Clark et al. 2014; Otis et al. 2016a) and was calibrated to aerial surveys. The SEG previously used when the weir was in place was 7,500–17,650 fish. That goal was calibrated to weir counts and it is a more appropriate escapement goal during years when the weir is used to monitor escapement (Otis et al. 2010), so the weir-based goal was used to manage the Delight Lake fishery in 2020. If the weir continues to be operated, this weir-based goal may need to be updated using the 3-tier Percentile Approach (Clark et al. 2014) to be consistent with other LCI goals (Otis et al. 2016a). Few fish were passed during the first half of July because of the Delight Lake outlet stream being dry due to lack of rainfall in this area. From July 26 to August 2, just under 12,000 sockeye salmon were counted at the weir. On July 29, the West Nuka Subdistrict opened to commercial harvest and remained open for regular periods for the remainder of the 2020 fishing season. No commercial salmon harvest was reported from this subdistrict. The final count at the weir when it was removed on August 2 was 12,299 sockeye salmon, which is within the weir calibrated SEG of 7,500–17,650 fish for this system (Table 6, Appendices B3 and B4). The peak aerial survey count for Delight Lake in 2020 was 1,710 fish (Appendix B5), which is well below the aerial survey calibrated SEG of 5,100–10,600 fish (Otis et al. 2016a). Without the weir in place, the East Nuka Subdistrict would have remained closed in 2020 and would have been recorded as having not achieved the SEG. This is similar to past years where aerial survey peak counts for a season have been below the SEG, and weir counts have been within the goal (Hollowell et al. 2019).

In 2020, the western portions of the Outer District opened on Monday, July 13, on a schedule of Monday, Wednesday, and Friday 6:00 AM to 10:00 PM fishing periods and remained on this schedule until August 10. On that date, the fishery was expanded to a Monday–Friday schedule of 6:00 AM to 10:00 PM fishing periods. This change was as a result of strong pink salmon returns to this area and consistent commercial harvest.

Of the 9 pink salmon index streams in the Outer District monitored for escapement, 3 were within SEG ranges (Chatham, Island, and South Nuka Creeks), 4 exceeded their SEG range (Dogfish Bay Lagoon, Windy Creek Left, Windy Creek Right, and Port Dick Creek), and 2 failed to meet the minimum SEG range (Desire Lake and Rocky River; Table 6). There are 4 chum salmon index streams with SEGs in the Outer District. Of these, 1 was above the SEG range (Rocky River), and 3 were below their SEG ranges (Dogfish Bay Lagoon, Port Dick Creek, Island Creek; Appendix B6 and Table 6).

Delight Lake was within its sockeye salmon SEG range, whereas Desire Lake was slightly below (Table 6, Appendices B3 and B5).

Total harvest from the Outer District was 3 Chinook, 219 sockeye, 108 coho, 1.6 million pink, and 11,181 chum salmon (Table 1, Appendices B1 and B2).

EASTERN DISTRICT

The Eastern District includes all state waters of the Gulf of Alaska between the longitudes of Aligo Point and Cape Fairfield (Figures 1 and 2). Purse seine gear is permitted in all open waters of this district during periods established by EO. Historically, the primary target species have been sockeye and pink salmon with commercial harvests of the latter occurring irregularly (Appendix C2). Harvests of chum salmon were larger in this district during the 1980s (Hollowell et al. 2019). The largest producers of wild sockeye salmon in this district have historically been Bear and Aialik Lakes. Sockeye salmon production in Aialik Lake is a relatively recent event because this lake was covered by the Pedersen Glacier as late as 1909 (Cook and Norris 1998).

Pink salmon production in the Eastern District has been the result of natural spawning. The largest pink salmon producers in this district are Salmon Creek, with a 10-year (1980–1989) average escapement of 4,500, and Bear Creek, with a 10-year (1997–2006) average escapement of 11,800 (Hollowell et al. 2019). In addition, Thumb Cove and Humpy Cove together produced an average of 10,500 pink salmon per year (1997–2006; Hollowell et al. 2019). Ground surveys of this area in recent years have been curtailed due to budgetary constraints and historically low runs to this area.

Since the early 1960s, coho salmon production in Resurrection Bay has been supplemented by enhancement efforts. Historically, commercial harvests of coho salmon in the Eastern District were minimal (Appendix C2). Starting in 1966, commercial harvest of coho salmon north of a line from Cape Resurrection to Callisto Head was prohibited, and in 1968 this regulatory line was moved south to its current position at Aialik Cape. Beginning in 1985, commercial harvest of coho salmon north of a line from Cape Resurrection to Aialik Cape was prohibited. In addition, since 1989 the *Resurrection Bay Salmon Management Plan* (5 AAC 21.376) directed commercial fishery managers to conduct those fisheries in a manner that does not interfere with recreational fisheries targeting enhanced Chinook and coho salmon runs in Resurrection Bay. Consequently, the majority of coho salmon in this area have been harvested by anglers, as runs of pink and chum salmon have generally been insufficient to target for commercial harvest. Since 1956, the Seward Chamber of Commerce has conducted a fishing derby that focuses on enhanced and wild coho salmon runs returning to local spawning systems at the head of Resurrection Bay. Beginning in 1990, coho salmon harvested by participants in the derby have been sold commercially by the Chamber of Commerce to a local processor as a fundraiser for that organization (Hollowell et al. 2019).

Preseason Outlook and Harvest Strategy

The 2020 enhanced sockeye salmon run to Resurrection Bay was forecast to be 494,200 fish (Appendix F1). As specified in regulation, the seine fishing season and fishing periods are opened and closed by EO, depending on the available harvestable surplus of salmon returning to the Eastern District. Early-season management of the Eastern District is based on hatchery cost recovery progress toward a stated goal as well as passage at the Bear Creek weir, which is located 8 km (5 miles) from salt water at the outlet of Bear Lake (Figure 1). Beginning in July, management is based on aerial surveys of sockeye salmon runs to Aialik Lake. Historically, runs of pink and chum salmon to this district have been below the level required to support consistent and sustainable commercial harvests.

Season Summary

The total 2020 Eastern District sockeye salmon commercial harvest is confidential due to fewer than 3 permit holders reporting deliveries (Appendix C1).

On June 22, waters of Resurrection Bay north of Caines Head opened on a schedule of daily Monday through Friday 16-hour fishing periods beginning at 6:00 AM on those days. This schedule ended on Friday, July 17, at 10:00 PM (Table 5).

Final passage into Bear Lake was 12,760 sockeye salmon with 4,538 fish subsequently harvested for broodstock (Appendices C3 and C4). The remaining 8,222 fish were allowed to spawn naturally in the lake. This escapement was within the SEG range of 700–8,300 (Table 6), and below the 10-year spawning escapement average of 9,200 (Appendix C7).

In 2020, there were 6 aerial surveys of Aialik Lake with a peak count of 4,020 sockeye salmon on July 23 (Appendix C6). This was within the current SEG range of 3,200–5,400 for this system (Table 6). Aialik Lake had failed to meet the current minimum SEG of 3,200 sockeye salmon in 5 of the previous 10 years (Appendix C7).

A total of 748 coho salmon were donated to the Seward Chamber of Commerce by sport users participating in the annual silver salmon derby; these fish were sold to local processors to benefit the Chamber (Appendix C2).

KAMISHAK BAY DISTRICT

The Kamishak Bay District includes all state waters on the west side of Cook Inlet south of the latitude of Anchor Point and north of a line from Cape Douglas to Elizabeth Island (Figures 1 and 2). Purse seine gear is permitted in all open waters of this district during periods established by EO. Historically, the primary naturally occurring target species have been chum, sockeye, and pink salmon.

The major natural producers of pink salmon in this district have been the Bruin River, Sunday Creek, and Brown's Peak Creek. Major chum salmon producers have been the Big Kamishak and Little Kamishak Rivers, as well as Cottonwood Creek and the McNeil River (Appendix D7). In addition, numerous other rivers and streams have periodically produced respectable pink and chum salmon runs. The major wild producer of sockeye salmon is Chenik Lake.

Preseason Outlook and Harvest Strategy

The 2020 commercial wild stock harvest forecast for the Kamishak Bay District was 51,000 sockeye, 14,100 chum, 7,500 pink, and 3,800 coho salmon (Appendix F1). The enhanced CIAA sockeye salmon run to Kirschner Lake was forecast to be 34,500 fish (Appendix F1). As specified in regulation, the fishing season in the Kamishak Bay District opens from June 1 until closed by EO. Historically, the Kamishak Bay District has been opened for extended 7-day periods, with specific areas closed as needed by EO to address anticipated escapement shortfalls (e.g., McNeil River chum salmon). Early-season management of the Kamishak Bay District is based on actual harvest versus anticipated harvest as well as escapement past the Mikfik Lake and Chenik Lake video monitoring sites. In addition, aerial surveys are flown, weather permitting, to monitor sockeye and chum salmon escapement to index streams and to recover recording media from video monitoring sites for inseason review in the Homer office. Beginning in July, management is also based on aerial surveys of pink and chum salmon runs to spawning systems in this district. Aerial

surveys continued into late August to monitor progress of coho salmon runs to select streams in this district.

Season Summary

The total 2020 Kamishak Bay District commercial common property harvest is confidential because fewer than 3 commercial permit holders reported deliveries (Table 1, Appendices D1 and D2).

Waters of the Kamishak Bay District opened to commercial common property harvest on Monday, June 1, on a schedule of Monday through Sunday fishing periods, 24 hours per day. On June 15, waters of the Paint River and McNeil River Subdistricts were closed to commercial harvest to prevent interception of chum salmon returning to the McNeil River (Table 5), which were designated as a *stock of concern* at the 2016 BOF meeting (Otis et al. 2016b). Additionally, on June 15, ADF&G opened the waters of Chenik Lagoon up to 154° 08.33′ N. latitude. In many recent years, this system had sockeye salmon escapements in the upper end or above the SEG (Table 6, Appendix D7). Sockeye escapement past the video monitoring station and into Chenik Lake was similar in numbers and timing to that seen in recent years with fewer fish than anticipated in the early portion of the return (Appendix D3). The Chenik Subdistrict was closed to commercial harvest on July 1. The closure was in response a cumulative video count of only 51 sockeye salmon in the lake on that date versus an anticipated passage target of 374–1,767 fish to meet the minimum SEG of 2,900 fish by the end of August (Appendix D3).

Following the July 1 closure, the video camera documented 415 sockeye salmon entering the lake on July 4, with an additional 2,026 counted on July 11, for a total count of 2,518 fish. This is within the anticipated range for this date of 747–3,529 to achieve the SEG (2,900–13,700) on July 31 (Appendix D3). The Chenik Subdistrict reopened to commercial harvest on July 15.

Similar to recent years, the other fishing areas of the Kamishak Bay District have had consistent fishing openers and closures compared to the inseason active management of the Chenik sockeye salmon run. The Kirschner Lake SHA was closed to common property harvest on June 15 and reopened on August 3 (Table 5).

Given the difficulty of fishing in the Kamishak Bay District, combined with the good pink and sockeye salmon returns to the Outer District, there was minimal effort in this area in 2020 and many weeks without deliveries. Fewer than 3 permit holders reported commercial common property deliveries from the Kamishak District in 2020, consequently harvest numbers are confidential (Table 1, Appendix D1).

Salmon escapement to index streams in the Kamishak Bay District was fair with most streams meeting minimum SEG levels (Table 6, Appendices D3 and D4). Anadromous waters restrictions (closed waters around the mouths of streams) were removed from several systems to facilitate harvest and reduce the possibility of exceeding the upper end of the SEG (Tables 5 and 6). Despite these inseason management actions, harvest and effort was minimal.

A total of 305 sockeye salmon were counted from video at Mikfik Lake through late August (Appendix D4). Aerial surveys documented minimal water flow in Mikfik Creek in July and August. The final count was well below the SEG range of 3,400–11,000 (Table 6) and below the 10-year average of 5,959 (Appendices D7).

Final sockeye salmon escapement into Chenik Lake was 11,686 fish (Table 6; Appendices D3, D5, and D7). The SEG range for Chenik Lake is 2,900–13,700 (Table 6), and the previous 10-year average escapement is 15,500 fish (Appendix D7).

The peak aerial survey count for Amakdedori Creek was 6,992 sockeye salmon (Appendix D6). This was above the SEG range of 1,200–2,600 (Table 6) and below the previous 10-year average of 2,200 fish (Appendix D7).

All 3 pink salmon SEGs in the Kamishak Bay District were achieved in 2020. Of the 7 chum salmon index streams, all but 3 (McNeil River, Ursus, and Cottonwood Creeks) had final escapements above the minimum SEG (Table 6, Appendix D7).

The number of salmon harvested by the commercial common property fleet from the Kamishak Bay District in 2020 is confidential due to fewer than 3 permit holders reporting deliveries (Table 1, Appendix D1). The anticipated preseason harvest was 51,000 wild sockeye salmon (Appendix F1), above the 10-year average harvest of 41,924 (Appendix D2). The preseason coho salmon anticipated harvest was 3,800 fish (Appendix F1). The anticipated pink salmon harvest was 7,500 fish (Appendix F1). The 10-year average annual pink salmon harvest was 40,084 fish (Appendix D2). The chum salmon 10-year average harvest was 16,968 fish (Appendix D2).

LOWER COOK INLET SUBSISTENCE, PERSONAL USE, AND HOMEPACK COMMERCIAL FISHERIES

There were 6 subsistence permits returned from the Nanwalek/Port Graham areas. Of those, all were from Port Graham documenting the harvest of 388 salmon (Appendices E1 and E2). Participation and harvest in the Seldovia area subsistence fisheries increased compared to recent years with 15 permits issued, 9 permits returned, and 186 salmon harvested (Appendix E3). This increase is probably related to regulatory changes which occurred at the December 2019 BOF meeting in Seward. At this meeting, the spring subsistence season was increased from 2 months in length (April and May) to 3 months (April through June). In addition, the area open to fishing was expanded to include shoreline outside of Seldovia Bay both to the east and west, also maximum allowable spacing between subsistence nets was decreased from 600 feet to 300 feet.

There were 194 personal use set gillnet permits issued in 2020, and as of this writing, 153 permits had been returned. This was the first year where both permits and reporting for this fishery were available online. The new format, and a change from the previous years' reminder schedule, meant that there would probably be more unreported permits by this date than usual. A total of 1,438 salmon, of which 1,050 were coho, were reported as harvest (Appendix E4). This season was also noteworthy in that it was open for the full regulatory season until the last Wednesday or Saturday before September 16. In 2020, the actual closure date was Saturday, September 12, after a total of eight 48-hour fishing periods. Additional information regarding either subsistence or personal use salmon fisheries in LCI may be found in the most recent Alaska Subsistence and Personal Use Salmon Fisheries Annual Report (Fall et al. 2020).

Homepack from commercial deliveries was similar to recent years with 7 seine permit holders reporting 239 salmon retained, and 8 set gillnet permit holders reporting 219 salmon retained (Appendix E5).

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FIGURES AND TABLES

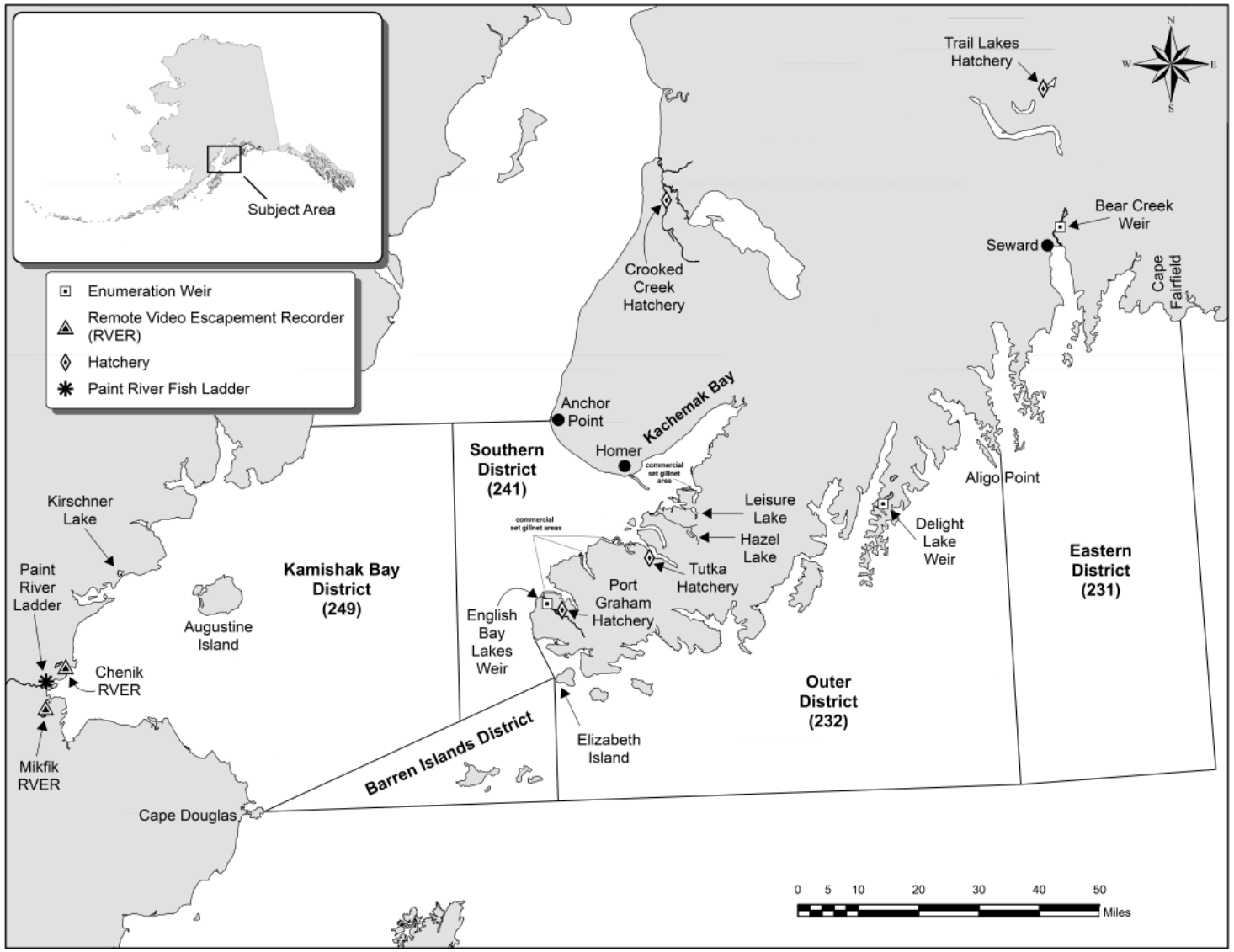

Figure 1.–Lower Cook Inlet Management Area showing commercial fishing districts, commercial set gillnet areas, salmon hatcheries, weir and fish ladder locations, and remote video salmon monitoring sites.

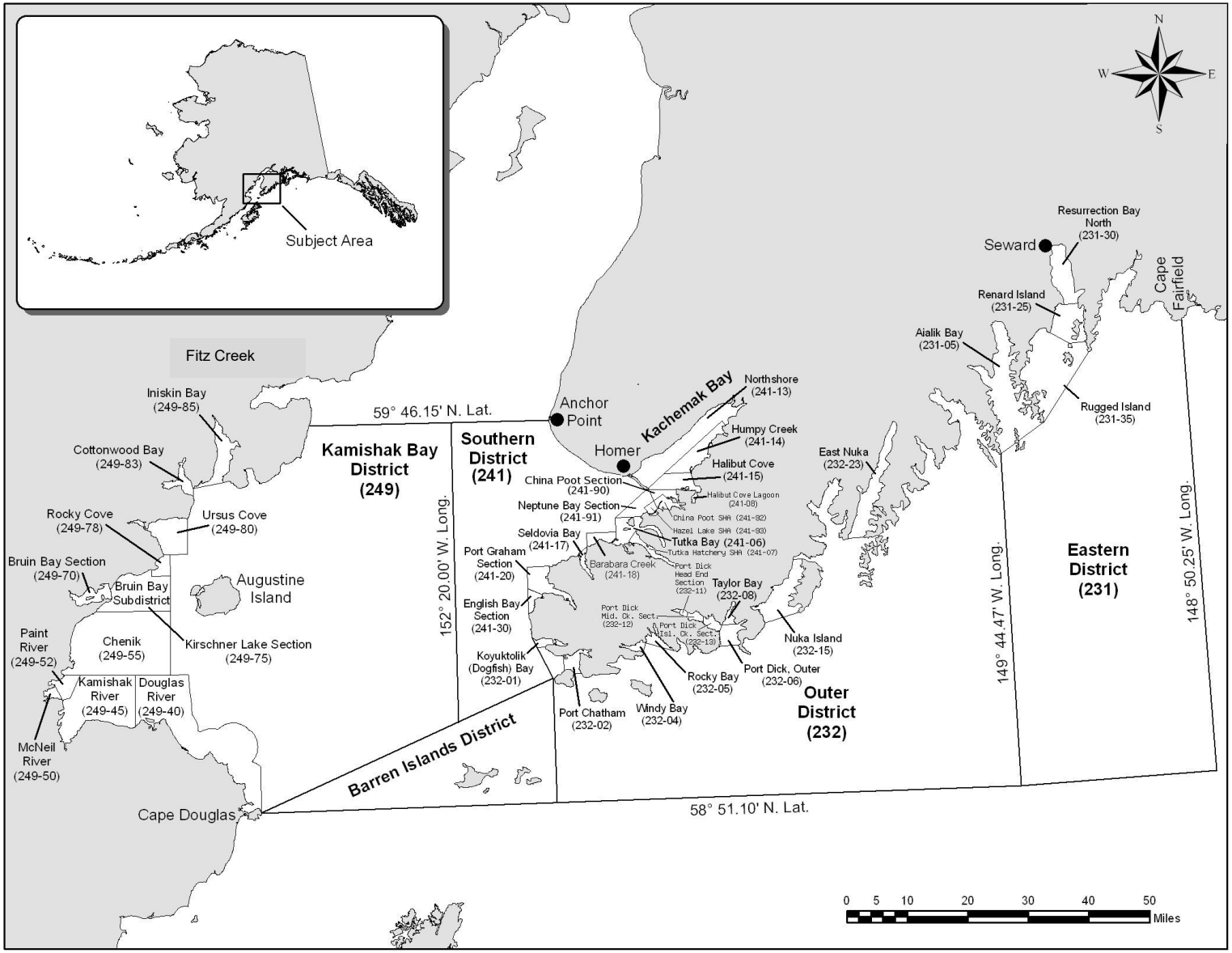

Figure 2.–Lower Cook Inlet Management Area showing commercial fishing districts and reporting subdistricts.

Table 1.–Lower Cook Inlet Management Area commercial salmon harvest by gear and district, 2020.

District	Permit holders[a]	Chinook[a]	Sockeye[a]	Coho[a,b]	Pink[a]	Chum[a]	Total
Southern District	15	109	68,698	526	120,861	1,074	191,268
Outer District	14	3	219	108	1,563,893	11,181	1,575,404
Eastern District	[c]	[c]	[c]	[c]	[c]	[c]	[c]
Kamishak Bay District	[c]	[c]	[c]	[c]	[c]	[c]	[c]
Purse seine total	16	112	115,019	634	1,693,597	14,474	1,823,836
Southern District	17[d]	405	12,463	2,680	35,133	1,918	52,599
Set gillnet total	17	405	12,463	2,680	35,133	1,918	52,599
Commercial common property total		517	127,482	3,314	1,728,730	16,392	1,876,435
Hatchery cost recovery total[e]		0	98,495	143	796,151	192	894,981
Commercially sold total		517	225,977	3,457	2,524,881	16,584	2,771,416
Homepack		64	197	144	52	1	458
Hatchery donated fish[f]			99	701	0	0	800
Miscellaneous total		64	296	845	52	1	1,258
Lower Cook Inlet total		581	226,273	4,302	2,524,933	16,585	2,772,674

[a] Numbers of fish and numbers of permit holders delivering are from ADF&G statewide electronic fish ticket database [Internet]. 1985–2020. Juneau, AK. [URL not available as some information is confidential].

[b] There were 748 coho salmon harvested in the Seward Salmon Derby and sold by the sponsor to commercial processors. These fish were caught by sport permit holders using rod and reel (troll gear). This harvest is not included in the commercial harvest total catch.

[c] Harvest confidential, (fewer than 3 permit holders delivered).

[d] Of the 17 permit holders that delivered, 6 were dual permits.

[e] Hatchery sales for hatchery operating costs. Includes incidentally harvested wild salmon.

[f] Excess sockeye and pink salmon harvested at the Bear Creek weir and Tutka hatchery.

Table 2.–Average price and estimated exvessel value of the total hatchery and commercial salmon harvest (excluding homepack) by gear type, Lower Cook Inlet, 2020.

PURSE SEINE			Average		
Species	Number[a]	Pounds[a]	weight	Price[a]	Value
Chinook	112	1,365	12.68	$2.52	$3,440
Sockeye	115,019	447,362	3.85	$1.79	$800,778
Coho	634	3,879	6.01	$0.80	$3,103
Pink	1,693,597	6,309,619	3.71	$0.29	$1,829,790
Chum	14,474	122,947	8.40	$0.50	$61,474
	1,823,836	6,885,172			$2,698,584
SET GILLNET			Average		
Species	Number[a]	Pounds[a]	weight	Price[a]	Value
Chinook	405	4,661	11.51	$3.75	$17,479
Sockeye	12,463	63,414	5.09	$2.07	$131,267
Coho	2,680	15,869	5.91	$0.62	$9,839
Pink	35,133	144,524	4.11	$0.21	$30,350
Chum	1,918	14,461	6.08	$0.43	$6,218
	52,599	242,929			$195,153
HATCHERY SALES			Average		
Species	Number[a]	Pounds[a]	weight	Price[a]	Value
Chinook	0	0	0.00	$0.00	$0
Sockeye	98,594	392,618	4.03	$2.88	$1,130,740
Coho	844	5,714	5.64	$0.80	$4,571
Pink	796,151	2,959,503	3.72	$0.42	$1,242,991
Chum	192	1,168	6.08	$0.50	$584
	895,781	3,359,003			$2,378,886
TOTAL HARVEST			Average		
Species	Number[a]	Pounds[a]	weight	Price[a]	Value
Chinook	517	6,026	11.72	$3.47	20,919
Sockeye	226,076	903,394	4.01	$2.28	2,062,785
Coho	4,158	25,462	5.92	$0.69	17,513
Pink	2,524,881	9,413,646	3.72	$0.33	3,103,131
Chum	16,584	138,576	8.18	$0.49	68,276
	2,772,216	10,487,104			$5,272,623

Gear type	Value of catch	No. of permit holders[b]	Average earnings
Purse seine	$2,698,584	16	$168,661
Set gillnet	$195,153	17	$11,480
Subtotal: value of CPF catch	$2,893,737		
Hatchery	$2,378,886		
GRAND TOTAL	$5,272,623		

Note: CPF = common property fisheries.

[a] Mean prices are based on weighted average prices from the ADF&G statewide electronic fish ticket database [Internet]. 1985– . Juneau, AK. [URL not available as some information is confidential]. Pounds and numbers of fish are based on fish ticket reporting. Number of fish includes homepack harvest.

[b] In 2020, 6 set gillnet permit holders fished dual permits. Permit stacking has been permitted by the Alaska Board of Fisheries since 2014.

Table 3.–Average price per pound paid to permit holders for salmon, Lower Cook Inlet, 2010–2020.

	Chinook salmon			Sockeye salmon			Coho salmon			Pink salmon			Chum salmon		
Year	Seine	Set gillnet	Combined	Seine	Set gillnet	Combined	Seine	Set gillnet	Combined	Seine	Set gillnet	Combined	Seine	Set gillnet	Combined
2010	$0.50	$3.76	$3.57	$1.46	$1.88	$1.74	$1.08	$1.27	$1.12	$0.33	$0.25	$0.33	$0.79	$0.47	$0.79
2011	$1.93	$4.19	$3.85	$1.56	$1.56	$1.56	$0.52	$0.79	$0.70	$0.41	$0.30	$0.37	$0.83	$0.61	$0.81
2012	$2.08	$4.53	$4.09	$1.59	$1.80	$1.63	$0.75	$1.06	$0.80	$0.39	$0.25	$0.38	$0.70	$0.37	$0.70
2013	$1.02	$5.14	$4.53	$2.00	$2.21	$2.11	$0.83	$1.01	$0.95	$0.38	$0.33	$0.38	$0.53	$0.35	$0.52
2014	$2.67	$3.92	$3.89	$1.94	$2.23	$2.15	$0.75	$1.24	$1.11	$0.28	$0.26	$0.28	$0.59	$0.47	$0.57
2015	$1.70	$3.16	$3.11	$1.45	$1.86	$1.62	$0.42	$0.73	$0.64	$0.20	$0.18	$0.20	$0.45	$0.34	$0.43
2016	$1.43	$3.14	$2.92	$1.45	$1.78	$1.60	$0.63	$1.01	$0.97	$0.21	$0.15	$0.19	$0.50	$0.36	$0.45
2017	$4.34	$3.79	$3.86	$1.41	$2.16	$1.97	$0.95	$0.77	$0.80	$0.30	$0.15	$0.24	$0.75	$0.50	$0.63
2018	$2.95	$4.79	$4.17	$2.14	$2.56	$2.20	$1.23	$1.41	$1.27	$0.39	$0.19	$0.37	$0.78	$0.71	$0.78
2019	$3.60	$4.79	$4.07	$2.32	$2.19	$2.29	$0.97	$0.90	$0.95	$0.30	$0.25	$0.30	$0.50	$0.39	$0.49
2020	$2.52	$3.75	$3.52	$1.79	$2.07	$1.83	$0.80	$0.62	$0.66	$0.29	$0.21	$0.29	$0.50	$0.43	$0.49
Previous 10-year Average	$2.22	$4.12	$3.81	$1.73	$2.02	$1.89	$0.81	$1.02	$0.93	$0.32	$0.23	$0.30	$0.64	$0.46	$0.62

Source: These prices are based on weighted average prices from the ADF&G statewide electronic fish ticket database [Internet]. 1985–current. Juneau, AK. [URL not available as some information is confidential] and do not reflect postseason adjustments and bonuses. Caution should be used when estimating value from these prices.

Table 4.–Estimated exvessel value (in US $) of commercial salmon harvest by gear type with 10-year average, Lower Cook Inlet, 2010–2020.

Purse seine												
											Prev.10-yr	
Species	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	average	2020
Chinook	15	648	483	689	411	624	1,966	10,485	3,115	19,229	3,767	3,440
Sockeye	58,349	1,485,538	461,300	644,508	618,967	424,498	478,989	1,062,723	1,066,657	1,232,374	753,390	800,778
Coho	4,131	157	706	9,366	1,314	2,892	3,140	23,363	117,622	71,361	18,077	3,103
Pink	328,849	423,068	300,992	2,403,739	264,127	2,788,824	49,958	1,955,477	775,003	1,680,547	1,032,226	1,829,790
Chum	619,305	166,691	323,923	205,517	294,110	287,699	243,999	1,117,301	293,259	187,464	394,645	61,474
	$1,010,648	$2,076,101	$1,087,404	$3,263,819	$1,178,929	$3,504,537	$778,052	$4,169,350	$2,255,656	$3,190,974	2,147,166	$2,698,584
Set gillnet												
Species												
Chinook	1,792	8,032	4,847	15,135	11,533	24,510	23,757	29,001	9,992	16,828	14,543	17,479
Sockeye	151,183	218,700	109,526	502,583	433,220	359,009	190,984	455,125	203,034	357,204	298,057	131,267
Coho	1,458	488	200	20,959	3,220	13,635	4,735	44,430	28,897	14,960	13,114	9,839
Pink	2,728	2,606	10,074	2,217	3,351	18,010	13,896	25,531	40,586	5,687	13,222	30,350
Chum	4,972	7,975	2,528	6,842	18,062	25,534	4,905	28,931	22,787	10,418	13,615	6,218
	$162,132	$237,801	$127,176	$547,736	$469,385	$440,698	$238,277	$583,018	$305,295	$405,098	345,724	$195,153
Hatchery sales												
Species												
Chinook	0	0	0	0	245	0	0	0	68	0	31	0
Sockeye	430,230	1,625,199	1,021,125	910,285	1,799,731	821,739	1,642,913	862,685	3,070,644	1,475,610	1,366,016	1,130,740
Coho	222	0	44	0	0	554	0	2,909	2,598	1,695	703	4,571
Pink	280	487	1,074	57,622	130	1,383,195	24,290	94,108	1,570,933	223,393	348,013	1,242,991
Chum	33	16	1,034	83	628	4,444	422	1,055	398	515	902	584
	$430,765	$1,625,702	$1,023,277	$967,990	$1,800,733	$2,209,932	$1,667,624	$960,758	$4,644,642	$1,701,212	1,703,491	$2,378,886
Average earnings												
Purse seine	$72,189	$90,265	$67,963	$296,711	$58,946	$184,449	$40,950	$231,631	$112,783	$145,044	130,093	$168,661
Set gillnet	$7,721	$11,324	$8,478	$28,828	$24,704	$18,362	$11,347	$29,151	$16,068	$20,255	17,624	$11,480
No. of permit holders fishing												
Purse seine	14	23	16	11	20	19	19	18	20	22	18	16
Set gillnet	21	21	15	19	19	24	21	20	19	20	20	17

Table 5.–Emergency orders issued for the commercial, personal use, and subsistence salmon fisheries in Lower Cook Inlet, 2020.

EO number[1]/ Issue date	Description
2-F-LCI-001-20/ Friday, May 29	**Southern and Kamishak districts, purse seine and set gillnet.** Opens waters of the Southern District to commercial salmon harvest and establishes 2 weekly 48-hour set gillnet fishing periods in the Southern District beginning at 6:00 AM on Mondays and Thursdays effective Monday, June 1. Establishes 7-day per week purse seine fishing periods in the Kamishak District beginning June 1 and September 30 closing. Closes McNeil and Paint River subdistricts to salmon fishing effective June 17. Opens portions of Chenik Lagoon on June 15.
2-F-LCI-002-20/ Friday, June 12	**Southern, Outer, Eastern districts, purse seine.** Opens the commercial purse seine salmon fishing season on Monday, June 15 in the Southern, Outer, and Eastern districts and establishes a Monday, Wednesday, and Friday fishing schedule in portions of the former. Establishes a season closure for this gear of September 30. Allows commercial seine harvest up to the fresh water of the Wosnesenski River. Moves the closed waters boundaries in the China Poot SHA eastwards approximately ½ mile.
2-F-LCI-003-20/ Friday, June 19	**Eastern District, purse seine.** Establishes a schedule of M–F fishing periods in Resurrection Bay beginning June 22.
2-F-LCI-004-20/ Friday, June 26	**Southern, Eastern, and Kamishak Districts, purse seine.** Closes Chenik Subdistrict on July 1. Closes Hazel Lake SHA to common property harvest on June 29. Closes Resurrection Bay to commercial salmon fishing for the July 4 holiday.
2-F-LCI-005-20/ Tuesday, June 30	**Port Graham Subdistrict, subsistence harvest. Effective June 30, e**xtends the 5-½ day subsistence fishing period to 6-½ days.
2-F-LCI-006-20/ Friday, July 10	**Outer and Eastern districts, purse seine.** Establishes a schedule of MWF fishing periods in portions of the Outer District. Suspends commercial common property fishing in Resurrection Bay effective at 10:00 PM on July 17.
2-F-LCI-007-20/ Tuesday, July 14	**Kamishak District, purse seine.** Reopens the Chenik Subdistrict to commercial harvest effective July 15.
2-F-LCI-008-20/ Thursday, July 23	**Southern District, purse seine.** Reopens the Hazel Lake SHA on July 24 to commercial seine harvest on a MWF schedule of 16-hour fishing periods starting at 6:00 AM on those days.
2-F-LCI-009-20/ Friday, July 24	**Southern and Outer districts, purse seine.** Effective July 27 opens the outer portion of the Tutka Bay Hatchery SHA, and the Humpy Creek Subdistrict to commercial purse seine harvest on a MWF schedule of 16-hour fishing periods starting at 6:00 AM on those days. Closes the China Poot and Hazel Lake SHAs to commercial salmon harvest. Opens the Port Chatham Subdistrict to commercial salmon harvest on a MWF schedule of 16-hour fishing periods starting at 6:00 AM on those days. Closes the Rocky Bay Subdistrict to commercial salmon harvest.
2-F-LCI-010-20/ Tuesday, July 28	**Outer District, purse seine.** Beginning July 29, opens East Nuka Subdistrict on a MWF schedule of 16-hour fishing periods starting at 6:00 AM on those days. Fishing is permitted up to the freshwater of Delight, Desire, and Delusion Creeks.

-continued-

Table 5.–Page 2 of 2.

EO number/Issue date	Description
2-F-LCI-011-20/ Friday, July 31	**Southern and Kamishak districts, purse seine.** Effective August 3, closes all waters of the Tutka SHA to common property seine harvest. Opens waters of the Kirschner Lake SHA to common property purse seine harvest 24 hours per day, 7 days per week.
2-F-LCI-012-20/ Monday, August 3	**Outer District, purse seine.** Effective August 4, changes the schedule from MWF to M-F in the Outer District and opens the Taylor Bay and Outer sections of the Port Dick Subdistrict, as well as the Rocky Bay Subdistrict, and the portion of the Nuka Island Subdistrict near South Nuka Creek on this schedule as well. In addition, the regulatory closed waters boundary in the Windy Bay Subdistrict is moved westward to the promontory that divides the east and west arms of this bay.
2-F-LCI-013-20/ Monday, August 3	**Southern District, purse seine.** Effective August 5, opens the outer portion of the Tutka Bay SHA to common property commercial purse seine harvest on a MWF schedule of 16-hour fishing periods starting at 6:00 AM on those days.
2-F-LCI-014-20/ Monday, August 10	**Outer District, purse seine.** Expands the regulatory closed waters area in the Island Creek Section of the Port Dick Subdistrict and closes the Rocky Bay Subdistrict to purse seine harvest on August 11.
2-F-LCI-015-20/ Friday, August 14	**Outer and Southern districts, purse seine.** Effective August 17, closes the Taylor Bay Section of the Port Dick Subdistrict to commercial salmon harvest, and opens the Port Graham Subdistrict excluding the Port Graham Hatchery SHA on a MWF schedule of 16-hour fishing periods starting at 6:00 AM on those days.
2-F-LCI-016-20/ Tuesday, August 18	**Outer District, purse seine.** Reduces the size of the regulatory closed waters area at the head of Port Dick for a single fishing period on August 19.
2-F-LCI-017-20/ Friday, August 21	**Southern and Outer districts, purse seine.** Reduces the size of the regulatory closed waters area at the head of Port Dick for a single fishing period on August 24. Effective on that date, opens waters of the Tutka SHA seaward of the powerlines to commercial salmon harvest, as well as opens waters of the Seldovia Subdistrict on a MWF schedule of 16-hour fishing periods starting at 6:00 AM on those days.
2-F-LCI-018-20/ Friday, September 18	**Lower Cook Inlet, purse seine.** Closes the Lower Cook Inlet commercial purse seine season on September 21 at 12:01 AM.

[1] Effective in 2019, emergency order enumeration format changed from 2-F-H-000-YY to 2-F-LCI-000-YY to avoid confusion with Upper Cook Inlet emergency orders.

Table 6.–Escapements relative to escapement goals, and methods used to monitor escapements in 2020 for chum, pink, and sockeye salmon stocks in Cook Inlet, Alaska.

	Escapement goal				Monitoring method				
	2020	Range							
Stock	Escapement	Lower	Midpoint	Upper	Aerial	Ground	Video	Weir	Comments
CHUM SALMON (12 with goals)									
Port Graham River	660	1,200	1,950	2,700		X			
Dogfish Lagoon	1,246	3,500	6,050	8,600	X	X			used ground index
Rocky River	5,010	1,500	2,950	4,400	X				
Port Dick Creek	1,040	1,900	3,100	4,300	X	X			used ground index
Island Creek	1,399	5,100	8,500	11,900	X	X			used ground index
Big Kamishak River	19,391	6,800	11,200	15,600	X				
Little Kamishak River	38,591	8,000	12,400	16,800	X				
McNeil River	8,850	24,000	36,000	48,000	X				
Bruin River	22,206	5,200	7,600	10,000	X				
Ursus Cove	4,367	5,900	8,000	10,100	X				
Cottonwood Creek	679	5,200	8,700	12,200	X				
Iniskin Bay	8,804	5,900	9,750	13,600	X				
PINK SALMON (18 with goals)									
Humpy Creek	232	17,500	34,450	51,400		X			
China Poot Creek	235	2,500	4,400	6,300		X			
Tutka Creek	114,986	6,500	11,750	17,000		X			
Barabara Creek	6,633	2,000	3,800	5,600		X			
Seldovia Creek	39,297	21,800	29,600	37,400		X			
Port Graham River	34,784	7,700	13,700	19,700		X			
Dogfish Lagoon Creeks	18,387	800	3,950	7,100	X	X			used ground index
Port Chatham	17,291	7,800	12,950	18,100	X	X			used ground index
Windy Creek Right	16,720	3,400	7,300	11,200	X				
Windy Creek Left	74,944	5,400	16,250	27,100	X				
Rocky River	8,310	11,700	33,250	54,800	X				
Port Dick Creek	108,219	17,900	33,850	49,800	X	X			used ground index
Island Creek	9,888	9,600	21,050	32,500	X	X			used ground index
S. Nuka Island Creek	3,943	2,800	7,000	11,200	X				
Desire Lake	1,357	1,500	9,750	18,000	X				
Bruin River	57,320	17,800	60,400	103,00	X				
Sunday Creek	4,715	4,400	14,650	24,900	X				
Brown's Peak Creek	21,034	2,600	10,050	17,500	X				
SOCKEYE SALMON (8 with goals)									
English Bay	31,486	6,000	9,750	13,500	X			X	used weir count
Delight Lake[b]	12,299	7,500	12,575	17,650	X			X	used weir count
Desire Lake	4,710	4,800	8,350	11,900	X				
Bear Lake	8,222	700	4,500	8,300				X	
Aialik Lake	4,020	3,200	4,300	5,400	X				
Mikfik Lake	305	3,400	7,200	11,000			X		
Chenik Lake	11,686	2,900	8,300	13,700			X		
Amakdedori Creek	6,992	1,200	1,900	2,600	X				

[a] SEG = sustainable escapement goal; BEG = biological escapement goal.

[b] Used weir-based goal because CIAA operated a weir at Delight Lake in 2020. See Appendix B5 for 2020 aerial survey counts.

APPENDIX A: SOUTHERN DISTRICT

Appendix A1.–Southern District commercial set gillnet salmon harvest (excluding homepack) by fishing period, 2020.

Period	Date	Hours	Permit holders fishing	Chinook		Sockeye		Coho		Pink		Chum	
				Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1	06/01–06/03	48	8	49	489	367	1,789	0	0	0	0	7	53
2	06/04–06/06	48	9	54	472	482	2,426	0	0	0	0	17	137
3	06/08–06/10	48	9	59	606	505	2,590	0	0	0	0	30	253
4	06/11–06/13	48	9	65	588	638	3,197	0	0	0	0	81	608
5	06/15–06/17	48	4	35	334	364	1,885	0	0	0	0	34	294
6	06/18–06/20	48	6	36	366	620	3,219	0	0	0	0	25	198
7	06/22–06/24	48	9	12	164	893	4,593	1	6	0	0	45	371
8	06/25–06/27	48	11	11	139	876	4,548	2	12	5	18	104	782
9	06/29–07/01	48	10	21	294	1,202	6,075	2	11	207	683	181	1,284
10	07/02–07/04	48	10	7	192	1,166	5,676	8	42	320	1,024	184	1,386
11	07/06–07/08	48	8	8	60	1,043	5,111	24	131	884	2,866	147	1,148
12	07/09–07/11	48	9	14	327	869	4,535	261	1,323	1,581	5,018	182	1,453
13	07/13–07/15	48	10	16	287	1,098	5,525	499	3,024	2,947	12,456	288	2,187
14	07/16–07/18	48	13	7	151	879	4,584	554	3,323	6,889	28,826	216	1,537
15	07/20–07/22	48	9	3	57	285	1,490	228	1,273	3,159	13,495	75	533
16	07/23–07/25	48	9	3	55	349	1,801	286	1,577	4,133	17,485	78	579
17	07/27–07/29	48	10	5	81	536	2,868	271	1,629	5,473	22,883	81	559
18	07/30–08/01	48	7	0	0	169	863	299	1,829	3,058	12,944	74	575
19	08/03–08/05	48	4	0	0	48	251	57	381	1,657	6,499	13	65
20[a]	08/06–08/08	48	[a]	0	0	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
21	08/10–08/12	48	4	0	0	46	240	74	503	2,907	12,614	1	4
22[a]	08/13–08/15	48	[a]	0	0	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
23	08/17–08/19	48	0	No deliveries for periods 23–35									
35	09/28–09/30	48	0										
Total			17[b]	405	4,661	12,463	63,414	2,680	15,869	35,133	144,524	1,918	14,461
Average weight				11.5		5.1		5.9		4.1		7.5	

Note: No deliveries during Periods 23–35, from August 17 through September 30.

[a] Confidential data. Fewer than 3 permits reporting.

[b] Seventeen permit holders fished in 2020, of those, 6 individuals were dual permit holders.

Appendix A2.–Southern District commercial purse seine salmon harvest (excluding homepack) by period, 2020.

Period	Statistical week	Date	Hours	Permits fished	Chinook		Sockeye		Coho		Pink		Chum	
					Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1 [a]	25	6/19	16	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
2 [a,b]	26	6/22	16	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
3 [a]	26	6/24	16	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
4 [a]	26	6/26	16	5	15	214	899	4,499	0	0	1	3	4	52
5 [a,c]	27	6/29	16	10	10	109	2,630	14,064	0	0	16	53	14	161
6 [a,c]	27	7/1	16	12	14	184	5,789	26,468	4	15	48	168	9	131
7 [a,c]	27	7/3	16	13	9	119	4,633	20,880	4	20	28	67	49	450
8 [a,c]	28	7/6	16	13	37	373	9,765	39,027	0	0	65	258	259	1,797
9 [a,c]	28	7/8	16	12	13	87	7,603	28,846	10	52	279	1,034	15	119
10 [a,c]	28	7/10	16	12	9	176	7,141	31,652	1	6	179	657	79	669
11 [a,c]	29	7/13	16	12	1	17	6,470	26,266	11	57	71	271	27	296
12 [a,c]	29	7/15	16	14	1	38	7,249	30,705	75	546	1,804	6,425	563	5,271
13 [a,c]	29	7/17	16	10	0	0	6,478	24,110	96	519	939	4,072	8	89
14 [a,c]	30	7/20	16	10	0	0	5,807	22,732	88	599	4,811	19,023	8	87
15 [a,c]	30	7/22	16	8	0	0	2,734	10,685	113	504	11,523	39,479	4	31
16 [a]	30	7/24	16	9	0	0	670	2,132	33	208	12,476	38,300	3	33
17 [a,c,d,e,f]	31	7/27	16	7	0	0	181	666	13	75	28,946	109,203	8	104
18 [a,c,d,e,f]	31	7/29	16	5	0	0	108	414	8	57	11,462	54,656	1	5
19 [a,c,d,e,f]	31	7/31	16	4	0	0	100	483	15	78	15,957	63,793	10	74
20 [a,c,e,f]	32	8/3	16	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
21 [a,c,d,e,f]	32	8/5	16	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
22 [a,c,d,e,f]	32	8/7	16	3	0	0	15	57	2	10	6,338	24,647	0	0
23 [a,c,d,e,f]	33	8/10	16	3	0	0	66	287	21	146	11,454	48,906	0	0
24 [a,b,c,d,e,f]	33	8/12	16	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
25 [a,c,d,e,f]	33	8/14	16	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
26 [a,c,d,e,f,g]	34	8/17	16	0	0	0	0	0	0	0	0	0	0	0
27 [a,b,c,d,e,f,g]	34	8/19	16	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Total				15	109	1,317	68,698	285,564	526	3,058	120,861	471,841	1,074	9,536
Average weight						12.6		4.1		5.8		3.7		8.8

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Note: No deliveries during after August 19.

[a] Waters of the Tutka Bay, China Poot, and Halibut Cove subdistricts, excluding waters of the Halibut Cove Lagoon, and the Special Harvest Area (SHA) in the Tutka Subdistrict are open to commercial salmon seine harvest for regular 16-hour fishing periods.

[b] Confidential data. Fewer than 3 permits reporting.

[c] Waters of the Hazel Lake SHA closed to commercial salmon harvest.

[d] Portions of the Tutka SHA opened.

[e] Waters of the China Poot SHA closed to commercial salmon harvest.

[f] Humpy Creek Subdistrict open to commercial seine harvest.

[g] Port Graham Subdistrict excluding the SHA open to seine harvest.

Appendix A3.–Total commercial common property salmon harvest (excluding homepack) in the Southern District, 2010–2020.

	Set gillnet					
Year	Permits	Chinook	Sockeye	Coho	Pink	Chum
2010	21	29	14,765	171	3,106	1,503
2011	21	100	22,782	103	2,643	1,946
2012	15	86	10,260	33	10,305	928
2013	18	234	38,238	3,466	1,804	2,685
2014	19	320	32,910	393	3,231	5,355
2015	24	752	36,061	3,102	27,726	11,539
2016	23	731	19,427	687	21,872	2,124
2017	24	435	36,689	9,353	43,904	7,852
2018	24	185	15,157	3,067	56,638	4,232
2019	22	350	29,274	2,817	6,411	3,908
2020	17	405	12,463	2,680	35,133	1,918
10-yr avg.	21	322	25,556	2,319	17,746	4,207

	Purse seine					
Year	Permits	Chinook	Sockeye	Coho	Pink	Chum
2010[a]	0	0	0	0	0	0
2011	5	26	9,945	24	512	16
2012	11	39	6,396	44	175,770	439
2013	11	140	28,032	1,902	33,288	265
2014	16	18	23,188	269	58,890	3,360
2015	19	52	54,783	997	141,604	1,450
2016	19	112	47,235	169	44,637	165
2017	17	166	62,715	3,493	361,751	3,892
2018	20	131	55,246	1,747	472,204	1,166
2019	21	140	47,006	3,065	22,934	298
2020	15	109	68,698	526	120,861	1,074
10-yr avg.	15	92	37,172	1,301	145,732	1,228

	Purse seine and set gillnet combined					
Year	Permits	Chinook	Sockeye	Coho	Pink	Chum
2010 [a]	ND	29	14,765	171	3,106	1,503
2011	ND	126	32,727	127	3,155	1,962
2012	ND	125	16,656	77	186,075	1,367
2013	ND	374	66,270	5,368	35,092	2,950
2014	ND	338	56,098	662	62,121	8,715
2015	ND	804	90,844	4,099	169,330	12,989
2016	ND	601	99,404	12,846	405,655	11,744
2017	ND	316	70,403	4,814	528,842	5,398
2018	ND	381	62,393	3,215	178,419	5,388
2019	ND	490	76,280	5,882	29,345	4,206
2020	ND	514	81,161	3,206	155,994	2,992
10-yr avg.	ND	405	59,011	3,490	148,923	5,312

Source: ADF&G statewide electronic fish ticket database [Internet]. 2010–2020. Juneau, AK. [URL not available as some information is confidential].

Note: ND = no data.

[a] No commercial common property purse seine fishing periods occurred in 2010.

Appendix A4.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement to the English Bay weir, 2020.

	Actual		Anticipated	Apportioned SEG				
				Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
6/7	43	43	3.4%	49	204	111	460	Weir installed
6/8	277	320	4.4%	58	262	131	591	
6/9	0	320	5.4%	60	322	133	724	
6/10	47	367	6.9%	89	411	201	925	
6/11	50	417	8.3%	89	500	200	1,125	
6/12	115	532	9.4%	63	563	141	1,266	
6/13	182	714	10.1%	44	607	100	1,366	
6/14	582	1,296	11.7%	95	702	213	1,579	
6/15	186	1,482	12.6%	53	755	121	1,700	
6/16	261	1,743	14.3%	104	859	232	1,932	
6/17	94	1,837	15.8%	91	950	206	2,138	
6/18	87	1,924	17.4%	96	1,046	216	2,354	
6/19	372	2,296	19.9%	145	1,191	326	2,680	
6/20	91	2,387	22.3%	149	1,340	334	3,014	
6/21	204	2,591	24.2%	112	1,452	254	3,268	
6/22	539	3,130	26.5%	137	1,589	306	3,574	
6/23	111	3,241	28.3%	109	1,698	246	3,820	
6/24	530	3,771	31.6%	196	1,894	442	4,262	
6/25	811	4,582	33.3%	104	1,998	234	4,496	
6/26	176	4,758	35.8%	153	2,151	343	4,839	
6/27	206	4,964	38.3%	145	2,296	328	5,167	
6/28	714	5,678	43.0%	282	2,578	633	5,800	
6/29	431	6,109	47.3%	258	2,836	582	6,382	
6/30	435	6,544	50.2%	177	3,013	398	6,780	
7/1	714	7,258	52.8%	157	3,170	353	7,133	
7/2	431	7,689	56.4%	213	3,383	478	7,611	
7/3	435	8,124	59.3%	172	3,555	388	7,999	
7/4	108	8,232	61.4%	126	3,681	284	8,283	
7/5	404	8,636	64.7%	198	3,879	445	8,728	
7/6	681	9,317	67.4%	167	4,046	375	9,103	
7/7	831	10,148	69.8%	143	4,189	323	9,426	
7/8	2,033	12,181	71.9%	122	4,311	275	9,701	
7/9	424	12,605	73.2%	78	4,389	175	9,876	
7/10	46	12,651	75.2%	120	4,509	270	10,146	
7/11	62	12,713	77.5%	142	4,651	319	10,465	
7/12	215	12,928	80.2%	163	4,814	366	10,831	
7/13	1,130	14,058	82.1%	113	4,927	254	11,085	
7/14	1,339	15,397	84.9%	168	5,095	379	11,464	
7/15	249	15,646	86.9%	119	5,214	267	11,731	
7/16	747	16,393	89.2%	139	5,353	312	12,043	
7/17	1,042	17,435	91.5%	138	5,491	312	12,355	
7/18	1,243	18,678	93.2%	101	5,592	227	12,582	

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	Actual		Anticipated	Apportioned SEG				
				Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
7/19	1,238	19,916	94.5%	79	5,671	178	12,760	
7/20	1,338	21,254	95.4%	54	5,725	121	12,881	
7/21	2,199	23,453	96.0%	38	5,763	85	12,966	
7/22	181	23,634	96.8%	47	5,810	107	13,073	
7/23	386	24,020	97.6%	44	5,854	100	13,173	
7/24	138	24,158	98.1%	31	5,885	69	13,242	
7/25	719	24,877	98.4%	19	5,904	41	13,283	
7/26	130	25,007	98.8%	25	5,929	57	13,340	
7/27	1,461	26,468	99.1%	15	5,944	34	13,374	
7/28	590	27,058	99.4%	18	5,962	41	13,415	
7/29	502	27,560	99.6%	15	5,977	34	13,449	
7/30	1,553	29,113	99.9%	19	5,996	41	13,490	
7/31	1,458	30,571	100.0%	4	6,000	10	13,500	
8/1	915	31,486	100.0%	0	6,000	0	13,500	Last report from weir crew

Note: English Bay River sustainable escapement goal range is 6,000–13,500 sockeye salmon. Anticipated escapement derived using historical run timing.

Appendix A5.–Sockeye salmon escapement past English Bay weir, 2010–2020.

Year	Sustainable escapement goal	Total weir count	Broodstock harvested	Harvested for otoliths	Spawning escapement
2010	6,000–13,500	12,253	0	[a]	12,253
2011	6,000–13,500	12,036	2,116	[a]	9,920
2012	6,000–13,500	3,855	411	[a]	3,444
2013	6,000–13,500	12,910	1,753	253	10,904
2014	6,000–13,500	7,995	877	163	6,955
2015	6,000–13,500	6,416	0	126	6,290
2016	6,000–13,500	7,673	0	123	7,550
2017	6,000–13,500	20,751	0	470	20,281
2018	6,000–13,500	18,804	0	0	18,804
2019	6,000–13,500	24,044	0	0	24,044
2020	6,000–13,500	31,486	0	0	31,486
10-year Average		12,113	541	189	11,458

[a] Otoliths were not collected until 2013.

Appendix A6.–Estimated pink and chum salmon escapements, in thousands of fish, for the major spawning systems in the Southern District of the Lower Cook Inlet Area, 2010–2020.

	Pink salmon							Chum salmon
	Humpy Creek	China Poot Creek	Tutka Lagoon Creek	Barabara Creek	Seldovia River	Port Graham River	Total pink salmon escapement	Port Graham River
2010	70.7	2.2	2.1	13.9	25.9	16.6	131.5	1.4
2011	1.7	3.5	22.0	8.2	46.2	20.9	102.4	1.8
2012	67.9	8.4	10.4	1.4	44.7	34.5	167.3	0.7
2013	6.7	7.1	9.5	17.4	36.8	11.9	89.5	1.9
2014	44.4	1.4	10.2	3.6	35.9	32.3	127.7	3.7
2015	38.0	7.4	81.6	25.2	108.8	82.4	343.3	4.0
2016	89.7	0.7	33.2	2.8	15.7	14.6	156.7	2.4
2017	71.1	2.4	61.4	25.0	27.0	20.6	207.5	5.8
2018	54.8	2.3	60.7	7.2	50.8	33.4	209.3	3.7
2019	25.7	1.6	53.7	9.5	18.3	29.6	138.4	1.1
2020	0.2	0.2	115.0	6.6	39.3	34.8	196.2	0.7
10-yr Average	47.1	3.7	34.5	11.4	41.0	29.7	167.4	2.7

Note: Area-under-the-curve escapement indices are derived from periodic ground surveys with a 17.5-day stream-life factor applied.

APPENDIX B: OUTER DISTRICT

Appendix B1.–Outer District commercial purse seine salmon harvest (excluding homepack) by period, 2020.

	Statistical			Permits	Chinook		Sockeye		Coho		Pink		Chum	
Period	week	Date	Hours	fished	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1 [a,b]	29	7/13	16	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
2 [b]	29	7/15	16	0	0	0	0	0	0	0	0	0	0	0
3 [b]	29	7/17	16	3	1	19	34	156	1	7	24,829	87,109	1,285	12,272
4 [b]	30	7/20	16	4	1	18	21	88	0	0	54,311	196,945	1,308	12,123
5 [b]	30	7/22	16	5	0	0	16	88	0	0	57,776	216,996	936	8,342
6 [a,b]	30	7/24	16	5	0	0	3	19	0	0	79,151	303,968	4,774	40,091
7 [c]	31	7/27	16	7	0	0	1	5	0	0	129,023	490,373	120	957
8 [c,d]	31	7/29	16	10	0	0	5	25	0	0	104,445	380,798	148	1,215
9 [c,d]	31	7/31	16	11	0	0	44	160	0	0	143,463	535,763	255	1,632
10 [d,e]	32	8/3	16	14	1	11	20	94	5	35	119,155	440,856	495	4,077
11 [d,e,f]	32	8/4	16	14	0	0	27	106	3	14	125,019	461,925	217	1,802
12 [d,e,f]	32	8/5	16	12	0	0	6	26	2	8	84,685	319,988	199	1,522
13 [d,e,f]	33	8/6	16	9	0	0	2	10	2	12	10,363	41,682	69	526
14 [d,e,f]	33	8/7	16	11	0	0	1	4	9	53	85,706	322,094	406	3,073
15 [d,e,f]	33	8/10	16	12	0	0	1	6	0	0	131,595	496,441	148	1,340
16 [d,f,g,h]	33	8/11	16	12	0	0	0	0	5	36	65,746	251,609	176	1,494
17 [d,f,g]	33	8/12	16	11	0	0	2	11	7	57	54,813	195,592	237	1,673
18 [d,f,g]	34	8/13	16	11	0	0	9	49	10	81	31,926	116,268	82	802
19 [d,f,g]	34	8/14	16	8	0	0	16	79	1	13	13,032	48,257	64	491
20 [d,f,i]	34	8/17	16	7	0	0	5	20	11	85	25,934	94,024	57	421
21 [d,f,i]	34	8/18	16	7	0	0	6	25	26	215	21,867	77,568	31	240
22 [d,f,I,h]	34	8/19	16	6	0	0	0	0	0	0	165,261	590,943	18	123
23 [a,d,f,i]	34	8/20	16	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
24 [d,f,i]	35	8/21	16	0	0	0	0	0	0	0	0	0	0	0
25 [a,d,f,i,h]	35	8/24	16	3	0	0	0	0	13	108	21,944	83,802	39	234
Total				14	3	48	219	971	108	821	1,563,893	5,805,911	11,181	95,391
Average weight						16.0		4.3		7.4		3.7		8.4

-continued-

Note: No deliveries after August 24.

[a] Confidential data. Fewer than 3 permits reporting.

[b] Waters of the Dogfish Bay, Windy Bay, and Rocky Bay Subdistricts as well as the Headend, Middle Creek, and Island Creek Sections of the Port Dick Subdistrict are open to commercial salmon harvest.

[c] Waters of the Dogfish Bay, Windy Bay, and Port Chatham Subdistricts as well as the Headend, Middle Creek, and Island Creek Sections of the Port Dick Subdistrict are open to commercial salmon harvest.

[d] Portions of the East Nuka Subdistrict are open.

[e] Waters of the Dogfish Bay, Windy Bay, Rocky Bay, and Port Chatham Subdistricts as well as, the Headend Section, Middle Creek Section, Island Creek Section, Taylor Bay Section, and Outer Section of the Port Dick Subdistrict, as well as a portion of the Nuka Island Subdistrict are open to commercial salmon harvest.

[f] Portion of the closed waters area in the Windy Bay Subdistrict is open to commercial salmon harvest.

[g] Waters of the Dogfish Bay Subdistrict, the Windy Bay Subdistrict, and Port Chatham Subdistrict as well as, the Headend Section, Middle Creek Section, Island Creek Section, Taylor Bay Section, and Outer Section of the Port Dick Subdistrict, as well as a portion of the Nuka Island Subdistrict are open to commercial salmon harvest.

[h] Portion of the closed waters area in the Head End Section of Port Dick Subdistrict is open to commercial salmon harvest.

[i] Waters of the Dogfish Bay Subdistrict, the Windy Bay Subdistrict, and Port Chatham Subdistrict as well as, the Headend Section, Middle Creek Section, Island Creek Section, and Outer Section of the Port Dick Subdistrict, as well as a portion of the Nuka Island Subdistrict are open to commercial salmon harvest.

Appendix B2.–Total commercial common property salmon harvest (excluding homepack) in Outer District, 2010–2020.

Year	Permits fished	Chinook	Sockeye	Coho	Pink	Chum
2010	10	0	3,003	16	272,427	22,463
2011	13	10	46,356	25	357,472	25,763
2012	15	8	77	98	69,359	51,313
2013	11	1	119	53	2,015,105	49,062
2014	15	0	24,264	0	163,938	59,702
2015	19	0	613	41	4,096,578	97,974
2016	13	1	7	2	5,369	60,800
2017	17	1	260	389	1,244,172	151,356
2018	11	2	1,409	5	32,326	34,857
2019	21	184	15,482	2,889	1,710,012	19,460
2020	14	3	219	108	1,563,893	11,181
10-yr average	15	21	9,159	352	996,676	57,275

Source: ADF&G statewide electronic fish ticket database [Internet]. 2010–2020. Juneau, AK. [URL not available as some information is confidential].

Appendix B3.–Daily and cumulative sockeye salmon escapement objectives derived from weir-based sustainable escapement goal (SEG; 7,500–17,650) apportioned using historical run timing versus actual escapement through the Delight Lake weir, 2020.

	Actual passage		Antic.	Apportioned SEG (7,500–17,650)				
				Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
7/2	0	0	0.1%	6	6	14	14	Picket weir installed
7/3	0	0	0.4%	22	28	52	66	
7/4	0	0	1.8%	109	137	255	321	
7/5	11	11	4.5%	199	335	468	789	
7/6	30	41	6.3%	139	474	326	1,115	
7/7	0	41	7.9%	118	592	277	1,392	
7/8	0	41	8.9%	77	668	181	1,573	
7/9	0	41	11.1%	162	830	381	1,954	
7/10	0	41	13.3%	168	998	396	2,349	
7/11	0	41	16.4%	235	1,233	552	2,901	
7/12	0	41	19.1%	201	1,433	472	3,373	
7/13	0	41	22.7%	267	1,700	627	4,001	
7/14	0	41	25.8%	235	1,935	552	4,553	
7/15	20	61	28.6%	210	2,144	493	5,046	
7/16	0	61	32.3%	277	2,421	651	5,697	
7/17	0	61	36.1%	283	2,704	666	6,363	
7/18	0	61	39.1%	227	2,930	533	6,896	
7/19	0	61	44.7%	425	3,356	1,000	7,897	
7/20	168	229	55.6%	811	4,167	1,910	9,806	
7/21	0	229	59.9%	323	4,490	760	10,567	
7/22	0	229	64.9%	374	4,864	880	11,447	
7/23	61	290	67.0%	161	5,025	378	11,825	
7/24	9	299	75.8%	662	5,687	1,558	13,384	
7/25	7	306	85.5%	724	6,411	1,705	15,088	
7/26	2,354	2,660	88.2%	201	6,613	473	15,562	
7/27	3,533	6,193	91.0%	211	6,823	496	16,058	
7/28	1,874	8,067	96.4%	409	7,233	963	17,021	
7/29	952	9,019	98.2%	134	7,367	316	17,337	
7/30	796	9,815	99.6%	106	7,473	250	17,587	
7/31	1,121	10,936	100.0%	26	7,500	62	17,649	
8/1	667	11,603	100.0%	0	7,500	1	17,650	
8/2	696	12,299	100.0%	0	7,500	0	17,650	Picket weir removed

Appendix B4.–Sockeye salmon escapement past Delight Lake weir, 2010–2020.

Year	Delight Lake sockeye salmon
2010 [a]	23,505
2011 [a,b]	16,280
2012 [a,c]	10,887
2013 [a]	5,961
2014 [a]	22,289
2018 [a]	13,428
2019[a]	17,410
2020[a]	12,299
Previous 7-yr average	15,578

Note: Weir not operated at Delight Lake in 2015, 2016, and 2017.

[a] Weir operated for the month of July.

[b] An additional 400 fish were observed in the lake during an aerial survey prior to weir installation, and 2,310 were observed below the weir site after the weir was removed for the season. These 2,710 fish are not included in the 2011 weir total.

[c] An additional 430 fish were observed in the lake during an aerial survey prior to weir installation, but does not include 147 fish observed below the weir site after the weir was removed for the season.

Appendix B5.–Sockeye salmon aerial survey counts from the Outer District, 2020.

Location	Survey number	Survey date	Live count	Peak count
Delusion Lake	1	7/9	300	
	2	7/15	610	
	3	7/23	1,550	
	4	7/28	60	
	5	8/14	160	
	6	8/21	522	
	7	9/12	50	1,550
Desire Lake	1	6/22	11	
	2	7/9	100	
	3	7/15	130	
	4	7/23	1,050	
	5	7/28	2,290	
	6	8/14	2,260	
	7	8/21	1,680	
	8	9/12	4,710	4,710
Delight Lake	1	6/22	0	
	2	7/9	160	
	3	7/15	230	
	4	7/23	40	
	5	7/27	450	
	6	7/28	1,710	
	7	8/14	960	
	8	8/21	600	
	9	9/12	1,200	1,710

Appendix B6.–Estimated pink, chum, and sockeye salmon escapements in thousands of fish for the major spawning systems in the Outer District of the Lower Cook Inlet Area, 2010–2020. Blank cells indicate no data were collected.

	Pink salmon											Chum salmon					Sockeye salmon			
Year	Dogfish Lagoon	Port Chatham	Windy Right Creek	Windy Left Creek	Rocky River	Port Dick Creek	Island Creek	South Nuka Cr.	Desire Lake Creek	James Lagoon[a]	Total index count	Dogfish Lagoon	Rocky River	Port Dick Creek	Island Creek	Total index count	Delusion Lake[a]	Delight Lake	Desire Lake	Total index count
2010	6.3	3.0	6.4	24.2	27.0	41.1	69.5	–	3.0	–	180.6	12.7	1.3	2.4	3.4	19.8	0.6	23.8[b]	6.3	30.1
2011	3.9	15.8	1.7	12.2	22.7	16.9	10.2	–	0.6	0.3	84.0	12.9	4.5	7.1	11.8	36.3	1.8	20.2[b]	9.6	29.8
2012	11.4	5.4	5.8	11.7	15.7	18.1	20.1	1.3	2.3	0.0	91.7	8.8	3.2	8.4	14.9	35.2	–	10.9[b]	8.8	19.7
2013	26.4	57.4	11.7	47.8	75.8	55.8	26.0	8.4	56.9	24.4	366.4	9.3	8.1	4.1	8.8	30.4	1.7	6.0[b]	8.4	14.4
2014	8.8	10.3	5.7	10.1	17.1	48.7	50.4	11.0	0.4	1.0	162.7	11.2	6.9	1.8	2.7	22.6	0.0	22.3[b]	11.5	33.8
2015	50.1	42.6	17.0	33.6	107.9	98.0	50.4	8.9	46.3	30.3	454.8	13.3	3.1	13.2	18.5	48.2	0.1	3.2[c]	2.8	6.1
2016	2.3	1.1	1.4	0.5	4.3	4.8	1.7	0.0	0.2	0.1	16.4	11.3	4.6	9.3	8.5	33.7	0.1	5.1[c]	6.7	11.9
2017	13.3	44.3	5.1	17.4	31.2	62.1	22.6	0.5	4.4	2.7	200.8	13.2	6.9	2.6	5.5	28.3	1.0	5.4[c]	9.5	14.8
2018	8.0	18.1	8.9	14.0	2.1	94.6	5.6	0.5	2.5	0.1	154.4	7.6	5.6	0.7	1.4	15.3	1.1	13.4[b]	9.8	23.3
2019	22.0	39.6	13.7	25.6	75.4	93.2	63.7	2.5	2.5	1.1	338.2	3.6	6.6	2.0	5.5	17.7	1.5	17.4[b]	9.0	25.7
2020	18.4	17.3	16.7	74.9	8.3	108.2	9.9	3.9	1.4	0.3	259.1	1.2	5.0	1.0	1.4	8.7	1.6	12.3[b]	4.7	17.0
Prev. 10-yr avg.	15.3	23.8	7.7	19.7	37.9	53.3	32.0	4.1	11.9	6.5	205.8	10.4	5.1	5.2	8.1	28.7	0.9	12.7	8.3	20.9

Note: En dashes (–) indicate no data were collected.

[a] Nonindex stream.

[b] Escapement derived from weir counts.

[c] Escapement derived from a combination of weir, video counts, or aerial counts.

APPENDIX C: EASTERN DISTRICT

Appendix C1.–Eastern District common property commercial purse seine salmon harvest (excluding homepack) by period, 2020.

Period[a]	Statistical week	Date	Hours	Permits fished	Chinook		Sockeye		Coho		Pink		Chum	
					Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1[a]	26	6/22	16	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
2[a]	26	6/23	16	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
3[a]	26	6/24	16	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
4[a]	26	6/25	16	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
5[a]	26	6/26	16	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
6[a]	27	6/29	16	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
7	27	6/30	16	0	0	0	0	0	0	0	0	0	0	0
8[a]	27	7/1	16	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
9[a]	28	7/2	16	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
10	28	7/6	16	0	0	0	0	0	0	0	0	0	0	0
11	28	7/7	16	0	0	0	0	0	0	0	0	0	0	0
12	28	7/8	16	0	0	0	0	0	0	0	0	0	0	0
13	28	7/9	16	0	0	0	0	0	0	0	0	0	0	0
14	29	7/10	16	0	0	0	0	0	0	0	0	0	0	0
15	29	7/13	16	0	0	0	0	0	0	0	0	0	0	0
16	29	7/14	16	0	0	0	0	0	0	0	0	0	0	0
17	29	7/15	16	0	0	0	0	0	0	0	0	0	0	0
18	29	7/16	16	0	0	0	0	0	0	0	0	0	0	0
Total				[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
Average weight						0		3.9		0.0		0.0		0.0

Note: No deliveries during Periods 7, and 10–18 on June 30, and from July 6 through July 16.

[a] Confidential data. Fewer than 3 permits reporting.

Appendix C2.–Historical commercial common property and derby commercial sales harvest (excluding homepack) by species in the Eastern District, 2000–2020.

		Commercial common property harvest					Derby sales
Year	Permits	Chinook	Sockeye	Coho	Pink	Chum	Coho
2010	0	0	0	0	0	0	1,100
2011	0	0	56,111	0	24	112	1,207
2012	0	0	0	0	0	0	1,400
2013	0	0	0	0	0	0	1,380
2014	<3	[a]	[a]	[a]	[a]	[a]	606
2015	3	0	4,633	0	155	115	1,408
2016	<3	[a]	[a]	[a]	[a]	[a]	200
2017	0	0	0	0	0	0	1,577
2018	5	0	22,310	0	0	66	1,956
2019	4	0	4,307	2	112	19	1,561
2020	<3	[a]	[a]	[a]	[a]	[a]	748
Prev. 10-yr avg.	5	0	13,596	2	210	116	1,240

Source: ADF&G statewide electronic fish ticket database [Internet]. 2010–2020. Juneau, AK. [URL not available as some information is confidential].

[a] Confidential data. Fewer than 3 permits reporting.

Appendix C3.–Daily and cumulative sockeye salmon escapement objectives compared to actual escapement through the Bear Creek weir, 2020.

	Escapement to Bear Lake			Escapement objectives SEG plus CIAA brood goal [a]				Actual weir donations[b]		Actual weir cost recovery		Actual total sockeye at Bear Creek weir	
			Antic.	Minimum		Maximum							
Date	Daily	Total	percent	Daily	Total	Daily	Total	Daily	Total	Daily	Total	Daily	Total
5/17	0	0	0.0%	0	0	0	1	0	0	0	0	0	0
5/18	0	0	0.0%	0	1	1	2	0	0	0	0	0	0
5/19	0	0	0.0%	1	2	3	4	0	0	0	0	0	0
5/20	1	1	0.0%	3	5	6	10	0	0	0	0	1	1
5/21	1	2	0.0%	3	7	6	16	0	0	0	0	1	2
5/22	9	11	0.1%	4	11	8	24	0	0	0	0	9	11
5/23	19	30	0.2%	7	18	15	40	0	0	0	0	19	30
5/24	64	94	0.4%	13	31	29	69	0	0	0	0	64	94
5/25	41	135	0.6%	13	44	28	97	0	0	0	0	41	135
5/26	35	170	0.9%	22	67	49	146	0	0	0	0	35	170
5/27	178	348	1.3%	26	92	56	202	0	0	0	0	178	348
5/28	132	480	1.8%	29	121	63	265	0	0	0	0	132	480
5/29	89	569	2.8%	63	183	137	402	0	0	0	0	89	569
5/30	84	653	4.2%	92	275	202	603	0	0	0	0	84	653
5/31	163	816	5.7%	92	368	203	806	0	0	0	0	163	816
6/1	207	1,023	7.3%	108	475	237	1,043	0	0	0	0	207	1,023
6/2	455	1,478	9.0%	104	579	228	1,271	0	0	0	0	455	1,478
6/3	642	2,120	11.3%	145	724	317	1,588	0	0	0	0	642	2,120
6/4	556	2,676	14.4%	199	923	436	2,024	0	0	0	0	556	2,676
6/5	809	3,485	17.8%	221	1,143	484	2,508	0	0	0	0	809	3,485
6/6	683	4,168	21.8%	255	1,398	559	3,067	0	0	0	0	683	4,168
6/7	1,073	5,241	26.3%	284	1,682	622	3,689	0	0	0	0	1,073	5,241
6/8	607	5,848	30.8%	286	1,968	628	4,317	0	0	0	0	607	5,848
6/9	554	6,402	36.1%	338	2,307	742	5,059	0	0	424	424	978	6,826
6/10	555	6,957	41.3%	328	2,635	720	5,779	0	0	431	855	986	7,812
6/11	975	7,932	45.5%	268	2,903	587	6,366	0	0	423	1,278	1,398	9,210
6/12	671	8,603	49.5%	260	3,163	570	6,936	0	0	0	1,278	671	9,881
6/13	594	9,197	53.2%	233	3,395	510	7,446	0	0	0	1,278	594	10,475
6/14	173	9,370	56.4%	202	3,597	442	7,888	0	0	0	1,278	173	10,648
6/15	151	9,521	58.2%	120	3,717	262	8,151	0	0	0	1,278	151	10,799
6/16	271	9,792	60.6%	153	3,869	335	8,486	0	0	0	1,278	271	11,070
6/17	212	10,004	62.7%	135	4,004	295	8,781	0	0	0	1,278	212	11,282
6/18	246	10,250	64.4%	106	4,110	233	9,014	0	0	0	1,278	246	11,528
6/19	204	10,454	66.4%	126	4,237	277	9,291	0	0	0	1,278	204	11,732
6/20	281	10,735	68.5%	136	4,373	298	9,589	0	0	0	1,278	281	12,013
6/21	808	11,543	70.6%	130	4,502	285	9,874	0	0	0	1,278	808	12,821
6/22	756	12,299	72.7%	136	4,638	298	10,172	0	0	0	1,278	756	13,577
6/23	153	12,452	74.9%	140	4,778	307	10,479	0	0	0	1,278	153	13,730
6/24	155	12,607	77.1%	143	4,921	313	10,792	0	0	326	1,604	481	14,211
6/25	84	12,691	80.0%	181	5,102	396	11,189	0	0	414	2,018	498	14,709
6/26	42	12,733	81.9%	124	5,226	272	11,461	0	0	0	2,018	42	14,751
6/27	19	12,752	84.2%	147	5,373	322	11,783	0	0	175	2,193	194	14,945
6/28	0	12,752	86.0%	113	5,486	248	12,031	0	0	165	2,358	165	15,110
6/29	0	12,752	87.4%	92	5,577	201	12,231	0	0	0	2,358	0	15,110
6/30	8	12,760	89.0%	97	5,674	212	12,443	0	0	0	2,358	8	15,118

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	Escapement to Bear Lake			Escapement objectives SEG plus CIAA brood goal [a] Minimum		Maximum		Actual weir donations[b]		Actual weir cost recovery		Actual total sockeye at Bear Creek weir	
Date	Daily	Total	Antic. percer	Daily	Total	Daily	Total	Daily	Total	Daily	Total	Daily	Total
7/1	0	12,760	90.3%	89	5,763	194	12,638	0	0	273	2,631	273	15,391
7/2	0	12,760	91.9%	101	5,864	222	12,860	0	0	0	2,631	0	15,391
7/3	0	12,760	92.7%	49	5,913	108	12,968	0	0	236	2,867	236	15,627
7/4	0	12,760	93.5%	48	5,961	105	13,073	0	0	0	2,867	0	15,627
7/5	0	12,760	94.3%	54	6,015	118	13,191	0	0	0	2,867	0	15,627
7/6	0	12,760	95.2%	58	6,073	128	13,319	0	0	133	3,000	133	15,760
7/7	0	12,760	95.8%	39	6,112	85	13,404	0	0	0	3,000	0	15,760
7/8	0	12,760	96.3%	30	6,142	66	13,470	40	40	0	3,000	40	15,800
7/9	0	12,760	96.8%	31	6,173	67	13,537	0	40	138	3,138	138	15,938
7/10	0	12,760	97.0%	13	6,186	29	13,566	0	40	0	3,138	0	15,938
7/11	0	12,760	97.2%	13	6,199	29	13,595	0	40	142	3,280	142	16,080
7/12	0	12,760	97.4%	12	6,211	27	13,622	0	40	0	3,280	0	16,080
7/13	0	12,760	97.6%	11	6,223	25	13,647	0	40	0	3,280	0	16,080
7/14	0	12,760	97.7%	11	6,233	24	13,670	0	40	0	3,280	0	16,080
7/15	0	12,760	97.9%	8	6,242	18	13,688	0	40	49	3,329	49	16,129
7/16	0	12,760	98.0%	7	6,249	16	13,704	23	63	0	3,329	23	16,152
7/17	0	12,760	98.1%	6	6,254	12	13,716	0	63	0	3,329	0	16,152
7/18	0	12,760	98.1%	4	6,258	8	13,724	6	69	0	3,329	6	16,158
7/19	0	12,760	98.2%	7	6,265	15	13,739	8	77	0	3,329	8	16,166
7/20	0	12,760	98.3%	6	6,270	12	13,751	0	77	0	3,329	0	16,166
7/21	0	12,760	98.4%	6	6,276	13	13,764	10	87	0	3,329	10	16,176
7/22	0	12,760	98.9%	31	6,308	69	13,833	0	87	0	3,329	0	16,176
7/23	0	12,760	99.1%	10	6,318	22	13,855	0	87	0	3,329	0	16,176
7/24	0	12,760	99.2%	8	6,326	18	13,873	0	87	0	3,329	0	16,176
7/25	0	12,760	99.2%	3	6,329	7	13,880	12	99	0	3,329	12	16,188
7/26	0	12,760	99.2%	0	6,329	0	13,880	0	99	0	3,329	0	16,188
7/27	0	12,760	99.3%	7	6,336	15	13,895	0	99	0	3,329	0	16,188
7/28	0	12,760	99.4%	5	6,341	11	13,906	0	99	0	3,329	0	16,188
7/29	0	12,760	99.5%	2	6,343	5	13,910	0	99	0	3,329	0	16,188
7/30	0	12,760	99.5%	1	6,344	3	13,913	0	99	0	3,329	0	16,188
7/31	0	12,760	99.5%	1	6,345	3	13,916	0	99	0	3,329	0	16,188
8/1	0	12,760	99.5%	1	6,347	3	13,919	0	99	0	3,329	0	16,188
8/2	0	12,760	99.6%	3	6,349	6	13,925	0	99	0	3,329	0	16,188
8/3	0	12,760	99.6%	2	6,351	5	13,929	0	99	0	3,329	0	16,188
8/4	0	12,760	99.6%	2	6,353	4	13,933	0	99	0	3,329	0	16,188
8/5	0	12,760	99.6%	2	6,355	3	13,936	0	99	0	3,329	0	16,188
8/6	0	12,760	99.7%	2	6,357	5	13,941	0	99	0	3,329	0	16,188
8/7	0	12,760	99.7%	2	6,359	5	13,947	0	99	0	3,329	0	16,188
8/8	0	12,760	99.7%	2	6,361	4	13,951	0	99	0	3,329	0	16,188
8/9	0	12,760	99.8%	1	6,362	2	13,952	0	99	0	3,329	0	16,188
8/10	0	12,760	99.8%	2	6,364	5	13,957	0	99	0	3,329	0	16,188
8/11	0	12,760	99.8%	1	6,365	2	13,959	0	99	0	3,329	0	16,188
8/12	0	12,760	99.8%	1	6,366	2	13,961	0	99	0	3,329	0	16,188
8/13	0	12,760	99.9%	3	6,369	8	13,968	0	99	0	3,329	0	16,188
8/14	0	12,760	99.9%	1	6,370	2	13,970	0	99	0	3,329	0	16,188
8/15	0	12,760	99.9%	0	6,370	0	13,970	0	99	0	3,329	0	16,188

Note: Bear Creek sustainable escapement goal is 700–8,300 sockeye salmon. CIAA broodstock goal is 3,750 for a desired inriver run of 4,450–12,050 fish.

[a] Projected daily goal based on expected run timing applied to minimum and maximum cumulative goals at the end of the run.

[b] Weir harvest is cost recovery and donations of excess fish above daily SEG plus broodstock needs.

[c] A total of 4,538 sockeye salmon were beach seined from the lake for use as broodstock.

Appendix C4.–Coho salmon escapement through the Bear Creek weir, 2020.

	Escapement to Bear Lake		Antic.	Broodstock harvest[a]		Weir donations		Cumulative coho at Bear Creek weir	
Date	Daily	Total	percent	Daily	Total	Daily	Total	Daily	Total
8/18	2	2	0.1%	0	0	0	0	2	2
8/19	8	10	0.1%	0	0	0	0	8	10
8/20	3	13	0.1%	0	0	0	0	3	13
8/21	1	14	0.1%	0	0	0	0	1	14
8/22	1	15	0.1%	0	0	0	0	1	15
8/23	2	17	0.1%	0	0	0	0	2	17
8/24	2	19	0.1%	0	0	0	0	2	19
8/25	1	20	0.5%	0	0	0	0	1	20
8/26	1	21	1.0%	0	0	0	0	1	21
8/27	1	22	1.1%	0	0	0	0	1	22
8/28	0	22	1.2%	0	0	0	0	0	22
8/29	1	23	1.2%	0	0	0	0	1	23
8/30	1	24	1.3%	0	0	0	0	1	24
8/31	0	24	1.5%	0	0	0	0	0	24
9/1	1	25	1.5%	0	0	0	0	1	25
9/2	0	25	1.6%	0	0	0	0	0	25
9/3	0	25	1.6%	0	0	0	0	0	25
9/4	0	25	1.7%	0	0	0	0	0	25
9/5	1	26	2.0%	0	0	0	0	1	26
9/6	7	33	2.7%	0	0	0	0	7	33
9/7	6	39	3.4%	0	0	0	0	6	39
9/8	2	41	5.0%	0	0	0	0	2	41
9/9	1	42	6.7%	0	0	0	0	1	42
9/10	0	42	8.0%	0	0	0	0	0	42
9/11	2	44	10.4%	0	0	0	0	2	44
9/12	0	44	12.1%	0	0	0	0	0	44
9/13	2	46	19.2%	0	0	0	0	2	46
9/14	0	46	22.0%	0	0	0	0	0	46
9/15	196	242	24.7%	0	0	0	0	196	242
9/16	58	300	28.1%	0	0	0	0	58	300
9/17	0	300	31.5%	0	0	0	0	0	300
9/18	0	300	34.3%	0	0	0	0	0	300
9/19	0	300	37.5%	129	129	0	0	129	429
9/20	0	300	40.4%	192	321	0	0	192	621
9/21	0	300	41.2%	139	460	0	0	139	760
9/22	0	300	42.3%	24	484	0	0	24	784
9/23	0	300	43.1%	20	504	0	0	20	804
9/24	0	300	45.4%	54	558	0	0	54	858
9/25	0	300	47.3%	17	575	0	0	17	875
9/26	0	300	49.0%	90	665	0	0	90	965
9/27	112	412	50.4%	115	780	0	0	227	1,192
9/28	59	471	52.0%	45	825	0	0	104	1,296
9/29	0	471	53.1%	17	842	0	0	17	1,313
9/30	0	471	54.0%	32	874	0	0	32	1,345
10/1	0	471	56.4%	0	874	0	0	0	1,345
10/2	0	471	58.8%	0	874	0	0	0	1,345
10/3	0	471	60.4%	0	874	0	0	0	1,345
10/4	0	471	64.1%	0	874	0	0	0	1,345
10/5	0	471	67.1%	0	874	0	0	0	1,345
10/6	0	471	69.2%	0	874	0	0	0	1,345
10/7	0	471	70.5%	0	874	0	0	0	1,345

Appendix C5.–Adult sockeye and coho salmon escapement, and Dolly Varden char and smolt outmigration past Bear Creek weir, 2010–2020.

	Upstream migration to Bear Lake								Downstream migration to Resurrection Bay			
	Sockeye				Coho							
Year	Weir harvest (sold or donated)	Brood stock harvest	Spawning escapement	Total return at weir	Weir harvest (sold or donated)	Brood stock harvest	Spawning escapement	Total return at weir	Sockeye (smolt)	Coho (smolt)	Dolly Varden (adult)	Comments
2010	2,943	4,004	8,880	15,827	248	490	492	1,230	598,911	48,867	349	
2011	4,894	3,612	9,608	18,114	0	491	359	850	477,844	40,433	2,681	
2012	1,802	4,428	8,031	14,381	31	578	315	924	466,990	45,936	1,425	4,000 pink salmon below weir
2013	3,162	3,606	9,004	15,772	1,997	1,074	300	3,371	791,705	36,219	759	
2014	15,569	3,857	9,233	28,659	671	567	534	1,772	393,553	21,113	191	
2015	37,821	3,945	9,560	51,326	1,013	705	261	1,979	728,764	91,657	263	
2016	62,915	3,764	9,011	75,690	0	250	150	400	904,494	71,199	181	
2017	4,701	3,746	9,202	17,649	864	764	858	2,486	1,196,158	98,192	1,784	
2018	31,907	2,211	10,568	44,686	434	456	300	1,190	836,851	72,932	881	
2019	42,278	3,575	9,185	55,038	421	1,572	1,300	3,293	972,810	67,129	268	
2020	3,428	4,538	8,222	16,188	701	383	617	1,870	1,226,961	112,460	695	
10-year Average	19,823	3,613	9,346	32,794	540	595	410	1,545	663,638	58,138	856	

Source: Data from CIAA and ADF&G statewide electronic fish ticket database [Internet]. 2010–2020. Juneau, AK. [URL not available as some information is confidential].

Appendix C6.–Sockeye salmon aerial survey counts from the Eastern District, 2020.

Location	Survey number	Survey date	Live count	Peak count
Aialik Lake and Creek	1	6/22	13	
	2	7/9	1,504	
	3	7/15	1,740	
	4	7/23	4,020	
	5	8/14	3,510	
	6	8/21	3,060	4,020

Appendix C7.–Estimated sockeye and pink salmon escapements in thousands of fish for the major spawning systems in the Eastern District of the Lower Cook Inlet area, 2010–2020.

	Pink salmon							Sockeye salmon		
Year	Aialik Lagoon	Bear Creek	Salmon Creek	Tonsina Creek	Thumb Cove	Humpy Cove	Total	Aialik Lake	Bear Lake [a,b]	Total
2010	ND	ND	ND	ND	ND	ND	ND	5.3	8.9	14.2
2011	ND	ND	ND	ND	ND	ND	ND	3.5	9.6	13.1
2012	ND	4.1	ND	ND	ND	ND	ND	2.1	8.0	10.1
2013	ND	8.1	ND	5.3	0.6	1.8	15.8	3.5	9.0	12.5
2014	ND	ND	ND	ND	ND	ND	ND	0.5	9.2	9.7
2015	0.8	ND	ND	ND	ND	ND	0.8	3.2	9.6	12.7
2016	ND	ND	ND	ND	ND	ND	0.0	0.4	9.2	9.6
2017	1.8	ND	ND	ND	ND	ND	1.8	4.9	9.2	13.9
2018	0.0	ND	ND	ND	ND	ND	0.0	2.6	10.6	13.2
2019	3.8	ND	ND	ND	ND	ND	3.8	5.0	9.2	14.2
2020	0.0	ND	ND	ND	ND	ND	0.0	4.0	8.2	12.2
10-yr Avg.	1.1	6.1	ND	5.3	0.6	1.8	3.2	3.1	9.2	12.3

Note: ND = no data were collected.

[a] Weir counts.

[b] Beginning in 1994, Bear Lake escapement figures are derived from total weir count minus number of fish collected for hatchery broodstock.

APPENDIX D: KAMISHAK BAY DISTRICT

Appendix D1.–Kamishak Bay District commercial salmon harvest (excluding homepack) by period, 2020.

Period	Statistical week	Date	Hours	Permits fished	Chinook		Sockeye		Coho		Pink		Chum	
					Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1	23	06/01–06/07	160	0	0	0	0	0	0	0	0	0	0	0
2	24	06/08–06/14	160	0	0	0	0	0	0	0	0	0	0	0
3 [a,b]	25	06/15–06/21	160	0	0	0	0	0	0	0	0	0	0	0
4 [a,b,c]	26	06/22–06/28	160	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
5 [a,b,c,d]	27	06/29–07/05	160	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
6 [a,b,d]	28	07/06–07/12	160	0	0	0	0	0	0	0	0	0	0	0
7 [a,b,c,d]	29	07/13–07/19	160	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
8 [a,b,c]	30	07/20–07/26	160	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
9 [a,b,c]	31	07/27–08/02	160	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
10 [a,b,e]	32	08/03–08/09	160	0	0	0	0	0	0	0	0	0	0	0
11 [a,b,e]	33	08/10–08/16	160	0	0	0	0	0	0	0	0	0	0	0
12 [a,b,e]	34	08/17–08/23	160	0	0	0	0	0	0	0	0	0	0	0
13 [a,b,e]	35	08/24–08/30	160	0	0	0	0	0	0	0	0	0	0	0
14 [a,b,e]	36	08/31–09/06	160	0	0	0	0	0	0	0	0	0	0	0
15 [a,b,e]	36	09/07–09/13	160	0	0	0	0	0	0	0	0	0	0	0
Total				[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
Average weight								3.7				3.6		8.1

Note: No deliveries after August 2.

[a] Waters of McNeil Subdistrict, Paint River Subdistrict and Kirschner Lake SHA closed beginning June 15.

[b] Portions of regulatory closed waters associated with Chenik Lagoon open to commercial salmon harvest beginning June 15.

[c] Confidential data. Fewer than 3 permits reporting.

[d] Chenik Subdistrict closed from July 1–14.

[e] Kirschner Lake SHA open beginning August 3.

Appendix D2.–Total commercial common property harvest (excluding homepack) by species in the Kamishak Bay District 2010–2020.

Year	Permits	Chinook	Sockeye	Coho	Pink	Chum
2010	9	10	5,612	573	2,432	70,782
2011	5	0	99,288	0	1,050	3,850
2012	6	0	55,255	0	61	2,425
2013	5	0	33,154	0	314	2,357
2014	8	0	12,137	0	44,227	4,449
2015	<3	[a]	[a]	[a]	[a]	[a]
2016	5	0	18,218	578	350	10,984
2017	5	0	102,810	185	254,440	34,275
2018	7	0	33,699	9,077	5,226	8,298
2019	7	0	59,069	3,349	59,008	31,629
2020	<3	[a]	[a]	[a]	[a]	[a]
Previous 10-yr Avg.	6	1	41,924	1,376	40,084	16,968

Source: ADF&G statewide electronic fish ticket database [Internet]. 2010–2020. Juneau, AK. [URL not available as some information is confidential].

[a] Confidential data. Fewer than 3 permits reporting.

Appendix D3.–Daily and cumulative sockeye salmon escapement objectives compared to actual escapement past the video monitoring site at Chenik Lake, 2020.

	Actual		Antic.	Apportioned sustainable escapement goals Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
6/15	0	0	0.2%	4	4	20	21	Video counting began, 1500
6/16	0	0	0.2%	1	5	2	23	
6/17	0	0	0.2%	0	5	2	25	
6/18	0	0	0.2%	0	5	0	25	
6/19	0	0	0.3%	4	9	16	41	
6/20	0	0	0.3%	0	9	2	43	
6/21	2	2	0.3%	0	9	1	44	
6/22	1	3	0.4%	2	11	8	52	
6/23	0	3	0.6%	7	18	34	86	
6/24	0	3	0.6%	0	18	0	86	
6/25	27	30	0.8%	6	24	26	112	
6/26	21	51	2.0%	35	59	168	280	
6/27	0	51	3.5%	42	101	198	478	
6/28	0	51	3.6%	3	104	14	492	
6/29	0	51	5.6%	59	163	278	770	
6/30	0	51	9.0%	99	262	469	1,239	
7/1	0	51	12.9%	112	374	528	1,767	
7/2	0	51	14.1%	36	410	168	1,935	
7/3	0	51	16.8%	76	486	360	2,295	
7/4	415	466	18.3%	46	532	218	2,513	
7/5	13	479	19.8%	43	575	206	2,719	
7/6	6	485	20.5%	20	595	91	2,810	
7/7	0	485	21.9%	39	634	187	2,997	
7/8	0	485	21.9%	2	636	7	3,004	
7/9	0	485	22.3%	12	648	55	3,059	
7/10	7	492	23.8%	43	691	203	3,262	
7/11	2,026	2,518	25.8%	56	747	267	3,529	
7/12	74	2,592	26.6%	26	773	121	3,650	
7/13	2	2,594	26.8%	5	778	27	3,677	
7/14	0	2,594	32.5%	165	943	779	4,456	
7/15	0	2,594	39.2%	193	1,136	909	5,365	
7/16	0	2,594	41.8%	75	1,211	356	5,721	
7/17	658	3,252	43.0%	36	1,247	172	5,893	
7/18	2,760	6,012	50.5%	217	1,464	1,024	6,917	
7/19	194	6,206	54.1%	104	1,568	488	7,405	
7/20	1	6,207	56.2%	61	1,629	290	7,695	
7/21	0	6,207	58.8%	76	1,705	360	8,055	
7/22	0	6,207	64.2%	157	1,862	742	8,797	
7/23	2	6,209	66.4%	64	1,926	303	9,100	
7/24	2	6,211	68.9%	72	1,998	337	9,437	
7/25	6	6,217	73.1%	122	2,120	578	10,015	
7/26	1,987	8,204	75.3%	64	2,184	301	10,316	
7/27	177	8,381	78.5%	93	2,277	441	10,757	
7/28	3	8,384	83.8%	152	2,429	720	11,477	
7/29	17	8,401	85.0%	37	2,466	173	11,650	

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	Actual		Antic.	Apportioned sustainable escapement goals				
				Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
7/30	60	8,461	85.8%	22	2,488	102	11,752	
7/31	234	8,695	86.4%	17	2,505	82	11,834	
8/1	13	8,708	87.9%	44	2,549	207	12,041	
8/2	227	8,935	88.3%	11	2,560	52	12,093	
8/3	1,067	10,002	89.9%	47	2,607	222	12,315	
8/4	965	10,967	91.5%	46	2,653	218	12,533	
8/5	299	11,266	94.5%	87	2,740	410	12,943	
8/6	51	11,317	96.5%	60	2,800	283	13,226	
8/7	33	11,350	98.4%	52	2,852	249	13,475	
8/8	87	11,437	98.8%	14	2,866	62	13,537	
8/9	11	11,448	99.2%	12	2,878	60	13,597	
8/10	3	11,451	99.4%	6	2,884	25	13,622	
8/11	22	11,473	99.7%	6	2,890	32	13,654	
8/12	11	11,484	99.8%	5	2,895	22	13,676	
8/13	17	11,501	99.9%	1	2,896	4	13,680	
8/14	21	11,522	99.9%	1	2,897	8	13,688	
8/15	75	11,597	99.9%	1	2,898	0	13,688	
8/16	36	11,633	99.9%	0	2,898	5	13,693	
8/17	14	11,647	99.9%	0	2,898	0	13,693	
8/18	21	11,668	99.9%	0	2,898	0	13,693	
8/19	2	11,670	99.9%	1	2,899	0	13,693	
8/20	2	11,672	99.9%	0	2,899	0	13,693	
8/21	6	11,678	99.9%	0	2,899	0	13,693	
8/22	5	11,683	100.0%	0	2,899	1	13,694	
8/23	2	11,685	100.0%	0	2,899	1	13,695	
8/24	0	11,685	100.0%	0	2,899	1	13,696	
8/25	0	11,685	100.0%	1	2,900	4	13,700	
8/26	1	11,686	100.0%	0	2,900	0	13,700	
8/27	0	11,686	100.0%	0	2,900	0	13,700	
8/28	0	11,686	100.0%	0	2,900	0	13,700	
8/29	0	11,686	100.0%	0	2,900	0	13,700	
8/30	0	11,686	100.0%	0	2,900	0	13,700	
8/31	0	11,686	100.0%	0	2,900	0	13,700	Video counting ended

Note: Escapement objectives derived from historical run timing and Chenik Lake sockeye salmon sustainable escapement goal (2,900–13,700 fish).

Appendix D4.–Daily and cumulative sockeye salmon escapement objectives compared to actual escapement past the video monitoring site at Mikfik Lake, 2020.

	Actual		Antic	Apportioned sustainable escapement goal Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
6/2	0	0	1.0%	20	33	62	105	Video counting began, 1500
6/3	4	4	2.0%	34	67	113	218	
6/4	0	4	2.4%	14	81	45	263	
6/5	0	4	4.0%	56	137	182	445	
6/6	1	5	6.9%	98	235	315	760	
6/7	0	5	8.5%	55	290	178	938	
6/8	0	5	9.7%	40	330	131	1,069	
6/9	0	5	12.7%	101	431	326	1,395	
6/10	6	11	16.7%	137	568	442	1,837	
6/11	0	11	20.8%	139	707	450	2,287	
6/12	0	11	23.9%	106	813	342	2,629	
6/13	0	11	30.9%	236	1,049	766	3,395	
6/14	0	11	35.8%	168	1,217	542	3,937	
6/15	0	11	39.8%	136	1,353	441	4,378	
6/16	0	11	43.9%	141	1,494	456	4,834	
6/17	0	11	49.0%	171	1,665	552	5,386	
6/18	86	97	52.4%	117	1,782	378	5,764	
6/19	105	202	56.3%	133	1,915	433	6,197	
6/20	25	227	60.4%	139	2,054	448	6,645	
6/21	1	228	65.0%	157	2,211	509	7,154	
6/22	0	228	70.0%	168	2,379	542	7,696	
6/23	0	228	72.7%	92	2,471	298	7,994	
6/24	0	228	75.9%	109	2,580	353	8,347	
6/25	0	228	77.8%	66	2,646	213	8,560	
6/26	0	228	80.3%	84	2,730	274	8,834	
6/27	1	229	83.2%	99	2,829	318	9,152	
6/28	1	230	84.9%	59	2,888	191	9,343	
6/29	0	230	85.7%	27	2,915	87	9,430	
6/30	0	230	88.5%	95	3,010	308	9,738	
7/1	0	230	90.1%	53	3,063	171	9,909	
7/2	0	230	91.0%	30	3,093	98	10,007	
7/3	1	231	91.8%	27	3,120	86	10,093	
7/4	0	231	92.0%	8	3,128	28	10,121	
7/5	6	237	92.3%	9	3,137	29	10,150	
7/6	4	241	93.8%	52	3,189	169	10,319	
7/7	28	269	94.5%	26	3,215	81	10,400	
7/8	0	269	95.4%	29	3,244	94	10,494	
7/9	0	269	95.5%	3	3,247	10	10,504	
7/10	0	269	95.7%	5	3,252	18	10,522	
7/11	0	269	95.7%	3	3,255	9	10,531	
7/12	0	269	95.8%	3	3,258	10	10,541	
7/13	2	271	96.1%	8	3,266	25	10,566	
7/14	0	271	96.2%	5	3,271	16	10,582	
7/15	0	271	96.4%	6	3,277	19	10,601	

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	Actual		Antic	Apportioned sustainable escapement goal Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
7/16	0	271	96.4%	1	3,278	3	10,604	
7/17	2	273	97.2%	27	3,305	90	10,694	
7/18	0	273	97.9%	24	3,329	76	10,770	
7/19	0	273	98.1%	5	3,334	16	10,786	
7/20	0	273	98.2%	6	3,340	20	10,806	
7/21	0	273	98.3%	3	3,343	11	10,817	
7/22	0	273	98.5%	6	3,349	19	10,836	
7/23	0	273	98.7%	7	3,356	21	10,857	
7/24	0	273	98.9%	6	3,362	20	10,877	
7/25	0	273	99.0%	4	3,366	12	10,889	
7/26	0	273	99.2%	7	3,373	23	10,912	
7/27	7	280	99.5%	9	3,382	31	10,943	
7/28	0	280	99.7%	7	3,389	21	10,964	
7/29	0	280	99.8%	3	3,392	10	10,974	
7/30	0	280	99.9%	4	3,396	15	10,989	
7/31	2	282	99.9%	1	3,397	2	10,991	
8/1	0	282	99.9%	1	3,398	3	10,994	
8/2	4	286	100.0%	1	3,399	2	10,996	
8/3	0	286	100.0%	0	3,399	1	10,997	
8/4	1	287	100.0%	0	3,399	0	10,997	
8/5	8	295	100.0%	0	3,399	1	10,998	
8/6	0	295	100.0%	1	3,400	1	10,999	
8/7	1	296	100.0%	0	3,400	0	10,999	
8/8	0	296	100.0%	0	3,400	1	11,000	
8/9	0	296	100.0%	0	3,400	0	11,000	
8/10	0	296	100.0%	0	3,400	0	11,000	
8/11	2	298	100.0%	0	3,400	0	11,000	
8/12	0	298	100.0%	0	3,400	0	11,000	
8/13	0	298	100.0%	0	3,400	0	11,000	
8/14	4	302	100.0%	0	3,400	0	11,000	
8/15	0	302	100.0%	0	3,400	0	11,000	
8/16	1	303	100.0%	0	3,400	0	11,000	
8/17	0	303	100.0%	0	3,400	0	11,000	
8/18	2	305	100.0%	0	3,400	0	11,000	
8/19	0	305	100.0%	0	3,400	0	11,000	
8/20	0	305	100.0%	0	3,400	0	11,000	
8/21	0	305	100.0%	0	3,400	0	11,000	
8/22	0	305	100.0%	0	3,400	0	11,000	
8/23	0	305	100.0%	0	3,400	0	11,000	
8/24	0	305	100.0%	0	3,400	0	11,000	
8/25	0	305	100.0%	0	3,400	0	11,000	
8/26	0	305	100.0%	0	3,400	0	11,000	
8/27	0	305	100.0%	0	3,400	0	11,000	Video ended, 1400

Note: Anticipated escapement derived from run timing and Mikfik Lake sockeye salmon sustainable escapement goal of 3,400–11,000 fish.

Appendix D5.–Sockeye salmon escapement into Chenik Lake and Mikfik Lake, 2010–2020.

Year	Chenik	Mikfik
2010	17,312 [a]	5,221 [b]
2011	10,330 [a]	345 [b]
2012	16,505 [a]	3,131 [a]
2013	11,333 [a]	4,042 [a]
2014	17,774 [a]	17,802 [a.b]
2015	19,073 [a]	3,502 [a]
2016	19,510 [a]	10,180 [a]
2017	21,468 [a]	7,495 [a]
2018	6,651 [a]	4,966 [a]
2019	12,079 [a]	2,901 [a]
2020	11,686 [a]	314 [a]
Previous 10-yr avg.	15,204	5,959

[a] Escapement derived from video counts.

[b] Escapement derived from aerial surveys.

Appendix D6.–Sockeye salmon aerial survey counts from the Kamishak Bay District, 2020.

Location	Survey number	Survey date	Live count	Peak count
Amakdedori Creek	1	7/13	1,040	
	2	7/27	920	
	3	8/4	3,170	
	4	8/11	6,992	
	5	8/17	4,211	
	6	8/24	1,230	6,992
Big Kamishak	1	7/27	3,380	
	2	8/4	640	
	3	8/11	270	
	4	8/17	111	3,380

Appendix D7.–Estimated pink, chum, and sockeye salmon escapements in thousands of fish for the major spawning systems in the Kamishak Bay District of the Lower Cook Inlet Area, 2010–2020. Blank cells indicate no data were collected.

	Pink salmon							Chum salmon								Sockeye salmon				
Year	Big Kamishak River	Little Kamishak River	Amakdedori Creek	Bruin Bay River	Sunday Creek	Brown's Peak Creek	Total of index streams	Big Kamishak River	Little Kamishak River	McNeil River	Bruin Bay	Ursus Cove[a]	Cottonwood Creek	Iniskin Bay	Total of index streams	Mikfik Lake	Chenik Lake	Amakdedori Creek	Kamishak Rivers	Total of index streams
2010	[b]	[b]	0.7	40.3	6.6	3.1	50.0	[b]	18.4	13.8	6.2	11.8	15.8	19.3	85.2	5.2[c]	17.3[c]	1.2	0.1	23.7
2011	9.3	13.1	4.2	4.5	0.8	2.0	7.4	5.5	19.3	31.0	3.5	10.6	4.7	16.5	91.2	0.3[c]	10.3[c]	3.4	1.6	14.1
2012	2.7	9.3	3.0	31.8	1.3	2.8	35.9	12.4	30.3	10.4	16.8	2.8	4.1	3.0	79.8	3.1[c]	16.5[c]	0.8	1.1	20.4
2013	[b]	0.5	8.0	15.0	6.1	4.1	25.2	3.3	6.7	9.5	8.9	10.3	5.2	5.9	49.9	4.0[c]	11.3[c]	1.5	0.1	16.9
2014	[b]	4.8	2.4	121.6	7.7	4.0	133.3	5.7	15.1	17.5	3.6	5.3	7.1	13.0	67.2	17.8[c]	17.8[c]	4.3	0.2	39.9
2015	0.7	1.5	24.9	40.8	60.4	29.1	130.3	7.0	14.4	20.5	11.0	14.8	17.0	7.5	92.1	3.5[c]	19.1[c]	2.9	1.2	25.5
2016	0.7	0.0	2.2	86.6	2.2	1.4	118.9	9.6	12.0	26.3	26.6	7.0	1.6	1.1	84.2	10.2[c]	19.5[c]	2.2	0.1	31.9
2017	3.8	1.4	43.8	71.1	22.2	39.2	132.5	32.3	19.3	38.7	38.5	22.0	6.2	15.6	172.5	7.5[c]	21.5[c]	1.7	3.7	30.6
2018	0.0	0.0	4.9	94.7	3.4	1.3	99.5	7.7	14.4	37.3	28.5	3.7	1.3	9.1	102.1	5.0[c]	6.7[c]	1.9	1.7	13.5
2019	0.0	1.0	9.1	43.8	21.8	43.4	110.0	51.0	22.6	9.2	25.3	13.4	3.9	15.3	140.7	2.9[c]	12.1[c]	1.6	2.8	16.6
2020	0.0	0.0	10.2	57.3	4.7	21.0	83.1	19.4	38.6	8.9	22.2	4.4	0.7	8.8	102.9	0.3[c]	11.7[c]	7.0	3.4	19.0
Prev 10-yr avg.	2.4	3.5	10.2	55.0	13.3	13.1	81.3	14.9	17.3	21.4	16.9	10.2	6.7	10.6	98.0	6.0	15.2	2.2	1.3	23.3

Note: Unless otherwise noted, estimated escapements are derived from aerial surveys.

[a] "Ursus Cove" is the sum of Ursus Lagoon RH Creek and Ursus Lagoon Creek.

[b] No data were collected.

[c] Escapement derived from video counts.

APPENDIX E: SUBSISTENCE, PERSONAL USE AND HOMEPACK HARVESTS

Appendix E1.–Subsistence net and rod and reel salmon harvest in numbers of fish by species for the village of Port Graham, Lower Cook Inlet, 2010–2020.

Year	Households reporting	Reported harvest[a] Chinook salmon	Sockeye salmon	Coho salmon	Pink salmon	Chum salmon	Dolly Varden	Total salmon
2010	16	30	116	124	24	37	0	331
2011	15	35	684	107	132	150	0	1,108
2012	7	24	661	14	282	26	0	1,007
2013	10	14	959	66	86	33	0	1,158
2014	9	19	1,115	166	944	488	0	2,732
2015	9	40	1,031	108	1,006	539	ND	2,724
2016	8	32	505	45	191	62	0	835
2017	3	1	794	7	211	63	0	1,076
2018	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
2019[a]	3	10	236	61	152	97	0	556
2020	6	19	232	89	0	48	0	388
Prev. 10-yr Avg.	8	21	611	71	306	150	0	1,158

Source: Data on file with ADF&G, Division of Subsistence; gear types include set gillnet, rod/reel, and handline.

Note: ND = no data.

[a] Harvest recorded on permits that are received after December 31 will be reported in the following year's annual management report as harvested in the previous year.

[b] Confidential due to fewer than 3 permit holders reporting.

Appendix E2.–Subsistence net and rod and reel salmon harvest in numbers of fish by species for the village of Nanwalek (formerly English Bay), Lower Cook Inlet, 2010–2020.

Year	Households reporting	Reported harvest[a] Chinook salmon	Sockeye salmon	Coho salmon	Pink salmon	Chum salmon	Dolly Varden	Total salmon
2010	20	0	1,514	1,324	1,030	271	365	4,139
2011	41	18	5,009	1,381	2,499	362	0	9,269
2012	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
2013[a]	4	2	3,854	2,619	811	333	500	7,619
2014[a]	3	3	377	0	143	4	0	527
2015	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
2016[a]	20	15	620	677	199	12	0	1,523
2017	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
2018	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
2019[a,b]	3	1	480	14	52	0	0	547
2020[a,b]	0	0	0	0	0	0	0	0
Prev. 10-yr Avg.	10	5	1,255	642	497	99	102	2,497

Source: Data on file with ADF&G, Division of Subsistence; gear types include set gillnet, rod/reel, and handline.

[a] Limited reporting from Nanwalek residents in 2012–2020 may have resulted in a conservative estimate of harvest.

[b] Harvest recorded on permits that are received after December 31 will be reported in the following year's annual management report as harvested in the previous year.

[c.] Confidential due to fewer than 3 permit holders reporting.

Appendix E3.–Salmon set gillnet harvest in numbers of fish by species and permit/effort information for the Seldovia area subsistence fishery, Lower Cook Inlet, 2010–2020.

	Permits				Reported harvest					
Year	Issued	Returned	Fished	Not Fished	Chinook	Sockeye	Coho	Pink	Chum	Total
Early Season: April–May										
2010	11	8	2	6	0	54	0	0	0	54
2011	4	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
2012	16	6	2	4	3	26	0	0	0	29
2013	8	6	4	2	1	83	0	0	0	93
2014	12	8	4	4	3	69	0	0	2	74
2015	6	4	4	0	16	70	0	0	4	90
2016	3	3	3	0	7	53	0	1	2	63
2017	8	5	5	0	7	61	0	0	0	68
2018	7	5	3	2	11	9	0	1	0	21
2019	6	5	5	0	6	53	0	0	1	60
2020	14	8	5	3	26	156	0	2	2	186
Prev. 10-year Avg.	8	5	3	2	5	53	0	0	1	59
Late Season: August[a]										
2010	5	4	3	1	2	46	31	66	35	180
2011	3	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
2012	4	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
2013	7	4	3	1	1	5	1	45	10	62
2014	7	7	6	1	2	47	0	63	5	117
2015	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
2016	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
2017	5	4	1	3	0	0	0	2	0	2
2018	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
2019	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
2020	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Prev. 10-year Avg.	4	3	2	1	1	11	3	21	10	46

Source: Data on file with ADF&G, Division of Subsistence; gear types include set gillnet, rod/reel, and handline.

[a.] Late season dates are restricted to the first 2 full weekends in August.

[b.] Confidential due to fewer than 3 permit holders reporting.

Appendix E4.–Personal use/subsistence set gillnet salmon harvest in numbers of fish by species and effort, Southern District (excluding the Port Graham/Nanwalek subsistence fishery and the Seldovia subsistence fishery), Lower Cook Inlet, 2010–2020.

	Permits				Reported harvest						
Year	Issued	Returned	Fished	Not fished	Chinook	Sockeye	Coho	Pink	Chum	Other	Total
2010	128	122	82	41	14	149	875	251	17	0	1,306
2011	119	112	81	31	15	223	806	145	5	3	1,197
2012	98	95	69	26	5	137	1,471	275	6	0	1,894
2013	123	118	89	29	9	122	1,732	135	3	0	2,001
2014	160	154	115	39	13	310	2,273	198	4	0	2,794
2015	136	131	91	40	10	509	1,373	152	22	6	2,072
2016	170	169	118	50	18	166	2,033	335	8	0	2,560
2017	148	145	108	37	6	298	2,388	212	11	0	2,915
2018	192	187	132	55	6	259	1,947	161	11	0	2,384
2019	156	151	109	43	9	147	1,287	162	27	0	1,632
2020	194	153	118	35	7	112	1,050	250	11	8	1,438
Prev.10-yr Avg.	143	138	99	39	11	232	1,619	132	82	1	2,076

Note: Figures after 1991 include information from both returned permits and inseason oral reports.

Appendix E5.–Salmon retained from the commercial harvest for personal use (homepack) by species and gear type from Lower Cook Inlet districts, 2010–2020.

	Permits deliv.		Chinook salmon		Sockeye salmon		Coho salmon		Pink salmon		Chum salmon	
Year	Set gillnet	Purse seine	Set gillnet	Purse seine	Set gillnet	Purse seine	Set gillnet	Purse seine	Set gillnet	Purse seine	Set gillnet	Purse seine
2010	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
2011	3	[a]	2	[a]	62	[a]	3	[a]	487	[a]	27	[a]
2012	7	0	4	0	63	0	61	0	323	0	31	0
2013	7	0	16	0	155	0	150	0	157	0	13	0
2014	8	[a]	10	0	180	[a]	128	[a]	318	[a]	17	[a]
2015	16	4	60	7	158	120	417	62	99	302	28	0
2016	12	11	35	40	115	269	171	25	205	79	41	5
2017	13	6	36	23	513	140	189	12	121	71	110	0
2018	10	12	11	50	102	671	108	27	71	1	26	2
2019	7	10	12	53	107	204	143	23	12	50	22	10
2020	8	7	15	49	44	153	133	11	27	25	0	1
Previous 10-yr Avg.	9	6	19	22	148	176	137	19	179	63	32	2

[a] Confidential due to fewer than 3 permit holders reporting.

APPENDIX F: 2020 OUTLOOK

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Advisory Announcement

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2020 Lower Cook Inlet Commercial Salmon Fishery Outlook

General Information

This outlook is provided to assist the commercial salmon industry in planning for the 2020 season in the Lower Cook Inlet (LCI) Management Area. Area-wide preseason forecasts for each species were derived by fitting historical commercial common property harvest data to four trend forecast models and selecting the model with the best performance metrics (e.g., bias, mean square error, mean absolute percentage error, etc.). Forecasts for LCI can be found on the Alaska Department of Fish and Game (ADF&G) web site:

http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyarealci.salmon#forecasts

Cook Inlet Aquaculture Association (CIAA) manages the Trail Lakes Hatchery (TLH), Port Graham Hatchery (PGH), and Tutka Bay Lagoon Hatchery (TBLH). Hatchery forecasts can be found by contacting CIAA directly or through the CIAA web site:

http://www.ciaanet.org

Inseason modifications to harvest projections, season opening dates, and strategies for weekly fishing periods may occur as fisheries develop.

The 2020 LCI management area forecast includes the expected commercial common property fishery (CCPF) harvests for wild- and hatchery-stock pink and sockeye salmon and wild-stock chum, coho, and Chinook salmon (Table 1). The wild-stock pink salmon harvest forecast was derived from a 2-year running average model using log-transformed even-year harvest data from 1960–2018. The wild-stock sockeye and chum salmon harvest forecasts were derived from exponential smoothing (ES) models based on historical, log-transformed (sockeye) and non-transformed (chum) harvests from 1960–2019 (all years). The Chinook and coho salmon forecasts were derived by 2-year running average models using non-transformed historical harvest data from 1960–2019 (all years). Because these models generate area-wide forecasts, we used the recent 5-year average CCPF harvest (by district and gear type) to apportion the area forecast into harvest projections by district and gear type (Table 2). Projected runs of hatchery-origin salmon were provided by CIAA (Tables 1 and 2). Together, these projections of hatchery and wild stock runs will provide the basis for early-season management in all districts, with other management tools such as aerial survey estimates, weir counts, remote video monitoring and anticipated run strength used as the season progresses.

Management of LCI commercial salmon fisheries is based in the Homer ADF&G area office. Fishery announcements from the Homer office will routinely occur on Fridays at 2:00 p.m., or earlier, if possible. Announcement recordings will be available for commercial fisheries at 907-235-7307.

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Emergency order announcement information is also transmitted by email to all registered processors, local radio stations, news media and interested members of the public. Harvest information and fisheries announcements are located on the ADF&G web site: http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyarealci.salmon

In addition, interested individuals may sign up to receive email announcements:

http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main

The first announcement is anticipated to be released at 2:00 p.m., Friday, April 24.

CIAA anticipates a total of 621,100 hatchery-produced sockeye and 2.9 million pink salmon to return to LCI release sites in 2020. CIAA anticipates harvesting 410,100 of the sockeye and 1.8 million of the pink salmon for cost recovery and broodstock, with the remainder available to common property fisheries. The overall commercial common property harvest from LCI is anticipated to be 1.7 million salmon, of which, 74.2% are anticipated to be of hatchery origin harvested from special harvest areas (SHAs). Additional hatchery-origin fish are harvested with wild fish outside of SHAs (Table 2).

Set Gillnet Fishery

The **Southern District** is anticipated to open for the 2020 season on Monday, June 1 at 6:00 a.m. for a 48-hour period. Following periods will likely be 48-hours in length beginning at 6:00 a.m. on Monday and Thursday, as specified in regulation. Harvests for 2020 are anticipated to be similar to the historical average. The harvest projections for this district and gear are 400 Chinook, 5,500 coho, 4,900 chum, 29,300 sockeye, and 13,900 pink salmon (Table 2). Extended fishing periods may occur in the Barabara and Tutka subdistricts in August if pink salmon returns to the Tutka Bay hatchery occur as anticipated. The Port Graham Subdistrict is anticipated to open to commercial set gillnet harvest on June 1 and remain on a schedule concurrent with other areas in the Southern District for this gear. Fishing time in the Port Graham Subdistrict will be closely linked to escapement levels in English Bay and Port Graham rivers. Management priority will be to provide for subsistence needs (4,800–7,200 salmon). Further information regarding previous years' hatchery releases and commercial harvests may be found in Annual Management Reports for this area at:

http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyarealci.salmon#management

Purse Seine Fishery

Portions of the **Southern District** are anticipated to open to purse seine harvest in mid-June, coinciding with enhanced runs to Leisure and Hazel lakes. Historically, this run peaks from July 12–18 (statistical week 29). CIAA anticipates a return of 40,000 sockeye salmon to Leisure and Hazel lakes combined, as well as 52,400 sockeye salmon to Tutka Bay.

Commercial fishing time after mid-July will be correlated to pink salmon escapement at Humpy Creek, Seldovia Bay, Port Graham and other locations in this district. A total of 2.9 million hatchery-produced pink salmon are anticipated to return to release sites in the Southern District.

Hatchery sockeye salmon runs to the **Eastern District** are forecasted by CIAA to be 494,200 fish (Table 2). Of those, 144,400 may be available for CCPF harvest with the balance required for cost recovery and broodstock purposes. Wild stock harvest opportunity in the Eastern District will be linked to aerial survey observations of wild sockeye and pink salmon escapements to Aialik Lake and other spawning systems in this district. In addition,

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surveys of chum salmon stocks in Resurrection Bay and Day Harbor may be flown, weather, time, and budget permitting.

Portions of the **Outer District** may open to CCPF harvest in mid-July focusing on sockeye salmon runs to McCarty Fjord lakes. In recent years, escapement to these systems has been monitored by aerial survey (Delight, Desire, and Delusion lakes) as well as by a weir at Delight Lake. Sockeye salmon escapement into Delight Lake may be monitored again by CIAA using a weir in 2020. In addition, waters in the western portion of this district may be open by mid-July, focusing on pink and chum salmon runs to Port Dick, as well as Windy and Rocky Bays. There are numerous other smaller stocks in the Nuka Passage area that are also monitored for chum and pink salmon. In the far west end of this district, stocks with the latest run timing, i.e., Dogfish Bay, Chugach Bay and Port Chatham, will be evaluated for chum and pink salmon harvest potential from August to early September. The harvest projections for this district are 3,800 sockeye, 60,600 chum, and 78,400 pink salmon.

Portions of the **Kamishak Bay District** typically open by regulation to commercial harvest on June 1. Commercial common property harvest projections for this district are 51,000 sockeye, 14,100 chum, and 7,500 pink salmon. The majority of the sockeye salmon harvest is expected to come from the Chenik Lake run and the chum salmon harvest has historically been spread throughout the district. Chenik Lagoon is anticipated to open in mid-June and remain open throughout much of the season. Hatchery-released sockeye salmon returns to the Kirschner Lake outfall remote release site are anticipated to be 34,500 fish, of which approximately half are anticipated to be required for hatchery cost recovery. The department tracks salmon escapement in this district using remote video monitoring sites at Chenik and Mikfik lakes, as well as regular aerial survey observations of pink and chum salmon index streams (e.g., Big and Little Kamishak rivers, Bruin River, Cottonwood Creek).

Table 1.–Lower Cook Inlet management area commercial common property fishery harvest forecast, 2020 (thousands of fish).

Production Type	Species	Forecast Type	Point Forecast	Forecast Range	% Above/Below Recent 5-yr Average
Wild	Pink Salmon	Harvest	202.3	41.4–989.1	27.9% Below
Hatchery	Pink Salmon	Harvest	1,034.8	109.0–1,982.5	N/A
Wild	Sockeye Salmon	Harvest	135.6	53.4–344.8	7.1% Above
Hatchery	Sockeye Salmon	Harvest	211.2	146.0–270.5	N/A
Wild	Chum Salmon	Harvest	80.8	2.1–159.5	16.9% Below
Wild	Coho Salmon	Harvest	13.0	3.0–23.0	44.4% Above
Wild	Chinook Salmon	Harvest	0.5	0.0–1.0	23.5% Below
All	All	Harvest	1,678.1	354.9–3,762.4	

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Table 2.–Projected commercial common property fishery (CCPF) harvests and hatchery runs for Lower Cook Inlet, 2020.
Note: Rows and columns may not total exactly due to rounding to the nearest hundred fish.

SOCKEYE SALMON			Total anticipated harvest =	**346,700**
Natural stocks, (area-wide commercial harvest)[a]				**135,600**
Southern District, (purse seine, excluding hatchery SHAs)				51,600
Southern District, (set gillnet)				29,300
Eastern District, (Aialik Bay)				0
Outer District				3,800
Kamishak Bay District, (excluding Kirschner Lake Subdistrict)				51,000
Sockeye salmon hatchery programs[b]	**Hatchery return**	**Broodstock harvest**	**Cost-recovery harvest**	**CCPF harvest**
Resurrection Bay	494,200	12,800	337,000	144,400
China Poot and Hazel lakes	40,000	0	0	40,000
Tutka Bay Lagoon	52,400	5,000	38,000	9,400
Kirschner Lake	34,500	0	17,300	17,200
Port Graham Bay	0	0	0	0
English Bay Lakes	0	0	0	0
Hatchery stocks (area-wide totals)	**621,100**	**17,800**	**392,300**	**211,000**
PINK SALMON			Total anticipated harvest =	**1,237,000**
Natural stocks, (area-wide commercial harvest)[a]				**202,300**
Southern District (purse seine, excluding hatchery SHAs)				102,400
Southern District (set gillnet)				13,900
Eastern District				100
Outer District				78,400
Kamishak Bay District				7,500
Pink salmon hatchery programs[b]	**Hatchery return**	**Broodstock harvest**	**Cost-recovery harvest**	**CCPF harvest**
Tutka Bay Lagoon	2,567,400	176,800	1,434,400	956,200
Port Graham Bay	304,300	108,000	117,800	78,500
Hatchery stocks (area-wide totals)	**2,871,700**	**284,800**	**1,552,000**	**1,034,700**
CHUM SALMON - Natural production[a]			Total anticipated harvest =	**80,800**
Southern District (purse seine)				1,200
Southern District (set gillnet)				4,900
Eastern District				0
Outer District				60,600
Kamishak Bay District				14,100
COHO SALMON - Natural production[a]			Total anticipated harvest =	**13,000**
Southern District (purse seine)				2,700
Southern District (set gillnet)				5,500
Eastern District				0
Outer District				1,000
Kamishak Bay District				3,800
CHINOOK SALMON – Natural production[a]			Total anticipated harvest =	**500**
Southern District (purse seine)				100
Southern District (set gillnet)				400
Eastern District				0
Outer District				0
Kamishak Bay District				0
Total LCI anticipated commercial common property harvest- all salmon species =				**1,678,000**

[a] Area-wide harvest forecasts for wild production were produced by ADF&G using trend forecast models based on historical harvests (http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyarealci.salmon#forecasts).

[b] Provided by Cook Inlet Aquaculture Association, based on parent year releases and recent ocean survival.