

2007 Bristol Bay Area Annual Management Report

by

Tim Sands,

Charlotte Westing,

Paul Salomone,

Slim Morstad,

Tim Baker,

Fred West,

and

Chuck Brazil

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Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative Code		fork length	FL
deciliter	dL		AAC	mideye-to-fork	MEF
gram	g	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	mideye-to-tail-fork	METF
hectare	ha			standard length	SL
kilogram	kg			total length	TL
kilometer	km	all commonly accepted			
liter	L	professional titles	e.g., Dr., Ph.D., R.N., etc.	Mathematics, statistics	
meter	m			<i>all standard mathematical signs, symbols and abbreviations</i>	
milliliter	mL	at	@		
millimeter	mm	compass directions:			
		east	E	alternate hypothesis	H _A
Weights and measures (English)		north	N	base of natural logarithm	e
cubic feet per second	ft ³ /s	south	S	catch per unit effort	CPUE
foot	ft	west	W	coefficient of variation	CV
gallon	gal	copyright	©	common test statistics	(F, t, χ^2 , etc.)
inch	in	corporate suffixes:		confidence interval	CI
mile	mi	Company	Co.	correlation coefficient	
nautical mile	nmi	Corporation	Corp.	(multiple)	R
ounce	oz	Incorporated	Inc.	correlation coefficient	
pound	lb	Limited	Ltd.	(simple)	r
quart	qt	District of Columbia	D.C.	covariance	cov
yard	yd	et alii (and others)	et al.	degree (angular)	°
		et cetera (and so forth)	etc.	degrees of freedom	df
Time and temperature		exempli gratia		expected value	E
day	d	(for example)	e.g.	greater than	>
degrees Celsius	°C	Federal Information Code	FIC	greater than or equal to	≥
degrees Fahrenheit	°F			harvest per unit effort	HPUE
degrees kelvin	K	id est (that is)	i.e.	less than	<
hour	h	latitude or longitude	lat. or long.	less than or equal to	≤
minute	min	monetary symbols		logarithm (natural)	ln
second	s	(U.S.)	\$, ¢	logarithm (base 10)	log
		months (tables and figures): first three		logarithm (specify base)	log ₂ etc.
Physics and chemistry		letters	Jan,...,Dec	minute (angular)	'
all atomic symbols				not significant	NS
alternating current	AC	registered trademark	®	null hypothesis	H ₀
ampere	A	trademark	™	percent	%
calorie	cal	United States		probability	P
direct current	DC	(adjective)	U.S.	probability of a type I error	
hertz	Hz	United States of		(rejection of the null	
horsepower	hp	America (noun)	USA	hypothesis when true)	α
hydrogen ion activity	pH	U.S.C.	United States	probability of a type II error	
(negative log of)			Code	(acceptance of the null	
parts per million	ppm	U.S. state	use two-letter	hypothesis when false)	β
parts per thousand	ppt, ‰		abbreviations	second (angular)	"
			(e.g., AK, WA)	standard deviation	SD
volts	V			standard error	SE
watts	W			variance	
				population	Var
				sample	var

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2007 BRISTOL BAY AREA ANNUAL MANAGEMENT REPORT

by

Tim Sands, Charlotte Westing

Alaska Department of Fish and Game, Division of Commercial Fisheries, Dillingham

Paul Salomone,

Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage

Slim Morstad,

Alaska Department of Fish and Game, Division of Commercial Fisheries, King Salmon

Tim Baker, Fred West, and Chuck Brazil

Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska, 99518-1565

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Tim Sands, Charlotte Westing
Alaska Department of Fish and Game, Division of Commercial Fisheries,
546 Kenny Wren Road, P.O. Box 230, Dillingham, AK 99576 USA

Paul Salomone
Alaska Department of Fish and Game, Division of Commercial Fisheries,
333 Raspberry Road, Anchorage, AK 99518 USA

Slim Morstad,
Alaska Department of Fish and Game, Division of Commercial Fisheries,
Main Street, P.O. Box 37, King Salmon, AK 99613 USA

Tim Baker, Fred West, and Chuck Brazil
Alaska Department of Fish and Game, Division of Commercial Fisheries,
333 Raspberry Road, Anchorage, AK, 99518 USA

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For information on alternative formats and questions on this publication, please contact:

ADF&G, Sport Fish Division, Research and Technical Services, 333 Raspberry Road, Anchorage AK 99518 (907)267-2375.

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ABSTRACT

The 2007 Bristol Bay Management Report is the 46th consecutive annual volume reporting on management activities of the Alaska Department of Fish and Game, Division of Commercial Fisheries staff in Bristol Bay. The report emphasizes a descriptive account of the information, decisions, and rationale used to manage the Bristol Bay commercial salmon (sockeye *Oncorhynchus nerka*, Chinook *O. tshawytscha*, chum *O. keta*, pink *O. gorbuscha*, and coho *O. kisutch*) and Pacific herring *Clupea pallasii* fisheries, and outlines basic management objectives and procedures. We have included all information deemed necessary to fully explain the rationale behind management decisions formulated in 2007. All narrative and data tabulations in this volume are combined in two sections, salmon followed by herring, to aid in the use of this document as a reference source. The extensive set of tables has been updated to record previously unlisted data for easy reference. Fisheries data in this report supersedes information in previous reports. Corrections or comments should be directed to the Anchorage office. Attention: Editor Tim Sands, Westside Area Management Biologist, 546 Kenny Wren Rd, Dillingham AK, 99576.

Key words: Bristol Bay, management, commercial fisheries, Pacific herring, *Clupea pallasii*, sockeye salmon, *Oncorhynchus nerka*, Chinook salmon, *O. tshawytscha*, chum salmon, *O. keta*, coho salmon, *O. kisutch*, pink salmon, *O. gorbuscha*, Naknek, Kvichak, Egegik, Ugashik, Wood, Nushagak, Igushik, Togiak.

INTRODUCTION

MANAGEMENT AREA DESCRIPTION

The Bristol Bay management area includes all coastal and inland waters east of a line from Cape Newenham to Cape Menshikof (Figure 1). The area includes 9 major river systems: Naknek, Kvichak, Alagnak, Egegik, Ugashik, Wood, Nushagak, Igushik, and Togiak. Collectively, these rivers are home to the largest commercial sockeye salmon fishery in the world. Sockeye salmon *Oncorhynchus nerka* are by far the most abundant salmon species that return to Bristol Bay each year, but Chinook *O. tshawytscha*, chum *O. keta*, coho *O. kisutch*, and (in even-years) pink salmon *O. gorbuscha* returns are important to the fisheries as well. The Bristol Bay area is divided into 5 management districts (Naknek-Kvichak, Egegik, Ugashik, Nushagak, and Togiak) that correspond to the major river drainages. The management objective for each river is to achieve desired escapement goals for the major salmon species while harvesting all fish in excess of the established requirement through orderly fisheries. In addition, regulatory management plans have been adopted for individual species in certain districts.

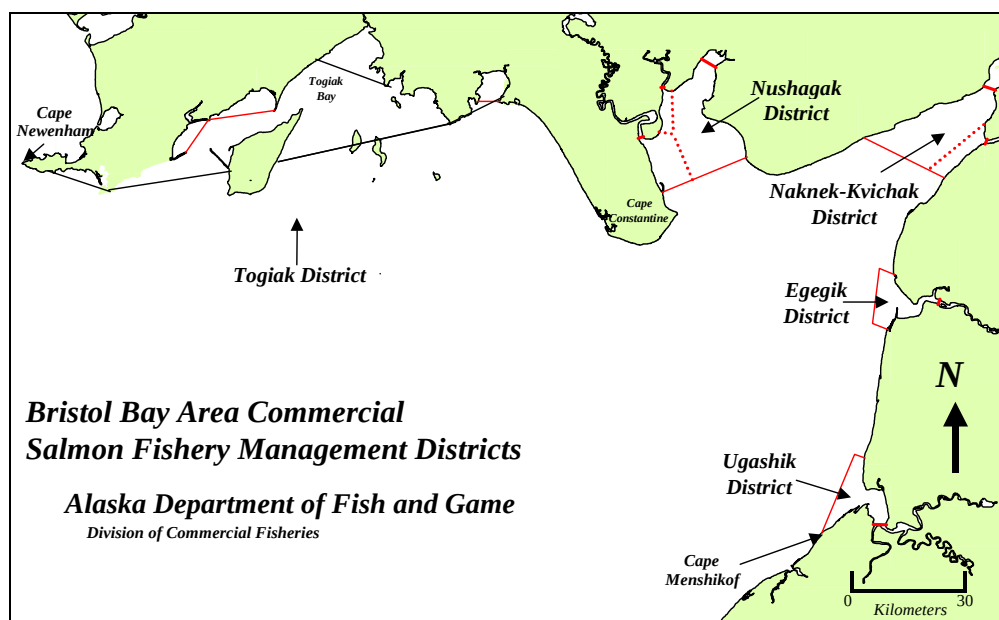


Figure 1.—Bristol Bay area commercial fisheries salmon management districts.

OVERVIEW OF BRISTOL BAY SALMON FISHERIES

The 5 species of pacific salmon found in Bristol Bay are the focus of major commercial, subsistence, and sport fisheries. Annual commercial catches for the most recent 20-year span (1987–2006) average over 24 million sockeye salmon, 67,000 Chinook, 937,000 chum, 98,000 coho, and 231,000 (even-years only) pink salmon (Appendices A3–A7). Since 1987, the value of the commercial salmon harvest in Bristol Bay has averaged \$126 million, with sockeye salmon being the most valuable, worth an average \$123 million (Appendix A25). Subsistence catches are comprised primarily of sockeye salmon and average approximately 145,000 salmon (Appendix A27). Sport fisheries harvest all species of salmon, with most effort directed toward Chinook and coho stocks. Approximately 40,000 salmon are harvested annually by sport fishermen in Bristol Bay.

Management of the commercial fishery in Bristol Bay is focused on discrete stocks with harvests directed at terminal areas around the mouths of major river systems. Each stock is managed to achieve a spawning escapement goal based on sustained yield. Escapement goals are achieved by regulating fishing time and area by emergency order (EO) and/or adjusting weekly fishing schedules. Legal gear for the commercial salmon fishery includes both drift (150 fathoms) and set (50 fathoms) gillnets. However, the Alaska Board of Fisheries (BOF) passed a regulation in 2003 allowing for two drift permit holders to concurrently fish from the same vessel and jointly operate up to 200 fathoms of drift gillnet gear. This regulation does not apply in special harvest areas. Drift gillnet permits were the most numerous at 1,862 in Bristol Bay (Area T), of those 1,621 fished in 2007. There were a total of 983 set gillnet permits in Bristol Bay, of those 836 made deliveries in 2007 (Appendix A2).

2007 COMMERCIAL SALMON FISHERY

RUN STRENGTH INDICATORS

Fishery managers in Bristol Bay have several early indicators of sockeye run size, including: the preseason forecast, the False Pass test fishery, an offshore test fishery operating from Port Moller, individual district test fishery programs, and the early performance of the commercial fishery. Evaluated individually, each of these pieces of information may not give a correct assessment of run size. Collectively, they form patterns such as weak year classes, discrepancies from the forecast, or differences in run timing that can be important to successful management of the commercial fishery.

PRESEASON FORECASTS

Total inshore sockeye salmon production for Bristol Bay in 2007 was forecast to be slightly more than 34.4 million (Table 1). The Bristol Bay sockeye harvest was predicted to reach approximately 26.4 million fish. Runs were expected to meet spawning escapement goals for all river systems in Bristol Bay.

The forecast for the sockeye salmon run to Bristol Bay in 2007 was the sum of individual predictions for 9 river systems (Kvichak, Alagnak, Naknek, Egegik, Ugashik, Wood, Igushik, Nushagak-Mulchatna, and Togiak) and 4 age classes (ages 1.2, 1.3, 2.2, and 2.3, plus ages 0.3 and 1.4 for Nushagak) (Table 2). Adult escapement and return data from brood years 1975–2003 were used in the analyses.

Predictions for each age class returning to a river system were calculated from models based on the relationship between adult returns and spawners or siblings from previous years. Tested models included simple linear regression, multiple regressions, and 5-year averages. In addition, univariate and multivariate time series analysis models were examined. The models chosen were those with statistically significant parameters having the greatest past reliability (accuracy and precision) based on mean absolute deviation, mean absolute percent error, and mean percent error between forecasts and actual returns for the years 2004 through 2006.

SOUTH UNIMAK/SHUMAGIN ISLAND FISHERY

These fisheries were managed under a guideline harvest (quota) specified in 5 AAC 09.365, the South Unimak/Shumagin Islands June Fishery Management Plan initially adopted in 1974 by the BOF. The original intent was to prevent overharvest of sockeye runs bound for river systems in Bristol Bay. In 2001, the BOF reviewed the management plan and concluded that because the fishery was based on the interception of stocks bound for Bristol Bay and the Arctic-Yukon-Kuskokwim region, it should be restricted to window periods of fishing time. These window periods were as follows: from June 10 to June 24 such that: commercial fishing periods may occur only from 6:00 a.m. to 10:00 p.m. and may not be open for more than (A) 3 days in any 7-day period, (B) 16-hours per day; (C) 48-hours in any 7-day period; (D) two consecutive 16-hour fishing periods in any 7-day period. The BOF removed the previous regulations that were based on a chum cap and a percentage of the Bristol Bay preseason sockeye salmon forecast.

The management plan was again brought before the BOF for review in January 2003. At that time, the BOF restructured the management plan. The South Unimak/Shumagin Island June Fishery Management Plan (5 AAC.09.365) states: (a) “The South Unimak and Shumagin Islands fishery harvest both sockeye salmon and chum salmon in a mixed stock fishery during the month of June. The sockeye salmon are predominantly of Bristol Bay and Alaska Peninsula origin. The chum salmon are bound for a number of areas, including Japan, Russia, the Arctic-Yukon-Kuskokwim, Bristol Bay, the Alaska Peninsula, and Southcentral Alaska. These salmon stocks have historically been harvested along the south Alaska Peninsula during the month of June. This management plan is intended to be consistent with the Policy for the Management of Sustainable Salmon Fisheries (5 AAC 39.222) and the Policy for the Mixed Stock Salmon Fisheries (5 AAC 39.220).” The BOF removed references to interception of Bristol Bay and Arctic-Yukon-Kuskokwim stocks and liberalized the fishing schedule: “(d) Beginning June 7, the commissioner may open, by emergency order, commercial fishing periods for purse seine, drift gillnet, and set gillnet gear in the South Unimak and Shumagin Islands fisheries as follows: (1) commercial fishing periods will begin at 6:00 a.m. and run 88 hours, until 10:00 p.m. 3 days later; commercial fishing will be closed for 32 hours and reopen at 6:00 a.m. 2 days later (2) notwithstanding (1) of this subsection, the final commercial fishing period will end at 10:00 p.m. on June 29.”

Preliminary catch information for 2007 indicates that the Shumagin Island fishery landed 852,000 sockeye, and the South Unimak fishery landed 738,000 sockeye (Appendix A26). The South Unimak sockeye harvest was 112% of the 10-year average and the chum catch was 94% of the 10-year average. In the Shumagin Island fishery, sockeye catch was 130% higher than the 10-year average and the chum harvest was 12% lower than the 10-year average. This translates to an overall sockeye harvest that was 55% higher than the 10-year average and a chum harvest that was 9% lower than the 10-year average.

PORT MOLLER TEST FISHERY

From 1967–1985, the Alaska Department of Fish and Game (ADF&G) operated a test fishery program based near the community of Port Moller. A large vessel fished specific coordinates on transect lines perpendicular to the migration path of sockeye salmon returning to Bristol Bay. Collected data was used to estimate strength, timing, age, and size composition of the run. Although the forecasting performance of the project was often inaccurate, the project was very popular with salmon processors because it gave an additional indication of run size, which influenced production capacity and the price paid to fishermen. The project did not operate in 1986, but through voluntary funding from industry and support from ADF&G and the Fisheries Research Institute (FRI), the Port Moller test fish project operated from 1987 through 2003. In 2004–2007, the FRI contribution to the project was replaced by the Bristol Bay Science and Research Institute (BBSRI), which operated the project and performed the bulk of daily inseason analysis.

GENETICS

Over the last 9 years, ADF&G has built and tested a genetic baseline capable of identifying stock compositions of mixed-fishery samples from within Bristol Bay. The genetics program has two primary objectives: 1) Provide managers with an advanced estimate of stock compositions of fish returning to Bristol Bay through the Port Moller test fishery; and 2) Provide researchers with stock composition estimates by year within fishing districts for potential use in the development of brood tables. It is important to note that multiple-years of data will need to be collected before within- and between-year variation can be assessed. Only after that analysis has been completed can migration patterns among fishing districts be examined.

Genetics sampling was added to the Port Moller test fishing project starting in 2004 and continuing through 2007. The intent was to use inseason genetic analysis to identify components of the annual run in time to assist management decisions for individual stocks. ADF&G genetics staff has the ability to complete analysis and deliver results in 3–5 days depending on several factors (e.g. timing of airline flights, weather on the fishing grounds, etc.). The travel time for fish from Port Moller to Bristol Bay is approximately 7 days depending on several factors (e.g. water temperature, wind, etc). Therefore, results from genetic sampling should be available before those fish reach the fishing districts of Bristol Bay. While it is still uncertain how the Port Moller genetics data will be integrated into the day to day management of Bristol Bay fisheries, the project is generating useful information.

ECONOMICS AND MARKET PRODUCTION

In 2007, the exvessel value of the inshore commercial salmon harvest was estimated at \$105.2 million. The 1997 to 2006 average exvessel value of Bristol Bay commercial salmon fisheries was about \$73.3 million (Appendix A25).

During the 2007 season, 9 companies canned, 31 companies froze, and 5 companies cured salmon in Bristol Bay. In addition, 24 companies exported fish by air (Table 25). A total of 39 processors/buyers reported that they processed fish from Bristol Bay in 2007.

RUN AND HARVEST PERFORMANCE BY SPECIES

The combined commercial salmon harvest in Bristol Bay totaled approximately 31.5 million fish in 2007, exceeding the 20-year average of 25.6 million salmon (Appendix A8).

Spring weather conditions in 2007 were cold until early May; but then warmed and although break-up was later than most recent years, it was not as prolonged as in 2006. The herring fishery was later than average in 2007 because of the colder and later spring. Additionally, freshwater (river) and ocean temperatures were relatively cold and slow to warm. This didn't seem to impact the run timing for salmon in the Bay in 2007 as much as it did in 2006.

Sockeye Salmon

The 2007 inshore sockeye run of 44.4 million fish was 23% greater than the preseason forecast of 34.4 million (Table 1). Actual runs were above forecast in all districts, except Egegik.

Sockeye salmon dominated the inshore commercial harvest, and totaled 29.5 million fish (Table 4). Sockeye escapement goals were met or exceeded in all systems where spawning requirements have been defined. The Alagnak River experienced another strong run this year with an escapement of 2.5 million and a total inshore run of 4.3 million.

Chinook Salmon

Chinook salmon harvests in 2007 were below the recent 20-year averages in all districts. The 2007 bay-wide commercial harvest of 62,700 Chinook was below the 20-year average of 67,000. The main factor here was the unexpected shortfall in the Nushagak District where the harvest was only 51,000 (Appendix A4). This was well below the expected harvest of 140,000.

Chum Salmon

In 2007, the inshore commercial harvest of 2.0 million chum salmon was more than double the 20-year average of 937,000 (Appendix A5). Chum salmon catches were above average in all districts.

Pink Salmon

Bristol Bay has a dominant even-year pink salmon cycle so there was no significant harvest in 2007.

Coho Salmon

The 2007 bay-wide commercial harvest of coho salmon totaled 52,000 and was the smallest harvest since 2003 (Appendix A7).

SEASON SUMMARY BY DISTRICT

Naknek/Kvichak District

The 2007 forecast for the Naknek/Kvichak District projected a total run slightly more than 11.5 million sockeye salmon; 4.1 million for escapement and 7.4 million for harvest (Table 1). The forecast by river system was 3.9 million to the Kvichak River, 2.0 million to the Alagnak River and 5.6 million for the Naknek River (Table 2). The escapement goals by river system are as follows: minimum 2.0 million for the Kvichak River, 400,000 for the Alagnak River and a range of 800,000 to 1,400,000 for the Naknek River. The actual total inshore run to the district for 2007 was 17.2 million sockeye salmon. The commercial catch was just over 9.0 million sockeye, with 42% of the sockeye harvested in the Naknek River Special Harvest Area (NRSOA).

The runs of Chinook salmon to Bristol Bay are many, however the Nushagak River is the only system large enough to justify producing a forecast. ADF&G does not forecast Chinook, chum,

or coho salmon for systems in the Naknek/Kvichak District. The commercial harvest of Chinook salmon has remained relatively insignificant due to the current mesh size restrictions that have been implemented since the early 1990s and how the NRSHA is managed. Mesh restrictions are set by “Emergency Order” (EO) that prohibit gillnets with mesh size larger than 5.5 inches until July 21 (Table 7). In addition to mesh restrictions when commercial fishing in the NRSHA, the fishery is also regulated by scheduling commercial periods through part of the flood and into the ebb tide. This results in a portion of each tide with no fishing so all species of fish have an opportunity to pass through the fishery unmolested.

The Alaska Board of Fisheries (BOF), during its December, 2006 meeting in Dillingham, passed a proposal which affected the Naknek River Special Harvest Area. This changed the allocation plan while fishing in the NRSHA to one set gillnet period for every three drift gillnet periods instead of a set harvest percentage for each gear type.

For the commercial fishery to begin in the Naknek/Kvichak District, the sockeye forecast for the Kvichak River must exceed the minimum escapement goal by 30%. When the forecast is less than 30% above the minimum sustainable escapement goal (SEG), fishing will begin in the special harvest areas of Naknek, Egegik and Ugashik Rivers (5 AAC 06.360 (h)). Based on the 2007 sockeye forecast for the Kvichak River, these restrictions were not implemented on June 1. However, the drift gillnet fleet was restricted to the Naknek Section when the fishery opened. Fishing time during the first 3 weeks of June was from 9:00 a.m. Monday to 9:00 a.m. Friday beginning 12:00 a.m. Friday, June 1 and ending 9:00 a.m. Friday, June 22.

In 2004, an emergency petition was submitted to the BOF in December to create an inriver set gillnet fishery in the Alagnak River due to the recent large escapements. The BOF accepted the petition and met in March, 2005 to discuss a special set gillnet fishery in the lower Alagnak River. Above normal runs to the Alagnak River have occurred for the past 6 years. This is due in large part to the restrictions in the commercial fishery that are designed to protect Kvichak sockeye stocks (Appendix A12). The petition asked the BOF to create a special set gillnet fishery in the Alagnak River in an attempt to harvest some surplus sockeye that have been going up the Alagnak River when the Naknek/Kvichak District has been closed. The BOF passed the inriver set gillnet fishery with restrictions (5 AAC 06.373 Alagnak River Sockeye Salmon Special Harvest Area (ARSHA) management plan).

The ARSHA management plan was reviewed again at the March, 2006 BOF meeting, this time to allow drift gillnet gear in the fishery. Drift gillnet gear was allowed in the ARSHA beginning in 2006 under the following guidelines: 1) alternating periods between the two gear groups for the first four tides, 2) after the fourth period, if the harvest from either gear group is 50% greater than that of the other gear group, the gear group with the higher harvest may fish additional periods.

The district opened on June 1 and the first recorded delivery occurred on June 12. The first significant effort occurred on June 18 when there were 52 drift and 20 set gillnet deliveries. The estimated cumulative harvest through 9:00 a.m. June 22 was approximately 90,000 sockeye salmon and of those, less than 5,000 were harvested by the set gillnet fleet operating in the Kvichak Section.

The escapement monitoring projects for the Naknek, Kvichak, and Alagnak Rivers were all operational during the 2007 season. The Naknek River tower began counting on June 19, the Kvichak River on June 21, and the Alagnak River on June 26 (Table 19). Escapement objectives

were met or exceeded in all three systems, the third time since 1999. Sockeye passage rates began stronger than expected considering the late break-up, indicating the run might be stronger than forecast. Escapement through June 23 for the Naknek River was 75,000 sockeye compared to the projected escapement for the same time period of 9,000. With significant escapement early in the run, the Naknek/Kvichak District was opened June 25 to set gillnet gear for an 8-hour period beginning at 7:30 a.m. and the drift gillnet fishery was open in the Naknek Section for 7.0-hours from 8:30 a.m. until 3:30 p.m. Escapement into the Naknek River continued at an above expected rate while in the Kvichak River, escapement was far less than desired. Through June 25, less than 3,400 sockeye had passed the Kvichak tower while the projected cumulative was 9,300. To allow for the harvest of Naknek River stocks and minimize the harvest of Kvichak River stocks fishing in the Naknek/Kvichak District was restricted to the flood portion of the tide beginning 9:30 p.m. June 25.

The cumulative escapement for the Naknek River through 6:00 a.m. June 26 was 130,000 sockeye. The expected cumulative escapement through June 26 was approximately 70,000. The cumulative escapement for the Kvichak River through 6:00 a.m. June 26 was 4,000 sockeye compared to the expected cumulative escapement through June 26 of 14,000. The daily projected escapement for the Kvichak River over the next 4 days was expected to exceed 20,000 sockeye per day to stay on track with the historical escapement curve. Based on the preceding information the likelihood of a NRSHA fishery was high. An announcement at 3:00 p.m. June 26 summarized the following information: 1) very few fish have been caught in the Kvichak inriver test fishery near Levelock, 2) the genetic results from the June 20 and 21 Port Moller test fishery were 2% Kvichak River and 13% Naknek River, 3) for the June 22 and 23 sample the Kvichak River proportion increased to 6% and the Naknek River proportion rose to 19%. It was announced at 3:00 p.m. June 26 that a NRSHA fishery as early as 11:30 a.m. Thursday, June 28 was expected. The drift gillnet fleet would fish first if and when the NRSHA opened. The Naknek Section only opened to drift gillnet gear while both the Naknek and Kvichak Sections opened to set gill net gear for two periods from 10:30 p.m. Tuesday, June 26, until 2:30 a.m. Wednesday, June 27 a 4-hour period, and from 8:30 a.m. until 1:30 p.m. Wednesday June 27 a 5.0-hour period. It was clear on June 27 that the Naknek/Kvichak District was going to close and continued commercial fishing was going to occur in the NRSHA.

The first three fishing periods in the NRSHA were restricted to drift gillnet gear only, the first period began at 11:00 a.m. Thursday, June 28. A cumulative harvest of nearly 450,000 sockeye occurred during the three drift periods with 276 permits making at least one delivery. The first set gillnet period occurred on June 30 for 9.0-hours, 41,000 sockeye were harvested with 171 permits fishing.

Sockeye escapement continued at a rate far above the projected daily rate for the Naknek River even with the commercial fishery fishing each tide. The cumulative escapement for June 28 through June 30 was slightly less than 500,000 sockeye. However, the Kvichak cumulative escapement through June 30 was only 52,000: the anticipated count for the same time period was nearly 175,000, which was 3-days behind the escapement goal curve. The Alagnak River escapement began slowly until June 30 when it jumped from 2,800 to 66,000 for the day. With this surge it was announced on July 1 that the ARSHA would open for two drift gillnet periods beginning at 4:00 p.m. July 2, and would follow with two set gillnet periods. There was no reported harvest from the two drift gillnet periods until July 6. Since there was no reported drift catch until late in the week only set net periods were scheduled until the fishery closed on July 9.

A total of 7,200 sockeye were harvested with set gillnet gear while drift gillnet gear harvested slightly more than 2,700.

The movement of sockeye past the Kvichak River tower started to increase on June 30 and by July 2 the daily escapements were over 100,000. The Kvichak still remained more than 1 day behind the cumulative escapement goal curve until Monday July 11, when it met the minimum escapement goal of 2.0 million sockeye.

The N/K District remained closed and all fishing effort was still confined to the NRSHA until July 9. Catch rates in the NRSHA remained strong for most of the fishery. The harvest during the July 3rd set gillnet period of 250,000 sockeye was the largest on record in the NRSHA and for the drift gillnet fleet, the 460,000 sockeye harvested on July 5 was also a record. Between July 6 and July 11 nearly all processors limited or suspended buying during several of the fishing periods. With reduced fishing effort, escapements increase significantly. It was announced at 3:00 p.m. Sunday, July 8, the Naknek Section of the Naknek/Kvichak District would open to drift gillnet gear at 7:00 a.m. July 9, with the entire district opening to set gillnet gear at 6:30 a.m. July 9, and the set gillnet fleet remained open to continuous fishing until 9:00 a.m. July 27. The drift gillnet fleet fished continuously from 3:00 a.m. Monday, July 17 until 9:00 a.m. Friday, July 27. Beginning 9:00 a.m. Monday, July 30 the Naknek/Kvichak District went to the fall schedule of 9:00 a.m. Monday to 9:00 a.m. Friday until September 28.

The Chinook salmon harvest totaled slightly more than 1,500 fish (Appendix A4). The chum salmon harvest totaled 380,000 fish, which was nearly five times the 10-year average of 118,000 (Appendix A5). There was a reported commercial harvest of slightly more than 2,000 coho salmon in the Naknek/Kvichak District, a decrease from the 2006 harvest of 5,163 (Appendix A7).

Egegik District

The 2007 Egegik District sockeye salmon run was 1 day later than the most recent 20-year average run timing peak of July 5. With an approximate inshore total of 7.9 million sockeye salmon to the Egegik District, the 2007 run ranks sixteenth since 1987, and was approximately 16% below the forecast of 9.2 million. Sockeye salmon runs to the Egegik District during the past 4 comparable cycle years, dating back to 1987, have ranged from 5.6 to 17.6 million fish with an average of 9.3 million. The 2007 run was 14% below the average for recent cycle years (Appendix A13). The most recent 20-year average (1987–2006) for the Egegik run was 10.1 million sockeye. The harvest of 6.5 million was the fifteenth largest commercial catch for the same 20-year period. An escapement of approximately 1.43 million fish was achieved, which was above the upper end of the SEG of 800,000 to 1,400,000 (Appendix A1).

The projected Egegik District harvest of 8.1 million sockeye was 31% of the predicted total Bristol Bay harvest of 26.3 million (Table 1). Drift gillnet participation peaked on July 12 with 388 permits registered to fish within the Egegik District (Table 8). At the beginning of the emergency order (EO) period (June 17), 140 drift permits were registered to fish in Egegik and 601 drift permits were registered Bay-wide.

Daily inriver test fishing, which provides estimates of sockeye salmon passage into the lower portions of the Egegik River, began on June 15 at the established sites just upstream of Wolverine Creek (Table 23). The Egegik River counting tower, which provides daily

estimates of sockeye salmon passage into Becharof Lake, became operational on June 19 with an unexpanded partial-day estimate of 1,122 (Table 23).

Because of a 2007 preseason forecast for a Kvichak River run that projected 30% above the minimum escapement of 2.0 million sockeye, commercial salmon fishing began in the full Egegik District. The district opened on June 1, but no landings occurred until June 12 (Table 10). Cumulative harvest through June 16 was approximately 7,000, indicating low volume and the fishery was allowed to close as scheduled at 9:00 a.m. on June 17. Inriver test fishery indices remained low and only subsistence fishing was allowed from June 15 to June 17 while escapement was allowed to build. On June 18 fishing was opened for 9 hours to both gear groups. Cumulative harvest through June 18 was lagging behind the historical average so the district was opened to subsistence fishing for 12 hours from noon on June 19 until midnight on June 20. The district was opened to both commercial gear groups on June 20-21 for 9 hours beginning at 4:15 p.m. Harvest from this period was approximately 75,000 sockeye salmon which brought the cumulative harvest to approximately 105,000. Test fishery indices continued to show a steady but slow passage rate and cumulative escapement counts at the tower through June 21 were approximately 100,000 sockeye which was tracking the historical escapement curve. On June 28, fishing was confined to the Egegik River Special Harvest Area (ERSHA) because the Kvichak River escapement had fallen behind its historical escapement curve. The Egegik River run continued to develop slowly until July 1 when the main part of the run arrived in the district, as evidenced by a significant increase in harvest and inriver indices.

Harvest through July 2 totaled slightly below 1.2 million sockeye salmon, or less than 13% of the preseason forecast for the district. The tower escapement counts continued to climb slowly with an approximate escapement of 188,000 through this date. This level of escapement was 4 days behind the 1990s average escapement timing and approximately 7 days behind the average escapement timing of 2000-2005. The average proportion of the run having passed the tower by this date was 30% using the 1990s run timing and 50% using the 2000-2005 run timing. Considering this information, the district was rested on the afternoon tide on July 1 and the morning tide on July 2 to allow additional escapement into the river.

A short 3-hour drift gillnet fishery was scheduled on the evening tide, July 2, to guard against a big escapement event. Inriver test fish indices increased significantly on July 2. Escapement and test fish indices continued an upward trend July 2-4 with the three highest daily indices for the season. An escapement of approximately 750,000 fish was realized from these 2 days. It took 3 days for the fish to travel to the counting tower. With a significant amount of fish entering the river, commercial fishing time was liberalized for the next several days until the pulse could be enumerated at the counting tower. Harvest on July 1 was approximately 300,000 fish. July 3 was the first of 10 consecutive days during which the harvest averaged over 400,000. The lower end of the escapement goal range was exceeded on July 6. Through July 7 escapement had increased to about 1 million fish, putting the run several days ahead of historical run timing. Cumulative harvest through July 7 was approximately 3.4 million fish.

As the run continued, fishing was allowed for both gear types on a daily basis. On July 8, the Kvichak River was projected to reach the lower end of its SEG of 2 million sockeye salmon. By regulation, this allowed the commercial fishing boundaries in the Egegik District to expand from the ERSHA to include the full district on the morning of July 9. Fishing continued in the full district until the end of the season. The fall fishing schedule of 9:00 a.m. Monday to 9:00 a.m.

Friday normally begins on July 17, however in 2007 the fishery was opened to continuous fishing by EO until July 27; the fall fishing schedule effectively began on July 30.

Processing capacity issues began to develop on the afternoon of July 4 and on July 5 many companies were on limits or had suspended buying. By the second week of July most companies had returned to a more normal state of operation and had removed limit restrictions from their fleets.

The preliminary age composition of the 2007 Egegik District sockeye run is shown in the table below.

Age Group	Catch	Escapement	Total
1.2	32.1%	38.6%	33.3%
2.2	16.3%	16.9%	16.4%
1.3	28.5%	19.0%	26.8%
2.3	22.6%	20.4%	22.2%
Other	0.4%	5.2%	1.3%
Totals	100%	100%	100%

The 2007 Egegik run was split fairly evenly between 2- and 3-ocean fish, which came from the 2002 and 2003 escapements of 1.03 and 1.15 million respectively. Permit holders harvested approximately 82% of the Egegik inshore sockeye run in 2007, compared with the recent 20-year average exploitation rate of 83%. Peak harvest dates were July 3 and 5 when approximately 518,000 and 532,000 sockeye were landed. Peak tower counts occurred July 5 and 6, when over 288,000 and 310,000 sockeye were counted, respectively. During the EO period from June 16 to July 17 in 2007, a total of 220 hours were fished by the drift gillnet group (10 hours less than 2006) and 263.5 hours (11 hours more than in 2006) were fished by the set gillnet gear group, 36% and 44% respectively, of the 600 available hours. By the end of the EO period, drift and set gillnet fishers had harvest allocations of 84% and 16%, respectively (Appendix A9). The allocation specified in regulation is 86% drift gillnet and 14% set gillnet.

The commercial harvest of other salmon species in the Egegik District was approximately 185,198 fish, or about 2.7% of the total harvest. The reported Chinook salmon harvest was 541 fish, 66% below the 20-year average of 1,195 (Appendix A4). The district chum harvest of approximately 166,500 fish was almost twice the recent 20-year average of 86,000 (Appendix A5). No pink salmon were reported in the harvest, historical pink salmon harvest information is presented in Appendix A6. The coho salmon harvest of approximately 18,000 fish was 42% below the recent 20-year average of 31,000 (Appendix A7).

Aerial surveys were conducted in the Egegik and King Salmon River systems to provide escapement indices for Chinook, chum, and coho salmon. Resulting counts were 558 Chinook, and 3,788 chum salmon. Chinook escapement indices were below average in streams surveyed. Based on carcass distribution and presence it is believed the survey was near peak spawning. The Chinook salmon index was 46% below the 20-year average while the chum salmon index was roughly 20% below average. The Chinook salmon index ranked seventh in the last 10 years and the chum index was the second highest in 10 years.

Based primarily on commercial fishery information the coho run in 2007 was early, compressed and weak. Aerial surveys were flown in early September but few fish were observed. Coho that were observed were staged in front of tributary mouths within Becharof Lake.

In summary, the 2007 6.5 million sockeye salmon harvest in the Egegik District ranked fifteenth out of the last 20 years and was 23% lower than the recent 20-year average of approximately 8.4 million fish. The run was approximately 16% below forecast. The fishery harvested approximately 82% of the run into the district compared to the 20-year average of 83%. The midpoint of the run was July 5, which is 1 day later than the 20-year average. Peak effort occurred on July 12 when 388 drift gillnet vessels were registered to fish in the district. Fifteen processors registered to purchase fish in the Egegik District this season.

Ugashik District

The 2007 inshore sockeye salmon run to the Ugashik District of approximately 7.6 million fish was the largest run ever recorded in the Ugashik System. The run was 45% above forecast (Table 1). The run timing was approximately 1 day earlier than the most recent 20-year average of July 10. Market conditions in the Ugashik district were particularly tenuous during the 2007 season with set net permit holders being the most affected. The lack of stable markets coupled with the record run also impacted the ability of ADF&G to control escapement into the Ugashik River. The commercial sockeye catch of approximately 5.0 million fish was the largest harvest for the most recent 20-year period (1987-2006). The sockeye escapement to the Ugashik River was approximately 2.6 million, or 1.4 million over the upper range of the SEG range of 0.5 to 1.2 million. This is the second largest sockeye escapement on record for the Ugashik River. Comparable inshore runs over the last four cycles, dating back to 1987, have ranged from 2.5 to 5.5 million fish with an average of 3.2 million, placing the 2007 run 131% above the average for the last 4 cycle years (Appendix A14).

The district was opened to a schedule of 4 days per week fishing on June 1 by EO. Initial landings occurred in the district on June 12 (Table 11) when a handful of sockeye and chum salmon were delivered. Since the pre-season forecast for the Kvichak River allowed all fishing districts to start the season in their full areas, the 4 day per week schedule was continued until June 28, when the management of the fishery switched to a tide by tide basis. The cumulative harvest through June 28 was approximately 55,000 sockeye salmon. This compares to the 20-year average cumulative harvest of approximately 67,000 for the same date.

The preseason forecast for the Ugashik District indicated a projected harvest of 3.3 million sockeye salmon. Accordingly, permit holders were advised that fishing time after June 28 would depend on inriver test fishing results, tower escapement levels, and fishery performance. With this advisory, 46 vessels with drift gillnet permits were registered for the Ugashik District on June 28 (Table 9).

Inriver test fishing, which operates about 3 miles upstream of Ugashik Village, started on June 25 and provided a daily estimate of sockeye passage into the lower part of the Ugashik River. The counting tower project, operating about 24 miles upstream of Ugashik Village, started counting on June 30. The first tower count was a partial day count resulting in an unexpanded estimated passage of 4,080 fish (Table 24).

Initial information from the inriver test fishery became available beginning on June 25, but passage indices were too low to justify a commercial period. The district was opened to subsistence fishing only for 24 hours beginning at 3:00 p.m. June 26. Indices remained low so no fishing was permitted on June 28.

Small fleet size was used as justification for fishing on June 29 and the district was opened to set gillnets for 24 hours and to drift gillnets for 6 hours beginning at 9:00 a.m. Approximately 120,000 sockeye were caught during this period, which is a fairly large catch for this stage of the Ugashik run, especially considering the low amount of effort. Inriver test fishery indices began to show an upward trend on the morning of June 30 and a 6-hour drift gillnet only period was scheduled for July 1 beginning at 10:30 a.m.

Inriver indices continued to build until peaking on July 5-6. Fishing opportunity was escalated beginning on July 3 but, because of small fleet size, had little impact on escapement until July 7. July 3 was the first of 14 consecutive periods with an average harvest of slightly over 300,000. Atypical of the Ugashik run, fish were moving directly into the river system, whereas it is more common for fish to mill in the lower river before moving upstream. Fearing that the large catches being experienced in the district were because of exploitation of milling fish and given the early state of the run, management was deliberately conservative.

With continued high catches and index counts it became apparent that the 2007 Ugashik District sockeye run was large. The magnitude caught permit holders, managers and processors by surprise. The run and corresponding catches were large enough to exceed district market capacity and some reports of fish being dumped were received by ADF&G. Warnings and admonishments to be certain of markets before fishing were incorporated into daily announcements. According to reports, dumping was an issue for the initial part of the season and then lessened as permit holders discovered that no extra market capacity was available.

Another issue in 2007, similar to 2006, was that age composition information from the counting tower did not mirror the age composition of the catch. The escapement samples had a significant component of age 1.2 fish, but the catch data indicated a disproportionate number of larger age 1.3, 2.2, and 2.3 fish in samples taken from the commercial fishery. As a result no commercial fishing was scheduled on July 5 to allow some unfiltered fish into the escapement. The strategy was successful in that samples taken at the escapement project from fish that entered the river on this day showed a better mix of all age classes.

The lower end of the escapement goal range (500,000) was surpassed on July 7 when passage for the day at the tower was 412,000 sockeye. Cumulative harvest through July 7 was 1.65 million fish.

Sockeye landings began to taper off in mid-July with a final catch of approximately 5.0 million (Table 11). The final Ugashik River sockeye escapement count was 2,473,746 fish when the project ended on July 23. Additionally, about 125,000 sockeye were observed during post season aerial surveys of the Ugashik system, which includes approximately 50,000 sockeye at the outlet to lower Ugashik Lake (Appendix A14).

The fall fishing schedule of 9:00 a.m. Monday to 9:00 a.m. Friday normally begins on July 17, however in 2007 the fishery was opened to continuous fishing by EO until July 27; the fall fishing schedule effectively began on July 30.

By the end of the emergency order period (July 17), set gillnet permit holders had caught approximately 8% of the sockeye harvest and drift gillnet permit holders took 92% (Appendix A9). The allocation specified in regulation is 90% drift gillnet and 10% set gillnet. Between June 23 and July 17, set gillnets were permitted to fish a total of 222 hours, or 94.5 hours more fishing time than they fished in 2006, while drift gillnets were permitted to fish a total of 181 hours, or 46.5 hours more fishing time than in 2006.

Peak escapement counts occurred July 8, and 15, when 412,000 and 408,000 sockeye respectively passed the counting towers.

The preliminary age composition of the 2007 Ugashik District sockeye salmon run is shown in the table below.

Age Group	Catch	Escapement	Total
1.2	48.5%	78.9%	58.9%
2.2	7.9%	2.9%	6.2%
1.3	36.4%	15.8%	29.4%
2.3	6.1%	1.4%	4.5%
Other	1.0%	1.0%	1.0%
Totals	100%	100%	100%

Commercial harvest of other salmon species was approximately 255,000 or 5% of the district's total harvest. The harvest of 1,445 Chinook salmon was 16% below the recent 20-year average of 1,705 (Appendix A4). Chinook escapement is assessed by aerial surveys in the Dog Salmon and King Salmon Rivers, the major tributaries of the Ugashik River, and the biggest producers of this species in the district.

The chum salmon harvest of approximately 251,000 fish was 319% above the 20-year average of 62,000 (Appendix A5). The coho salmon harvest of approximately 1,961 fish was well below the 20-year average of 15,000 but there was very little directed commercial effort for Ugashik coho salmon in 2007 (Appendix A7). Aerial surveys to enumerate coho salmon escapement were flown in early September since a strong pulse of coho arrived early in the district. Several of the surveyed streams were high and muddy preventing estimates. Aerial survey counts totaled 1,102 coho salmon.

Three pink salmon were reported in the harvest in 2007. Historic pink salmon harvest figures are presented in Appendix A6.

In summary, the 2007 Ugashik District fishery harvested approximately 67% of the sockeye run to the district compared to the 20-year average exploitation rate of 68%. Days of peak catch occurred on July 7 and 16 when 440,000 and 475,000 sockeye were harvested. The midpoint of the run was July 9, slightly early compared to the 20-year average of July 10. Days of peak escapement were July 8 and 15 when 412,000 and 408,000 sockeye, respectively, passed the counting tower. Peak effort was on July 17 when 440 vessels with drift gillnet permits were registered to fish in the district. Eleven buyers operated in the district during the season (Table 25).

Environmental Conditions

An unusual event occurred in the Mother Goose Lake Drainage during the spring or early summer of 2005. A lahar took place on Mt. Chiginigak, a semi-active volcano which is the headwater area of Volcano and Indecision Creeks. These creeks provide water to Mother Goose Lake, which in turn is the source for the King Salmon River, a tributary that empties into Ugashik Bay.

A lahar is a volcanically influenced runoff event, and while the mechanics or timing in this case are not clear, the effects were dramatic. Sometime in the spring or early summer of 2005, an event took place on or within Mt. Chiginigak that caused the snow on and within the summit

crater to melt and runoff into the Mother Goose Drainage and an unnamed tributary on the Pacific side of the Alaska Range. This runoff is extremely acidic in nature and was of a large enough volume to lower the pH of Mother Goose Lake and the King Salmon River to between 3.0 and 3.5. This condition persisted through most of the summer and into the fall and prevented salmon and other anadromous fish from migrating into the upper reaches of the system. Chinook and chum salmon were observed during aerial survey flights in two tributaries in the lower reaches of the King Salmon River, Pumice, and Old Creeks, but no fish were observed in the King Salmon River mainstem or Painter Creek, a tributary with a confluence just below Mother Goose Lake, or in Volcano or Indecision Creeks. Painter Creek is a major spawning area for Chinook salmon in the Ugashik system.

Long-term ramifications from this event could be significant. At least two and possibly three age classes of salmon were impacted, depending on the timing of the event. The juvenile classes of 2004, which hatched in the spring of 2005, and the 2005 return were definitely affected, but depending on the timing of the lahar, the outgoing age class of the 2003 spawning event (smolts) could have outmigrated before the river was impacted by the acidic runoff. If the runoff ceases or diminishes over the winter, then while impacted, the watershed would become more habitable for all species. If the pH continues to stay low, the ability of the system to support aquatic life will be diminished.

Aerial surveys conducted in early August and again in early September, 2007 revealed one pair of Chinook and a single chum salmon in Painter Creek. The area between the confluence of Painter Creek and the King Salmon River had no live fish but approaching the confluence of Old Creek and the King Salmon River a gradient of carcasses was observed with more carcasses closer to Old Creek and diminishing as distance upriver increased. The lowest two tributaries of the King Salmon River, Old and Pumice Creeks were again well populated with Chinook, chum and some sockeye salmon. The area of the mainstem King Salmon River immediately below the confluence of Pumice Creek had several thousand fish of mixed species staged and presumably waiting for a chance to move up the mainstem.

Unlike 2006, August of 2007 was comparatively dry. While conditions in 2006 may have allowed fish into the upper tributary, Painter Creek, low water likely prevented significant numbers of fish from making progress that high in 2007.

It is unknown at this time how long the acidic water will be produced and drain into the King Salmon River/ Mother Goose Lake complex and there is no way to remedy the situation. Staff from the Volcano Observatory Group, the USFWS Alaska Peninsula National Wildlife Refuge, and ADF&G will continue to monitor the river and document impacts to the watershed through time.

Nushagak District

The 2007 Nushagak District total inshore sockeye salmon run was approximately 10.6 million fish, 16% over the preseason forecast of 8.9 million fish (Table 1). Commercial sockeye harvest, in the Nushagak District, reached 8.1 million, 14% above the preseason projected harvest of 7.0 million sockeye. Total sockeye escapement in the district's three major river systems was 2.5 million, which was near the combined upper escapement goal range of 2.6 million. Chinook salmon escapement into the Nushagak River was 60,000, 80% of the 75,000 inriver goal. Harvest was 51,000 Chinook in the Nushagak District.

Peak Chinook salmon production in the early 1980s resulted in record commercial harvests and growth of the sport fishery. Declining run sizes and the question of how to share the burden of conservation among users precipitated the development of a management plan for Nushagak Chinook salmon. Since the plan was adopted in 1992, the Nushagak-Mulchatna Chinook Salmon Management Plan (NMCSMP) has governed management of the Nushagak Chinook salmon fisheries (5 AAC 06.361). The plan was amended in 1995, 1997, and 2003.

The purpose of this management plan is to ensure an adequate spawning escapement of Chinook salmon into the Nushagak River system. The plan directs ADF&G to manage the commercial fishery for an inriver goal of 75,000 Chinook salmon past the sonar site at Portage Creek. The inriver goal provides: (1) a biological escapement goal of 65,000 spawners, (2) a reasonable opportunity for inriver subsistence harvest and (3) a guideline sport harvest of 5,000 fish. The plan addresses poor run scenarios by specifying management actions to be taken in commercial, sport, and subsistence fisheries, depending on the severity of the conservation concern. Management decisions are heavily dependent upon the estimates of inriver Chinook salmon escapement provided by the sonar project located near Portage Creek on the lower Nushagak River.

Trends in age composition of Chinook spawning escapements in 1995 and 1996 raised concerns about the quality of Chinook escapements in the Nushagak River. The proportion of large (age-5 through age-7) fish was less than desired, and the age composition of the escapement during the first half of the run differed substantially from that of the escapement during the second half of the run. In the early portion of the run, male Chinook salmon of the younger age classes comprised the majority of the run, while the older age classes became prevalent in the latter portion of the run. Differences in age composition between escapement and total run, and between early and late-season escapement can result from size-selective harvests. To address this concern, ADF&G adopted a strategy of allowing unfished pulses of Chinook into the Nushagak River before opening a commercial period. Allowing untargeted fish into the river was intended to lessen the effects of selectivity in the commercial fishery while allowing fish with a natural age distribution to enter the river. In November, 1997, additional language directing the department to allow pulses of Chinook salmon into the Nushagak River that were not exposed to commercial fishing gear, was added to the NMCSMP.

ADF&G adjusts commercial fishing time and area to harvest Chinook salmon surplus to the inriver goal. Management decisions are based on the preseason forecast and inseason indicators of run strength, including commercial harvest performance, subsistence harvest rates and inriver passage rates estimated by the sonar project. During the last 4 years, managers have used directed Chinook openings early in June to harvest fish when a surplus appears to be available. Because these openings usually occur during the first third of the run, harvest can be directed toward more segments of the run at a low level. However, this strategy also has the potential for complicating management if the second half of the run is significantly weaker than the first half. When a surplus is forecasted, early commercial openings provide for more time between openings allowing unfished pulses of fish to move through the district, better quality of fish in the harvest, and harvest spread over a larger portion of the run.

The 2007 Nushagak District Chinook salmon forecast was 215,000 fish. With an inriver goal of 75,000 fish, and average sport and subsistence harvest of 6,000 fish below the counting station, 134,000 Chinook would potentially be available for commercial harvest. In 2003, a new strategy was adopted to address concerns about incidental Nushagak sockeye catch in directed Chinook

openings. This strategy focused on having directed Chinook openings as early and as often as escapement and the management plan would allow. In 2007, managers worked with the Nushagak Advisory Committee and other stakeholders to decide on the fishing schedule prior to the season. The preset schedule allowed stakeholders to plan ahead and provided more certainty for marketing purposes. The schedule could be suspended if escapement was less than expected. The preseason schedule allowed for 5 openings based on the preseason forecast and subsequent openings based on escapement.

The sonar project at Portage Creek was operational on June 4. Early daily Chinook counts were close to expectations and continued to be just slightly behind the historical average through June 15. Based on the agreed upon schedule, openings began on June 1. An 18-hour directed Chinook opening resulted in the harvest of 2 Chinook salmon from two deliveries (there were more fish caught, but most were not sold and not reported). In 2005, the Chinook fishery opened on June 1 and resulted in a harvest of 689 Chinook but the 2007 spring was much cooler and later than spring in 2005. The preseason plan set directed Chinook openings for June 1, 3, 6, 9, and 11. Openings after the 11th would be based on escapement and were likely to be on June 13, 15, and 18. Duration of openings was dependent on effort, harvest and subsistence information, but the first opening was set at 18 hours. Openings occurred as scheduled through June 13, but because escapement was less than desired, subsequent openings were not warranted. The directed Chinook harvest was approximately 2,100 fish.

The preseason forecast for the inshore sockeye run to the Nushagak District totaled 8.9 million fish (Table 1), 20% greater than the 20-year average run of 7.1 million sockeye (Appendix A16). Strength of the forecasted Wood River run (5.9 million) was 40% above the 1987–2006 average run, while the Nushagak River sockeye run (1.9 million) was expected to be 19% greater than the 20-year average actual run. The forecasted run to Igushik River (1.2 million) was the same as the 1987–2006 average run of 1.2 million (Appendix A16).

On the afternoon of June 23, with increasing sockeye escapement in the Wood River, an 8-hour set gillnet period was announced for the Nushagak Section from 8:30 a.m. until 4:30 p.m. on June 24 and the drift fleet was placed on short notice. This allowed managers to be able to respond in the event there was a large increase in escapement overnight. The opening allowed permit holders to select the mesh of their choice. The escapement did not increase in the Wood River overnight and no drift opening was warranted for June 24, but another set net opening was announced for the morning of June 25. All permit holders were advised that the next opening would be restricted to 5.5 inch mesh or smaller for the conservation of Chinook salmon.

The morning of June 25, sockeye escapement into the Wood River increased significantly with 16,000 fish between midnight and 6:00 a.m. and continuing strong counts. A 3-hour driftnet period was announced for the afternoon of June 25. The 10:00 a.m. count at Wood River was 34,000 fish; a rate of more than 4,000 fish per hour for the last 4 hours. With this information, the set net period in progress was extended for 24 hours and another drift opening of 4-hours was announced for the morning of the 26.

Fishing time increased over the next few days until escapement slowed down in the Wood River. There were two periods a day for several days, fishing up to 17 hours in a day with short breaks on the flood to allow fish to spread out in the district. Once the Wood River escapement slowed, drift fishing was reduced to two 5-hour periods a day with one tide off every 2 or 3 days. This allowed more fish in the district and increased the set gillnet harvest significantly. These breaks

in fishing allowed for harvest percentages to be brought more into line with allocation and allowed more escapement to get into both the Nushagak and Wood Rivers.

Due to processing capacity issues, the processors suspended buying on the night of July 5th or the morning of July 6. With the majority of the drift gillnet fleet and all set gillnets suspended for 12 hours or more on July 6, escapement increased and progress towards balancing the allocation reversed. Fishing reverted to two periods a day for 14-18 hours total in the Nushagak District. Set gillnet fishing was extended until further notice. The escapement in both the Wood and Nushagak Rivers increased with the peak occurring at the Wood River tower on July 6 with a daily estimate of 145,000 sockeye.

Fishing in the Nushagak went continuous on the afternoon of July 16. The number of permits had steadily decreased from a high of 741 on June 29 and 30 to 314 on July 15. Additionally, the Wood River escapement was approaching the upper end of the escapement range, warranting continuous fishing. The final escapement to the Nushagak River was 518,000 sockeye salmon and 60,000 Chinook salmon. Wood River sockeye escapement was 1,528,000.

Commercial fishing began in the Igushik Section of the Nushagak District on June 18, with set gillnets only. In recent years, with extended fishing time in the Nushagak Section, Igushik fish stocks have been subject to an uncertain degree of interception by Nushagak Section drift gillnet openings. This may have played a part in some recent years of poor escapement to the Igushik River. Therefore, a conservative approach to fishing in the Igushik Section has been employed. Fishing in the Igushik Section began with 8-hour per day set gillnet openings with increasing time as escapement and harvest information indicated. Drift gillnet fishing was allowed only after the escapement and harvest from the set gillnet periods were assessed.

In 2007, set gillnet fishing periods in the Igushik Section went from 8 hours a day on June 18 to 12 hours a day on July 1, with escapement at 31,000 after a daily escapement on June 30 of 14,000 sockeye. Fishing time increased to 24 hours a day on July 3. Fishing with drift gillnets began on July 6 after processors suspended buying for part of the day and continued with limits and suspensions for the next 10 days. The Igushik River escapement continued to be strong for the rest of the season and ended at 415,500.

The Nushagak Coho Salmon Management Plan (5 AAC 06.368) established spawning and inriver escapement goals and provides guidance to ADF&G in managing sport, subsistence, and commercial fisheries that harvest coho salmon. The plan directs the department to manage the commercial fishery in the Nushagak District to achieve an inriver escapement goal of 100,000 coho salmon in the Nushagak River. The inriver goal provides for a biological escapement goal of 90,000 spawners and 10,000 additional fish for upriver sport and subsistence harvests. The department no longer operates the sonar camp on the Nushagak River for coho salmon enumeration. Because there is no escapement information, a conservative schedule of 36 hours of fishing per week using three 12-hour periods was employed for the 2007 season. Coho harvest was 30,000, approximately 6% more than the average harvest over the last 20 years (Appendix A7).

Togiak District

The 2007 inshore sockeye run of approximately 1,069,000 fish was the fourth largest run to the Togiak District in the last 20 years (Appendix A17) and exceeded the preseason forecast by 45% (Table 1). District sockeye harvest was approximately 799,000 salmon, the third largest since

1987. Escapement into Togiak Lake was 269,646, just within the BEG range of 120,000-270,000 salmon.

The Togiak District is managed differently than other districts in Bristol Bay. This district uses a fixed fishing schedule of 3 days per week in the Kulukak Section, 4 days per week in Togiak River Section, and 5 days per week in the Osviak, Matogak, and Cape Peirce Sections. The Togiak District Salmon Management Plan (TDSMP) adopted by the Alaska Board of Fisheries in January, 1996 added 36 hours to the weekly schedule for the Togiak River Section between July 1 and July 16. This schedule is adjusted by emergency order, as necessary, to achieve desired escapement objectives. In addition, the TDSMP restricts the transfer into the Togiak District by prohibiting permit holders that fished in any other district from fishing in the Togiak District until July 24. Conversely, it prohibits permit holders that have fished in the Togiak District from fishing in any other Bristol Bay district until July 24.

The 2007 inshore run to the Togiak River was forecasted at 590,000 sockeye salmon (Table 1), of which 55% were projected to be 3-ocean fish and the remaining 45% were predicted to be 2-ocean fish (Table 2). With a management plan specified escapement goal of 150,000 sockeye for Togiak Lake, approximately 440,000 sockeye would potentially be available for harvest in the Togiak River Section. Smaller sockeye runs to other drainages in the district (primarily the Kulukak River) occur, but these are not included in the preseason forecast because age composition and escapement data are not complete. Unofficially, a contribution of 54,000 sockeye to the district harvest was projected from drainages other than the Togiak River.

A formal forecast is not issued for Chinook salmon in the Togiak District. Recently, Chinook run strengths district-wide have declined from a high of almost 52,000 in 1985, to a low of less than 18,000 in 2002 (Appendix A20). Chinook escapements in the Togiak River drainage fell short of the escapement goal (10,000) from 1986 through 1992. The Chinook escapement goal was reached from 1993 to 1995 with extensive commercial fishing closures and mesh size restrictions. In 1996, with only minor reductions in the weekly fishing schedule, Chinook escapement again fell short of the goal. The Chinook escapement goal in the Togiak River has been achieved consistently since that time. Reducing the weekly schedule to 48 hours per week in late June seems to provide a good balance between commercial fishing time and closures that allow Chinook escapement to be achieved.

Management strategy for Chinook salmon the last 9 years has been to reduce the weekly fishing schedule in sections of the Togiak District during the last 2 weeks of June. This year, the reduction was only necessary the last week of June because early season effort was so low. The weekly schedules in both the Kulukak and Togiak River Sections were reduced by 24 hours. The western sections, Cape Peirce, Osviak, and Matogak, remained open for the regularly scheduled periods.

Commercial fishing opened in the district with a regular weekly schedule on June 1. However, first landings of the 2007 season were made on June 18 (Table 14). Commercial harvest and effort for this week was far below average with 49 Chinook salmon.

The fishery was reopened on June 25 and was reduced by 24 hours for Chinook conservation. Cumulative catch after the last delivery on Thursday, June 28 was 1,392 Chinook salmon. Midnight June 30, marked the end of active management for Chinook salmon. When fishing reopened Monday, July 2 the focus was on sockeye salmon management.

Total Chinook harvest for the Togiak River Section was 7,127 fish (Table 14), with an additional 628 caught in the remainder of the Togiak District (Table 15). The total number of Chinook salmon caught in the Togiak District was 92% of the 10-year average. Unfortunately, weather, high water, and pilot availability issues prevented aerial surveys to assess escapement. Figures are not yet available for sport or subsistence harvests. District-wide escapement is not available due to partial escapement data (Appendix A20). Total run size cannot be determined in the absence of complete escapement data.

Commercial fishing for sockeye opened with regularly scheduled fishing periods on June 1. First deliveries of the season occurred on June 18. Although directed sockeye fishing does not begin until July 1, effort largely focuses on their harvest for the entire season. By the end of June, district sockeye harvest was 13,300 fish, significantly lower than expected levels. Effort was low, largely due to high fuel prices.

As mentioned above, the last weekly fishing period in June for the Togiak River and Kulukak Sections was reduced for Chinook conservation. This year ADF&G responded to local requests to keep the Kulukak Section open for an extra day the first week of July. In recent years, beginning July 1, reductions of 48 hours for conservation of Kulukak River Sockeye have become common practice. This was due to a shift in effort to the Kulukak Section and stock conservation concerns; however these reductions were deemed unnecessary as tender support was often not provided for more than 2 days a week.

Commercial fishing reopened on July 2 as scheduled. On July 3, permit holders were advised that the Togiak River Section and the Kulukak Sections would remain on their full schedules. Operation of the Togiak counting towers began on July 4 with a count of about 2,700 sockeye. Both cumulative catch and escapement were stronger than expected for this time. By the close of fishing in the Togiak River Section on July 7, 104,000 sockeye had been harvested for the week. At that time, cumulative escapement past the towers was 11,982 sockeye (Table 20). Cumulative harvest was 117,000 with the majority caught in the preceding week.

When fishing commenced on Monday July 9, the Kulukak Section was set to close on schedule and the Togiak Section was placed on “stand-by”. By the afternoon of July 11, escapement past the towers on the Togiak River was over 25,000 sockeye and cumulative catch was reported to be over 156,000 sockeye. This week’s decreased harvest compared with the previous week was largely due to capacity issues. With escapement ahead of schedule, the Togiak River Section was extended to 9:00 a.m. Monday, July 16 when the next week’s fishing schedule would begin.

For the week of July 16, the Kulukak Section was set to close on schedule and the Togiak Section was once again on “stand-by”. By July 18, escapement was well ahead of the expected cumulative escapement curve with a cumulative count of over 92,000 sockeye. Cumulative catch in the district was strong at almost 395,000 sockeye. With escapement guaranteed to fall within the BEG range, fishing was extended 48 hours and would close 9:00 a.m. Sunday, July 22, the maximum allowable extension.

Fishing reopened on July 23 in all sections and the Togiak Section was once again placed on “stand-by”. Although the schedule for the Kulukak River Section reverted to the full schedule for the remainder of the season, the last deliveries from the Kulukak Section were made July 25 due to lack of tender service in the area. The season total for the Kulukak Section was approximately 58,000 sockeye (Table 15). By Tuesday, July 24, escapement past the Togiak counting tower was over 150,000. With escapement at the management plan specified

escapement goal, the fishing period in the Togiak River Section was extended to 9:00 a.m. Sunday, July 29, the maximum allowable extension.

By regulation, the Togiak District opens to all Bristol Bay CFEC salmon permit holders on July 24. Although there seemed to be a lot of interest in fishing there, deliveries did not increase from previous levels except on July 25 when 258 deliveries occurred (compared with the previous high of 247 on July 13). There are no requirements for registration after July 24 so increased effort is difficult to assess. Additionally, some permit holders are finishing their season while others are still moving into the district.

For the week of July 30, the Togiak Section was once again extended to 9:00 a.m. Sunday, August 5, the maximum allowable extension. By August 1, escapement was over 250,000 sockeye. Catch in the district was strong at almost 730,000 sockeye. Counting towers ceased operations August 5 after counting a season total of 269,646 sockeye.

On Monday, August 6, the district opened on the full schedule that would be followed for the remainder of the season. The last deliveries were made on August 5. The 2007 sockeye harvest in the Togiak District was nearly 800,000, 182% of the expected preseason forecast harvest. The 2007 sockeye harvest in the Togiak District was the third highest in the past 20 years (Appendix A3); even without complete escapement information, the total sockeye salmon run also ranked 4th among the last 20 years (Appendix A17).

There was no directed coho fishery in the Togiak District this year. Final operations reports from processors indicated that there were 152 coho salmon caught by the last day of fishing, August 5 (Table 14). Due to poor survey conditions and flight availability problems, the Togiak District was not surveyed to assess coho escapement in 2007.

Commercial Chinook harvest was 84% of the 10-year average, while harvest of chum and coho were 184% and 2% respectively of the 10-year averages (Appendices A20, A21, and A22). Few aerial surveys to assess escapement in the Togiak District were performed, due to weather, high water, and pilot availability. No sockeye surveys were flown in the Togiak District, therefore total assessed escapement in the Togiak River was over 269,000 sockeye. Aerial spawning ground surveys for Chinook and chum salmon in the Togiak River drainage did not yield valid data.

2007 SUBSISTENCE SALMON FISHERY

Subsistence fishing for salmon and other fish species has taken place in the Bristol Bay area for thousands of years, and continues to be an important source of food for residents of local communities. Subsistence harvests still provide important nutritional, economic, social, and cultural benefits to most Bristol Bay households. All 5 species of salmon are utilized for subsistence purposes in Bristol Bay, but the most popular are sockeye, Chinook, and coho. Many residents continue to preserve large quantities of fish through traditional methods such as drying and smoking, and fish are also frozen, canned, salted, pickled, fermented, and eaten fresh.

Final information about subsistence salmon harvests for the Bristol Bay area for 2007 was not available when this report was published. This information will be included in future annual management reports. Tables in this report include final subsistence harvest data for 2006 that were not available for the 2006 annual management report.

REGULATIONS

Permits are required to harvest salmon for subsistence purposes in Bristol Bay. Since 1990, under state regulations, all Alaska State residents have been eligible to participate in subsistence salmon fishing in all Bristol Bay drainages, except the Lake Clark area. Prior to 2007, with a few exceptions, only gillnets were recognized as legal subsistence gear. In the Togiak District, spear fishing was also allowed. In portions of Naknek Lake in the Naknek District, spears and dipnets, in addition to gillnets, could be used during designated periods, primarily to harvest spawning sockeye salmon (“redfish”). In the Bristol Bay area, gillnet lengths were limited to 10 fathoms in the Naknek, Egegik, and Ugashik rivers, Dillingham beaches, and within the Nushagak commercial fishing district during openings regulated by EO. Up to 25 fathoms could be used in the remaining areas, except that nets were limited to 5 fathoms in the special “redfish” harvest areas in the Naknek District.

At its regulatory meeting in Dillingham in December 2006, the Alaska Board of Fisheries made three changes to the subsistence salmon fishing regulations that affected portions of the Bristol Bay area. The first change allowed salmon to be taken with a drift gillnet no more than 10 fathoms in length in the Togiak River between the mouth of the river and upstream approximately 2 miles. The second change allowed spears to be used to take salmon in Lake Clark. The third change allowed beach seines and gillnets to be used to take salmon in Iliamna Lake, Six Mile Lake, and Lake Clark.

In Nushagak, Togiak, Naknek, Egegik, and Ugashik Districts, subsistence fishing is permitted in all commercial districts during commercial openings. In addition, all commercial districts were open for subsistence fishing in May and October, from Monday to Friday. In the late 1990s and early 2000s, declining Chinook and coho stocks resulted in longer commercial closures and some residents had difficulty obtaining fish for home use. Recent years, beginning in 2004 have seen improvements in abundance of all species. The Nushagak commercial district, starting in 1988, has been opened for subsistence fishing by EO during extended commercial closures.

The Alaska Department of Fish and Game issues Bristol Bay subsistence salmon permits to any Alaska resident who requests one. In 2001, the superintendent of Lake Clark National Park and Preserve, announced that the National Park Service (NPS) was prohibiting subsistence fishing with nets in the park and preserve, including all of Lake Clark, except by federally qualified residents. This prohibition was a new enforcement action of a NPS regulation and applied to anyone who was not a permanent resident of Iliamna, Lime Village, Newhalen, Nondalton, Pedro Bay, or Port Alsworth, or who did not have a Section 13.44 subsistence use permit issued by the park superintendent. The department informs Bristol Bay subsistence salmon permit applicants that they need to take this NPS closure into account if they intend to subsistence fish in waters of the park and preserve.

For a list of emergency orders that pertained to in-season management of the Bristol Bay subsistence salmon fishery in 2007, see Table 7.

PERMIT SYSTEM AND ANNUAL SUBSISTENCE HARVEST

A permit system was gradually introduced throughout the Bristol Bay region in the late 1960s to document the harvest of salmon for subsistence. Much of the increase in the number of permits issued during these years reflects: 1) a greater compliance with the permitting and reporting requirements, 2) an increased level of effort expended by ADF&G in making permits available

(including a local system of vendors), contacting individuals, and reminding them to return the harvest forms, and 3) a growing regional population. Most fishermen are obtaining permits and reporting their catches, and overall permit returns have averaged between 85% and 90% annually. However, fish removed for home use from commercial catches are not included in most reported subsistence harvest totals. Also, fish caught later in the season, such as coho and spawning salmon are probably not documented as consistently as Chinook and sockeye.

Table 27 provides final data for Bristol Bay subsistence salmon harvests in 2006. As noted, final subsistence harvest estimates for 2007 were not available when this report was published. Appendix A27, A28, and A29 provide harvest estimates by district and species for the 20-year period from 1987 through 2006 plus the recent 5-year average harvests prior to 2007.

2007 BRISTOL BAY HERRING FISHERY

This report reviews stock assessment activities, provides an overview of the Togiak District herring fishery from 1978 to 2006 and summarizes the 2007 season.

The Bristol Bay area includes all waters south of a line, extending west from Cape Newenham, east of the International Date Line in the Bering Sea and north of a line extending west from Cape Menshikof. The Bristol Bay area is divided into three herring fishing districts. The Bay District; including all waters east of the longitude of Cape Constantine, the Togiak District; including all waters between the longitude of Cape Newenham and the longitude of Cape Constantine, and the General District; including all waters west of the longitude of Cape Newenham. Togiak District spans approximately 192 km (Figure 2). Togiak village lies at the center of the district, 108 km west of Dillingham.

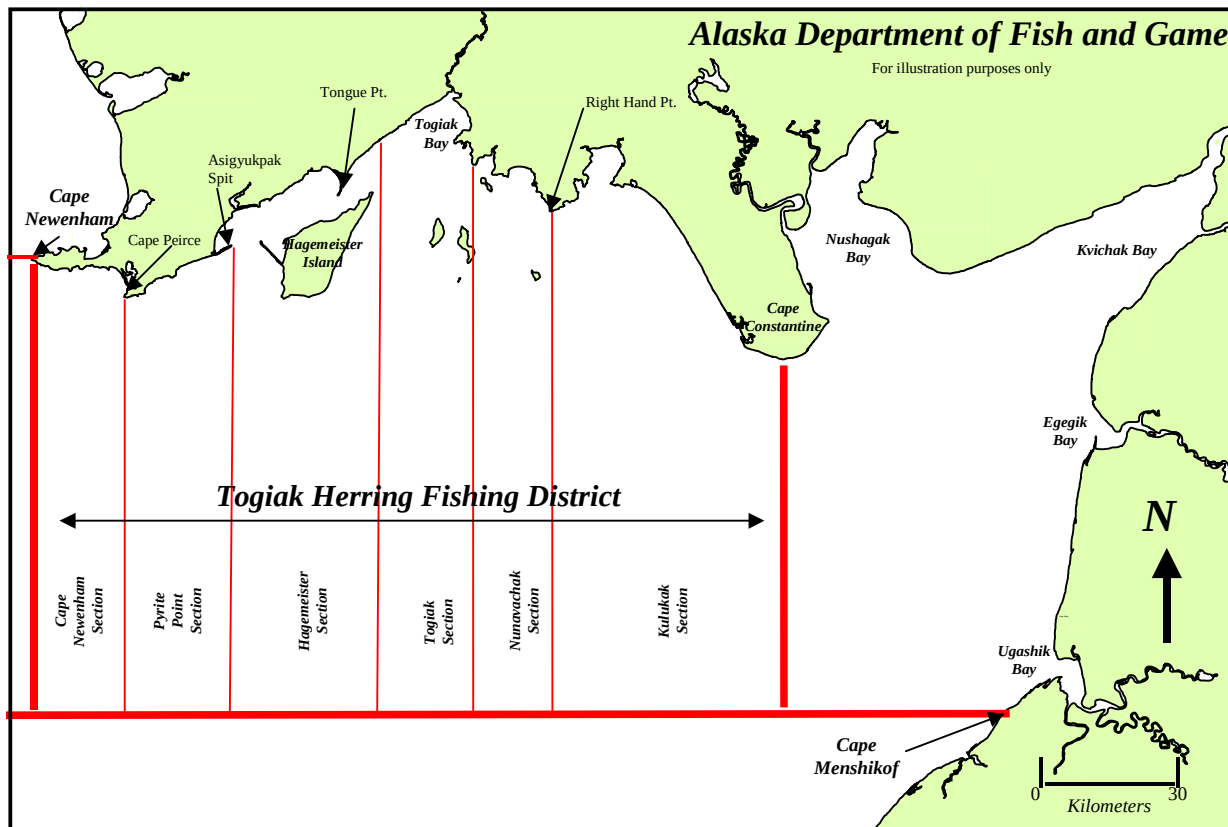


Figure 2.–Togiak Herring District, Bristol Bay.

Pacific herring (*Clupea pallasii*) have been documented throughout Bristol Bay, but the major concentration returns to the Togiak area each spring to spawn and is the focus of herring sac roe and spawn-on-kelp fisheries. In the Togiak District, herring are commercially harvested for sac roe using gillnets and purse seines while herring spawn on rockweed kelp (*Fucus spp.*) is harvested by hand.

The herring sac roe fishery began in the Togiak District in 1967, followed by the first fishery for spawn on kelp in 1968. Effort and harvest levels remained low for the first 10 years of the fishery. Increased interest, favorable market conditions, and additional incentives provided by the Fishery Conservation and Management Act of 1976 (the 200 mile limit) resulted in a rapid expansion of the Togiak herring fishery in 1977.

The Togiak herring fishery is the largest in Alaska. From 1987 to 2006, sac roe harvests averaged approximately 23,000 tons, worth an average of \$6.6 million annually (Appendices B2 and B6). Spawn-on-kelp harvests have occurred in only 4 of the last 10 years, it seems unlikely that there will be a market for spawn-on-kelp. The harvests and value of the past are no longer indicative of future harvest or value. In 2007, sac roe harvests brought \$1.87 million to permit holders, the lowest value since 1987. No spawn-on-kelp fishery occurred in 2007.

STOCK ASSESSMENT

Since 1978, ADF&G has conducted aerial surveys throughout the herring spawning migration to estimate abundance, timing and distribution of Pacific herring in the Togiak District. Surveys

are conducted regularly from mid-April through May each year. Once herring are observed, surveys are conducted daily, weather permitting, until commercial fishing is completed.

Fundamental aerial survey techniques used in Togiak have remained largely unchanged since 1978 and are described in Lebida and Whitmore (1985). Herring school surface area is estimated through a handheld tube with a measured grid and a known focal length from a known altitude. Standard conversion factors of 1.52 tons (water depths of 16 ft or less), 2.58 tons (water depths between 16 and 26 ft) and 2.83 tons (water depths greater than 26 ft) per 538 ft² of surface area is applied to herring school surface areas to estimate the total biomass observed during each flight. Over the last 3 years, ADF&G has been converting aerial survey data collection to use Geographic Information Systems (GIS) performing “real-time” data entry and analysis.

Volunteer test fisheries, originally implemented by ADF&G to estimate roe quality, provide samples for age, size, and sex composition analysis. Samples are also collected from commercial harvest for age composition and size analysis. After the season, results are sometimes used to revise biomass estimates.

The status of the Togiak herring population is considered relatively stable. Annual biomass estimates have ranged from 83,000 tons in 1991 to 193,800 tons estimated in 1993 (Appendix B5). Abundance was estimated to be high in the late 1970s, declined in mid 1980s and remained relatively low and stable through 1991. Biomass levels from 1992 to 1994 increased to levels between 150,000 and 200,000 tons and estimates since 1995 range from 121,000 to 157,000 tons estimated after the 1999 season.

From 1987 to 2007, herring were generally first observed in the district in late April or early May, but were observed entering near shore areas as early as April 19 and as late as June 3. Biomass typically increases rapidly and peaks within 1 to 7 days of the first observation. In recent years, it has been difficult to get good surveys during the peak of the harvest; in 2002, the peak survey occurred after the fishery was completed. The herring run appears to be more protracted with lower peak biomass estimates but with more herring present for a longer period. In general, spawn is first observed any time within 3 days of the first herring observation. Spawning trends differ slightly from those observed for biomass. Spawning in all but 2 years accelerated rapidly, peaked from 1 to 4 days after the first occurrence of spawn and generally continued for a month in less intense spot spawns. Small “spot” spawns have been observed as late as June 14.

Herring ages 2 through 20 have been observed in the Togiak District but herring generally recruit into the fishery at age 5. Herring abundance is related to year class survival. Two major recruitment events have occurred since the State began monitoring the biomass in 1978. The 1977 and 1978 year classes recruited into the fishery in 1982 and 1983 and comprised a substantial component of the biomass until the early 1990s. Other lesser recruitment events have occurred since that time with the most recent being in 1996 and 1997 appearing as age-10 and age-11 herring in the 2007 season.

SAC ROE HERRING FISHERY OVERVIEW

Fishing and Industry Participation

Unlike most herring fisheries in Alaska, the Togiak sac roe fishery is not a limited entry fishery. Gillnets, purse seines and hand purse seines are legal gear. Since fishing effort is not limited, effort levels can vary substantially each year. Herring market conditions are one of the leading

factors influencing effort in a given year, but other factors also influence fleet size. Since the majority of herring permit holders in Togiak participate in other fisheries like Bristol Bay salmon, the health of the salmon market and markets for other fish indirectly affect effort in the herring fishery. Herring prices paid to permit holders the prior year and run timing also affect effort. In the last 6 years, processors have developed cooperative fleets for the purse seine fishery. Processors in conjunction with the coop members exclude entrants into the fishery. This is beginning to happen in the gillnet fleet as well.

Fishing effort in the sac roe fishery increased through the late 1980s, decreased early in the 1990s, then increased again to a peak in 1996 and has declined since 1997 (Appendix B1). Gillnet effort increased to 320 vessels in 1989, declined to a low of 75 vessels in 1993, and then peaked in 1996 with 461 vessels and has since declined to a low in 2006 of 49. Purse seine effort increased steadily from 1978 through 1989, when 310 vessels were observed. From 1990 to 1997, the purse seine fleet has fluctuated between 200 and 300 vessels, and has declined to less than 100 vessels since 1998. In 2007, the total number of purse seines was 25, an all-time low.

Reduction in fleet size has led to the development of cooperative seine fisheries that focus on fish with high quality roe rather than on quantity. Reduced fleet size has led to changes in the way the fishery is managed; because fishing is less aggressive, managers can allow extended openings leading to increased selectivity and smaller sets.

Industry participation in the fishery peaked between 1979 and 1982, when 33 processors participated in the herring fishery. From 1987 through 1997, 16 to 22 companies have purchased herring or spawn-on-kelp in Togiak. Over the past 6 years, industry participation has steadily declined to a low in 2007 of 5 companies. Processing capacity on the grounds has also declined from a high of 4,850 tons per day in 1996 to a low in 2007 of 1,500 tons per day.

Gear Specifications

The Alaska Board of Fisheries has reduced gear to limit harvesting capacity and control problems with waste. Prior to 1989, gillnet length was restricted to 150 fathoms. Each permit holder was restricted to the use of one legal limit of gear, but up to 300 fathoms could be operated from a fishing vessel. Under these gear allowances, lost and abandoned nets accounted for substantial amounts of waste during some years. In 1989, the BOF reduced the legal compliment of gillnet gear to a maximum of 100 fathoms in length per permit holder, restricted the operation from one vessel to 100 fathoms, and granted ADF&G the authority to reduce length to 50 fathoms inseason. The BOF transposed this regulation in 1992 when it restricted herring gillnet length to 50 fathoms but granted ADF&G the ability to allow up to 100 fathoms of gear by emergency order. This change enabled ADF&G to maintain an orderly fishery, helping ensure roe quality and minimizing potential waste. Gillnet depth remains unrestricted.

In October of 1989, the BOF reduced purse seines to 100 fathoms in length and 16 fathoms in depth. In 1995, the BOF further restricted purse seine depth to 625 meshes, of which 600 could be no larger than 1.5 inches. Depth was reduced in 1995 to control harvesting capacity. Adjustments in allowable gear have appeared to control waste and preserve order in the fishery without a substantial reduction in harvesting capacity.

Harvest and Management Performance

The commercial sac roe and spawn-on-kelp harvests in the Togiak District have been regulated by emergency order since 1981. From 1981 through 1987, informal policies directed ADF&G to

ensure that minimum threshold biomass levels were observed before opening the herring fishery, and to manage the fishery so that exploitation did not exceed 20%. In 1988, the BOF incorporated the threshold and exploitation rate policies into the Bering Sea Herring Fishery Management Plan (5 AAC 27.060) for Togiak and other Bering Sea fisheries. Herring biomass in Togiak has been estimated at levels well above threshold requirements since 1981.

Average annual exploitation rates for the last 20 years was slightly under 20% but for the last 10 years has been 18.3% (Appendix B2). Annual exploitation ranged from 32% to 13.5% and has not exceeded 20% since 1998. Although the sac roe, spawn-on-kelp and Dutch Harbor food and bait fisheries take Togiak herring, only sac roe harvests were used in calculating exploitation rates from 1981 to 1983. Estimates of herring biomass equivalent to spawn-on-kelp harvests and harvests in the Dutch Harbor fishery were not included when calculating exploitation rates until 1984 and 1988.

Herring purse seine and gillnet sac roe harvests are managed for allocation guidelines set forth in the Bristol Bay Herring Management Plan (BBHMP) (5 AAC 27.865). This plan states that, before opening the sac roe fishery, 1,500 short tons must be set aside for the spawn-on-kelp fishery, and 7% of the remaining available harvest is allocated to the Dutch Harbor food and bait fishery. After the spawn-on-kelp and the Dutch Harbor harvests are subtracted, the remaining harvestable surplus is allocated to the Togiak sac roe fishery: 30% of the harvestable surplus to the gillnet fleet, and 70% to the purse seine fleet. From 1988 through 2000, these percentages were set at 25% gillnet, 75% purse seine. The BOF modified these allocation percentages to the current ratio in 2001. To achieve gillnet and purse seine ratios, ADF&G adjusts fishing time and area for each gear type.

The management plan was modified again by the BOF in December 2003. The BOF allowed the inseason allocation management to be uncoupled after each gear type had harvested 80% of its allocation. The other change allowed up to 50% of the spawn-on-kelp allocation to be reallocated to the sac roe fishery if it was not harvested in a spawn-on-kelp fishery. In 2006 the BOF again changed the management plan and allowed the inseason allocation management to be uncoupled when both gear types had harvested 50% of their respective quotas.

The BOF and the industry have directed ADF&G to give product quality and fishery value an equal priority with exploitation objectives. Management Guidelines for Commercial Herring Sac Roe Fisheries (5 AAC 27.059) state the department may manage sac roe fisheries to enhance product value by opening areas in which sampling has demonstrated high herring roe content and large herring size, and to minimize harvest of recruit size herring. The BBHMP also states that the primary objective in the sac roe fishery is to prosecute an orderly, manageable fishery while striving for the highest level of product quality and a minimum of waste. Given these regulations and comments from industry, the department considers maximizing quality and value primary objectives in the Togiak fishery.

In 1992, over 20,000 tons of herring were harvested by purse seines in one 20-minute period. This magnitude of harvest from a single opening, combined with a limited processing capacity, resulted in holding times up to 7 days, and large-scale deterioration of flesh and roe quality. The poor product quality resulting from the 1992 harvest and increasing market demands for high quality roe, compelled ADF&G to recognize quality problems associated with extended holding times of 3 days or longer. Limiting individual harvests to less than 3 days of processing capabilities became a management objective after 1992.

From 1992 until 2000, ADF&G limited harvests by carefully controlling the open area and duration of each purse seine opening. Since 2000, the fishery has been somewhat more self-regulating in that processors have smaller fleets and are more restrictive about how long they will hold herring before processing. The reduced processing capacity makes it impossible for the whole quota to be processed in less than 10 days.

Although controlling harvest used to be the major concern for managers, the last 6 years have been quite different from the derby style openings of the early 1990s. The seine fleet is now divided into processor controlled cooperative fleets that harvest just enough herring to keep the processing lines full from day to day. This has allowed managers to open large areas of the district for up to 72 hours at a time without concern over having more fish harvested than processing capacity can handle in a short time. This is true for most of the fishery, but as the quota is approached, managers do have to guard against a large grab. However in 2007, with the lowest processing capacity in recent history it was clear preseason that there would be a significant portion of the quota left unharvested.

Cooperative seine fleets allow the participants to maximize the value of the fishery by reducing operating costs and allowing processors to control harvest, enforce a maximum set size and be highly selective in the fish they choose to harvest. This has led to higher inseason estimates of roe quality; postseason estimates have not necessarily increased however.

SPAWN-ON-KELP FISHERY OVERVIEW

Similar to the sac roe fishery, the spawn-on-kelp harvest in the Togiak District has been regulated by emergency order since 1981. Since 1984, the spawn-on-kelp fishery has been managed under guidelines provided in the Togiak District Herring Spawn on Kelp Management Plan (5 AAC 27.834). The plan essentially provides this fishery an allocation of 350,000 lbs. of product, roughly equivalent to 1,500 tons of herring. The plan also directs ADF&G to 1) rotate harvest areas (Figure 3) on a 2 to 3 year basis; 2) ensure product quality; and 3) include the herring equivalent to the spawn-on-kelp harvest when calculating exploitation.

Fishing effort in the spawn-on-kelp fishery increased steadily since its inception, and peaked at 532 participants in 1991 (Appendix B4). The fishery became limited to interim use and permanent permit holders in 1990. Following the 1991 season, the BOF limited the role of non-permit holders in the spawn-on-kelp fishery to assisting with transporting kelp after the period closure. By 1993, most permits issued for this fishery became permanent, stabilizing the number of permits at approximately 300.

From 1985 to 2006, the fishery was opened for all years except 1985, 1997, 1998, 2000, 2001, and 2004–2007. Actual harvests exceeded the 350,000 lb. guideline harvest level by more than 10% in 6 years and fell short by more than 10% in 4 years (Appendix B7). For the other years in which a fishery occurred, actual harvests were within 10% of the guideline. The 2 to 3 year rotation schedule for kelp harvest areas was adhered to in all years except 1987. In 1987, area K-9 was opened after harvest in area K-10 fell short of the harvest guideline. The western half of area K-9 was opened the previous year.

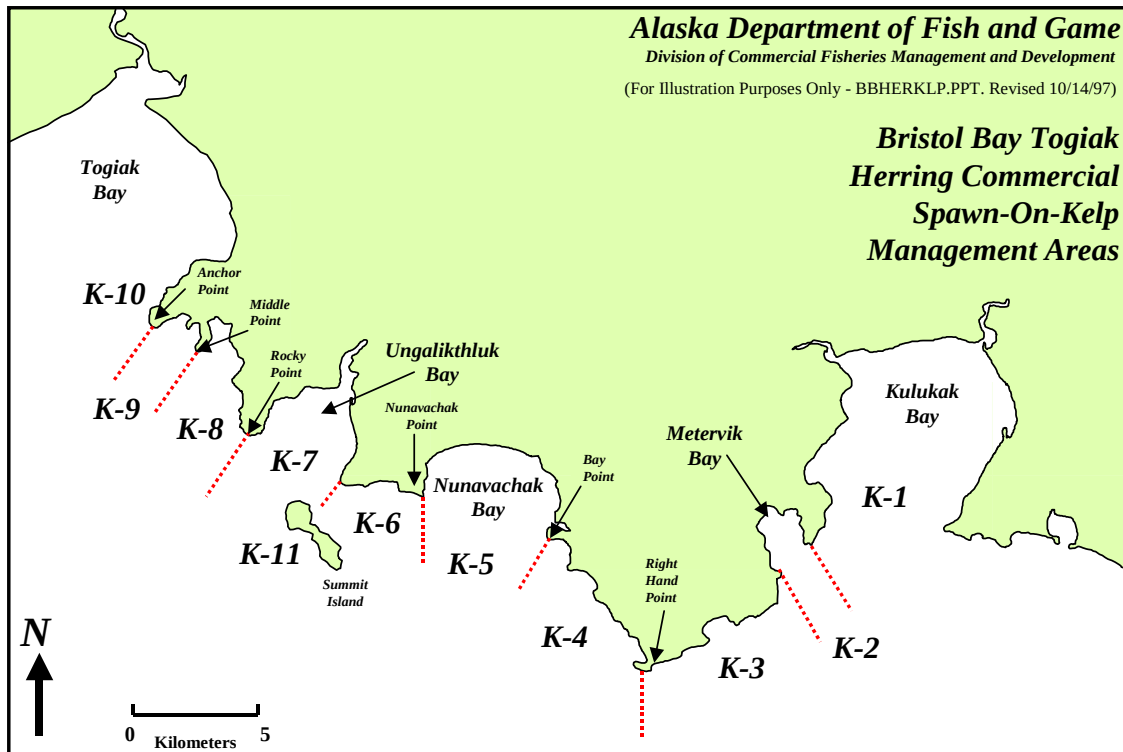


Figure 3.—Spawn-on-kelp management areas (K-1 through K-11), Togiak District, Bristol Bay.

To ensure product quality ADF&G, industry representatives and permit holders collect spawn-on-kelp samples to display at a public meeting each season, usually after the peak of herring spawning has occurred. Management decisions are based on comments from industry and users regarding sample quality.

2007 SEASON SUMMARY

Biomass Estimation

Aerial surveys of the Togiak District began April 27, 2007. Herring were first sighted in the district on the afternoon of May 6, during a survey by department staff. Reports of additional fish in other areas of the district were received May 8, and staff flew another survey May 9 documenting over 11,000 tons of herring. On May 10, under poor conditions due to low cloud cover, 18,000 tons of herring were documented in parts of Kulukak and Togiak Bay. With 18,000 tons of herring documented in just a small portion of the district, and with no way to fly additional surveys in the next few days, staff stipulated that the threshold biomass was present on the grounds. Department staff documented between 78,000 and 84,000 tons of herring on each of four surveys between May 13 and May 20. Survey conditions were generally fair. A postseason survey occurred on May 29 and documented 50,000 tons of herring, and again on June 4, 18,000 tons of herring were still on the grounds.

Age Composition

Approximately 3,000 herring were sampled for age, size and sex information from 11 May to 22 May 2007. Samples were collected from the commercial purse seine fishery, commercial gillnet

fishery, and test fishing. Length frequency analysis, based on the last 5 years of age at length information, was used to differentiate between age classes in season.

A sample size of 2,305 was collected from the commercial purse seine fishery. Age 4-5 herring comprised 12.0% of the sample, age 6-7 herring comprised 24.7% of the sample, age 8-9 comprised 30.8% of the sample and age 10+ fish comprised 32.5% of the sample. Samples collected from the commercial purse seine fishery averaged 381g. Sex composition was divided 49.4% male and 50.6% female.

A total of 405 fish were sampled from the commercial gillnet fishery. Age 6-7 herring comprised 4.7% of the sample, age 8-9 comprised 39.3% of the sample and age 10+ herring comprised 56.0% of the sample. Average weight of herring sampled from the commercial gillnet harvest was 437g. Sex composition was divided 49.1% male and 50.9% female.

A sample size of 290 fish was collected from test fishing after the commercial fishery closed. Age 4-5 herring comprised 16.2% of the sample, age 6-7 herring comprised 27.2% of the sample, age 8-9 comprised 30.3% of the sample and age 10+ fish comprised 26.2% of the sample. The average weight of herring collected from test fishing was not calculated as 98.8% of the sample was spawned out. The sex ratio was divided 50.3% male and 49.7% female.

During the commercial purse seine fishery ages 8, 9 and 10+ year old fish were the predominant age classes comprising 63.3% of the catch.

Fishery Overview

The Togiak District herring fisheries are managed in accordance with the Bristol Bay Herring Management Plan (5 AAC 27.865), which was modified by the Alaska Board of Fisheries in December 2003. The plan specifies a maximum allowable exploitation rate of 20% and allocates the harvestable surplus among all the fisheries harvesting the Togiak herring stock. The 2007 preseason forecasted biomass was 134,566 tons. The projected harvest guideline for each fishery was as follows: 1,500 tons herring equivalent or 350,000 lbs. of product for the spawn-on-kelp fishery; 1,779 tons for the Dutch Harbor food and bait fishery; and the remaining 23,634 tons to the sac roe fishery. The management plan specifies that ADF&G will manage the sac roe fishery so that 70% of the removal is taken by purse seines (16,544 tons in 2007) and 30% of the removal is taken by gillnets (7,090 tons in 2007).

The Bristol Bay Herring Management Plan and other regulations direct ADF&G to conduct an orderly, manageable fishery and strive for the highest level of product quality with a minimum of waste. In recent years the seine fleet has been comprised of processor-organized cooperatives. For the 2007 season, management staff again planned to allow long-duration seine openings over a large area of the district and to let the processors limit harvest for their individual fleets based on processing capacity. Input from the fleet and industry indicated that this would slow the “race for fish” and allow for improved quality and value.

During the winter of 2006-2007, climatic conditions were colder than the recent average; there was a long cold spell in southwestern Alaska in February and March and the sea surface still had ice offshore of Cape Constantine through April. Water temperatures in the Bering Sea and in Togiak Bay were colder than recent history as well.

To predict spawning timing for Togiak herring, ADF&G used a temperature model based on sea surface temperatures from Unimak Pass. These temperatures predicted the first spawn would be

May 10, with the first harvest occurring May 11. Although air temperature was warmer in April than expected, sea surface temperatures remained cold. The temperature model proved to be fairly accurate.

Department staff polled processing companies preseason to assess processing capacity for the 2007 season and to inquire about additional concerns or issues. The poll indicated that two less companies would be participating in the 2007 Togiak herring fishery and two other companies would be reducing their processing capacity. The processing capacity for 2007 was estimated to be 1,490 tons per day. However, after registration the projected processing capacity was only 1,420 tons. Although there were no major concerns preseason, department staff held a teleconference on March 29 to discuss the upcoming season with processing companies and permit holders. There were some questions about the size of the gillnet fleet and allocation, but the conference took less than 15 minutes.

Purse Seine Summary

The Togiak purse seine fishery opened at 6:00 p.m. on May 10 with no prior test fishing. Because of the small number of boats and processors participating in the fishery, there was no need to have an official test fishery. Instead all participants could make sets and determine whether the fish were of marketable quality at their own pace and by their own standards.

The first purse seine opening was 76-hours. The first harvest did not occur until late on May 11. Fishing was extended in 24 or 48 hour blocks until May 19. Harvest during this time was orderly and uneventful. On May 19, fishing was extended for 16 hours until 2:00 p.m. on May 20. At this time there were some concerns of smaller fish being harvested. Fish size on May 18 was 335 grams. Although the fish size did increase for fish harvested on May 19, it was still small. Fish size on the morning of May 20, was still above 300 grams, but there were reports of released sets that had fish smaller than 300 grams. The fishery was extended until 10:00 p.m. on May 20, with a request for mid period reports by 8:00 p.m. for consideration of a possible extension. The mid-period reports indicated many sets were being made and released because of small fish size. Based on these reports the fishery was allowed to close as scheduled and remained closed for the rest of the season.

Gillnet Summary

The Togiak gillnet fishery began at 6:00 p.m., May 10 until further notice with no prior test fishing. The fleet size has decreased dramatically over the last several years. With fewer participants in the fishery it has become more difficult to get individuals willing to test fish and the whole fleet has benefited from the work of a few volunteers. Additionally, rising fuel prices have made it more costly to test fish. Because of these reasons the fishery was opened allowing individuals to work with their companies to determine when fish were of suitable quality. This was discussed preseason with several processors and they agreed it gave them more flexibility. The first harvest in the gillnet fishery was reported late on May 12. Harvest continued at a steady pace through May 21 when processors began to stop buying. Although the fishery remained open until June 1, there was no reported harvest after May 25.

Spawn on Kelp

No companies registered to buy herring spawn-on-kelp in 2007, therefore there were no openings and no commercial harvest.

EXPLOITATION

The 2007 herring fisheries were managed for a maximum exploitation rate of 20% of the preseason biomass estimate. Combining the sac roe harvest (16,183 tons with an average weight of 394 grams and an average roe percentage of 10.40%) and documented dead loss of 320 tons resulted in an exploitation of 16,503 tons. If the Dutch Harbor fishery harvest is equal to the quota of 1,779 tons, then the total harvest for 2007 will be estimated to be 18,282. Based on the preseason biomass estimate of 134,566 tons, the 2007 exploitation rate would be calculated at approximately 13.6%.

EXVESSEL VALUE

The projected exvessel value of the 2007 Togiak herring fishery is approximately \$1.6 million. This is based on grounds price estimate of \$100 per ton for seine caught fish and \$100 per ton for gillnet caught fish and does not include any post-season adjustments. A value of \$1.6 million is the lowest value since the inception of the Togiak herring fishery.

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Permanent Employees with the Division of Commercial Fisheries

West Side: Tim Sands, Nushagak Biologist; Charlotte Westing, Togiak Biologist; Phillip Carpenter, Facilities and Equipment Maintenance; Karen Brito, Program Technician.

East Side: Steve Morstad, Naknek/Kvichak Biologist; Carol Klutsch, Program Technician.

Anchorage: Paul Salomone, Egegik/Ugashik Biologist; Tim Baker, Area Research Biologist; Fred West, Research Biologist; Chuck Brazil, Research Biologist; Katie Sechrist, Information Officer.

Seasonal Employees with the Division of Commercial Fisheries

West Side: Susan Hansen, Seafood Industry Coordinator (Herring and Salmon); Eric Barnhill, Herring; Simon Prennace, Herring, Field Camp Coordinator; Kiana Putman, Herring; James Isdell, Supply Technician; Jennifer Bennis, BBNA Intern; Aaron Thrasher, Wood River Tower; Graham Gablehouse, Wood River Tower; Stacy Haesaert, Wood River Tower; Trevor Bird, Igushik River Tower; Kelly Berg, Igushik River Tower; Stephanie Soiseth, Igushik River Tower; Jed Smith, Togiak River Tower; Bristol Whitmore, Togiak River Tower; Jon Barton, Togiak River Tower; Konrad Mittelstadt, Nushagak River Sonar; Aaron Tiern, Nushagak River Sonar; Jeanette LeClair, Nushagak River Sonar; Lucas Hegg, Nushagak River Sonar; Colton Lipka, Nushagak River Sonar; Heidi Isernhagen, Nushagak River Sonar.

East Side: Mary Emery, Seafood Industry Coordinator/Office Manager; Alesha Weiland, Night Office Staff; Fred Tilly, Kvichak Smolt/ Field Camp Coordinator; Karen Saunders, Fish Ticket Editor; Cathy Tilly, Scale Reader; Sally Hamm, District Test Fish; Marna McMurry, Camp Supply Coordinator; Susan Klock, Naknek Tower; Nick Butryn, Naknek River Tower; Adam Koogle, Naknek River Tower; Kelsey Romig, Kvichak River Test Fish; Dawson Marchant Kvichak River Test Fish; Brad Russell, Egegik River Test Fish; Dirk Middleton, Egegik River Test Fish; Jordan Macrander, Ugashik River Test Fish; Nicole Swenson, Ugashik River Test Fish; Matt Dobbs, Kvichak River Tower; Rob Regnart, Kvichak River Tower; Casey Jacobs, Kvichak River Tower; , Taylor Ritter, Alagnak River Tower; Derek Frohbieter Alagnak River Tower; Bruce Short, Alagnak River Tower; Justin Macrander, Ugashik River Tower; Patrick McCormick, Ugashik River Tower; Jared Van Kirk, Ugashik River Tower; Chris Sewright, Egegik River Tower; Ian Fo, Egegik River Tower; Derek Mosely, Egegik River Tower.

Permanent Employees with the Division of Subsistence

James Fall, Subsistence Resource Program Manager; Ted Krieg, Subsistence Resource Specialist; Eunice Dyasuk, Program Technician; Dave Caylor Analyst/Programmer.

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TABLES

Table 1.—Comparison of inshore sockeye salmon actual versus forecast inshore run, actual escapements versus escapement goals, and actual versus projected commercial harvest, by river system and district, in thousands of fish, Bristol Bay, 2007.

District and River System ^a	Inshore Run			Escapement		Inshore Catch		
	Forecast	Actual	Percent Deviation ^b	Range	Actual	Projected Harvest	Actual	Percent Deviation ^b
NAKNEK-KVICHAK DISTRICT								
Kvichak River	3,880	4,281	9	2,000-10,000	2,810	1,880	1,470	-28
Alagnak (Branch) River	2,030	4,323	53	170-200	2,466	1,030	1,857	45
Naknek River	5,640	8,640	35	800-1,400	2,945	4,540	5,694	20
Total	11,550	17,244	33	6,970-11,600	8,221	7,450	9,021	17
EGEGIK DISTRICT	9,200	7,926	-16	800-1,400	1,433	8,100	6,494	-25
UGASHIK DISTRICT	4,180	7,607	45	500-1,200	2,599	3,330	5,008	34
NUSHAGAK DISTRICT								
Wood River	5,850	6,364	8	700-1,500	1,528	4,750	4,836	2
Igushik River	1,200	1,721	30	150-300	415	970	1,305	26
Nushagak-Mulchatna	1,870	2,520	26	340-760	518	1,320	2,002	34
Total	8,920	10,605	16	1,190-2,560	2,461	7,040	8,143	14
TOGIAK DISTRICT	590	1,069	45	120-270	270	440	799	45
TOTAL BRISTOL BAY	34,440	44,451	23	9,560-16,960	14,820	26,360	29,465	11

^a The Bristol Bay inshore forecast does not include several minor river systems, including the Snake River drainage in Nushagak District, and the Kulukak, Osviak, Matogak and Slug River system in Togiak District. Harvests, escapements, and total runs for these smaller systems are not included in this table so that forecast efficacy may be gauged. Totals may not equal column sums due to rounding.

^b Percent deviation = (actual - forecast)/actual. Note: this is a change from previous years.

Table 2.—Inshore forecast of sockeye salmon returns by age class, river system and district, in thousands of fish, Bristol Bay, 2007.

District and	2-Ocean			3-Ocean			
River System	1.2 (2003)	2.2 (2002)	Total	1.3 (2002)	2.3 (2001)	Total	Total
NAKNEK-KVICHAK DISTRICT							
Kvichak River	1,276	951	2,227	1,393	256	1,649	3,876
Branch River	402	127	529	1,434	62	1,496	2,025
Naknek River	964	614	1,578	3,375	684	4,059	5,637
Total	2,642	1,692	4,334	6,202	1,002	7,204	11,538
EGEGIK DISTRICT	2,291	2,888	5,179	2,471	1,553	4,024	9,203
UGASHIK DISTRICT	2,185	705	2,890	1,006	283	1,289	4,179
NUSHAGAK DISTRICT							
Wood River	2,184	41	2,225	3,416	206	3,622	5,847
Igushik River	168	12	180	985	31	1,016	1,196
Nushagak River	289	27	316	1,232	22	1,254	1,570
Total	2,641	80	2,721	5,633	259	5,892	8,613
TOGIAK DISTRICT	99	60	159	335	94	429	588
TOTAL BRISTOL BAY ^a							
Number	9,858	5,425	15,283	15,647	3,191	18,838	34,121
Percent	29	16	45	46	9	55	100

^a Sockeye salmon of several minor age classes are expected to contribute an additional 1–2% to the total return.

Table 3.—Inshore run of sockeye salmon by age class, river system and district, in thousands of fish, Bristol Bay, 2007.

District and River System^a		1.2	2.2	2-Ocean	1.3	2.3	3-Ocean	1.4	Total^b
NAKNEK-KVICHAK DISTRICT									
Kvichak River									
	Number	2,684	136	2,820	759	680	1,439	3	4,281
	Percent	62.7	3.2	65.9	17.7	15.9	33.6	0.1	99.5
Alagnak (Branch) River									
	Number	2,584	69	2,653	1,604	49	1,653	14	4,323
	Percent	59.8	1.6	61.4	37.1	1.1	38.2	0.2	99.6
Naknek River									
	Number	3,761	256	4,017	3,730	841	4,571	51	8,640
	Percent	43.5	3.0	46.5	43.2	9.7	52.9	0.6	99.4
Total									
	Number	9,029	461	9,490	6,093	1,570	7,663	68	17,244
	Percent	52.4	2.7	55.0	35.3	9.1	44.4	0.4	99.9
EGEGIK DISTRICT									
	Number	2,636	1,303	3,939	2,124	1,759	3,883	7	7,926
	Percent	33.3	16.4	49.7	26.8	22.2	49.0	0.1	98.7
UGASHIK DISTRICT									
	Number	4,479	473	4,952	2,236	342	2,578	54	7,607
	Percent	58.9	6.2	65.1	29.4	4.5	33.9	0.7	99.7
NUSHAGAK DISTRICT									
Wood River									
	Number	4,331	241	4,572	1,715	47	1,762	20	6,364
	Percent	68.1	3.8	71.8	26.9	0.7	27.7	0.3	99.5
Igushik River									
	Number	1,193	34	1,227	450	35	485	9	1,721
	Percent	69.3	2.0	71.3	26.1	2.0	28.2	0.5	99.5
Nushagak River									
	Number	390	36	426	1,750	41	1,791	257	2,520
	Percent	15.5	1.4	16.9	69.4	1.6	71.1	10.2	88.0
Total									
	Number	5,914	311	6,225	3,915	123	4,038	286	10,605
	Percent	55.8	2.9	58.7	36.9	1.2	38.1	2.7	96.8
TOGIK DISTRICT^c									
	Number	242	25	267	732	62	794	5	1,069
	Percent	22.6	2.3	25.0	68.5	5.8	74.3	0.5	99.3
TOTAL BRISTOL BAY^d									
	Number	22,300	2,573	24,873	15,100	3,856	18,956	420	44,451
	Percent	50.2	5.8	56.0	34.0	8.7	42.6	0.9	98.6

^a The inshore run data does not include the South Peninsula catch of Bristol Bay sockeye or immature high seas by-catch.

^b Totals include minor age classes not listed in this table however, minor rivers and creeks are not included.

^c Does not include rivers other than Togiak River.

^d Totals may not equal column sums due to rounding.

Table 4.—Inshore commercial catch and escapement of sockeye salmon, in numbers of fish, Bristol Bay, 2007.

District and River System	Catch	Escapement	Total Run
NAKNEK-KVICHAK DISTRICT			
Kvichak River	1,470,358	2,810,208	4,280,566
Alagnak (Branch) River	1,856,986	2,466,414	4,323,400
Naknek River	5,694,394	2,945,304	8,639,698
Total	9,021,738	8,221,926	17,243,664
EGEGIK DISTRICT	6,493,655	1,432,500	7,926,155
UGASHIK DISTRICT	5,007,572	2,599,186 ^a	7,606,758
NUSHAGAK DISTRICT			
Wood River	4,835,519	1,528,086	6,363,605
Igushik River	1,305,338	415,452	1,720,790
Nushagak-Mulchatna	2,001,747	518,041	2,519,788
Total	8,142,604	2,461,579	10,604,183
TOGIAK DISTRICT			
Togiak Lake		269,646	269,646
Togiak River/Tributaries	741,562	^c	741,562
Kulukak System	57,848	^c	57,848
Other Systems ^b	0	^c	0
Total	799,410	269,646	1,069,056
TOTAL BRISTOL BAY	29,464,979	14,984,837	44,449,816

^a Includes Ugashik River Tower and aerial survey estimates from King Salmon and Dog Salmon rivers.

^b Other Systems escapement includes Negukthlik, Ungalikthluk, Osviak, Matogak, Quigmy, and Slug Rivers.

^c Weather and high water prevented any aerial surveys for sockeye this year.

Table 5.—Summary of sockeye salmon test fishing indices in the Naknek/Kvichak District, by index area and date, Bristol Bay, 2007.

Date	Naknek R. Mouth	Pederson Point	Cutbank & Graveyard	Gravel Spit	Half Moon Bay	Middle Naknek	Johnston Hill	Division Buoy	Ships Anchorage	Deadmans Sands
6/30	7	260				64	254		128	
7/03		173	619	114	322					
7/05	104		297	3					196	
7/07	49			691	305		442	63		193

Note: All indices expressed in numbers of fish/100 fathoms/hour to the nearest index point. Blank cells represent no data.

Table 6.—Summary of sockeye salmon test fishing indices in the Nushagak District, by index area and date, Bristol Bay, 2007.

Date	Hanson Point	Across Hanson Pt	Tule Point	Picnic Point	Grassy Island	Bradford Point	One Bend up From Hansen
6/18	440	191	0	0	0	0	
	211	427	0				
6/19	612	0	0	0	0		
	0	0	0	0	0		
6/20	177	0	0	0	0		
	0	0	0	0	0		
6/21	534	346	184	0	0		
	800	197	0	0	0		
6/22	2,922	584	4,091	659	1,484		
	1,377	355	2,991				
6/22	2,063	1,505	1,911	0	0		
	2,043	732	1,029				
6/23	2,264	2,948	3,476	233	612		
	2,378	3,293	2,703				
6/24	1,472	3,101	1,579	0	168		
	541	3,063	470				
6/24	755	1,270	3,980	4,277	596		
	1,677	1,829	3,557				
6/25	2,438	1,026	3,323	2,051	2,108		
	2,382	1,034	6,613				
6/25	1,985	313	8,743	822	5,176		
	674	2,763	4,904				
6/26	4,399	1,700	7,149	0	175		
	2,743	1,062	5,129				
6/26	1,622	4,657	2,072	1,057	1,490		
	721	2,637	3,176				
6/27	1,116	159	1,333	0	0		375
	1,172	337	784				
6/27	175	482	813	0	771		
	342	472	157				
6/28	1,370	163	3,509	0	927		
	2,526	935	4,226				
6/28	337	110	1,289	2,416	5,444		
	478	464	1,286				
6/29	2,893	492	2,612	1,147	1,173		
	4,490	798	4,245				
6/29	707	720	3,930	2,377	2,366		
	436	1,487	1,657				
6/30	4,200	1,723	2,235	0	183		
	3,094	1,038	1,370				
6/30	1,938	1,838	2,227	421	1,774		
	763	1,108	2,577				

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Table 6.—Page 2 of 2.

Date	Hanson Point	Across Hanson Pt.	Tule Point	Picnic Point	Grassy Island	Bradford Point	One Bend up From Hansen
7/01	2,259	1,029	1,934	136	2,890		
	3,057	1,180	2,807				
7/01	3,081	3,363	5,031	1,361	719		
	3,138	4,530	3,231				
7/02	1,789	1,223	1,997	335	5,286		
	2,544	1,808	1,047				
7/02	1,511	1,321	2,468	1,643	518		
	1,138	1,067	3,174				
7/03	1,983	1,024	629	0	0		
	2,177	1,581	884				
7/04	4,443	1,258	2,193	210	4,841		
	4,331	1,733	2,422				
7/05	3,509	730	4,889	1,930	3,938		
	2,939	1,776	3,168				
7/06	5,566	3,728	3,964	0	0		
	3,588	2,378	2,089				

Note: All indices expressed in number of fish/100 fathoms-hours to the nearest full index point. Indices listed first for each station were recorded using 5 1/8 inch mesh gear, second with 4 3/4 inch gear. Blank cells represent no data.

Table 7.—Commercial fishing emergency orders, by district and stat area, Bristol Bay, 2007.

Number ^a	Start Date	Start Time		End Date	End Time	Effective time	
Naknek/Kvichak District							
Drift Net							
AKN.49	July 09	8:30 p.m.	to	July 10	5:00 a.m.	8.5-hours	
AKN.54	July 10	9:30 p.m.	to	July 11	6:30 a.m.	9.0-hours	
AKN.54	July 11	8:30 a.m.	to	July 11	5:00 p.m.	8.5-hours	
AKN.56	July 11	8:00 p.m.	to	July 12	7:30 a.m.	11.5-hours	
AKN.56	July 12	9:30 a.m.	to	July 12	6:00 p.m.	8.5-hours	
AKN.59	July 12	9:00 p.m.	to	July 13	8:30 a.m.	11.5-hours	
AKN.59	July 13	10:0 a.m.	to	July 13	7:00 p.m.	9.0-hours	
AKN.62	July 13	9:30 p.m.	to	July 14	9:00 a.m.	11.5-hours	
AKN.62	July 14	12:00 p.m.	to	July 14	7:00 p.m.	7.0-hours	
AKN.66	July 14	10:00 p.m.	to	July 15	10:00 a.m.	12.0-hours	
AKN.66	July 15	1:00 p.m.	to	July 15	9:00 p.m.	8.0-hours	
AKN.69	July 16	2:00 a.m.	to	July 16	11:00 a.m.	9.0-hours	
AKN.69	July 16	2:00 p.m.	to	July 16	10:00 p.m.	8.0-hours	
AKN.69	July 17	3:00 a.m.	to	July 27	9:00 a.m.	246.0-hours	^b
Set Net							
AKN.01	June 1	9:00 a.m.	to	July 22	9:00 a.m.		^{b,c}
AKN.12	June 25	7:30 a.m.	to	June 25	3:30 p.m.	8.0-hours	
AKN.15	June 25	9:30 p.m.	to	June 26	1:30 a.m.	4.0-hours	
AKN.15	June 26	7:30 a.m.	to	June 25	1:00 p.m.	5.5-hours	
AKN.17	June 26	10:30 p.m.	to	June 27	2:30 a.m.	4.0-hours	
AKN.17	June 27	8:30 a.m.	to	June 25	1:30 p.m.	5.0-hours	
AKN.19	June 27	11:00 p.m.	to	June 28	4:00 a.m.	5.0-hours	
AKN.47	July 09	6:30 a.m.	to	July 09	2:30 p.m.	8.0-hours	
AKN.49	July 09	2:30 p.m.	to	July 27	9:00 a.m.	427.5-hours	^b
AKN.50							
Naknek Section							
Drift Net							
AKN.01	June 1	9:00 a.m.	to	July 22	9:00 a.m.		^{b,c}
AKN.12	June 25	8:30 a.m.	to	June 25	3:30 p.m.	7.0-hours	
AKN.15	June 25	9:30 p.m.	to	June 26	1:30 a.m.	4.0-hours	
AKN.15	June 26	7:30 a.m.	to	June 25	1:00 p.m.	5.5-hours	
AKN.17	June 26	10:30 p.m.	to	June 27	2:30 a.m.	4.0-hours	
AKN.17	June 27	8:30 a.m.	to	June 25	1:30 p.m.	5.0-hours	
AKN.19	June 27	11:00 p.m.	to	June 28	4:00 a.m.	5.0-hours	
AKN.47	July 09	7:00 a.m.	to	July 09	2:30 p.m.	7.5-hours	
AKN.49	July 10	7:30 a.m.	to	July 10	3:00 p.m.	7.5-hours	
Naknek River Special Harvest Area							
Drift Net							
AKN.19	June 28	11:00 a.m.	to	June 28	4:00 p.m.	5.0-hours	
AKN.19	June 29	12:30 a.m.	to	June 29	7:30 a.m.	7.0-hours	
AKN.23	June 29	12:00 p.m.	to	June 29	5:00 p.m.	5.0-hours	
AKN.23	June 30	1:00 p.m.	to	June 30	5:30 p.m.	4.5-hours	
AKN.26	June 30	5:30 p.m.	to	June 30	7:00 p.m.	1.5-hours	^d
AKN.26	July 01	1:30 a.m.	to	July 01	11:00 a.m.	9.5-hours	

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Table 7.–Page 2 of 9.

Number ^a	Start Date	Start Time		End Date	End Time	Effective time
Naknek River Special Harvest Area						
AKN.26	July 02	2:00 a.m.	to	July 02	11:30 a.m.	9.5-hours
AKN.29	July 02	1:30 p.m.	to	July 02	8:30 p.m.	7.0-hours
AKN.29	July 03	2:30 a.m.	to	July 03	12:00 p.m.	9.5-hours
AKN.34	July 04	3:00 a.m.	to	July 04	1:30 p.m.	10.5-hours
AKN.34	July 04	3:30 p.m.	to	July 04	11:30 p.m.	7.5-hours
AKN.37	July 05	4:00 p.m.	to	July 06	12:30 a.m.	8.5-hours
AKN.37	July 06	4:30 a.m.	to	July 06	2:00 p.m.	9.5-hours
AKN.37	July 06	5:30 p.m.	to	July 07	2:00 a.m.	8.5-hours
AKN.41	July 07	6:30 p.m.	to	July 08	2:30 a.m.	8.0-hours
AKN.41	July 08	6:00 a.m.	to	July 08	2:30 p.m.	8.5-hours
AKN.43	July 09	6:30 a.m.	to	July 09	2:30 p.m.	8.0-hours ^e
AKN.43	July 09	8:30 p.m.	to	July 10	4:30 a.m.	8.0-hours ^e
AKN.50	July 10	12:30 a.m.	to	July 10	8:30 a.m.	8.0-hours
Set Net						
AKN.23	June 30	1:00 a.m.	to	June 30	10:00 a.m.	4.5-hours
AKN.23	June 29	4:30 p.m.	to	June 29	11:30 p.m.	7.0-hours
AKN.26	July 01	1:00 p.m.	to	July 01	8:00 p.m.	7.0-hours
AKN.29	July 03	2:30 p.m.	to	July 03	10:00 p.m.	7.5-hours
AKN.34	July 03	10:00 p.m.	to	July 04	12:00 a.m.	2.0-hours ^d
AKN.34	July 05	3:30 a.m.	to	July 05	3:00 p.m.	11.5-hours
AKN.41	July 07	4:30 a.m.	to	July 07	3:00 p.m.	10.5-hours
AKN.43	July 08	7:30 p.m.	to	July 08	4:30 a.m.	9.0-hours
AKN.47	July 08	4:30 a.m.	to	July 08	2:30 p.m.	10.0-hours ^d
Alagnak River Special Harvest Area						
Drift Net						
AKN.30	July 02	4:00 p.m.	to	July 02	8:00 p.m.	4.0-hours
AKN.30	July 03	4:30 a.m.	to	July 03	11:00 a.m.	6.5-hours
Alagnak River Special Harvest Area						
Set Net						
AKN.30	July 03	5:00 p.m.	to	July 03	9:00 p.m.	4.0-hours
AKN.30	July 04	5:00 a.m.	to	July 04	12:00 p.m.	7.0-hours
AKN.34	July 04	5:30 p.m.	to	July 04	10:00 p.m.	4.5-hours
AKN.34	July 05	6:00 a.m.	to	July 05	12:30 p.m.	6.5-hours
AKN.37	July 05	6:30 p.m.	to	July 05	11:00 p.m.	4.5-hours
AKN.37	July 06	7:00 a.m.	to	July 06	12:30 p.m.	5.5-hours
AKN.41	July 06	7:30 p.m.	to	July 07	12:30 a.m.	5.0-hours
AKN.41	July 07	7:30 a.m.	to	July 07	1:00 p.m.	5.5-hours
AKN.43	July 07	8:30 p.m.	to	July 08	1:30 a.m.	5.0-hours
AKN.43	July 08	8:30 a.m.	to	July 08	2:00 p.m.	5.5-hours
AKN.47	July 08	9:30 p.m.	to	July 09	2:30 a.m.	5.0-hours

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Table 7.–Page 3 of 9.

Number ^a	Start Date	Start Time		End Date	End Time	Effective time
Egegik District						
Drift Net						
AKN.02	June 01	12:00 a.m.	to	June 16	9:00 a.m.	^f
AKN.06	June 18	2:15 p.m.	to	June 18	11:15 a.m.	9.0-hours
AKN.08	June 20	4:15 p.m.	to	June 21	1:15 a.m.	9.0-hours
AKN.09	June 22	4:45 a.m.	to	June 22	10:45 a.m.	6.0-hours
AKN.11	June 23	5:30 a.m.	to	June 23	10:00 a.m.	4.5-hours
AKN.14	June 25	7:30 a.m.	to	June 25	1:30 p.m.	6.0-hours
AKN.16	June 26	8:00 p.m.	to	June 26	11:59 p.m.	4.0-hours
AKN.16	June 27	8:30 a.m.	to	June 27	12:30 p.m.	4.0-hours
AKN.48	July 09	6:30 a.m.	to	July 09	11:30 a.m.	5.0-hours
AKN.50	July 09	8:00 p.m.	to	July 10	12:00 a.m.	4.0-hours ^g
AKN.50	July 10	8:00 a.m.	to	July 10	12:00 p.m.	4.0-hours
AKN.53	July 10	10:00 p.m.	to	July 11	4:00 a.m.	6.0-hours
AKN.53	July 11	8:00 a.m.	to	July 11	1:00 p.m.	5.0-hours
AKN.57	July 11	10:00 p.m.	to	July 12	4:00 a.m.	6.0-hours
AKN.60	July 13	4:00 a.m.	to	July 13	7:00 a.m.	3.0-hours
AKN.60	July 13	10:30 a.m.	to	July 13	2:30 p.m.	4.0-hours
AKN.63	July 13	10:30 p.m.	to	July 14	4:00 a.m.	5.5-hours
AKN.63	July 14	10:30 a.m.	to	July 14	4:30 p.m.	6.0-hours
AKN.67	July 15	1:00 a.m.	to	July 15	6:00 a.m.	5.0-hours
AKN.67	July 15	11:30 a.m.	to	July 15	8:30 p.m.	9.0-hours
AKN.70	July 15	8:30 p.m.	to	July 27	9:00 a.m.	276.5-hours ^b
Set Net						
AKN.02	June 01	12:00 a.m.	to	June 16	9:00 a.m.	^f
AKN.06	June 18	2:15 p.m.	to	June 18	11:15 a.m.	9.0-hours
AKN.08	June 20	4:15 p.m.	to	June 21	1:15 a.m.	9.0-hours
AKN.09	June 22	4:45 a.m.	to	June 22	12:45 p.m.	8.0-hours
AKN.11	June 23	5:30 a.m.	to	June 23	1:30 p.m.	8.0-hours
AKN.14	June 25	7:00 a.m.	to	June 25	3:00 p.m.	8.0-hours
AKN.16	June 27	8:30 a.m.	to	June 27	4:30 p.m.	8.0-hours
AKN.50	July 10	6:30 a.m.	to	July 10	2:30 p.m.	8.0-hours
AKN.53	July 11	7:00 a.m.	to	July 11	4:00 p.m.	9.0-hours
AKN.57	July 11	9:00 p.m.	to	July 12	5:00 p.m.	20.0-hours
AKN.60	July 13	9:30 a.m.	to	July 13	5:30 p.m.	8.0-hours
AKN.63	July 14	10:30 a.m.	to	July 14	7:30 p.m.	9.0-hours
AKN.67	July 15	11:30 a.m.	to	July 15	8:30 p.m.	9.0-hours
AKN.70	July 15	8:30 p.m.	to	July 27	9:00 a.m.	276.5-hours ^b
Egegik Special Harvest Area						
Drift Net						
AKN.21	June 28	10:30 a.m.	to	June 28	2:30 p.m.	4.0-hours
AKN.25	June 29	10:30 a.m.	to	June 29	4:30 p.m.	6.0-hours
AKN.25	June 30	12:30 p.m.	to	June 30	5:00 p.m.	4.5-hours
AKN.27	July 01	12:30 p.m.	to	July 01	4:30 a.m.	4.0-hours
AKN.31	July 02	1:00 p.m.	to	July 02	4:00 p.m.	3.0-hours

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Table 7.–Page 4 of 9.

Number ^a	Start Date	Start Time		End Date	End Time	Effective time
AKN.32	July 03	1:00 p.m.	to	July 03	7:00 p.m.	6.0-hours
AKN.35	July 04	2:00 p.m.	to	July 04	7:00 p.m.	5.0-hours
AKN.35	July 05	4:00 p.m.	to	July 05	9:00 p.m.	5.0-hours
AKN.38	July 06	6:00 a.m.	to	July 06	9:00 a.m.	3.0-hours
AKN.38	July 06	5:00 p.m.	to	July 06	10:00 p.m.	5.0-hours
AKN.39	July 07	7:00 a.m.	to	July 07	10:00 a.m.	4.0-hours
AKN.39	July 07	6:00 p.m.	to	July 07	11:00 p.m.	5.0-hours
AKN.44	July 08	5:00 a.m.	to	July 08	11:00 a.m.	6.0-hours
AKN.45	July 08	7:00 p.m.	to	July 09	12:00 a.m.	5.0-hours
AKN.38	July 06	8:00 a.m.	to	July 06	2:00 p.m.	6.0-hours
AKN.42	July 06	7:30 p.m.	to	July 07	2:00 a.m.	6.5-hours
AKN.42	July 07	8:30 a.m.	to	July 07	2:30 p.m.	6.0-hours
AKN.46	July 07	8:30 p.m.	to	July 08	2:30 a.m.	6.0-hours
AKN.46	July 08	9:00 a.m.	to	July 08	3:00 p.m.	6.0-hours
AKN.52	July 08	10:00 p.m.	to	July 09	3:00 a.m.	5.0-hours
AKN.52	July 09	10:30 a.m.	to	July 09	3:30 p.m.	5.0-hours
AKN.54	July 09	9:30 p.m.	to	July 10	4:00 a.m.	6.5-hours
Egegik Special Harvest Area						
Set Net						
AKN.21	June 28	9:30 a.m.	to	June 28	5:30 p.m.	8.0-hours
AKN.25	June 29	10:30 a.m.	to	June 29	6:30 p.m.	8.0-hours
AKN.25	June 30	11:30 a.m.	to	June 30	7:30 p.m.	8.0-hours
AKN.27	July 01	11:30 a.m.	to	July 01	7:30 a.m.	8.0-hours
AKN.32	July 03	1:00 p.m.	to	July 03	11:00 p.m.	10.0-hours
AKN.35	July 04	2:00 p.m.	to	July 05	12:00 a.m.	10.0-hours
AKN.35	July 05	3:00 p.m.	to	July 06	1:00 a.m.	10.0-hours
AKN.38	July 06	4:00 p.m.	to	July 07	12:00 a.m.	8.0-hours
AKN.39	July 07	4:00 a.m.	to	July 07	4:00 p.m.	12.0-hours
AKN.44	July 08	5:00 a.m.	to	July 08	1:00 p.m.	8.0-hours
AKN.45	July 09	6:00 a.m.	to	July 09	4:00 p.m.	10.0-hours
AKN.35	July 10	5:00 a.m.	to	July 05	1:00 p.m.	8.0-hours
AKN.38	July 06	6:45 a.m.	to	July 06	2:45 p.m.	8.0-hours
AKN.42	July 07	7:30 a.m.	to	July 07	3:30 p.m.	8.0-hours
AKN.52	July 08	9:30 p.m.	to	July 09	5:30 a.m.	8.0-hours
AKN.52	July 09	9:30 a.m.	to	July 09	5:30 p.m.	8.0-hours
Ugashik District						
Drift Net						
AKN.03	June 01	12:00 a.m.	to	June 22	9:00 a.m.	24.0-hours 12.0-hours 6.0-hours 11.0-hours 10.0-hours 10.0-hours
AKN.13	June 24	3:30 a.m.	to	June 25	3:30 a.m.	
AKN.22	June 29	9:00 a.m.	to	June 29	3:00 p.m.	
AKN.28	July 01	10:30 a.m.	to	July 01	4:30 p.m.	
AKN.33	July 03	1:00 p.m.	to	July 04	12:00 a.m.	
AKN.36	July 04	1:30 p.m.	to	July 04	11:30 p.m.	
AKN.40	July 06	2:00 p.m.	to	July 07	12:00 a.m.	

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Table 7.–Page 5 of 9.

Number^a	Start Date	Start Time		End Date	End Time	Effective time
AKN.40	July 07	3:00 a.m.	to	July 07	1:00 p.m.	10.0-hours
AKN.42	July 07	4:00 p.m.	to	July 07	10:00 p.m.	6.0-hours
AKN.42	July 08	4:00 a.m.	to	July 08	10:00a.m.	6.0-hours
AKN.46	July 08	4:00 p.m.	to	July 08	10:00 p.m.	6.0-hours
AKN.46	July 09	5:00 a.m.	to	July 09	11:00 a.m.	6.0-hours
AKN.52	July 10	10:00 a.m.	to	July 10	4:00 p.m.	6.0-hours
AKN.52	July 10	9:00 p.m.	to	July 11	3:00 a.m.	6.0-hours
AKN.52	July 11	8:00 a.m.	to	July 11	2:00 p.m.	6.0-hours
AKN.58	July 11	6:00 p.m.	to	July 12	6:00 p.m.	24.0-hours
AKN.61	July 13	4:00 a.m.	to	July 13	2:00 p.m.	8.0-hours
AKN.64	July 14	7:00 a.m.	to	July 14	5:00 p.m.	10.0-hours
AKN.68	July 15	10:00 a.m.	to	July 15	10:00 p.m.	12.0-hours
AKN.71	July 15	10:00 p.m.	to	July 27	9:00 a.m.	275.0-hours ^{b,d}
Set Net						
AKN.03	June 01	12:00 a.m.	to	June 22	9:00 a.m.	^b
AKN.13	June 24	3:30 a.m.	to	June 25	3:30 a.m.	24.0-hours
AKN.22	June 29	9:00 a.m.	to	June30	9:00 a.m.	24.0-hours
AKN.33	July 03	12:00 p.m.	to	July 04	12:00 p.m.	24.0-hours
AKN.40	July 06	2:00 p.m.	to	July 07	12:00 a.m.	10.0-hours
AKN.42	July 07	3:00 p.m.	to	July 01	1:00 a.m.	10.0-hours
AKN.46	July 08	4:00 p.m.	to	July 09	2:00 a.m.	10.0-hours
AKN.51	July 10	5:00 a.m.	to	July 10	3:00 p.m.	10.0-hours
AKN.52	July 11	6:00 a.m.	to	July 11	4:00 p.m.	10.0-hours
AKN.58	July 11	6:00 p.m.	to	July 12	6:00 p.m.	24.0-hours
AKN.61	July 13	4:00 a.m.	to	July 14	4:00 a.m.	24.0-hours
AKN.65	July 14	8:00 a.m.	to			
AKN.71			to	July 27	9:00 a.m.	313.0-hours ^b
Ugashik River Special Harvest Area						
Drift Net						
AKN.02	June 19	3:30 a.m.	to	June 19	3:30 p.m.	12.0-hours
AKN.02	June 20	4:30 a.m.	to	June 20	4:30 p.m.	12.0-hours
AKN.02	June 21	5:00 a.m.	to	June 21	5:00 p.m.	12.0-hours
AKN.02	June 22	5:30 a.m.	to	June 22	5:30 a.m.	12.0-hours
AKN.60	July 11	12:30 p.m.	to	July 11	8:00 p.m.	7.5-hours
AKN.60	July 12	11:30 a.m.	to	July 12	7:30 p.m.	8.0-hours
AKN.67	July 12	7:30 p.m.	to	July 12	10:30 p.m.	3.0-hours
AKN.67	July 13	12:30 p.m.	to	July 13	10:30 p.m.	10.0-hours
AKN.70	July 14	1:30 p.m.	to	July 14	9:30 p.m.	8.0-hours
Ugashik River Special Harvest Area						
Set Net						
AKN.02	June 01	12:00 a.m.	to	June 16	12:00 a.m.	weekly schedule
AKN.02	June 19	3:30 a.m.	to	June 19	3:30 p.m.	12.0-hours
AKN.02	June 20	4:30 a.m.	to	June 20	4:30 p.m.	12.0-hours
AKN.02	June 21	5:00 a.m.	to	June 21	5:00 p.m.	12.0-hours
AKN.02	June 22	5:30 a.m.	to	June 22	5:30 a.m.	12.0-hours
AKN.60	July 11	12:30 p.m.	to	July 12	9:30 p.m.	33.5-hours
AKN.60	July 12	11:30 a.m.		July 12	9:30 p.m.	10.0-hours
AKN.67	July 13	12:30 p.m.	to	July 13	10:30 p.m.	10.0-hours
AKN.70	July 14	1:30 p.m.	to	July 14	9:30 p.m.	8.0-hours

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Table 7.–Page 6 of 9.

Number ^a	Start Date	Start Time		End Date	End Time	Effective time	
Nushagak District							
Nushagak Section							
Drift Net							
DLG.01	June 01	10:00 a.m.	to	June 02	4:00 a.m.	18.0-hours	h,i
DLG.02	June 03	8:00 p.m.	to	June 04	2:00 p.m.	18.0-hours	h,i
DLG.03	June 06	7:00 p.m.	to	June 07	7:00 a.m.	12.0-hours	h,i
DLG.05	June 09	4:00 a.m.	to	June 09	4:00 p.m.	12.0-hours	h,i
DLG.07	June 11	3:00 a.m.	to	June 11	11:00 a.m.	8.0-hours	h,i
DLG.11	June 13	6:00 a.m.	to	June 13	12:00 p.m.	6.0-hours	h,i
DLG.26	June 25	3:00 p.m.	to	June 25	6:00 p.m.	3.0-hours	c
DLG.27	June 26	3:00 a.m.	to	June 26	7:00 a.m.	4.0-hours	
DLG.30	June 26	1:30 p.m.	to	June 26	9:30 p.m.	8.0-hours	
DLG.30	June 27	2:00 a.m.	to	June 27	10:00 a.m.	8.0-hours	
DLG.31	June 27	2:00 p.m.	to	June 27	11:00 p.m.	9.0-hours	
DLG.31	June 28	3:00 a.m.	to	June 28	11:00 a.m.	8.0-hours	
DLG.32	June 28	3:00 p.m.	to	June 28	8:00 p.m.	5.0-hours	
DLG.32	June 29	3:00 p.m.	to	June 29	8:00 p.m.	5.0-hours	
DLG.33	June 30	3:30 p.m.	to	June 30	10:30 a.m.	7.0-hours	
DLG.33	June 30	2:00 p.m.	to	June 30	10:00 p.m.	8.0-hours	
DLG.34	July 1	4:00 a.m.	to	July 1	11:00 a.m.	7.0-hours	
DLG.34	July 1	4:00 a.m.	to	July 1	11:00 p.m.	8.0-hours	
DLG.35	July 2	6:00 a.m.	to	July 2	12:00 p.m.	6.0-hours	
DLG.36	July 03	7:00 a.m.	to	July 03	12:00 p.m.	5.0-hours	
DLG.37	July 03	7:00 p.m.	to	July 04	12:00 a.m.	5.0-hours	
DLG.37	July 04	8:00 a.m.	to	July 04	1:00 p.m.	5.0-hours	
DLG.38	July 04	8:00 p.m.	to	July 04	11:00 p.m.	3.0-hours	
DLG.39	July 05	8:30 p.m.	to	July 06	1:30 a.m.	5.0-hours	
DLG.39	July 06	9:00 a.m.	to	July 06	3:00 p.m.	6.0-hours	
DLG.40	July 06	8:00 p.m.	to	July 07	3:00 a.m.	7.0-hours	
DLG.40	July 07	8:00 a.m.	to	July 07	3:30 p.m.	7.5-hours	
DLG.41	July 07	9:00 p.m.	to	July 08	4:00 a.m.	7.0-hours	
DLG.41	July 08	8:00 a.m.	to	July 08	3:30 p.m.	7.5-hours	
DLG.42	July 8	8:00 p.m.	to	July 9	4:00 a.m.	8.0-hours	
DLG.42	July 9	8:00 a.m.	to	July 9	4:30 p.m.	8.0-hours	
DLG.43	July 9	10:00 p.m.	to	July 10	7:00 a.m.	9.0-hours	
DLG.43	July 10	10:00 a.m.	to	July 10	6:00 p.m.	8.0-hours	
DLG.44	July 10	10:00 p.m.	to	July 11	7:00 a.m.	9.0-hours	
DLG.44	July 11	10:00 a.m.	to	July 11	7:00 p.m.	9.0-hours	
DLG.45	July 12	12:00 a.m.	to	July 12	8:00 a.m.	8.0-hours	
DLG.45	July 12	11:00 a.m.	to	July 12	8:00 p.m.	9.0-hours	
DLG.47	July 13	1:00 a.m.	to	July 13	9:00 a.m.	8.0-hours	
DLG.47	July 13	12:00 p.m.	to	July 13	9:00 p.m.	9.0-hours	
DLG.48	July 14	2:00 a.m.	to	July 14	10:00 a.m.	8.0-hours	
DLG.48	July 14	1:00 p.m.	to	July 14	10:00 p.m.	9.0-hours	
DLG.49	July 15	3:00 a.m.	to	July 15	11:00 a.m.	8.0-hours	
DLG.49	July 15	2:00 p.m.	to	July 15	10:00 p.m.	8.0-hours	
DLG.50	July 15	10:00 p.m.	to				d
DLG.52			to	July 24	8:00 p.m.		e
DLG.52	July 27	8:30 a.m.	to	July 27	8:30 p.m.	12.0-hours	

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Table 7.–Page 7 of 9.

Number ^a	Start Date	Start Time		End Date	End Time	Effective time	
DLG.52	July 27	8:30 a.m.	to	July 27	8:30 p.m.	12.0-hours	
DLG.52	July 29	10:00 a.m.	to	July 29	10:00 p.m.	12.0-hours	
DLG.54	August 1	12:00 a.m.	to	August 1	12:00 p.m.	12.0-hours	
DLG.54	August 3	1:00 a.m.	to	August 3	1:00 p.m.	12.0-hours	
DLG.54	August 5	3:00 a.m.	to	August 5	3:00 p.m.	12.0-hours	
DLG.57	August 8	6:00 a.m.	to	August 8	6:00 p.m.	12.0-hours	
DLG.57	August 10	8:00 a.m.	to	August 10	8:00 p.m.	12.0-hours	
DLG.57	August 12	10:00 a.m.	to	August 12	10:00 p.m.	12.0-hours	
Set Net							
DLG.01	June 01	1:30 a.m.	to	June 01	7:30 p.m.	18.0-hours	h,i
DLG.02	June 03	2:00 p.m.	to	June 04	8:00 a.m.	18.0-hours	h,i
DLG.03	June 06	4:30 p.m.	to	June 07	4:30 a.m.	12.0-hours	h,i
DLG.05	June 09	6:30 a.m.	to	June 09	6:30 p.m.	12.0-hours	h,i
DLG.07	June 11	8:30 a.m.	to	June 11	4:30 p.m.	8.0-hours	h,i
DLG.11	June 13	10:30 a.m.	to	June 13	4:30 p.m.	6.0-hours	h,i
DLG.24	June 24	8:30 a.m.	to	June 24	4:30 p.m.	8.0-hours	
DLG.25	June 25	9:30 a.m.	to	June 25	2:30 p.m.	5.0-hours	b
DLG.27	June 25	2:30 p.m.	to	June 26	2:30 p.m.	24.0-hours	d
DLG.30	June 26	2:30 p.m.	to	June 27	2:30 p.m.	24.0-hours	d
DLG.31	June 27	2:30 p.m.	to	June 28	2:30 p.m.	24.0-hours	d
DLG.32	June 28	2:30 p.m.	to	June 28	9:00 p.m.	6.5-hours	d
DLG.32	June 29	12:30 a.m.	to	June 29	8:30 p.m.	20.0-hours	
DLG.33	June 29	8:30 p.m.	to	June 30	8:30 p.m.	24.0-hours	
DLG.34	June 30	8:30 p.m.	to	July 1	8:30 p.m.	24.0-hours	d
DLG.35	July 1	8:30 p.m.	to	July 2	8:30 p.m.	24.0-hours	d
DLG.36	July 2	8:30 p.m.	to	July 3	12:00 p.m.	15.5-hours	d
DLG.36	July 3	3:00 p.m.	to	July 4	4:00 p.m.	25.0-hours	
DLG.38	July 4	4:00 p.m.	to	July 5	12:00 p.m.	20.0-hours	d
DLG.39	July 5	5:00 p.m.	to	July 6	6:00 p.m.	25.0-hours	
DLG.40	July 6	6:00 p.m.	to				j
DLG.54	August 1	12:00 a.m.	to	August 1	12:00 p.m.	12.0-hours	
DLG.54	August 3	1:00 a.m.	to	August 3	1:00 p.m.	12.0-hours	
DLG.54	August 5	3:00 a.m.	to	August 5	3:00 p.m.	12.0-hours	
DLG.57	August 8	6:00 a.m.	to	August 8	6:00 p.m.	12.0-hours	
DLG.57	August 10	8:00 a.m.	to	August 10	8:00 p.m.	12.0-hours	
DLG.57	August 12	10:00 a.m.	to	August 12	10:00 p.m.	12.0-hours	
Igushik Section							
Drift Net							
DLG.01	June 01	10:00 a.m.	to	June 02	4:00 a.m.	18.0-hours	h,i
DLG.02	June 03	8:00 p.m.	to	June 04	2:00 p.m.	18.0-hours	h,i
DLG.03	June 06	7:00 p.m.	to	June 07	7:00 a.m.	12.0-hours	h,i
DLG.05	June 09	4:00 a.m.	to	June 09	4:00 p.m.	12.0-hours	h,i
DLG.07	June 11	3:00 a.m.	to	June 11	11:00 a.m.	8.0-hours	h,i
DLG.11	June 13	6:00 a.m.	to	June 13	12:00 p.m.	6.0-hours	h,i
DLG.41	July 07	9:00 p.m.	to	July 08	4:00 a.m.	7.0-hours	c
DLG.41	July 08	8:00 a.m.	to	July 08	3:30 p.m.	7.5-hours	
DLG.42	July 8	8:00 p.m.	to	July 9	4:00 a.m.	8.0-hours	
DLG.42	July 9	8:00 a.m.	to	July 9	4:00 p.m.	8.0-hours	

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Number ^a	Start Date	Start Time		End Date	End Time	Effective time
DLG.43	July 9	10:00 p.m.	to	July 10	7:00 a.m.	9.0-hours
DLG.43	July 10	10:00 a.m.	to	July 10	6:00 p.m.	8.0-hours
DLG.44	July 10	10:00 p.m.	to	July 11	7:00 a.m.	9.0-hours
DLG.44	July 11	10:00 a.m.	to	July 11	7:00 p.m.	9.0-hours
DLG.45	July 12	12:00 a.m.	to	July 12	8:00 a.m.	8.0-hours
DLG.45	July 12	11:00 a.m.	to	July 12	8:00 p.m.	9.0-hours
DLG.47	July 13	1:00 a.m.	to	July 13	9:00 a.m.	8.0-hours
DLG.47	July 13	12:00 p.m.	to	July 13	9:00 p.m.	9.0-hours
DLG.48	July 14	2:00 a.m.	to	July 14	10:00 a.m.	8.0-hours
DLG.48	July 14	1:00 p.m.	to	July 14	10:00 p.m.	9.0-hours
DLG.49	July 15	3:00 a.m.	to	July 15	11:00 a.m.	8.0-hours
DLG.49	July 15	2:00 p.m.	to	July 15	10:00 p.m.	8.0-hours ^d
DLG.50	July 15	10:00 p.m.	to			^e
DLG.52			to	July 24	8:00 p.m.	
DLG.52	July 27	8:30 a.m.	to	July 27	8:30 p.m.	12.0-hours
DLG.52	July 29	10:00 a.m.	to	July 29	10:00 p.m.	12.0-hours
DLG.54	August 1	12:00 a.m.	to	August 1	12:00 p.m.	12.0-hours
DLG.54	August 3	1:00 a.m.	to	August 3	1:00 p.m.	12.0-hours
DLG.54	August 5	3:00 a.m.	to	August 5	3:00 p.m.	12.0-hours
DLG.57	August 8	6:00 a.m.	to	August 8	6:00 p.m.	12.0-hours
DLG.57	August 10	8:00 a.m.	to	August 10	8:00 p.m.	12.0-hours
DLG.57	August 12	10:00 a.m.	to	August 12	10:00 p.m.	12.0-hours
Igushik Section						
Set Net						
DLG.01	June 01	10:00 a.m.	to	June 02	4:00 a.m.	18.0-hours ^{h,i}
DLG.02	June 03	8:00 p.m.	to	June 04	2:00 p.m.	18.0-hours ^{h,i}
DLG.03	June 06	7:00 p.m.	to	June 07	7:00 a.m.	12.0-hours ^{h,i}
DLG.05	June 09	4:00 a.m.	to	June 09	4:00 p.m.	12.0-hours ^{h,i}
DLG.07	June 11	3:00 a.m.	to	June 11	11:00 a.m.	8.0-hours ^{h,i}
DLG.11	June 13	6:00 a.m.	to	June 13	12:00 p.m.	6.0-hours ^{h,i}
DLG.15	June 18	4:00 p.m.	to	June 19	12:00 a.m.	8.0-hours ^c
DLG.15	June 19	5:00 p.m.	to	June 20	1:00 a.m.	8.0-hours
DLG.18	June 20	6:00 p.m.	to	June 21	2:00 a.m.	8.0-hours
DLG.19	June 21	7:00 p.m.	to	June 22	3:00 a.m.	8.0-hours
DLG.21	June 22	8:00 p.m.	to	June 23	4:00 a.m.	8.0-hours
DLG.22	June 23	9:00 p.m.	to	June 24	5:00 a.m.	8.0-hours
DLG.23	June 24	8:30 a.m.	to	June 24	4:30 p.m.	8.0-hours
DLG.25	June 25	9:30 a.m.	to	June 25	5:30 p.m.	8.0-hours
DLG.27	June 26	10:00 a.m.	to	June 26	6:00 p.m.	8.0-hours
DLG.30	June 27	10:30 a.m.	to	June 27	6:30 p.m.	8.0-hours
DLG.31	June 28	11:00 a.m.	to	June 28	7:00 p.m.	8.0-hours
DLG.32	June 29	12:00 p.m.	to	June 29	8:00 p.m.	8.0-hours
DLG.33	June 30	12:30 p.m.	to	June 30	8:30 p.m.	8.0-hours
DLG.34	July 1	1:30 p.m.	to	July 01	9:30 p.m.	8.0-hours
DLG.35	July 01	9:30 p.m.	to	July 2	1:30 a.m.	4.0-hours ^d
DLG.35	July 02	2:00 p.m.	to	July 3	2:00 a.m.	12.0-hours
DLG.36	July 03	3:00 p.m.	to	July 04	4:00 p.m.	25.0-hours
DLG.38	July 04	4:00 p.m.	to	July 05	5:00 p.m.	25.0-hours ^d
DLG.39	July 05	5:00 p.m.	to	July 06	6:00 p.m.	25.0-hours ^d

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Table 7.–Page 9 of 9.

Number ^a	Start Date	Start Time		End Date	End Time	Effective time	
DLG.40	July 06	6:00 p.m.	to				j
DLG.54	August 1	12:00 a.m.	to	August 1	12:00 p.m.	12.0-hours	
DLG.54	August 3	1:00 a.m.	to	August 3	1:00 p.m.	12.0-hours	
DLG.54	August 5	3:00 a.m.	to	August 5	3:00 p.m.	12.0-hours	
DLG.57	August 8	6:00 a.m.	to	August 8	6:00 p.m.	12.0-hours	
DLG.57	August 10	8:00 a.m.	to	August 10	8:00 p.m.	12.0-hours	
DLG.57	August 12	10:00 a.m.	to	August 12	10:00 p.m.	12.0-hours	
Togiak District							
Drift and Set Net							
DLG.28	June 25	9:00 a.m.	to	June 27	9:00 a.m.	48.0-hours	k
DLG.28	June 25	9:00 a.m.	to	June 28	9:00 a.m.	72.0-hours	k
DLG.46	July 14	9:00 p.m.	to	July 16	9:00 a.m.	60.0-hours	d
DLG.51	July 20	9:00 a.m.	to	July 22	9:00 a.m.	48.0-hours	d
DLG.53	July 27	9:00 a.m.	to	July 29	9:00 a.m.	48.0-hours	d
DLG.56	August 03	9:00 a.m.	to	August 05	9:00 a.m.	48.0-hours	d

^a Prefix code on emergency orders indicate where the announcement originated. (“AKN” for King Salmon field office and “DLG” for the Dillingham field office).

^b Gillnet mesh size is restricted to 5.5 inches or less.

^c The 48 hour waiting period waived effective 9:00 a.m. July 12.

^d Weekly schedule 9:00 a.m. Monday until 9:00 a.m. Friday.

^e Extends current fishing period.

^f Removal of running lines not required.

^g The 48-hour waiting period waved effective 10:30 a.m. July 10.

^h gillnet mesh is restricted to 7.5 inches or larger.

ⁱ Includes the Chinook area.

^j Opens commercial fishing until further notice.

^k Supersedes EO 2F-T-49-06.

Table 8.–Daily district registration of drift gillnet permit holders by district, Bristol Bay, 2007.

Date	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
6/19	117	140	36	292	16	601
6/20	136	190	33	292	18	669
6/21	154	255	29	292	23	753
6/22	167	367	17	294	25	870
6/23	178	389	306	13	28	914
6/24	197	374	25	400	28	1,024
6/25	264	376	26	484	28	1,178
6/26	281	361	33	613	33	1,321
6/27 ^a						
6/28	291	364	46	714	40	1,455
6/29	303	368	68	721	40	1,500
6/30	324	366	75	741	41	1,547
7/01	327	355	88	741	41	1,552
7/02	327	357	93	739	41	1,557
7/03	331	354	107	712	44	1,548
7/04	329	357	118	692	46	1,542
7/05	335	359	142	652	46	1,534
7/06	337	361	162	615	47	1,522
7/07	353	362	189	554	50	1,508
7/08	383	353	200	516	50	1,502
7/09	415	357	217	495	50	1,534
7/10	441	354	232	257	50	1,334
7/11	459	388	238	436	51	1,572
7/12	490	364	284	384	51	1,573
7/13	497	322	317	368	51	1,555
7/14	539	264	340	331	51	1,525
7/15	568	241	388	317	51	1,565
7/16	599	222	428	314	51	1,614
7/17	597	220	440	313	51	1,621
Average	348	326	167	475	41	1,357

^a Registration information not available.

Table 9.—Commercial salmon catch by date and species, in numbers of fish, Naknek-Kvichak District, Bristol Bay, 2007.

Date	Hours fished		Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set	Drift	Set						
6/12	^a 24.0	24.0		1						
6/13	^a 24.0	24.0		1						
6/18	15.0	15.0	52	20	10,247	24	407			10,678
6/19	24.0	24.0	61	46	6,432	34	178			6,644
6/20	24.0	24.0	72	76	14,186	115	412	0	0	14,713
6/21	24.0	24.0	103	81	30,480	81	1,290	0	0	31,851
6/22	9.0	9.0	41	50	26,438	17	894	0	0	27,349
6/25	7.0	8.0	219	128	81,245	12	1,523	0	0	82,780
6/26	4.0/5.5	4.0/5.5	315	198	60,934	9	1,594	0	0	62,537
6/27	4.0/5.0	4.0/5.0	360	209	120,049	20	2,363	0	0	122,432
6/28	^b 5.0/5.0	5.0	433	134	202,623	20	3,777	0	0	206,420
6/29	^b 7.0/5.0		516		235,731	20	3,226	0	0	238,977
6/30	^{b,c} 6.0	9.0	302	225	246,955	9	2,142	0	0	249,106
7/01	^b 9.5	7.0	274	376	140,914	11	1,308	0	0	142,233
7/02	^{b,d} 9.5/7.0/4.0		590		351,048	15	3,331	0	0	354,394
7/03	^{b,c,d} 6.5/9.5	4.0/9.5	323	559	567,310	20	2,418	0	0	569,748
7/04	^{b,c,d} 10.5/7.5	7.0/4.5	620	10	599,832	23	3,742	0	0	603,597
7/05	^{b,d} 8.5	11.5/6.5/5.0	359	430	611,016	10	2,888	0	0	613,914
7/06	^{b,d} 9.5/8.5	5.5/5.0	308	2	299,342	13	2,573	0	0	301,928
7/07	^{b,d} 8.0	10.5/5.5/5.0	298	324	300,787	14	2,090	0	0	302,891
7/08	^{b,c,d} 8.5	4.5/5.0/5.0	480	195	366,641	26	3,853	0	0	370,520
7/09	^{b,c} 7.5	24.0	387	569	443,183	28	5,156	0	0	448,367
7/10	8.5/7.5	24.0	730	398	547,809	67	12,495	0	0	560,371
7/11	9.0/8.5	24.0	669	491	824,562	76	25,502	0	1	850,141
7/12	11.0/8.5	24.0	695	392	612,112	84	23,782	0	0	635,978
7/13	11.5/9.0	24.0	787	389	634,207	85	25,944	0	2	660,238
7/14	9.0/7.0	24.0	759	307	341,956	83	16,076	0	0	358,115
7/15	12.0/8.0	24.0	734	337	407,152	98	20,259	0	0	427,509
7/16	9.0/8.0	24.0	704	323	357,375	95	27,769	0	2	385,241
7/17	21.0	24.0	396	267	141,627	91	14,780	0	2	156,500
7/18	24.0	24.0	353	222	108,631	53	20,723	0	5	129,412
7/19	24.0	24.0	305	170	114,921	79	25,707	0	3	140,710
7/20	24.0	24.0	219	122	74,419	76	34,732	0	5	109,232
7/21	24.0	9.0	148	113	53,025	64	20,601	1	29	73,720
7/22	24.0	24.0	105	89	31,347	28	20,067	2	73	51,517

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Table 9.—Page 2 of 2.

Date	Hours fished		Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set	Drift	Set						
7/23	24.0	24.0	94	85	20,901	23	13,987	0	60	34,971
7/24	24.0	15.0	68	69	12,125	11	9,523	1	9	21,669
7/25	24.0	24.0	21	50	8,664	23	4,581	0	39	13,307
7/26	24.0	24.0	19	39	7,857	7	8,238	0	37	16,139
7/27	9.0	9.0	5	12	2,030	4	1,891	0	6	3,931
7/30	15.0	15.0	2	13	1,078	1	2,458	0	204	3,741
7/31	24.0	24.0	10	28	1,797	3	4,457	0	513	6,770
8/01	24.0	24.0	3	10	485	1	197	0	61	744
8/02	24.0	24.0	3	4	652	0	303	0	89	1,044
8/03	9.0	9.0	2	6	413	0	1	0	20	434
8/06 ^a	15.0	15.0	1	2						178
8/07	24.0	24.0	2	5	169	2	229	2	164	566
8/08	24.0	24.0	1	7	142	1	100	0	79	322
8/09	24.0	24.0	0	8	131	0	18	0	138	287
8/10 ^a	9.0	9.0	0	2						253
8/13	15.0	15.0	0	7	213	0	15	2	292	522
8/14	24.0	24.0	0	7	126	0	8	1	64	199
8/15 ^a	24.0	24.0	0	2						86
8/21 ^a	24.0	24.0	0	1						198
Total					9,021,738	1,579	379,651	9	2,162	9,405,139

Note: Blank cells represent days with no data.

^a Less than four permit holders fished, harvest confidential.

^b Fishery was open in the Naknek River Special Harvest Area (NRSHA).

^c District test fish.

^d Fishery was open in the Alagnak River Special Harvest Area and NRSHA.

Table 10.—Commercial salmon catch by date and species, in numbers of fish, Egegik District, Bristol Bay, 2007.

Date	Hours fished		Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set	Drift	Set						
6/12	24	24	1	3	356		2	0		358
6/13	^a 9	9								
6/14	15	15	8	29	4,933	2	255	0		5,190
6/15	9	9	3	17	1,827	3	109	0		1,939
6/16										-
6/17										-
6/18	9	9	74	96	23,028	12	1,035	0		24,075
6/19										-
6/20	^b 7.75	7.75	159	114	75,273	31	3,438	0		78,742
6/21	1.25	1.25								
6/22	6	8	231	127	70,333	10	2,602	0		72,945
6/23	4.5	8	256	118	45,869	5	1,423	0		47,297
6/24										-
6/25	6	8	298	111	56,776	18	1,224	0		57,335
6/26	4		131		33,645	11	799	0		35,138
6/27	4	8	479	97	163,590	21	3,629	0		167,240
6/28	4	8	295	158	79,713	55	3,521	0		83,289
6/29	6	8	292	118	53,320	36	2,832	0		56,188
6/30	4.5	8	286	104	60,109	45	1,054	0		61,208
7/1	4	8	296	173	308,772	45	3,050	0		311,867
7/2	3		315		215,503	7	2,706	0		218,216
7/3	6	10	312	275	518,186	13	4,463	0		522,662
7/4	5	10	322	259	400,060	22	3,373	0		403,455
7/5	5	9	309	294	532,617	15	4,274	0		536,906
7/6	5	9	390	286	427,871	25	3,746	0		431,642
7/7	8	12	495	98	313,937	5	2,774	0		316,716
7/8	11	8	616	169	442,083	14	5,959	0		448,056
7/9	6	10	522	203	467,489	11	8,336	0		475,836
7/10	6	8	512	260	412,671	12	9,905	0		422,588
7/11	11	11	565	249	371,403	9	9,789	0		381,201
7/12	9	17	555	365	413,963	15	8,707	0		422,685
7/13	8.5	8	375	196	167,969	6	3,863	0		171,838
7/14	10	9	382	145	130,211	8	3,569	0		133,788
7/15	17.5	12.5	250	154	126,838	13	4,668	0		131,519
7/16	24	24	219	191	166,166	13	6,366	0		172,545
7/17	24	24	242	196	147,146	13	10,790	0		157,949
7/18	24	24	202	130	62,606	12	7,621	0		70,239
7/19	24	24	131	115	45,801	4	5,706	0		51,511
7/20	24	24	110	78	42,463	3	7,589	0		50,055
7/21	24	24	70	34	21,594	3	9,573	0		31,170
7/22	24	24	73	34	27,316	3	5,114	0	9	32,442
7/23	24	24	65	38	17,855	4	4,048	0	15	21,922
7/24	24	24	40	28	9,743	3	2,698	0	0	12,444
7/25	24	24	21	19	8,370	1	544	0	18	8,933
7/26	24	24	15	11	5,231	0	310	0	0	5,541

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Table 10.—Page 2 of 2.

Date	Hours fished		Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set	Drift	Set						
7/27	9	9	3	4	1,037	0	-	0	0	1,037
7/28										-
7/29										-
7/30	15	15	13	6	5,044	2	518	-	542	6,106
7/31	24	24	12	9	4,852	2	1,182	0	2324	8,360
8/1	24	24	1	6	351	0	107	0	136	594
8/2	24	24	13	1	3,173	0	613	0	1440	5,226
8/3	9	9								-
8/4										-
8/5										-
8/6	15	15	5	6	762	0	555	0	930	2,247
8/7	24	24	8	7	1,428	3	574	0	2,087	4,092
8/8	24	24	10	6	2,566	1	632	0	2,116	5,315
8/9	24	24	12		1,155	0	287	0	2,421	3,863
8/10	9	9								-
8/11										-
8/12										-
8/13	15	15	11	2	292	4	594	0	2,759	3,649
8/14 ^a	24	24		1	29		0	0	353	382
8/15 ^a	24	24		2	25	1	0	0	268	294
8/16 ^a	24	24		1	102		0	0	563	665
8/17	9	9								-
8/18										-
8/19										-
8/20 ^a	15	15		1	19				406	425
8/21 ^a	24	24		2	38				416	454
8/22 ^a	24	24		1	11				93	104
8/23 ^a	24	24		1	38				577	615
8/24	9	9								-
8/25										-
8/26										-
8/27 ^a	15	15		1	3				256	259
8/28 ^a	24	24		1	16				282	298
8/29 ^a	24	24		1	12				64	76
8/30 ^a	24	24		1	7				54	61
TOTAL					6,493,654	541	166,528	0	18,129	6,678,852

Note: Blank cells represent days with no data.

^a Less than four permits; records are confidential.

^b Period extended past midnight; all catch reported on 6/20.

Table 11.—Commercial salmon catch by date and species, in numbers of fish, Ugashik District, Bristol Bay, 2007.

Date	Hours fished		Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set	Drift	Set						
6/11	15	15								
6/12 ^a	24	24								
6/13	9	9								-
6/14	15	15	4		450	1	0			451
6/15	9	9								-
6/16										-
6/17										-
6/18	15	15	15		2,875	8	113			2,996
6/19	24	24	19		4,528	7	405			4,940
6/20	24	24	18	1	7,662	10	285			7,957
6/21	24	24	9		3,241	10	113			3,364
6/22	9	9	10		6,542	3	230			6,775
6/23										-
6/24 ^b	21.5	21.5	31	7	30,086	9	1,752			31,847
6/25	3.5	3.5								
6/26										-
6/27										-
6/28										-
6/29	6	15	58	68	124,914	12	4,276			129,202
6/30		9	1	26	16,607	8	194			16,809
7/1	6		76	3	149,615	16	3,628			153,259
7/2										-
7/3	11	12	67	81	183,949	23	8,502			192,474
7/4	11	12	167	26	385,317	33	8,859			394,209
7/5										-
7/6	10	10	126	55	243,184	100	5,470			248,754
7/7	6	9	252	75	447,198	66	9,276			456,540
7/8	6	9	301	50	413,426	48	8,696			422,170
7/9	6	2	188	20	172,916	31	7,680			180,627
7/10	9		236	55	325,135	98	10,049			335,282
7/11	15	19	295	23	249,664	16	8,525			258,205
7/12	12	12	320	71	369,013	142	14,876			384,031
7/13	10	16	231	40	127,299	124	5,456	1	2	132,882
7/14	10	24	285	71	259,355	152	10,938			270,445
7/15	14	24	287	66	404,690	83	14,215			418,988
7/16	24	24	470	56	475,039	74	19,467			494,580
7/17	24	24	393	49	134,579	53	12,803			147,435
7/18	24	24	276	38	76,686	49	13,829		1	90,565
7/19	24	24	218	29	111,353	31	18,544		1	129,929
7/20	24	24	233	29	115,770	45	21,815			137,630
7/21	24	24	189	24	59,326	49	10,727		3	70,105
7/22	24	24	107	16	29,039	31	6,768		3	35,841
7/23	24	24	95	12	29,354	24	9,778		5	39,161
7/24	24	24	83	15	18,857	20	7,550	2	9	26,438
7/25	24	24	56	12	11,232	15	4,698			15,945

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Table 11.—Page 2 of 2.

Date	Hours fished		Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set	Drift	Set						
7/26	24	24	20	21	9,355	41	1,472		25	10,893
7/27	9	9	5	6	3,125	4	466			3,595
7/28										-
7/29										-
7/30	15	15	2	3	921		0		20	941
7/31	24	24	2	6	1,199		0		49	1,248
8/1	24	24	2	3	1,055	1	0		49	1,105
8/2	24	24		3	496	1	0		8	505
8/3	^a 9	9								
8/4										
8/5										
8/6	^a 15	15								
8/7	24	24								
8/8	^a 24	24								
8/9	^a 24	24								
8/10	^a 9	9								
8/11										
8/12										
8/13	^a 15	15								
8/14	^a 24	24								
8/15	^a 24	24								
8/16	^a 24	24								
8/17	^a 9	9								
8/18										
8/19										
8/20	^a 15	15								
8/21	^a 24	24								
8/22	24	24								
8/23	24	24								
8/24	9	9								
8/25										
8/26										
8/27	^a 15	15								
8/28	^a 24	24								
8/29	24	24								
8/30	24	24								
8/31	9	9								
9/1										
9/2	15	15								
9/3	24	24								
9/4	^a 24	24								
9/5	24	24								
9/6	^a 9	9								
Total					5,007,574	1,445	251,457	3	1,935	5,262,400

Note: Blank cells represent days with no data.

^a Less than 4 permits, records are confidential.

^b period extended past midnight; all catch reported 6/24.

Table 12.—Commercial salmon catch by date and species, in numbers of fish, Nushagak District, Bristol Bay, 2007.

Date	Hours fished		Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Nushagak	Igushik	Drift	Set						
6/1	14/18	14/18	0	0	0	0	0	0	0	0
6/2	4/0	4/0	0	0	0	0	0	0	0	0
6/3	4/10	4/10	0	0	0	0	0	0	0	0
6/4	14/8	14/8	2	0	a					
6/6	5/7.5	5/7.5	0	0		0	0	0	0	0
6/7	7/4.5	7/4.5	9	0		0	50	1	0	51
6/9	12/12	12/12	10	0	0	40	0	0	0	40
6/11	8/8	8/8	62	1	2	1,758	53	0	0	1,813
6/13	6/6	6/6	42	1	15	201	14	0	0	230
6/18	0/0	0/8	0	12	437	154	4	0	0	595
6/19	0/0	0/7	0	8	179	105	2	0	0	286
6/20	0/0	0/7	0	5	88	69	1	0	0	158
6/21	0/0	0/7	0	4	340	138	4	0	0	482
6/22	0/0	0/7	0	14	931	227	12	0	0	1,170
6/23	0/0	0/7	0	30	2,318	229	21	0	0	2,568
6/24	0/8	0/13	0	201	45,405	449	2,456	0	1	48,311
6/25	3/14.5	0/8	418	239	216,797	4,754	88,344	0	0	309,895
6/26	12/24	0/8	835	301	308,609	8,973	105,082	1	0	422,665
6/27	17/24	0/8	844	293	482,876	6,893	84,768	0	0	574,537
6/28	13/21	0/8	982	351	408,632	3,522	57,319	2	0	469,475
6/29	5/23.5	0/8	416	416	335,804	1,134	42,553	0	0	379,491
6/30	15/24	0/8	987	303	589,709	2,072	64,799	2	0	656,582
7/1	15/24	0/10.5	969	383	639,423	1,495	74,111	3	1	715,033
7/2	6/21.5	0/11.5	597	375	207,570	1,613	21,048	8	0	230,239
7/3	10/21	0/11	806	630	655,512	2,227	57,848	14	0	715,601
7/4	8/24	0/24	1,118	461	710,104	2,900	67,041	10	0	780,055
7/5	3.5/19	0/24	259	510	251,009	959	19,136	5	0	271,109
7/6	10/24	0/24	643	222	480,218	837	50,329	6	1	531,391
7/7	13.5/24	3/24	727	307	417,887	2,004	36,196	15	8	456,110
7/8	15.5/24	15.5/24	687	321	427,992	1,378	41,424	19	3	470,816
7/9	14/24	14/24	692	330	370,025	1,597	38,915	15	2	410,554
7/10	17/24	17/24	675	311	392,008	1,160	35,629	28	12	428,837
7/11	16/24	16/24	617	395	333,485	1,072	29,236	18	24	363,835
7/12	17/24	17/24	459	307	250,001	727	25,364	47	51	276,190
7/13	17/24	17/24	412	331	128,916	411	13,097	38	29	142,491
7/14	17/24	17/24	257	252	113,349	436	12,521	26	146	126,478
7/15	18/24	18/24	263	270	103,053	381	12,699	29	827	116,989
7/16	24/24	24/24	263	247	105,670	390	14,126	34	1,540	121,760
7/17	24/24	24/24	206	195	51,530	254	7,560	33	950	60,327

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Table 12.—Page 2 of 2.

Date	Hours fished		Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Nushagak	Igushik	Drift	Set						
7/18	24/24	24/24	164	131	39,899	237	7,020	14	1,544	48,714
7/19	24/24	24/24	135	82	21,243	162	4,629	16	1,797	27,847
7/20	24/24	24/24	73	75	18,932	139	4,103	12	1,964	25,150
7/21	24/24	24/24	23	74	11,965	66	1,199	1	5,300	18,531
7/22	24/24	24/24	20	61	6,682	31	540	4	2,097	9,354
7/23	24/24	24/24	26	59	6,151	32	473	5	2,303	8,964
7/24	20/24	20/24	15	16	2,818	7	267	10	847	3,949
7/27	12/24	12/24	22	18	2,356	52	348	9	1,053	3,818
7/29	12/24	12/24	3	13	797	2	97	6	493	1,395
7/30	0/24	0/24	19	0	455	0	516	0	1,860	2,831
8/1	12/12	12/12	18	8	893	4	413	3	3,013	4,326
8/3	12/12	12/12	20	4	273	1	61	2	910	1,247
8/5	12/12	12/12	10	0	23	0	33	0	2,058	2,114
8/8	12/12	12/12	6	2	101	1	16	0	70	188
8/10	12/12	12/12	6	2	122	0	8	0	661	791
8/12	12/12	12/12	1	0	^a					
Total	926/1031	599/952	14,818	8,571	8,142,604	51,350	1,021,453	435	29,649	9,245,491

Note: Blank cells represent days with no data.

^a Less than 4 permits, records are confidential.

Table 13.—Commercial salmon catch by date and species, in numbers of fish, Togiak District, Bristol Bay, 2007.

Date^a	Sockeye	Chinook	Chum	Pink	Coho	Total
6/18 ^b						
6/19	159	1	62	0	0	222
6/20	255	7	152	0	0	414
6/21	188	29	249	0	0	466
6/22	170	11	61	0	0	242
6/25	5,173	453	1,826	5	0	7,457
6/26	7,654	807	4,086	3	0	12,550
6/27	4,784	345	3,355	5	0	8,489
6/28	846	155	711	1	0	1,713
7/2	17,316	740	8,618	27	0	26,701
7/3	23,158	788	15,364	30	0	39,340
7/4	17,976	474	10,901	18	0	29,369
7/5	23,515	484	8,827	15	1	32,842
7/6	25,013	411	7,647	36	1	33,108
7/7	16,443	247	3,780	11	0	20,481
7/9	27,295	345	11,089	22	0	38,751
7/10	29,793	271	6,824	19	0	36,907
7/13	52,495	300	13,697	46	1	66,539
7/14	43,793	190	9,518	28	1	53,530
7/15	27,026	182	6,711	12	0	33,931
7/16	39,792	237	8,862	27	0	48,918
7/17	34,978	203	8,643	16	0	43,840
7/18	36,653	124	5,781	11	0	42,569
7/19	42,097	140	6,299	22	0	48,558
7/20	28,737	121	3,775	15	3	32,651
7/21	1,413	4	109	0	0	1,526
7/23	30,338	76	6,896	23	2	37,335
7/24	46,303	121	12,544	25	3	58,996
7/25	43,900	146	16,430	33	2	60,511
7/26	27,203	76	9,603	17	4	36,903
7/27	28,081	71	6,642	14	3	34,811
7/28	26,744	54	3,397	10	0	30,205
7/29	12,459	15	2,355	12	0	14,841
7/30	23,560	27	4,072	9	12	27,680
7/31	21,509	22	4,176	9	11	25,727
8/1	12,851	23	1,284	7	9	14,174
8/2	8,896	25	2,382	8	25	11,336
8/3	6,979	24	2,590	7	54	9,654
8/4	3,804	6	1,303	2	20	5,135
8/5 ^b						
Total	799,410	7,755	220,633	545	152	1,028,495

^a See Table 7 for inseason adjustments to the regular weekly fishing schedule.

^b Information confidential, less than 4 permit holders involved in fishery.

Table 14.—Commercial salmon catch by date and species, in numbers of fish, Togiak Section Bristol Bay, 2007.

Date	Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set						
6/18 ^a								
6/19		4	159	1	62	0	0	222
6/20	1	4	255	7	152	0	0	414
6/21	3	5	188	29	249	0	0	466
6/22		4	170	11	61	0	0	242
6/25	22	34	3,724	399	1,492	3	0	5,618
6/26	48	46	4,638	645	3,399	2	0	8,684
6/27	33	51	3,329	323	3,129	5	0	6,786
6/28	4	23	846	155	711	1	0	1,713
7/2	47	72	12,262	648	6,465	26	0	19,401
7/3	65	105	14,397	682	12,066	19	0	27,164
7/4	55	105	12,240	419	9,045	18	0	21,722
7/5	83	126	23,515	484	8,827	15	1	32,842
7/6	74	137	25,013	411	7,647	36	1	33,108
7/7	30	77	16,443	247	3,780	11	0	20,481
7/9	62	94	19,724	272	8,559	6	0	28,561
7/10	39	80	20,175	234	6,143	12	0	26,564
7/13	91	156	52,495	300	13,697	46	1	66,539
7/14	85	136	43,793	190	9,518	28	1	53,530
7/15	43	93	27,026	182	6,711	12	0	33,931
7/16	74	132	34,546	228	8,564	27	0	43,365
7/17	78	129	34,978	203	8,643	16	0	43,840
7/18	59	103	31,536	121	5,612	11	0	37,280
7/19	70	142	42,097	140	6,299	22	0	48,558
7/20	55	115	28,737	121	3,775	15	3	32,651
7/21	2	6	1,413	4	109	0	0	1,526
7/23	54	103	27,538	69	6,222	18	2	33,849
7/24	100	123	45,154	117	12,307	25	3	57,606
7/25	131	128	43,024	142	16,387	33	2	59,588
7/26	93	91	27,203	76	9,603	17	4	36,903
7/27	88	80	28,081	71	6,642	14	3	34,811
7/28	75	35	26,744	54	3,397	10	0	30,205
7/29	31	13	12,459	15	2,355	12	0	14,841
7/30	66	60	23,560	27	4,072	9	12	27,680
7/31	69	59	21,509	22	4,176	9	11	25,727
8/1	434	25	12,851	23	1,284	7	9	14,174
8/2	21	28	8,896	25	2,382	8	25	11,336
8/3	28	31	6,979	24	2,590	7	54	9,654
8/4	16	22	3,804	6	1,303	2	20	5,135
8/5 ^a								
Total	2,330	2,777	741,562	7,127	207,447	502	152	956,790

^a Less than 4 permits, records are confidential.

Table 15.—Commercial salmon catch by date and species, in numbers of fish, Kulukak Section, Bristol Bay, 2007.

Date^a	Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set						
6/25	2	18	1,449	54	334	2	0	1,839
6/26	4	33	3,016	162	687	1	0	3,866
6/27	2	11	1,455	22	226	0	0	1,703
7/2	11	31	5,054	92	2,153	1	0	7,300
7/3	22	40	8,761	106	3,298	11	0	12,176
7/4	15	29	5,736	55	1,856	0	0	7,647
7/9	9	32	7,571	73	2,530	16	0	10,190
7/10	14	32	9,618	37	681	7	0	10,343
7/16	4	8	5,246	9	298	0	0	5,553
7/18	3	2	5,117	3	169	0	0	5,289
7/23	6	13	2,800	7	674	5	0	3,486
7/24	1	8	1,149	4	237	0	0	1,390
7/25 ^b								
Total	93	259	57,848	628	13,186	43	0	71,705

^a Kulukak Section is open 3 days per week by regulation. See Table 7 for inseason adjustments to the weekly fishing schedule.

^b Less than 4 permits, records are confidential.

Table 16.—Commercial salmon catch by date and species, in numbers of fish, Matogak Section, Bristol Bay, 2007.

Date^a	Sockeye	Chinook	Chum	Pink	Coho	Total
No Commercial Fishing Effort Occurred						
Total						

^a Matogak Section is open 5 days per week by regulation. See Table 7 for inseason adjustments to the weekly fishing schedule.

Table 17.—Commercial salmon catch by date and species, in numbers of fish, Osviak Section, Bristol Bay, 2007.

Date^a	Sockeye	Chinook	Chum	Pink	Coho	Total
No Commercial Fishing Effort Occurred						
Total						

^a Osviak Section is open 5 days per week by regulation. See Table 7 for inseason adjustments to the weekly fishing schedule.

Table 18.—Commercial salmon catch by district and species, in number of fish, Bristol Bay, 2007.

District and River System	Sockeye	Chinook	Chum	Pink	Coho	Total
NAKNEK-KVICHAK DISTRICT						
Kvichak River	1,470,358					
Alagnak River	1,856,986					
Naknek River	5,694,394					
Total	9,021,738	2,294	395,341	24,127	4,753	9,448,253
EGEGIK DISTRICT	6,493,655	541	82,036	0	18,129	6,594,361
UGASHIK DISTRICT	5,007,572	1,445	215,047	3	1,961	5,226,028
NUSHAGAK DISTRICT						
Wood River	4,835,519					
Igushik River	1,305,338					
Nushagak River	2,001,747					
Total	8,142,604	51,350	1,021,453	435	29,649	9,245,491
TOGIAK DISTRICT						
Togiak Section	741,562	7,127	207,447	502	152	956,790
Kulukak Section	57,848	628	13,186	43	0	71,705
Matogak Section	0	0	0	0	0	0
Osviak Section	0	0	0	0	0	0
Total	799,410	7,755	220,633	545	152	1,028,495
TOTAL BRISTOL BAY	29,464,979	63,385	1,934,510	25,110	54,644	31,542,628

Note: Species other than sockeye are not apportioned to individual rivers.

Table 19.—Daily sockeye salmon escapement tower counts by river system, east side Bristol Bay, 2007.

Date	Kvichak River		Naknek River		Alagnak River		Egegik River		Ugashik River	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
6/19			966	966			1,122	1,122		
6/20			1,002	1,968			11,412	12,534		
6/21	60	60	2,118	4,086			636	13,170		
6/22	144	204	7,944	12,030			25,830	39,000		
6/23	150	354	63,162	75,192			41,784	80,784		
6/24	312	666	14,160	89,352			19,914	100,698		
6/25	2,730	3,396	39,198	128,550			6,258	106,956		
6/26	2,430	5,826	37,566	166,116	468	468	19,830	126,786		
6/27	2,400	8,226	42,990	209,106	912	1,380	15,588	142,374		
6/28	834	9,060	196,146	405,252	426	1,806	5,796	148,170		
6/29	1,272	10,332	191,382	596,634	2,856	4,662	25,086	173,256		
6/30	42,192	52,524	100,674	697,308	66,180	70,842	3,906	177,162	4,080	4,080
7/01	97,446	149,970	77,526	774,834	81,270	152,112	6,396	183,558	22,470	26,550
7/02	130,824	280,794	121,482	896,316	83,964	236,076	4,974	188,532	41,856	68,406
7/03	105,774	386,568	61,668	957,984	59,100	295,176	53,700	242,232	5,532	73,938
7/04	102,468	489,036	215,310	1,173,294	91,002	386,178	59,310	301,542	1,584	75,522
7/05	197,742	686,778	116,586	1,289,880	154,620	540,798	288,078	589,620	17,448	92,970
7/06	302,940	989,718	147,330	1,437,210	221,442	762,240	310,608	900,228	87,582	180,552
7/07	220,026	1,209,744	110,022	1,547,232	165,282	927,522	134,820	1,035,048	209,832	390,384
7/08	253,944	1,463,688	50,790	1,598,022	141,828	1,069,350	71,502	1,106,550	411,930	802,314
7/09	139,596	1,603,284	405,168	2,003,190	122,340	1,191,690	48,492	1,155,042	247,812	1,050,126
7/10	220,386	1,823,670	216,192	2,219,382	273,942	1,465,632	91,734	1,246,776	221,820	1,271,946
7/11	249,066	2,072,736	306,480	2,525,862	232,680	1,698,312	49,752	1,296,528	23,316	1,295,262
7/12	155,388	2,228,124	176,460	2,702,322	181,218	1,879,530	46,740	1,343,268	21,120	1,316,382
7/13	196,422	2,424,546	88,998	2,791,320	226,398	2,105,928	34,962	1,378,230	114,438	1,430,820
7/14	123,432	2,547,978	40,176	2,831,496	86,442	2,192,370	42,276	1,420,506	269,538	1,700,358
7/15	74,844	2,622,822	31,740	2,863,236	66,516	2,258,886	4,656	1,425,162	407,712	2,108,070
7/16	38,706	2,661,528	28,740	2,891,976	44,772	2,303,658	2,298	1,427,460	122,994	2,231,064
7/17	35,592	2,697,120	39,978	2,931,954	58,272	2,361,930	5,040	1,432,500	116,016	2,347,080
7/18	42,996	2,740,116	13,350	2,945,304	45,648	2,407,578			35,136	2,382,216
7/19	33,006	2,773,122			19,278	2,426,856			23,820	2,406,036
7/20	15,240	2,788,362			15,996	2,442,852			12,756	2,418,792
7/21	8,472	2,796,834			12,528	2,455,380			7,926	2,426,718
7/22	11,028	2,807,862			6,888	2,462,268			16,812	2,443,530
7/23	2,346	2,810,208			4,146	2,466,414			30,216	2,473,746

Note: Blank cells represent days when no data was collected.

Table 20.—Daily sockeye salmon escapement tower counts by river system, west side Bristol Bay, 2007.

Date	Wood River		Igushik River		Togiak River	
	Daily	Cum.	Daily	Cum.	Daily	Cum.
6/19	306	306				
6/20	534	840				
6/21	1,110	1,950		0		
6/22	21,216	23,166		0		
6/23	23,346	46,512		0		
6/24	22,110	68,622	144	144		
6/25	82,380	151,002	762	906		
6/26	102,036	253,038	4,410	5,316		
6/27	75,414	328,452	1,398	6,714		
6/28	70,734	399,186	1,800	8,514		
6/29	72,996	472,182	7,902	16,416		
6/30	62,970	535,152	14,718	31,134		
7/01	38,712	573,864	21,294	52,428		
7/02	39,690	613,554	10,506	62,934		
7/03	43,200	656,754	13,878	76,812	2,748	2,748
7/04	55,716	712,470	9,870	86,682	4,062	6,810
7/05	86,154	798,624	11,874	98,556	3,276	10,086
7/06	145,596	944,220	9,732	108,288	1,896	11,982
7/07	95,682	1,039,902	19,806	128,094	3,468	15,450
7/08	87,402	1,127,304	19,824	147,918	2,904	18,354
7/09	76,356	1,203,660	14,346	162,264	4,764	23,118
7/10	77,988	1,281,648	15,438	177,702	6,450	29,568
7/11	45,792	1,327,440	14,076	191,778	6,546	36,114
7/12	50,070	1,377,510	20,952	212,730	5,070	41,184
7/13	45,984	1,423,494	19,524	232,254	6,912	48,096
7/14	27,102	1,450,596	22,800	255,054	11,904	60,000
7/15	25,422	1,476,018	21,540	276,594	19,134	79,134
7/16	20,268	1,496,286	22,824	299,418	13,242	92,376
7/17	14,076	1,510,362	22,734	322,152	11,868	104,244
7/18	10,386	1,520,748	21,060	343,212	9,174	113,418
7/19	^a 7,338	1,528,086	8,856	352,068	7,788	121,206
7/20			^a 10,356	362,424	8,076	129,282
7/21			8,790	371,424	10,284	139,566
7/22			11,436	382,650	8,874	148,440
7/23			9,918	392,568	10,746	159,186
7/24			9,078	401,646	20,904	180,090
7/25			5,916	407,562	31,038	211,128
7/26			3,882	411,444	18,222	229,350
7/27			1,998	413,442	11,868	241,218
7/28			2,010	415,452	7,452	248,670
7/29					6,300	254,970
7/30					3,828	258,798
7/31					2,640	261,438
8/01					2,454	263,892
8/02					3,786	267,678
8/03					1,122	268,800
8/04					846	269,646
8/05						269,646

Note: Blank cells represent days when no data was collected.

^a Denotes a partial count.

Table 21.—Final daily and cumulative escapement estimates by species, Nushagak River sonar project, Bristol Bay, 2007.

Date	Sockeye		Chinook		Chum		Pink		Coho		Total	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
6/4	0	0	5	5	1	1	0	0	0	0	6	6
6/5	0	0	353	358	96	97	0	0	0	0	449	455
6/6	0	0	144	502	61	158	0	0	0	0	205	660
6/7	0	0	273	775	68	226	0	0	0	0	341	1,001
6/8	0	0	373	1,148	96	322	0	0	0	0	469	1,470
6/9	0	0	393	1,541	105	427	0	0	0	0	498	1,968
6/10	0	0	496	2,037	140	567	0	0	0	0	636	2,604
6/11	0	0	862	2,899	631	1,198	0	0	0	0	1,493	4,097
6/12	35	35	502	3,401	336	1,534	0	0	0	0	873	4,970
6/13	24	59	407	3,808	304	1,838	0	0	0	0	735	5,705
6/14	16	75	530	4,338	369	2,207	0	0	0	0	915	6,620
6/15	37	112	787	5,125	111	2,318	0	0	0	0	935	7,555
6/16	132	244	539	5,664	168	2,486	0	0	0	0	839	8,394
6/17	463	707	1,286	6,950	288	2,774	0	0	0	0	2,037	10,431
6/18	1,571	2,278	2,713	9,663	1,810	4,584	0	0	0	0	6,094	16,525
6/19	747	3,025	424	10,087	2,293	6,877	0	0	0	0	3,464	19,989
6/20	449	3,474	249	10,336	1,070	7,947	0	0	0	0	1,768	21,757
6/21	1,104	4,578	65	10,401	281	8,228	0	0	0	0	1,450	23,207
6/22	5,857	10,435	3,154	13,555	4,790	13,018	0	0	0	0	13,801	37,008
6/23	51,189	61,624	8,943	22,498	28,257	41,275	0	0	0	0	88,389	125,397
6/24	20,526	82,150	2,422	24,920	15,847	57,122	0	0	0	0	38,795	164,192
6/25	30,225	112,375	990	25,910	8,646	65,768	0	0	0	0	39,861	204,053
6/26	33,790	146,165	1,906	27,816	12,807	78,575	0	0	0	0	48,503	252,556
6/27	25,725	171,890	1,084	28,900	5,258	83,833	0	0	0	0	32,067	284,623
6/28	14,651	186,541	4,402	33,302	10,329	94,162	0	0	0	0	29,382	314,005
6/29	21,443	207,984	3,559	36,861	10,761	104,923	0	0	0	0	35,763	349,768

-continued-

Table 21.—Page 2 of 2.

Date	Sockeye		Chinook		Chum		Pink		Coho		Total	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
6/30	15,292	223,276	3,073	39,934	7,773	112,696	0	0	0	0	26,138	375,906
7/1	16,808	240,084	2,336	42,270	3,559	116,255	0	0	0	0	22,703	398,609
7/2	16,029	256,113	1,839	44,109	2,728	118,983	0	0	0	0	20,596	419,205
7/3	17,035	273,148	1,050	45,159	2,692	121,675	0	0	0	0	20,777	439,982
7/4	18,029	291,177	1,248	46,407	866	122,541	0	0	0	0	20,143	460,125
7/5	25,391	316,568	780	47,187	1,878	124,419	0	0	0	0	28,049	488,174
7/6	44,623	361,191	1,569	48,756	3,862	128,281	0	0	0	0	50,054	538,228
7/7	33,245	394,436	1,720	50,476	2,975	131,256	0	0	0	0	37,940	576,168
7/8	19,878	414,314	68	50,544	1,957	133,213	0	0	0	0	21,903	598,071
7/9	14,314	428,628	791	51,335	2,038	135,251	0	0	0	0	17,143	615,214
7/10	13,916	442,544	422	51,757	4,154	139,405	0	0	0	0	18,492	633,706
7/11	10,518	453,062	385	52,142	3,122	142,527	0	0	0	0	14,025	647,731
7/12	8,141	461,203	1,005	53,147	1,812	144,339	0	0	0	0	10,958	658,689
7/13	13,757	474,960	1,107	54,254	3,194	147,533	0	0	0	0	18,058	676,747
7/14	10,295	485,255	1,146	55,400	1,526	149,059					12,967	689,714
7/15	9,181	494,436	592	55,992	836	149,895					10,609	700,323
7/16	6,238	500,674	411	56,403	3,361	153,256					10,010	710,333
7/17	7,373	508,047	2,079	58,482	3,489	156,745					12,941	723,274
7/18	6,815	514,862	1,362	59,844	3,256	160,001					11,433	734,707
7/19	3,179	518,041	615	60,459	1,482	161,483					5,276	739,983

Table 22.—Comparison of daily sockeye salmon escapement estimates by tower count, aerial survey and river test fishing enumeration methods, Kvichak River, Bristol Bay, 2007.

Date	Tower Count		Aerial Survey Total	Fish per Index Pt. ^a	River Test Fishing			Estimated River Fish ^b
	Daily	Cum.			Index Points		Cumulative Escapement	
					Daily	Cum.		
6/21	60	60					-	
6/22	144	204		47	0	0	-	
6/23	150	354		47	37	37	1,743	
6/24	312	666		47	66	103	4,831	
6/25	2,730	3,396		47	37	140	6,558	
6/26	2,430	5,826		47	3	142	6,695	
6/27	2,400	8,226		47	24	166	7,814	
6/28	834	9,060		47	118	284	13,357	
6/29	1,272	10,332		62	576	861	53,352	40,000
6/30	42,192	52,524		88	881	1,741	153,224	100,000
7/01	97,446	149,970		130	1,976	3,717	483,223	300,000
7/02	130,824	280,794	215,405	86	1,275	4,992	429,316	150,000
7/03	105,774	386,568		77	2,353	7,345	565,540	180,000
7/04	102,468	489,036	158,735	67	2,849	10,194	682,982	150,000
7/05	197,742	686,778		69	2,411	12,605	869,721	150,000
7/06	302,940	989,718		83	1,052	13,656	1,133,464	150,000
7/07	220,026	1,209,744		96	1,143	14,799	1,420,677	200,000
7/08	253,944	1,463,688	296,300	105	1,037	15,836	1,662,750	200,000
7/09	139,596	1,603,284		90	7,556	23,392	2,105,280	500,000
7/10	220,386	1,823,670		80	3,846	27,238	2,179,033	350,000
7/11	249,066	2,072,736		78	2,690	29,928	2,334,384	250,000
7/12	155,388	2,228,124		76	2,313	32,241	2,450,314	200,000
7/13	196,422	2,424,546		76	1,611	33,852	2,572,778	140,000
7/14	123,432	2,547,978		76	670	34,522	2,623,668	60,000
7/15	74,844	2,622,822		76	465	34,987	2,658,993	50,000
7/16	38,706	2,661,528						
7/17	35,592	2,697,120						
7/18	42,996	2,740,116						
7/19	33,006	2,773,122						
7/20	15,240	2,788,362						
7/21	8,472	2,796,834						
7/22	11,028	2,807,862						
7/23	2,346	2,810,208						

Note: Blank cells represent days when no data was collected.

^a The mean FPI of 36, based on median FPIs from 2001-2005, was used through 27 June. Thereafter, FPIs were based on lag-time relationships.

^b Estimated river fish (ERF) was based on the river test fish cumulative escapement estimate less the cumulative tower count. On occasion, staff adjusted the ERF based on aerial surveys, catchability, etc.

Table 23.—Comparison of daily sockeye salmon escapement estimates by tower count, aerial survey and river test fishing enumeration methods, Egegik River, Bristol Bay, 2007.

Date	Tower Count		Aerial Survey	Fish per Index Pt. ^a	River Test Fishing			
	Daily	Cum.			Estimated		Estimated River Fish ^b	
					Index Points	Cumulative		
			Total		Daily	Cum.	Escapement	
6/15				40	157	157	6,278	
6/16				40	181	338	13,526	
6/17				40	211	549	21,955	
6/18				40	239	788	31,518	30,000
6/19	1,122	1,122		40	125	913	36,519	35,000
6/20	11,412	12,534		55	364	1,277	70,213	60,000
6/21	636	13,170	11,450	46	431	1,708	78,548	65,000
6/22	25,830	39,000		53	341	2,049	108,587	70,000
6/23	41,784	80,784		63	199	2,248	141,619	60,000
6/24	19,914	100,698		49	206	2,454	120,258	20,000
6/25	6,258	106,956		48	25	2,480	119,022	11,000
6/26	19,830	126,786	8,600	59	157	2,637	155,581	29,000
6/27	15,588	142,374		66	115	2,752	181,604	40,000
6/28	5,796	148,170		60	529	3,280	196,812	50,000
6/29	25,086	173,256		66	477	3,757	247,967	75,000
6/30	3,906	177,162		64	242	3,999	255,926	75,000
7/01	6,396	183,558	3,000	49	403	4,402	215,705	30,000
7/02	4,974	188,532		49	2,533	6,935	339,826	150,000
7/03	53,700	242,232		43	2,228	9,163	393,998	150,000
7/04	59,310	301,542		20	1,738	10,900	218,005	35,000
7/05	288,078	589,620	143,000	75	264	11,164	837,298	250,000
7/06	310,608	900,228		98	526	11,690	1,145,665	250,000
7/07	134,820	1,035,048		95	733	12,423	1,180,220	150,000
7/08	71,502	1,106,550		99	577	13,000	1,287,042	180,000
7/09	48,492	1,155,042		97	1,042	14,042	1,362,077	200,000
7/10	91,734	1,246,776		100	1,324	15,366	1,536,557	300,000
7/11	49,752	1,296,528		96	1,178	16,543	1,588,159	300,000
7/12	46,740	1,343,268		92	265	16,809	1,546,398	200,000
7/13	34,962	1,378,230						
7/14	42,276	1,420,506						
7/15	4,656	1,425,162						
7/16	2,298	1,427,460						
7/17	5,040	1,432,500						

Note: Blank cells represent days when no data was collected.

^a The mean FPI of 47, based on median FPIs from 2002-2006, was used through 28 June. Thereafter, FPIs were based on lag-time relationships.

^b Estimated river fish (ERF) was based on the river test fish cumulative escapement estimate less the cumulative tower count. On occasion, staff adjusted the ERF based on aerial surveys, catchability, etc.

Table 24.—Comparison of daily sockeye salmon escapement estimates by tower count, aerial survey and river test fishing enumeration methods, Ugashik River, Bristol Bay, 2007.

	Tower Count		Aerial Survey		River Test Fishing			
				Fish per	Index Points		Estimated	
Date	Daily	Cum.	Total	Index Pt. ^a	Daily	Cum.	Cumulative Escapement	Estimated River Fish ^b
6/25				30	101	101	3,031	
6/26				30	68	169	5,075	3,000
6/27				30	56	226	6,770	5,000
6/28				30	49	275	8,239	7,000
6/29				49	29	304	14,887	10,000
6/30	4,080	4,080		54	691	995	53,727	15,000
7/01	22,470	26,550	300	82	729	1,724	141,389	50,000
7/02	41,856	68,406		56	1,791	3,515	196,836	100,000
7/03	5,532	73,938		30	1,848	5,363	160,885	130,000
7/04	1,584	75,522		21	2,062	7,425	155,926	80,000
7/05	17,448	92,970	13,000	26	2,501	9,926	258,065	80,000
7/06	87,582	180,552		31	2,065	11,990	371,694	170,000
7/07	209,832	390,384		51	701	12,691	647,231	200,000
7/08	411,930	802,314		80	626	13,317	1,065,327	250,000
7/09	247,812	1,050,126		87	608	13,924	1,211,403	270,000
7/10	221,820	1,271,946		99	1,729	15,653	1,549,642	170,000
7/11	23,316	1,295,262		96	1,044	16,697	1,602,871	300,000
7/12	21,120	1,316,382		88	720	17,417	1,532,664	350,000
7/13	114,438	1,430,820		89	801	18,217	1,621,352	250,000
7/14	269,538	1,700,358		107	825	19,043	2,037,590	200,000
7/15	407,712	2,108,070		123	550	19,593	2,409,907	350,000
7/16	122,994	2,231,064		122	319	19,912	2,429,213	300,000
7/17	116,016	2,347,080						
7/18	35,136	2,382,216						
7/19	23,820	2,406,036						
7/20	12,756	2,418,792						
7/21	7,926	2,426,718						
7/22	16,812	2,443,530						
7/23	30,216	2,473,746						

Note: Blank cells represent days when no data was collected.

^a The FPI used to estimate the daily ERFs prior to using lag time relationships was calculated using an average of the 1989-2006 starting FPIs after lag time relationships "locked in" and the midpoint of the escapement count each year. This method was used until July 1 when FPIs were based on lag-time relationships.

^b Estimated river fish (ERF) was based on the river test fish cumulative escapement estimate less the cumulative tower count. On occasion, staff adjusted the ERF based on aerial surveys, catchability, etc.

Table 25.—Commercial salmon processors and buyers operating in Bristol Bay, 2007.

Name of Operator/Buyer^a	Base of Operations	District^b	Method^c	Export
1 Alaska General Seafoods	Kenmore, WA	K,E	C,EF,F	AIR
2 Alaska Wild Salmon Products	Big Lake AK	N	F, EF	AIR
3 Anthony Wood	King Salmon, AK	N,K	EF,F	SEA,AIR
4 Baywatch Seafoods, LLC	Woodinville, WA	K,E,U,N,T	C,EF,F	SEA,AIR
5 Betty Bonin Blue Bird	Naknek, AK	K	EF	AIR
6 Charles B. Gordon	Dillingham, AK	N	F	SEA
7 Coffee Point Seafoods of WA, LLC	S. Seattle, WA	E	F	SEA
8 Copper River Seafoods	Anchorage, AK	N	EF	AIR
9 Dancing Salmon Company, LLC	Dillingham, AK	N	EF, F, S	AIR
10 Diamond Lodge Smokehouse	King Salmon, AK	K	C, F	SEA
11 Ekuk Fisheries	Seattle, WA	N	F	SEA
12 Favco Inc.	Anchorage, AK	N	EF	AIR
13 Friedman Family Fisheries, Inc.	Baltimore, MD	N	F	SEA
14 Great Ruby Fish Company	Naknek, AK	K	EF,F	SEA, AIR
15 Icicle Seafoods, Inc.	Japan Air/Anchorage	K,E,U,N	C,F, EF,S	SEA, AIR
16 Lady Marion Seafoods F/V Jessie Lucile	Anchorage, AK	K,E	F	AIR
17 Leader Creek Fisheries, LLC	Seattle, WA	K,E,U,N	EF,F	SEA, AIR
18 My Girl	Domestic	K	F	AIR
19 Naknek Family Fisheries	Naknek, AK	K	EF, F	AIR
20 NorQuest Seafoods, Inc.	Seattle, WA	K,E,U,N	F	SEA
21 Northland Fisheries LLC.	Everett, WA	U, E	C	SEA
22 Ocean Beauty Seafoods, Inc.	Seattle, WA	K,E,U,N,T	C,EF,F,S	SEA,AIR
23 Ocean Run Seafoods F/V Stina	Seattle, WA	N	EF, F	AIR
24 Papetti Seafoods	Naknek, AK	K	F, EF	SEA,AIR
25 Paul Friis-Mikkelsen	Dillingham, AK	N	F	SEA,AIR
26 Pederson Point	Seattle, WA	K,E	F	SEA
27 Peter Pan Seafoods, Inc.	Seattle, WA	K,E,U,N	C,EF,F,S	SEA,AIR
28 Red's Best	Boston, MA	N	S, F	AIR
29 Robert Lebovic	Seattle, WA	N	F	SEA
30 Snopac Products, Inc.	Seattle, WA	K,E,U,N	F	SEA
31 Terry Medjo F/V Krisindy	Denver, CO	N	EF	AIR
32 Togiak Fisheries	Seattle, WA	T	F	SEA
33 Trident Seafoods	Seattle, WA	K,E,U,N	F	SEA
34 Ugashik Wild Salmon	Ugashik, AK	U	C	AIR
35 Weck Fish	Anchorage AK	K	F	AIR
36 Wild Premium Salmon	Egegik, AK	E	EF	AIR
37 Wild Sea Salmon	Dillingham, AK	N	F	SEA
38 XS Corp	Dillingham	N	F	SEA
39 Yard Arm Knot Fisheries, LLC	Seattle, WA	K,E,U,N	C,F	SEA

Canning=9; Freezing= 31; Fresh=18; Curing=5; Air Export=24; Sea Export=24

^a Indicates operators with a processing facility in a district or operators from other areas buying fish and/or providing support service for fishers in districts away from the facility.^b K=Naknek-Kvichak; E=Egegik; U=Ugashik; N=Nushagak; T=Togiak^c Type of processing: C=canned; EF=export fresh; F=frozen; S=cured.

Table 26.—Mean round weight, price per pound, and total exvessel value of the commercial salmon catch, Bristol Bay, 2007.

Species	Total Catch (lbs.)	Mean Weight (lbs.)	Mean Price (\$/lb.)	Exvessel Value (\$)
Sockeye	167,932,091	5.65	0.61	103,191,557
Chinook	846,426	13.35	0.65	549,257
Chum	10,612,680	5.90	0.12	1,288,095
Pink	3,399	3.43	0.02	96
Coho	332,474	6.39	0.38	126,610
Total	179,727,070			105,155,615

Note: Weighted averages used.

Table 27.—Subsistence salmon harvest by species, in numbers of fish, by district and location fished, Bristol Bay, 2006.

Area and River System	Permits	Estimated Number of Salmon Harvested					
	Issued ^a	Sockeye	Chinook	Chum	Pink	Coho	Total
NAKNEK-KVICHAK DISTRICT	468	69,097	881	341	757	720	71,796
Naknek River	289	19,247	869	324	749	706	21,895
Kvichak River/Iliamna Lake:	179	49,850	12	17	8	13	49,901
Alagnak (Branch) River	1	33	0	0	0	0	33
Igiugig	6	1,185	0	0	0	0	1,185
Iliamna (community)	2	305	0	0	0	0	305
Iliamna Lake	31	6,420	0	0	0	0	6,420
Kijik	5	1,030	0	0	0	0	1,030
Kokhanok	29	19,070	12	17	8	13	19,121
Kvichak River	7	593	0	0	0	0	593
Lake Clark: General	27	3,016	0	0	0	0	3,016
Levelock	2	0	0	0	0	0	0
Newhalen River	42	11,044	0	0	0	0	11,044
Nondalton Village	2	490	0	0	0	0	490
Pedro Bay	22	3,842	0	0	0	0	3,842
Port Alsworth	5	757	0	0	0	0	757
Six Mile Lake	10	2,065	0	0	0	0	2,065
EGEGIK DISTRICT	41	1,641	94	34	7	641	2,418
UGASHIK DISTRICT	25	962	41	6	16	339	1,364
NUSHAGAK DISTRICT	461	20,773	9,971	4,448	1,591	3,590	40,373
Wood River	110	5,445	1,454	307	253	502	7,961
Lower Nushagak River	32	1,341	1,103	213	124	153	2,934
Upper Nushagak River	67	3,204	3,012	2,183	141	908	9,446
Dillingham Beaches	205	7,948	3,541	1,460	878	1,687	15,513
Nushagak Bay Commercial	37	1,056	514	103	167	264	2,104
Igushik/Snake River	28	1,670	230	48	11	65	2,024
Nushagak, Site Unspecified	8	110	118	135	17	11	391
TOGIAC DISTRICT	61	2,728	1,630	492	355	408	5,613
TOTAL BRISTOL BAY	1,050	95,201	12,617	5,321	2,727	5,697	121,564

Note: 2007 numbers were not available at the time of publication. Harvests are extrapolated for all permits issued, based on those returned and on the area fished as recorded on the permit. Due to rounding, the sum of columns and rows may not equal the estimated total. Of 1,100 permits issued for the management area, 940 were returned (85.5%).

^a Sum of sites may exceed district totals, and sum of districts may exceed area total, because permittees may use more than one site.

Table 28.—Daily observed estimates (tons) of herring by index area, Togiak District, 2007.

Date	Start Time	Survey Rating ^b	Miles of Spawn	Estimated Biomass by Index Area ^a													Daily Total
				NUS	KUK	MET	NVK	UGL	TOG	TNG	MTG	OSK	PYR	CPN	HAG	WAL	
4/27	10:05	3.6															
4/29	10:10	3.8															
5/02	15:00	2.7															
5/04	11:00	3.2															
5/06	10:00	3.6			68												68
5/07	17:00	4.1			16												16
5/09	11:00	3.4			288		147		11191						66		11,692
5/10	09:15	3.9			1,247			22	16,644								17,913
5/13	16:45	2.4	11.9	740	3,395	1,640	2,195	3,919	41,955	16,732	5,906	3,567					80,049
5/15	13:30	3.0	1.4	121	5,934	1,417	1,828	1,286	46,356	3,751	3,584	14,141	830	137			79,385
5/16	21:00	^c	1.5														0
5/17	16:00	2.2	2.7		5,350	5,689	158	7,009	59,964	3,411	1,222	1,298					84,101
5/20	10:45	3.9						531	71,517	5,790	748	125					78,711
5/29	11:15	2.9	1.4	724	1,119	1,982	1,760	498	43,161	306	570						50,120
6/04	10:15	3.0		127	641	12	429		16,612	121							17,942
Total linear miles of spawn			18.9	Peak biomass estimate													84,101

Note: Blank cells represent days when no herring were observed.

^a Index areas: NUS - Nushagak Peninsula; KUK - Kulukak; MET - Metervik; NUK - Nunavachak; UGL - Ungalikthluk/Togiak; TOG - Togiak; TNG - Tongue Pt; MTG - Matogak; HAG - Hagemester; OSK - Osviak; PYT - Pyrite Point; CPN - Cape Newenham.

^b Average survey rating for all sections surveyed: 1= Excellent, 2 = Good, 3 = Fair, 4 = Poor, 5 = Unsatisfactory.

^c Vessel count and spawn survey only.

Table 29.—Emergency order (EO) commercial fishing periods for herring sac roe and spawn-on-kelp, Togiak District, 2007.

EO #		Area ^a	Date and Time				
Herring Sac Roe Gillnet							
DLG-02	Egg Island Section		5/10	6:00 p.m.	to	end of season	
DLG-09	Egg Island Section, Right Hand Pt. to Anchor Pt.		5/24	8:30 a.m.	to	end of season	
Herring Sac Roe Purse Seine							
DLG-01	Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham		5/10	6:00 p.m.	to	5/13	10:00 p.m.
DLG-03	Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham	extension	5/13	10:00 p.m.	to	5/14	10:00 p.m.
DLG-04	Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham	extension	5/14	10:00 p.m.	to	5/15	10:00 p.m.
DLG-05	Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham	extension	5/15	10:00 p.m.	to	5/17	10:00 p.m.
DLG-06	Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham	extension	5/17	10:00 p.m.	to	5/19	10:00 p.m.
DLG-07	Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham	extension	5/19	10:00 p.m.	to	5/20	2:00 p.m.
DLG-08	Right Hand Pt. to Anchor Pt., Togiak Reef to Cape Newenham	extension	5/20	2:00 p.m.	to	5/20	10:00 p.m.
Herring Spawn on Kelp ^b							

^a Area descriptions are approximate. Precise boundaries are described in Emergency Orders.

^b There was no market for spawn on kelp therefore, a fishery did not occur.

Table 30.—Commercial herring harvest (tons) by fishing section, gear type, and date Togiak District, Bristol Bay, 2007.

Date	Duration	Periods	Kulukak		Nunavachak		Togiak		Hagemeister		Pyrite Point		Cape Newenham		Total	
			Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %
Purse Seine																
10-May	30:00	1			0.0	0.0	296.3	9.3	0.0	0.0	174.4	9.5	0.0	0.0	471	9.4
12-May	24:00	2			2,232.5	9.2	298.0	9.6	79.3	10.6	0.0	0.0	0.0	0.0	2,610	9.3
13-May	24:00	3			320.4	^a	258.5	9.8	1,062.1	10.6	0.0	0.0	0.0	0.0	1,641	10.4
14-May	24:00	4			149.8	9.4	0.0	0.0	437.6	10.2	0.0	0.0	0.0	0.0	587	8.0
15-May	24:00	5			0.0	0.0	0.0	0.0	1,224.3	10.0	0.0	0	0.0	0.0	1,224	12.6
16-May	24:00	6			0.0	0.0	0.0	0.0	858.1	9.5	374.3	10.7	0.0	0.0	1,232	9.9
17-May	24:00	7			0.0	0.0	0.0	0.0	833.8	10.3	0.0	0.0	0.0	0.0	834	10.3
18-May	24:00	8			0.0	0.0	0.0	0.0	1,650.0	10.1	0.0	0.0	0.0	0.0	1,650	10.1
19-May	24:00	9			0.0	0.0	0.0	0.0	880.1	10.2	139.2	9.3	0.0	0.0	1,019	10.1
20-May	22:00	10			0.0	0.0	0.0	0.0	1,451.2	9.7	0.0	0.0	0.0	0.0	1,451	9.7
22-May							340.0	^b							340	
23-May							60.0	^b							60	
Subtotal	244:00:00				2,702.7	9.2 ^a	1252.8	9.6 ^b	8,476.5	10.1	687.9	10.1	0.0	0.0	13,120	10.0
Gillnet																
10-May	24:00	1	56.2	10.4											56	10.4
13-May	24:00	2	334.8	10.4											335	10.4
14-May	24:00	3	593.3	11.0											593	11.0
15-May	24:00	4	459.1	11.3											459	11.3
16-May	24:00	5	396.5	11.8											397	11.8
17-May	24:00	6	275.0	11.1											275	11.1
18-May	24:00	7	424.6	11.1											425	11.1
19-May	24:00	8	438.6	10.8											439	10.8
20-May	24:00	9	222.3	11.0											222	11.0
21-May	24:00	10	435.7	11.4											436	11.4
22-May	24:00	11	135.7	12.3											136	12.3
23-May	24:00	12	125.5	11.8			0.2								126	11.8
24-May	24:00	13	32.4	11.7											32	11.7
25-May	24:00	14	81.3	11.6											81	11.6
Subtotal	366:00:00		4,011.0	11.2											4,012	11.2

-continued-

Table 30.—Page 2 of 2.

Date	Duration Periods	Kulukak		Nunavachak		Togiak		Hagemeister		Pyrite Point		Cape Newenham		Total	
		Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %
Combined															
10-May		56.2	10.4	0.0	0.0	296.3	9.3	0.0	0.0	174.4	9.5	0.0	0.0	527	9.5
12-May				2,232.5	9.2	298.0	9.6	79.3	10.6	0.0	0.0	0.0	0.0	2,610	9.3
13-May		334.8	10.4	320.4	0.0 ^b	258.5	9.8	1,062.1	10.6	0.0	0.0	0.0	0.0	1,976	10.4
14-May		593.3	11.0	149.8	9.4	0.0	0.0	437.6	10.2	0.0	0.0	0.0	0.0	1,181	10.5
15-May		459.1	11.3	0.0	0.0	0.0	0.0	1,224.3	10.0	0.0	0.0	0.0	0.0	1,683	12.2
16-May		396.5	11.8	0.0	0.0	0.0	0.0	858.1	9.5	374.3	10.7	0.0	0.0	1,629	10.3
17-May		275.0	11.1	0.0	0.0	0.0	0.0	833.8	10.3	0.0	0.0	0.0	0.0	1,109	10.5
18-May		424.6	11.1	0.0	0.0	0.0	0.0	1,650.0	10.1	0.0	0.0	0.0	0.0	2,075	10.3
19-May		438.6	10.8	0.0	0.0	0.0	0.0	880.1	10.2	139.2	9.3	0.0	0.0	1,458	10.3
20-May		222.3	11.0	0.0	0.0	0.0	0.0	1,451.2	9.7	0.0	0.0	0.0	0.0	1,674	9.9
21-May		435.7	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	436	11.4
22-May		135.7	12.3	0.0	0.0	340.0	0.0 ^a	0.0	0.0	0.0	0.0	0.0	0.0	476	12.3
23-May		125.5	11.8	0.0	0.0	60.0	0.0 ^a	0.0	0.0	0.0	0.0	0.0	0.0	186	11.8
24-May		32.4	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32	11.7
25-May		81.3	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81	11.6
Total		4,011.0	11.2	2,702.7	9.2^b	1252.8	9.6^a	8,476.5	10.1^a	687.9	10.1	0.0	0.0	17,132	10.4

Note: Blank cells represent no data due to area closures.

^a Includes 500 tons documented waste.

^b Includes test fish harvest which is conducted during closed commercial periods.

Table 31.—Herring total run and commercial catch by year class, Togiak District, 2007.

Year Class	Age	Total Run		Harvest ^a		Escapement	
		(tons)	%	(tons)	%	(tons)	%
1988	20	9	0.0	3	0.0	6	0.0
1989	19	0	0.0	0	0.0	0	0.0
1990	18	26	0.1	14	0.1	12	0.0
1991	17	347	0.1	24	0.1	323	0.3
1992	16	343	0.2	31	0.2	311	0.3
1993	15	546	0.7	68	0.4	478	0.4
1994	14	2,264	1.4	262	1.5	2,001	1.7
1995	13	1,243	0.8	118	0.7	1,126	1.0
1996	12	5,524	4.1	690	4.0	4,834	4.1
1997	11	11,370	7.9	1,256	7.3	10,114	8.6
1998	10	32,184	24.0	4,668	27.2	27,516	23.5
1999	9	28,552	22.0	3,985	23.3	24,566	21.0
2000	8	12,716	9.4	1,589	9.3	11,127	9.5
2001	7	7,237	5.5	748	4.4	6,489	5.5
2002	6	19,860	15.5	2,315	13.5	17,545	15.0
2003	5	10,815	7.3	1,233	7.2	9,582	8.2
2004	4	1,186	0.7	129	0.8	1,058	0.9
2005	3	0	0.0	0	0.0	0	0.0
2006	2	0	0.0	0	0.0	0	0.0
Total		134,221	100.0	17,132	100.0	117,089	100.0

^a Does not include harvest in the Dutch Harbor food and bait fishery, but does include harvest from test fishery.

Table 32.—Commercial herring sac roe and spawn-on-kelp buyers in Togiak District, 2007.

Operator/Buyer ^a	Base of Operation	Product Purchased		
		Sac Roe		Spawn-on-Kelp
		Gillnet	Purse Seine	
1	Icicle Seafoods	P/Vs Bering Star, Discovery Star	X	X
2	Trident Seafoods	S/P Naknek, P/V Alaska Packer	X	X
3	Y.A.K. Inc.	S/P Red Salmon Cannery	X	X
4	Norquest Seafoods, Inc.	P/V Pribilof	X	X
5	Togiak Fisheries	S/P Pedersen Pt., S/P Togiak Fish - Togiak	X	X

^a Operators that registered in the Togiak District.

APPENDIX A. SALMON

Appendix A1.—Escapement goals and actual counts of sockeye salmon by river system, in thousands of fish, Bristol Bay, 1987–2007.

Year	Kvichak River			Naknek River ^a		
	Range		Actual	Range		Actual
	Lower	Upper		Lower	Upper	
1987	4,000	6,000	6,066	800	1,400	1,062
1988	4,000	6,000	4,065	800	1,400	1,038
1989	6,000	10,000	8,318	800	1,400	1,612
1990	6,000	10,000	6,970	800	1,400	2,093
1991	4,000	8,000	4,223	800	1,400	3,579
1992	4,000	8,000	4,726	800	1,400	1,607
1993	4,000	8,000	4,025	800	1,400	1,536
1994	6,000	10,000	8,338	800	1,400	991
1995	6,000	10,000	10,039	800	1,400	1,111
1996	4,000	6,000	1,451			1,078
1997	4,000	6,000	1,504	800	1,400	1,026
1998	2,000	10,000	2,296	800	1,400	1,202
1999	6,000	10,000	6,197	800	1,400	1,625
2000	6,000	10,000	1,828	800	1,400	1,375
2001	2,000	10,000	1,095	800	2,000	1,830
2002	2,000	10,000	704	800	2,000	1,264
2003	2,000	10,000	1,687	800	2,000	1,831
2004	2,000	10,000	5,500	800	2,000	1,939
2005	2,000	10,000	2,320	800	2,000	2,745
2006	2,000	10,000	3,068	800	2,000	1,953
20-Year Ave.	3,900	8,900	4,221	800	1,589	1,625
1987-96 Ave.	4,800	8,200	5,822	800	1,400	1,571
1997-06 Ave.	3,000	9,600	2,620	800	1,760	1,679
2007	2,000	10,000	2,810	800	2,000	2,945

Year	Egegik River			Ugashik River		
	Range		Actual	Range		Actual
	Lower	Upper		Lower	Upper	
1987	800	1,200	1,273	500	900	669
1988	800	1,200	1,599	500	900	643
1989	800	1,200	1,610	500	900	1,681
1990	800	1,200	2,191	500	900	730
1991	800	1,200	2,787	500	900	2,457
1992	800	1,200	1,945	500	900	2,174
1993	800	1,200	1,517	500	900	1,390
1994	800	1,200	1,897	500	900	1,081
1995	800	1,400	1,282	500	1,200	1,304
1996	800	1,400	1,076	500	1,200	668
1997	800	1,400	1,104	500	1,200	618
1998	800	1,400	1,111	500	1,200	891
1999	800	1,400	1,728	500	1,200	1,652
2000	800	1,400	1,032	500	1,200	620
2001	800	1,400	969	500	1,200	834
2002	800	1,400	1,036	500	1,200	892
2003	800	1,400	1,152	500	1,200	759
2004	800	1,400	1,290	500	1,200	776
2005	800	1,400	1,622	500	1,200	779
2006	800	1,400	1,465	500	1,200	978
20-Year Ave.	800	1,320	1,484	500	1,080	1,080
1987-1996 Ave.	800	1,240	1,718	500	960	1,280
1997-2006 Ave.	800	1,400	1,251	500	1,200	880
2007	800	1,400	1,433	500	1,200	2,599

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Year	Wood River			Igushik River		
	Range		Actual	Range		Actual
	Lower	Upper		Lower	Upper	
1987	800	1,200	1,337	140	250	169
1988	800	1,200	867	140	250	170
1989	800	1,200	1,186	150	250	462
1990	700	1,200	1,069	150	250	366
1991	700	1,200	1,160	150	250	756
1992	700	1,200	1,286	150	250	305
1993	700	1,200	1,176	150	250	406
1994	700	1,200	1,472	150	250	446
1995	700	1,200	1,475	150	250	473
1996	700	1,200	1,650	150	250	401
1997	700	1,200	1,512	150	250	128
1998	700	1,200	1,756	150	250	216
1999	700	1,200	1,512	150	250	446
2000	700	1,200	1,300	150	250	413
2001	700	1,500	1,459	150	300	410
2002	700	1,500	1,284	150	300	123
2003	700	1,500	1,460	150	300	194
2004	700	1,500	1,543	150	300	110
2005	700	1,500	1,497	150	300	366
2006	700	1,500	4,008	150	300	305
20-Year Ave.	715	1,290	1,500	149	265	333
1987-1996 Ave.	730	1,200	1,268	148	250	395
1997-2006 Ave.	700	1,380	1,733	150	280	271
2007	700	1,500	1,528	150	300	415

Year	Nushagak River ^b			Togiak River		
	Range		Actual	Range		Actual
	Lower ^c	Upper		Lower	Upper	
1987	300	700	163	100	200	250
1988	300	700	483	100	200	277
1989	300	700	513	100	200	84
1990	340	760	680	140	250	142
1991	340	760	493	140	250	255
1992	340	760	695	140	250	199
1993	340	760	715	140	250	177
1994	340	760	509	140	250	155
1995	340	760	281	140	250	186
1996	340	760	504	140	250	157
1997	340	760	373	100	200	132
1998	340	760	459	100	200	154
1999	235	760	393	100	200	156
2000	235	760	404	100	200	312
2001	340	760	804	100	200	297
2002	235	760	316	100	200	162
2003	340	760	581	100	200	232
2004	340	760	492	100	200	129
2005	340	760	1,096	100	200	149
2006	340	760	541	100	200	312
20-Year Ave.	318	751	525	114	218	196
1987-1996 Ave.	328	742	504	128	235	188
1997-2006 Ave.	309	760	546	100	200	204
2007	340	760	518	120	270	270

^a An "Optimal Escapement Goal" of up to 2.0 million sockeye set by the BOF in 2001, when fishing in the Naknek River Special Harvest Area.

^b Actual escapement through 1988 is Nuyakuk River tower count, from 1989–present is based on sonar count at Portage Creek.

^c The "Optimal Escapement Goal" of 235,000 sockeye set by the BOF in 1999.

Appendix A2.—Salmon entry permit registration by gear and residency, Bristol Bay, 1987–2007.

Year	Drift Net ^a						Set Net ^a						Total
	Resident	Non-Resident	Drift Total	Permits Fished	% Fished	Interim Use	Resident	Non-Resident	Set Total	Permits Fished	% Fished	Interim Use	Drift Set
1987	1,044	793	1,837	1,824	99%	91	736	224	960	899	94%	18	2,736
1988	1,033	806	1,839	1,837	100%	90	731	227	958	922	96%	17	2,761
1989	1,036	831	1,867	1,855	99%	91	785	240	1,025	971	95%	18	2,838
1990	1,039	839	1,878	1,869	100%	93	783	243	1,026	971	95%	15	2,849
1991	1,019	862	1,881	1,873	100%	88	771	253	1,024	950	93%	12	2,831
1992	997	886	1,883	1,879	100%	86	774	251	1,025	968	94%	8	2,851
1993	982	904	1,886	1,875	99%	81	763	259	1,022	965	94%	8	2,851
1994	970	917	1,887	1,865	99%	77	760	259	1,019	939	92%	7	2,826
1995	967	921	1,888	1,882	100%	75	762	257	1,019	967	95%	8	2,855
1996	966	925	1,891	1,884	100%	70	760	257	1,017	941	93%	6	2,832
1997	959	940	1,899	1,875	99%	67	757	262	1,019	921	90%	7	2,820
1998	954	945	1,899	1,858	98%	55	756	259	1,015	901	89%	6	2,800
1999	937	961	1,898	1,847	97%	52	748	266	1,014	925	91%	6	2,823
2000	945	945	1,890	1,823	96%	38	735	277	1,012	921	91%	6	2,811
2001	958	925	1,883	1,566	83%	24	729	281	1,010	834	83%	2	2,717
2002	945	933	1,878	1,183	63%	16	717	289	1,006	680	68%	2	2,558
2003	923	944	1,867	1,389	74%	7	713	288	1,001	714	71%	1	2,581
2004	912	948	1,860	1,426	77%	3	703	286	989	797	81%	1	2,849
2005	895	967	1,862	1,526	82%	3	688	300	988	829	84%	1	2,850
2006	893	966	1,859	1,567	84%	1	683	302	985	844	86%	0	2,844
20 Year Ave.	969	908	1,877	1,735	92%	55	743	264	1,007	893	89%	7	2,794
1987-1996 Ave.	1,005	868	1,874	1,864	99%	84	763	247	1,010	949	94%	12	2,822
1997-2006 Ave.	932	947	1,880	1,606	85%	27	723	281	1,004	837	83%	3	2,771
2007	881	981	1,862	1,621	87%	1	672	311	983	836	85%	0	2,845

Note: Limited Entry went into effect in 1974. Interim-use permits are included in the totals.

^a Allowable gear per license/permit is measured in fathoms, 150 for drift and 50 for set net.

Appendix A3.—Sockeye salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987-2007.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1987	4,986,002	5,356,669	2,128,652	3,254,720	342,732	16,068,775
1988	3,480,836	6,456,598	1,523,520	1,706,716	822,126	13,989,796
1989	13,809,956	8,901,994	3,146,239	2,788,194	88,923	28,735,306
1990	17,272,367	10,333,858	2,118,796	3,521,467	197,589	33,444,077
1991	10,475,206	6,797,166	2,945,742	5,053,845	549,221	25,821,180
1992	9,395,948	15,646,575	3,320,966	2,789,741	726,446	31,879,676
1993	8,907,872	21,600,603	4,176,952	5,236,932	539,933	40,462,292
1994	16,327,858	10,750,213	4,352,797	3,393,139	400,039	35,224,046
1995	20,279,581	14,426,007	4,509,418	4,445,900	605,328	44,266,234
1996	8,215,028	10,809,115	4,411,055	5,693,563	462,897	29,591,658
1997	589,311	7,517,389	1,402,690	2,506,818	142,569	12,158,777
1998	2,595,439	3,528,845	730,274	2,990,597	190,427	10,035,582
1999	9,452,972	7,388,080	2,256,007	6,175,419	385,411	25,657,889
2000	4,727,061	7,029,397	1,538,790	6,367,208	794,996	20,457,452
2001	5,280,538	2,872,662	480,509	4,734,800	810,096	14,178,605
2002	1,418,938	4,610,374	1,573,234	2,839,424	233,743	10,675,713
2003	3,348,504	2,291,502	1,748,934	6,665,965	706,008	14,760,913
2004	4,715,070	10,209,227	3,139,229	6,104,048	437,234	26,261,802 ^a
2005	6,728,469	8,015,950	2,216,635	7,096,031	465,094	24,522,179
2006	7,151,741	7,408,983	2,429,637	10,876,552	626,442	28,493,355
20-Year Ave.	7,957,935	8,597,560	2,507,504	4,712,054	476,363	24,232,816
1987-1996 Ave.	11,315,065	11,107,880	3,263,414	3,788,422	473,523	29,948,304
1997-2006 Ave.	4,600,804	6,087,241	1,751,594	5,635,686	479,202	17,882,274
2007	9,033,945	6,493,954	5,007,574	7,992,223	799,410	29,327,106

^a Total includes General District catch of 1,656,994.

Appendix A4.—Chinook salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1987	5,175	2,959	4,065	45,983	17,217	75,399
1988	6,538	3,103	3,444	16,648	15,614	45,347
1989	6,611	2,034	2,112	17,637	11,366	39,760
1990	5,068	1,144	1,839	14,812	11,130	33,993
1991	3,584	510	589	19,718	6,039	30,440
1992	5,724	694	2,146	47,563	12,640	68,767
1993	7,468	1,464	2,811	62,971	10,851	85,565
1994	6,015	1,243	3,685	119,478	10,484	140,905
1995	5,084	760	1,551	79,942	11,981	99,318
1996	4,195	980	588	72,011	8,602	86,376
1997	3,128	2,143	1,096	64,160	6,066	76,593
1998	2,449	760	346	117,065	14,131	134,751
1999	1,295	712	1,638	10,893	11,919	26,457
2000	1,027	1,061	893	12,055	7,858	22,894
2001	904	950	989	11,568	9,937	24,348
2002	969	268	612	39,473	2,801	44,123
2003	567	131	409	42,615	3,231	46,953
2004	1,360	1,589	863	96,534	9,310	114,280 ^a
2005	1,377	485	1,815	62,308	10,605	76,590
2006	2,333	915	2,608	84,881	16,225	106,962
20-Year Ave.	3,544	1,195	1,705	51,916	10,400	66,607
1987-1996 Ave.	5,546	1,489	2,283	49,676	11,592	70,587
1997-2006 Ave.	1,541	901	1,127	54,155	9,208	62,186
2007	1,579	541	1,445	51,350	7,755	62,670

^a Total includes General District catch of 4,624.

Appendix A5.—Chum salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1987	446,908	145,259	101,074	416,476	419,425	1,529,142
1988	295,572	237,888	94,545	371,199	470,495	1,469,699
1989	310,869	136,185	84,673	523,910	203,171	1,258,808
1990	422,276	122,843	31,798	375,361	102,861	1,055,139
1991	443,189	75,892	60,299	463,780	246,589	1,289,749
1992	167,168	121,472	57,170	398,691	176,123	920,624
1993	43,684	70,628	73,402	505,799	144,869	838,382
1994	219,118	62,961	52,127	328,260	232,559	895,025
1995	236,472	68,325	62,801	390,158	221,126	978,882
1996	97,574	85,151	106,168	331,414	206,226	826,533
1997	8,628	59,139	16,903	185,635	47,285	317,590
1998	82,281	29,405	8,088	208,551	67,345	395,670
1999	259,922	74,890	68,004	170,795	111,677	685,288
2000	68,218	38,777	36,349	114,454	140,175	397,973
2001	16,472	33,579	43,394	526,602	211,701	831,748
2002	19,180	23,516	35,792	276,777	112,987	468,252
2003	34,481	37,116	52,908	740,311	68,154	932,970
2004	29,972	75,061	49,358	458,902	94,025	732,481 ^a
2005	204,777	62,029	39,513	966,050	124,694	1,397,063
2006	457,855	153,777	168,428	1,240,235	223,364	2,243,659
20-Year Ave.	193,231	85,695	62,140	449,668	181,243	936,610
1987-1996 Ave.	268,283	112,660	72,406	410,505	242,344	1,106,198
1997-2006 Ave.	118,179	58,729	51,874	488,831	120,141	767,021
2007	379,651	166,528	251,457	1,021,453	220,633	2,039,722

^a Total includes General District catch of 25,163.

Appendix A6.—Pink salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007.

Year	Naknek- Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1987	5	0	30	2	20	57
1988	648,569	4,485	218	243,923	58,394	955,589
1989	75	6	29	156	172	438
1990	421,690	11,593	361	54,127	8,746	496,517
1991	102	15	2	69	117	305
1992	214,228	694	525	190,102	93,989	499,538
1993	86	2	2	83	240	413
1994	11,537	145	21	8,652	69,552	89,907
1995	55	1	1	120	294	471
1996	4,590	22	21	2,681	30,308	37,622
1997	35	2	2	46	23	108
1998	11,317	674	247	6,787	6,406	25,431
1999	11	0	3	52	2	68
2000	19,659	32	4	38,309	695	58,699
2001	23	0	0	308	97	428
2002	10	1	1	204	311	527
2003	24	0	0	188	32	244
2004	7,749	0	187	26,150	18,293	52,380 ^a
2005	32	0	1	554	2,108	2,695
2006	25,149	700	0	39,011	80,748	145,608
20-Year Ave. ^a	136,450	1,835	159	60,995	36,744	230,944
1987-1996 Ave. ^a	260,123	3,388	229	99,897	52,198	415,835
1997-2006 Ave. ^a	12,777	281	88	22,092	21,291	46,053
2007	9	0	3	435	545	992

Note: Averages include even numbered years only.

^a Total includes General District catch of 1.

Appendix A7.—Coho salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1987	5,274	30,789	14,785	13,263	1,292	65,403
1988	29,988	48,981	52,355	52,706	18,668	202,698
1989	22,668	49,175	33,942	77,077	56,972	239,834
1990	16,091	43,897	32,906	7,733	2,690	103,317
1991	17,527	47,486	42,622	5,574	4,531	117,740
1992	18,553	47,780	35,794	84,077	5,328	191,532
1993	1,779	41,603	2,387	14,345	12,615	72,729
1994	5,877	48,436	19,250	5,615	96,062	175,240
1995	1,105	21,833	13,454	4,181	8,871	49,444
1996	3,601	38,156	13,163	11,401	58,978	125,299
1997	718	35,470	7,156	4,110	2,970	50,424
1998	1,587	29,856	13,007	22,703	58,688	125,841
1999	303	11,464	2,289	2,836	2,653	19,545
2000	952	13,166	1,269	112,819	2,758	130,964
2001	3	12,603	976	3,218	284	17,084
2002	0	7,099	464	93	754	8,410
2003	42	40,577	994	583	1,047	43,243
2004	2,142	2,324	4,744	47,706	15,463	72,379
2005	3,314	20,611	8,162	42,456	8	74,551
2006	5,163	26,788	3,087	44,385	449	79,872
20-Year Ave.	6,834	30,905	15,140	27,844	17,554	98,277
1987-1996 Ave.	12,246	41,814	26,066	27,597	26,601	134,324
1997-2006 Ave.	1,422	19,996	4,215	28,091	8,507	62,231
2007	2,162	18,129	1,961	29,649	152	52,053

Appendix A8.—Total salmon commercial catch by district, in numbers of fish, Bristol Bay, 1987–2007.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1987	5,443,364	5,535,676	2,248,606	3,730,444	780,686	17,738,776
1988	4,461,502	6,751,055	1,674,082	2,391,148	1,384,377	16,662,164
1989	14,150,179	9,089,394	3,266,995	3,406,958	360,620	30,274,146
1990	18,137,349	10,551,485	2,216,129	3,987,438	323,016	35,215,417
1991	10,939,608	6,921,069	3,049,254	5,542,986	806,497	27,259,414
1992	9,801,621	15,817,215	3,416,601	3,510,174	1,014,526	33,560,137
1993	8,960,902	21,714,569	4,255,766	5,819,760	708,508	41,459,505
1994	16,570,406	10,862,998	4,427,880	3,855,157	808,698	36,525,139
1995	20,522,297	14,516,875	4,587,276	4,920,284	847,600	45,394,332
1996	8,322,312	10,900,288	4,530,995	6,111,030	724,023	30,588,648
1997	616,084	7,626,863	1,432,200	2,866,890	200,676	12,742,713
1998	2,693,068	3,589,540	751,962	3,345,717	336,995	10,717,282
1999	9,714,503	7,475,146	2,327,941	6,359,995	511,662	26,389,247
2000	4,816,917	7,082,513	1,577,305	6,644,845	946,482	21,068,062
2001	5,297,940	2,919,794	525,868	5,276,496	1,032,115	15,052,213
2002	1,439,097	4,641,258	1,610,103	3,156,646	350,596	11,197,700
2003	3,383,567	2,369,326	1,803,245	7,449,615	778,472	15,784,225
2004	4,756,293	10,288,201	3,194,381	6,733,340	574,325	27,233,322 ^a
2005	6,937,969	8,099,075	2,266,126	8,167,399	602,509	26,073,078
2006	7,642,241	7,591,163	2,603,760	12,285,064	947,228	31,069,456
20-Year Ave.	8,230,361	8,717,175	2,588,324	5,278,069	701,981	25,514,298
1987-1996 Ave.	11,730,954	11,266,062	3,367,358	4,327,538	775,855	31,467,768
1997-2006 Ave.	4,729,768	6,168,288	1,809,289	6,228,601	628,106	18,899,331
2007	9,405,074	6,678,855	5,263,283	9,095,110	1,028,495	31,470,817

^a Total includes General District catch.

Appendix A9.—Commercial sockeye salmon catch, in percent, by gear type and district, Bristol Bay, 1987–2007.

Year	Naknek-Kvichak				Nushagak														
	Set net Sec.			NRSHA ^a		Egegik		Ugashik		Set net Sec.			WRSHA ^b		Togiak		Total		
	Drift	Nak.	Kvi.	Drift	Set	Drift	Set	Drift	Set	Drift	Nush.	Igushik	Drift	Set	Drift	Set	Drift	Set	
1987	86	14				91	9	93	7	80	20					66	34	90	10
1988	86	14				90	10	91	9	75	25					64	36	85	15
1989	89	11				90	10	87	13	58	42					55	45	87	13
1990	88	12				91	9	91	9	67	33					67	33	86	14
1991	89	11				91	9	89	11	76	24					64	36	86	14
1992	89	11				91	9	90	10	65	35					62	38	87	13
1993	84	16				93	7	90	10	72	28					54	46	86	14
1994	90	10				92	8	94	6	68	32					52	48	88	12
1995	89	11				90	10	95	5	68	32					52	48	87	13
1996	83	17				90	10	95	5	81	19					52	55	88	12
1997	73	27				87	13	88	12	70	30					37	63	87	13
1998	84	8	8			86	14	85	15	72	24	4		76	24	43	57	86	14
1999	85	8	7			85	15	89	11	70	24	6		78	22	53	47	82	18
2000	84	11	5			84	16	87	13	77	17	6		68	32	57	43	80	20
2001	82	16	2	74 ^c	26 ^c	86	14	80	20	77	18	5				66	34	80	20
2002				64 ^c	36 ^c	85	15	88	12	77	22	1		67	33	62	38	79	21
2003	91	9	0	65 ^c	35 ^c	81	19	89	11	83	15	2				63	37	79	21
2004	79	11	10	88	12	86	14	88	12	84	15	1				55	45	79	21
2005				81	19	82	18	87	13	84	14	2				56	44	66	34
2006	86	8	5	81	19	84	16	88	12	87	11	2				53	47	85	15
20-Year Ave.	85	13	5	76	25	88	12	89	11	75	24	3		72	28	57	44	84	16
1987-1996 Ave.	87	13				91	9	92	9	71	29					59	42	87	13
1997-2006 Ave.	83	12	5	76	25	85	15	87	13	78	19	3		72	28	55	46	80	20
2007	82	12	6	80	12	84	16	92	8	80	17	3				59	41	81	19
Allocation ^d	84	8	8	84	16	86	14	90	10	74	20	6		74	26	n.a.	n.a.	n.a.	n.a.

^a NRSHA allocation plan enacted in December 2003.

^b Wood River Special Harvest Area (WRSHA), Nushagak District.

^c Naknek River Special Harvest Area (NRSHA) prior to allocation plan, fishing periods were alternated between gear types.

^d BOF enacted allocation plan in 1998, reviewed in December 2003. Historical data prior to 1998 is based on post-season numbers. Inseason numbers are presented for 1998-present, as they were used to make management decisions regarding allocation.

Appendix A10.—Sockeye salmon escapement by district, in numbers of fish, Bristol Bay, 1987–2007.

Year	Naknek-					Total
	Kvichak ^a	Egegik ^b	Ugashik ^c	Nushagak ^d	Togiak ^e	
1987	7,281,896	1,273,553	686,894	1,895,961	316,076	11,454,380
1988	5,297,708	1,599,161	654,412	1,524,704	340,712	9,416,697
1989	9,676,244	1,611,566	1,713,281	2,189,501	125,080	15,315,672
1990	9,231,358	2,191,582	749,478	2,144,444	278,202	14,595,064
1991	8,078,885	2,786,925	2,482,001	2,419,488	320,713	16,088,012
1992	6,557,157	1,945,632	2,194,927	2,286,278	266,956	13,250,950
1993	5,908,799	1,517,000	1,413,454	2,296,789	242,475	11,378,517
1994	9,571,245	1,894,977	1,095,068	2,449,616	233,632	15,244,538
1995	11,365,573	1,282,508	1,321,108	2,254,231	240,266	16,463,686
1996	2,835,426	1,075,596	692,167	2,553,995 ^f	212,524	7,369,708
1997	2,747,511	1,104,004	656,641	2,021,529	171,373	6,701,058
1998	3,750,246	1,110,932	924,853	2,441,666	214,626	8,442,323
1999	8,303,878	1,727,772	1,662,042	2,269,861 ^f	231,196	14,194,749
2000	3,654,568	1,032,138	638,420	2,116,842 ^f	390,080	7,832,048
2001	3,194,708	968,872	866,368	2,679,432 ^f	338,616 ^g	9,016,868
2002	2,303,463	1,036,092	905,584	1,722,519 ^f	199,507	6,167,165
2003	5,627,974 ^h	1,152,120	790,202	2,241,556 ^f	261,851 ^g	10,073,703
2004	12,836,100 ^h	1,290,144	815,104	2,144,690 ^f	154,681 ^g	17,240,719
2005	9,283,980 ^h	1,621,734	799,612	2,958,527 ^f	155,778 ^g	14,819,631
2006	6,795,420 ^h	1,465,158	1,003,158	4,861,780 ^f	312,126 ^g	14,437,642
20-Year Ave.	6,715,107	1,484,373	1,103,239	2,373,670	250,324	11,975,157
1985-1994 Ave.	7,580,429	1,717,850	1,300,279	2,201,501	257,664	13,057,722
1995-2004 Ave.	5,849,785	1,250,897	906,198	2,545,840	242,983	10,892,591
2007	8,221,926 ^h	1,432,500	2,599,186	2,461,579 ^f	269,646 ^g	14,984,837

^a Includes counts from Kvichak tower, Alagnak aerial survey and Naknek tower.

^b Includes Egegik River. May include King Salmon River and Shosky Creek; see table 14 for specific counts.

^c Includes Ugashik River. Also includes Mother Goose River and Dog Salmon River system in 1984-2004.

^d Includes Wood, Igushik, Nuyakuk, Nushagak-Mulchatna and Snake Rivers.

^e Includes Togiak River, Lake tributaries, Kulukak system and other miscellaneous river systems.

^f Snake River not surveyed.

^g Only partial and/ or late survey of Togiak streams in 2001, 2003-2007.

^h Alagnak tower count.

Appendix A11.—Inshore commercial catch and escapement of sockeye salmon in the Naknek-Kvichak District by river system, in numbers of fish, Bristol Bay, 1987–2007.

Year	Catch	Escapement			Total	Total Run
		Kvichak ^a	Alagnak ^b	Naknek ^a		
1987	4,986,002	6,065,880	154,210	1,061,806	7,281,896	12,267,898
1988	3,480,836	4,065,216	194,630	1,037,862	5,297,708	8,778,544
1989	13,809,956	8,317,500	196,760	1,161,984	9,676,244	23,486,200
1990	17,272,224	6,970,020	168,760	2,092,578	9,231,358	26,503,582
1991	10,475,206	4,222,788	277,589	3,578,508	8,078,885	18,554,091
1992	9,395,948	4,725,864	224,643	1,606,650	6,557,157	15,953,105
1993	8,907,876	4,025,166	347,975	1,535,658	5,908,799	14,816,675
1994	16,327,858	8,337,840	242,595	990,810	9,571,245	25,899,103
1995	20,279,581	10,038,720	215,713	1,111,140	11,365,573	31,645,154
1996	8,211,983	1,450,578	306,750	1,078,098	2,835,426	11,047,409
1997	589,311	1,503,732	218,115	1,025,664	2,747,511	3,336,822
1998	2,595,439	2,296,074	252,200	1,202,172	3,750,446	6,345,885
1999	9,452,972	6,196,914	481,600	1,625,364	8,303,878	17,756,850
2000	4,727,061	1,827,780	451,300	1,375,488	3,654,568	8,381,629
2001	5,280,538	1,095,348	267,000	1,830,360	3,192,708	8,473,246
2002	1,418,938	703,884	335,661	1,263,918	2,303,463	3,722,401
2003	3,348,453	1,686,804	3,676,146 ^a	1,831,170	7,194,120	10,542,573
2004	4,715,070	5,500,134	5,396,592 ^a	1,939,374	12,836,100	17,551,170
2005	6,706,386	2,320,422	4,219,026 ^a	2,744,622	9,284,070	15,990,456
2006	7,153,750	3,068,226	1,773,966 ^a	1,953,228	6,795,420	13,949,170
20 Year Ave.	7,956,769	4,220,945		1,602,323	6,793,329	14,750,098
1987-1996 Ave.	11,314,747	5,821,957		1,525,509	7,580,429	18,895,176
1997-2006 Ave.	4,598,792	2,619,932		1,679,136	6,006,228	10,605,020
2007	9,021,738	2,810,208	2,466,414 ^a	2,945,304	8,221,926	17,243,664

^a Tower count.

^b Aerial survey estimates.

Appendix A12.—Inshore sockeye salmon total run by river system Naknek-Kvichak District, in thousands of fish, Bristol Bay, 1987–2007.

Year	Kvichak		Alagnak		Naknek		Total Run ^a
	Number	%	Number	%	Number	%	
1987	9,593	78.2	297	2 ^b	2,378	19	12,268
1988	6,720	76.5	320	4 ^b	1,739	20	8,779
1989	19,774	84.2	534	2 ^b	3,179	14	23,487
1990	17,521	66	555	2 ^b	8,427	32	26,503
1991	8,032	43	604	3 ^b	9,918	53	18,554
1992	10,445	65	487	3 ^b	5,021	31	15,953
1993	9,313	63	817	6 ^b	4,687	32	14,817
1994	22,232	86	634	2 ^b	3,033	12	25,899
1995	27,431	87	651	2 ^b	3,564	11	31,646
1996	3,458	31	706	6 ^b	6,860	62	11,024
1997	1,683	50	244	7 ^b	1,409	42	3,336
1998	3,412	54	388	6 ^b	2,546	40	6,346
1999	12,947	73	1,070	6 ^b	3,740	21	17,757
2000	2,862	34	731	9 ^b	4,789	57	8,382
2001	1,426	17	409	5 ^b	6,639	78	8,474
2002	704	19	336	9 ^b	2,671	72	3,711
2003	1,721	19	2,110	24	5,096	57	8,927
2004	7,332	42	6,510	37	3,721	21	17,563
2005	2,951	18	5,436	33	8,005	49	16,392
2006	5,804	42	2,854	20	5,292	38	13,950
20 Year Ave.	8,768	52	1,285	9	4,636	38	14,688
1987-1996 Ave.	13,452	68	561	3	4,881	29	18,893
1997-2006 Ave.	4,084	37	2,009	16	4,391	48	10,484
2007	4,281	25	4,323	25	8,640	50	17,244

^a Total run is based on aerial survey estimate, not tower counts.

^b Due to rounding of river system total runs, district total run may not equal the sum of the rows.

Appendix A13.—Inshore commercial catch and escapement of sockeye salmon in the Egegik District by river system, 1987–2007.

Year	Catch	Escapement			Total Run
		Egegik ^a	Shosky Cr. ^b	King Salmon River ^b	
1987	5,356,669	1,272,978		575	6,630,222
1988	6,456,598	1,599,096	65		8,055,759
1989	8,901,994	1,610,916	50	600	10,513,560
1990	10,371,762	2,191,362		220	12,563,344
1991	6,797,166	2,786,880		45	9,584,091
1992	15,646,575	1,945,332		300	17,592,207
1993	21,600,858	1,516,980	20		23,117,858
1994	10,750,213	1,894,932	15	30	12,645,190
1995	14,425,979	1,281,678		830	15,708,487
1996	10,809,115	1,075,596			11,884,711
1997	7,517,389	1,103,964		40	8,621,393
1998	3,528,845	1,110,882		50	4,639,777
1999	7,388,080	1,727,772		625	9,116,477
2000	7,050,899	1,032,138			8,083,037
2001	2,872,662	968,862	10		3,841,534
2002	4,610,374	1,036,092			5,646,466
2003	2,291,502	1,152,030		90	3,443,622
2004	10,209,227	1,290,144			11,499,371
2005	8,015,950	1,621,584	0		9,625,584
2006	7,408,983	1,465,128	0		8,874,111
20-Year Ave.	8,600,542	1,484,217	23	310	10,084,340
1987-1996 Ave.	11,111,693	1,717,575	38	371	12,829,543
1997-2006 Ave.	6,089,391	1,250,860	3	201	7,339,137
2007	6,493,655	1,432,500	0	1,500	7,927,655

Note: Blank cells represent no data.

^a Tower count.

^b Aerial survey index count.

Appendix A14.—Inshore commercial catch and escapement of sockeye salmon in the Ugashik District, by river system, 1987–2007.

Year	Catch	Escapement			Total Run
		Ugashik ^a River	King Salmon ^b River	Dog Salmon ^b River	
1987	2,128,652	668,964	15,855	2,075	2,815,546
1988	1,523,520	642,972	8,360	3,080	2,177,932
1989	3,146,239	1,681,296	25,480	6,505	4,859,520
1990	2,149,009	730,038	11,340	8,100	2,898,487
1991	2,945,742	2,457,306	12,195	12,500	5,427,743
1992	3,320,966	2,173,692	13,425	7,810	5,515,893
1993	4,176,900	1,389,534	22,570	1,350	5,590,354
1994	4,352,797	1,080,858	8,885	5,325	5,447,865
1995	4,509,446	1,304,058	7,650	9,400	5,830,554
1996	4,411,055	667,518	7,230	17,419	5,103,222
1997	1,402,690	618,396	27,645	10,600	2,059,331
1998	730,274	890,508	27,425	6,920	1,655,127
1999	2,256,007	1,651,572	6,350	4,120	3,918,049
2000	1,538,790	620,040	12,900	5,480	2,177,210
2001	480,509	833,628	22,940	9,800	1,346,877
2002	1,573,234	892,104	11,460	2,020	2,478,818
2003	1,748,934	758,532	27,620	4,000	2,539,086
2004	3,139,229	776,364	22,850	15,890	3,954,333
2005	2,216,635	779,172	0 ^c	20,440	3,001,814
2006	2,429,637	978,718	0 ^c	24,440	3,432,795
20-Year Ave.	2,509,013	1,079,764	14,609	8,864	3,611,528
1987-1996 Ave.	3,266,433	1,279,624	13,299	7,356	4,566,712
1997-2006 Ave.	1,751,594	879,903	15,919	10,371	2,656,344
2007	5,007,186	2,523,686 ^d	5,420 ^c	70,020	7,606,312

^a Tower count.

^b Aerial survey.

^c King Salmon system still impacted by Mt. Chiginigak-see text for explanation.

^d Includes 50,000 sockeyes at Lower Ugashik Lake outlet from post season aerial survey.

Appendix A15.—Inshore commercial catch and escapement of sockeye salmon in the Nushagak District by river system, in numbers of fish, Bristol Bay, 1987–2007.

Year	Catch	Escapement							Total	Total Run
		Wood ^a	Igushik ^a	Nuyakuk ^a	Nush/Mul ^b	Nushagak ^c	Snake ^d			
1987	3,254,720	1,337,172	169,236	163,000	225,034	388,034	1,520	1,895,962	5,150,682	
1988	1,706,716	866,778	170,454	319,992	163,208	483,200	4,320	1,524,752	3,231,468	
1989	2,788,185	1,186,410	461,610			513,421	28,060	2,189,501	4,977,686	
1990	3,532,543	1,069,440	365,802			680,368	28,840	2,144,450	5,676,993	
1991	5,053,845	1,159,920	756,126			492,522	10,920	2,419,488	7,473,333	
1992	2,789,741	1,286,250	304,920			695,108		2,286,278	5,076,019	
1993	5,236,557	1,176,126	405,564			715,099		2,296,789	7,533,346	
1994	3,393,143	1,471,890	445,920			509,326	22,480	2,449,616	5,842,759	
1995	4,445,883	1,482,162	473,382	69,702	211,605	281,307	17,380	2,254,231	6,700,114	
1996	5,693,523	1,649,598	400,746	250,692	252,959	503,651		2,553,995	8,247,518	
1997	2,506,818	1,512,396	127,704	272,982	100,053	373,035	8,394	2,021,529	4,528,347	
1998	2,990,597	1,755,768	215,904	146,250	312,624	458,874	11,120	2,441,666	5,432,263	
1999	6,175,419	1,512,426	445,536	81,006	230,893	311,899		^e 2,269,861	8,445,280	
2000	6,367,208	1,300,026	413,316	129,468	274,032	403,500		^e 2,116,842	8,484,050	
2001	4,734,800	1,458,732	409,596	184,044	627,060	811,104		^e 2,679,432	7,414,232	
2002	2,840,031	1,283,682	123,156	68,928	246,753	315,681		^e 1,722,519	4,562,550	
2003	6,665,918	1,459,782	194,088	116,646	463,888	580,534		^e 2,234,404	8,900,322	
2004	6,104,048	1,543,342	109,650	77,406	414,292	491,698		^e 2,144,690	8,248,738	
2005	7,132,342	1,496,550	365,709	251,016	845,252	1,096,268		^e 2,958,527	10,090,869	
2006	10,876,552	4,008,102	305,268	170,760	377,650	548,410		^e 4,861,780	15,738,332	
20-year Ave.	4,714,429	1,500,828	333,184	164,421	338,950	532,652	14,782	2,373,316	7,087,745	
1987-1996 Ave.	3,789,486	1,268,575	395,376	200,847	213,202	526,204	16,217	2,201,506	5,990,992	
1997-2006 Ave.	5,639,373	1,733,081	270,993	149,851	389,250	539,100	9,757	2,545,125	8,184,498	
2007	8,142,604	1,528,086	415,452		^f	518,041		^e 2,461,579	10,604,183	

Note: Blank cells represent no data.

^a Tower count.

^b Escapement estimates for 1987-88, and 1995-2005, were derived from the difference between lower river sonar estimates and Nuyakuk Tower counts. In 1987, the counting tower was terminated early due to high water. Tower estimate was expanded using aerial survey data.

^c Total escapements from 1989 on are determined for the entire Nushagak River drainage using Portage Creek sonar estimates.

^d Aerial survey estimate 1985-1991, 1994-1995 and 1997; weir count not surveyed in 1992, 1993 or 1996 due to lack of funding.

^e Snake River escapement is not included this year because staff was unable to conduct aerial surveys.

^f The Nuyakuk tower project has been discontinued. There is no longer a breakout For Nuyakuk or Nushagak/Mulchatna.

Appendix A16.—Inshore sockeye salmon total run by river system, in thousands of fish, Nushagak District, 1987–2007.

Year	Wood		Igushik		Nushagak										Snake ^b		Total Run ^c
	Total Run		Total Run		Nushagak Escapement ^a				Catch		Total Run						
	Number	%	Number	%	Nuyakuk		Nush-Mul		Sonar	Total	Number	%					
					Number	%	Number	%	Estimate	Number							
1987	2,828	55	617	12	163	42	225	58	388	1,317	1,705	33	2	0	5,152		
1988	1,749	54	406	13	320	66	163	34	483	590	1,073	33	4	0	3,232		
1989	2,519	51	1,214	24					513	704	1,217	24	28	1	4,978		
1990	2,610	46	1,280	23					680	1,077	1,757	31	29	1	5,676		
1991	3,303	44	2,424	32					493	1,243	1,736	23	11	0	7,474		
1992	2,481	49	794	16					695	1,107	1,802	35			5,077		
1993	3,725	49	1,580	21					715	1,513	2,228	30			7,533		
1994	2,957	51	1,300	22					509	1,034	1,543	26	42	1	5,842		
1995	4,022	60	1,902	28	70	25	211	75	281	475	756	11	20	0	6,700		
1996	5,007	61	1,481	18	251	50	253	50	504	1,256	1,760	21			8,248		
1997	3,365	74	291	6	273	73	100	27	373	491	864	19	8	0	4,528		
1998	3,901	72	571	11	146	32	313	68	459	490	949	17	11	0	5,432		
1999	5,930	70	1,563	19	81	26	231	74	312	640	952	11			8,445		
2000	5,278	62	1,748	21	129	32	275	68	404	1,054	1,458	17			8,484		
2001	3,987	54	1,315	18	184	23	627	77	811	1,301	2,112	28			7,414		
2002	3,715	81	207	5	69	22	247	78	316	325	641	14			4,563		
2003	5,647	63	1,018	11	117	20	464	80	581	1,655	2,236	25			8,901		
2004	5,375	65	564	7	77	16	415	84	492	1,801	2,293	28			8,232		
2005	4,771	47	1,878	19	251	23	845	77	1096	2,346	3,442	34			10,091		
2006	11,064	70	1,435	9	171	31	377	69	548	2,690	3,238	21			15,737		
20-Year Ave.	4,212	59	1,179	17	164	34	339	66	533	1,155	1,688	24	17	0	7,087		
1987-1996 Ave.	3,120	52	1,300	21	201	46	213	54	526	1,032	1,558	27	19	0	5,991		
1997-2006 Ave.	5,303	66	1,059	12	150	30	389	70	539	1,279	1,819	22	10	0	8,183		
2007	6,364	60	1,721	16					518	2,002	2,520	24			10,605		

Note: Blank cells represent no data.

^a Escapement percentages represent the portion of sonar escapement that is accounted for in the Nuyakuk or Nushagak-Mulchatna.

^b Snake River escapement is not included from 1999-2007 because staff was unable to conduct aerial surveys.

^c Due to rounding, the district total runs may not equal the sum of the rows. District total run is the sum of Wood, Igushik, Nushagak, and Snake total run numbers.

Appendix A17.—Inshore commercial catch and escapement of sockeye salmon in the Togiak District by river system, in numbers of fish, Bristol Bay, 1987–2007.

Year	Catch				Escapement						Total Run
					Togiak			Kulukak ^c	Other ^d	Total	
	Togiak	Kulukak	Os/Mat	Total	Lake	River ^a	Tributaries ^b				
1987	274,613	45,401	22,718	342,732	249,676	10,400	18,200	37,800		316,076	658,808
1988	673,408	143,112	5,567	822,087	276,612	18,800	13,600	31,700		340,712	1,162,799
1989	68,375	14,116	6,441	88,932	84,480	15,200	4,560	20,840		125,080	214,012
1990	168,688	27,311	1,590	197,589	141,977	17,540	29,605	49,600	39,480	278,202	475,791
1991	522,090	33,425	6,437	549,221	254,683	15,980	7,740	23,940	18,370	320,713	869,934
1992	610,575	108,358	7,513	726,446	199,056	6,060	10,400	26,440	25,000	266,956	993,402
1993	475,799	58,616	5,518	539,933	177,185	4,600	11,330	31,800	17,560	242,475	782,408
1994	321,121	76,781	2,137	400,039	154,752	6,200	13,220	29,740	29,720	233,632	633,671
1995	527,143	76,056	2,129	605,328	185,718	6,520	18,988	14,620	14,420	240,266	845,594
1996	381,539	76,833	1,691	460,063	156,954	18,320	11,900	18,980	6,370	212,524	672,587
1997	91,639	47,979	2,951	142,569	131,682	12,300	8,325	7,950	11,116	171,373	313,942
1998	112,993	75,279	2,155	190,427	153,576	9,780	12,120	12,950	26,200	214,626	405,053
1999	346,749	38,662	0	385,411	155,898	10,800	29,438	12,300	22,760	231,196	616,607
2000	727,384	67,612	0	794,996	311,970	25,200	15,075	22,350	15,485	390,080	1,185,076
2001 ^e	798,426	9,762	1,908	810,096	296,676	6,520	150	17,280	17,990	338,616	1,148,712
2002	214,094	19,112	537	233,743	162,402	4,100	12,075	8,500	12,430	199,507	433,250
2003	650,066	55,081	861	706,008	232,302			8,004	21,545	261,851	967,859
2004 ^{e,f}	357,354	80,204	1,095	438,653	129,462	6,100	75		19,044	154,681	593,334
2005 ^f	411,320	53,774	0	465,094	149,178	5,580	1,020		3,713	159,491	624,585
2006 ^f	574,629	51,603	0	626,442	312,126					312,126	938,568
20-Year Ave.	415,400	57,954	3,562	476,290	195,818	11,111	12,101	22,047	18,825	250,509	726,800
1987-1996 Ave.	402,335	66,001	6,174	473,237	188,109	11,962	13,954	28,546	21,560	257,664	730,901
1997-2006 Ave.	428,465	49,907	951	479,344	203,527	10,048	9,785	12,762	16,698	243,355	722,699
2007 ^f	741,562	57,848	0	799,410	269,646					269,646	1,069,056

Note: Blank cells represent years of no data.

^a Aerial survey estimate.

^b Aerial survey estimate includes Gechiak, Pungokepuk, Kemuk, Naylorun, and Ongivinuck River systems.

^c Aerial survey estimate includes Kulukak River and Lake and Tithe Creek ponds.

^d Aerial survey estimate includes Matogak, Osviak, Slug, Negukthlik, and Ungalikthluk and Quigmy Rivers.

^e Only the Ongivinuk River was surveyed for sockeye escapement in tributaries.

^f Partial survey.

Appendix A18.—Inshore total run of sockeye salmon by district, in numbers of fish, Bristol Bay, 1987–2007.

Year	Naknek- Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1987	12,267,898	6,630,222	2,815,546	5,150,681	658,808	27,523,155
1988	8,778,544	8,055,759	2,177,932	3,231,420	1,162,799	23,406,454
1989	23,486,200	10,513,560	4,859,520	4,977,686	214,012	44,050,978
1990	26,503,582	12,563,344	2,898,487	5,676,987	475,791	48,118,191
1991	18,554,091	9,584,091	5,427,743	7,473,333	869,934	41,909,192
1992	15,953,105	17,592,207	5,515,893	5,076,019	993,402	45,130,626
1993	14,816,675	23,117,858	5,590,354	7,533,346	782,408	51,840,641
1994	25,899,103	12,645,190	5,447,865	5,842,759	633,671	50,468,588
1995	31,645,154	15,708,487	5,830,554	6,700,114	845,594	60,729,903
1996	11,047,409	11,884,711	5,103,222	8,247,518	672,587	36,955,447
1997	3,336,822	8,621,393	2,059,331	4,527,953	313,942	18,859,441
1998	6,345,885	4,639,777	1,655,127	5,432,143	405,053	18,477,985
1999	17,738,850	9,116,477	3,918,049	8,445,280	616,607	39,835,263
2000	8,381,629	8,083,037	2,177,210	8,484,050	1,185,076	28,311,002
2001	8,473,246	3,841,534	1,346,877	7,414,232	1,148,712	22,224,601
2002	3,722,401	5,646,466	2,478,818	4,562,550	433,250	16,843,485
2003	8,976,427	3,443,622	2,539,136	8,900,322	967,859	24,827,366
2004	15,066,178	11,499,371	3,954,333	8,248,738	591,915	41,017,529 ^a
2005	15,984,566	9,625,859	3,001,814	10,090,869	622,965	39,326,073
2006	13,945,960	8,873,391	3,432,755	15,738,137	886,755	42,876,998
20-Year Ave.	14,546,186	10,084,318	3,611,528	7,087,707	724,057	35,879,757
1987-1996 Ave.	18,895,176	12,829,543	4,566,712	5,990,986	730,901	43,013,318
1997-2006 Ave.	10,197,196	7,339,093	2,656,345	8,184,427	717,213	27,953,579
2007	17,243,664	7,926,155	7,606,758	10,604,183	1,069,056	44,449,816

^a Total includes General District catch.

Appendix A19.—Chinook salmon harvest, escapement and total runs in the Nushagak District, in numbers of fish, Bristol Bay, 1987–2007.

Year	Harvests by Fishery				Inriver	Spawning	Total Run
	Commercial	Sport	Subsistence	Total	Abundance ^a	Escapement ^b	
1987	45,983	4,425	12,200	62,608	84,309	75,924	138,532
1988	16,648	2,818	10,079	29,545	56,905	50,945	80,490
1989	17,637	3,614	8,122	29,373	78,302	72,600	101,973
1990	14,812	3,486	12,407	30,705	63,955	55,931	86,636
1991	19,718	5,551	13,627	38,896	104,351	94,733	133,629
1992	47,563	4,755	13,588	65,906	82,848	74,094	140,000
1993	62,976	5,900	17,709	86,585	97,812	86,705	173,290
1994	119,480	10,627	15,490	145,597	95,954	83,102	228,699
1995	79,943	4,951	13,701	98,595	85,622	77,018	175,613
1996	72,011	5,391	15,941	93,343	52,127	42,227	135,570
1997	64,156	3,497	15,318	82,971		82,000	164,971
1998	117,079	5,827	12,258	135,164	117,495	108,037	243,201
1999	10,893	4,237	10,057	25,187	62,331	54,703	79,890
2000	12,055	6,017	9,470	27,542	56,374	47,674	75,216
2001	11,568	5,899	26,939	44,406	99,155	83,272	127,678
2002	39,473	3,693	11,281	54,447	87,141	79,790	134,237
2003	42,615	5,590	18,686	66,891	80,028	68,606	135,497
2004	100,601	6,813	15,610	123,024	116,400	105,442	228,466
2005	62,308	8,565	12,392	83,265	172,559	161,528	244,793
2006	84,881	7,473	9,971	102,325	124,683	116,088	218,413
20-Year Ave.	52,120	5,456	13,742	71,319	90,440	81,021	152,340
1987-1996 Ave.	49,677	5,152	13,286	68,115	80,219	71,328	139,443
1997-2006 Ave.	54,563	5,761	14,198	74,522	101,796	90,714	165,236
2007	51,350	6,427 ^c	13,588 ^c	71,365	60,464	50,594	121,959

Note: Blank cells represent no data.

^a Inriver abundance estimated by sonar below the village of Portage Creek.

^b Spawning escapement estimated from the following: 1997 comprehensive aerial surveys. 1986–1996, 1998–2005 - Inriver abundance estimated by sonar minus inriver harvests.

^c Data unavailable at the time of publication. A 5-year average is reported.

Appendix A20.—Chinook salmon harvest, escapement and total runs in the Togiak District, in numbers of fish, Bristol Bay, 1987–2007.

Year	Harvests by Fishery				Spawning Escapement ^b	Total Run
	Commercial	Sport ^a	Subsistence	Total		
1987	17,217	137	700	18,054	11,000	29,054
1988	15,606	0	429	16,035	10,000	26,035
1989	11,366	234	551	12,151	10,540	22,691
1990	11,130	172	480	11,782	9,107	20,889
1991	6,039	284	470	6,793	12,667	19,460
1992	12,640	271	1,361	14,272	10,413	24,685
1993	10,851	225	784	11,860	16,035	27,895
1994	10,486	663	904	12,053	19,353	31,406
1995	11,981	581	448	13,010	16,438	29,448
1996	8,602	790	471	9,863	11,476	21,339
1997	6,114	1,165	667	7,946	11,495	19,441
1998	14,131	763	782	15,676	11,666	27,342
1999	11,919	644	1,244	13,807	12,263	26,070
2000	7,858	470	1,116	9,444	16,897	26,341
2001	9,937	1,006	1,612	12,555	15,185	27,740
2002	2,801	76	703	3,580	14,265	17,845
2003	3,231	706	1,208	5,145	5,668 ^c	10,813
2004	9,310	1,388	1,094	11,792	15,990	27,782
2005	10,605	1,734	1,528	13,867	13,521	27,388
2006	16,225	1,064	1,630	18,919	1,670 ^c	20,589
20-Year Ave.	10,402	619	909	11,930	12,282	24,213
1986-1995 Ave.	11,592	336	660	12,587	12,703	25,290
1996-2005 Ave.	9,213	902	1,158	11,273	11,862	23,135
2007	7,755	994 ^d	1,233 ^d	9,981	^c	9,981

^a Sport fish harvest estimate only includes the Togiak River Section.

^b Spawning escapement estimated from comprehensive aerial surveys. Estimates for 1987–1988 are rounded to the nearest thousand fish.

^c Partial survey.

^d Estimate.

Appendix A21.—Inshore commercial catch and escapement of chum salmon in the Nushagak and Togiak Districts, in numbers of fish, 1987–2007.

Year	Nushagak District			Togiak District		
	Catch	Escapement ^a	Total Run	Catch	Escapement ^b	Total Run
1987	416,476	147,433	563,909	419,425	361,000	780,425
1988	371,196	186,418	557,614	470,132	412,000	882,132
1989	523,903	377,512	901,415	203,178	143,890	347,068
1990	378,223	329,793	708,016	102,861	67,460	170,321
1991	463,780	287,280	751,060	246,589	149,210	395,799
1992	398,691	302,678	701,369	176,123	120,000	296,123
1993	505,799	217,230	723,029	144,869	98,470	243,339
1994	328,267	378,928	707,195	232,559	229,470	462,029
1995	390,158	212,612	602,770	221,126	163,040	384,166
1996	331,414	225,331	556,745	206,226	117,240	323,466
1997	185,620	61,456	247,076	47,459	106,580	154,039
1998	208,551	299,443	507,994	67,408	102,455	169,863
1999	170,795	242,312	413,107	111,677	116,183	227,860
2000	114,454	141,323	255,777	140,175	80,860 ^c	221,035
2001	526,602	564,373	1,090,975	211,701	252,610	464,311
2002	276,845	419,969	696,814	112,987	154,360	267,347
2003	740,311	295,413	1,035,724	68,406	39,090 ^d	107,496
2004	470,248	283,805	754,053	94,025	103,810	197,835
2005	874,090	448,059	1,322,149	124,694	108,346	233,040
2006	1,240,235	661,003	1,901,238	223,364	26,900 ^{c,d}	250,264
20-Year Ave.	445,783	304,119	749,901	181,249	147,649	328,898
1987-1996 Ave.	410,791	266,522	677,312	242,309	186,178	428,487
1997-2006 Ave.	480,775	341,716	822,491	120,190	109,119	229,309
2007			0	220,633	^{c,d}	220,633

Note: Blank cells represent no data.

^a Escapement based on sonar estimates from the Portage Creek site.

^b Escapement estimates based on aerial surveys. Estimates for 1987-1988 rounded to the nearest thousand fish.

^c No escapement counts were made for the Togiak River.

^d Partial count.

Appendix A22.—Coho salmon harvest by fishery, escapement and total runs for the Togiak River, in numbers of fish, Bristol Bay, 1987–2007.

Year	Harvests by Fishery				Spawning Escapement ^b	Total Run
	Commercial	Subsistence ^a	Sport	Total		
1981	19,504	2,200	119	21,823	43,500	65,323
1982	108,000	1,300	524	109,824	69,900	179,724
1983	4,977	800	829	6,606		
1984	111,631	3,800	1,154	116,585	60,840	177,425
1985	35,765	1,500	0	37,265	33,210	70,475
1986	28,030	500	2,851	31,381	21,400	52,781
1987	1,284	1,600	183	3,067	16,000	19,067
1988	8,744	792	1,238	10,774	25,770	36,544
1989	35,814	976	416	37,206		
1990	2,296	1,111	367	3,774	21,390	25,164
1991	4,262	1,238	87	5,587	25,260	30,847
1992	3,918	1,231	251	5,400	80,100	85,500
1993	12,613	743	330	13,686		
1994	88,522	910	531	89,963		
1995	8,910	703	408	10,021		
1996	58,369	199	1,382	59,950	64,980	124,930
1997	2,976	260	780	4,016	20,625	24,641
1998	52,783	310	1,020	54,113	25,335	79,448
1999	2,653	217	1,109	3,979	3,855 ^c	7,834
2000	2,758	342	840	3,940		
2001	3,218	388	904	4,510		
2002	754	241	1,475	2,470		
2003	961	883	2,086	3,930	6,900 ^c	10,830
2004	15,463	204	2,321	17,988		17,988
2005	8	295	1,959	2,262		2,262
2006	453	408 ^d	931 ^d	1,792		1,792
20-Year Ave.	15,338	653	931	16,921	29,022	35,911
1987-1996 Ave.	22,473	950	519	23,943	38,917	53,675
1997-2006 Ave.	8,203	355	1,342	9,900	14,179	20,685
2007	152	406 ^d	1,754 ^d	2,313		2,313

Note: Blank cells represent no data.

^a Subsistence harvest estimated by expanding permit returns; estimates for 1987 were based on community where permit was issued; 1988 - present on community of residence.

^b Expanded estimates from aerial surveys.

^c Results of a partial survey.

^d Estimate.

Appendix A23.—Average round weight (lbs.) of the commercial salmon catch by species, Bristol Bay, 1987–2007.

Year	Sockeye	Chinook	Chum	Pink	Coho
1987	6.0	20.5	6.5		7.0
1988	6.2	18.7	7.0	3.6	7.8
1989	5.6	19.1	6.3		7.4
1990	5.7	16.9	6.3	3.8	7.5
1991	5.7	15.9	6.4		7.3
1992	5.7	16.8	6.4	3.7	7.0
1993	6.0	17.4	6.5		6.8
1994	5.5	18.0	6.5	3.7	8.2
1995	5.5	19.8	6.3	3.6	6.7
1996	6.3	18.0	7.3	3.5	6.8
1997	6.0	16.4	7.3	3.4	6.3
1998	5.7	17.7	6.4	3.3	8.4
1999	5.3	14.3	6.7	3.2	6.4
2000	6.1	15.7	6.9	3.7	7.6
2001	6.7	17.4	8.2	2.8	7.1
2002	6.1	18.2	7.1	3.8	6.8
2003	6.3	16.0	6.5	4.0	6.9
2004	5.8	15.4	6.6	4.1	6.8
2005	6.3	16.6	7.1	3.5	6.3
2006	5.7	17.0	7.7	3.7	6.4
20-Year Ave.	5.9	17.3	6.8	3.6	7.1
1987-1996 Ave.	5.8	18.1	6.6	3.7	7.3
1997-2006 Ave.	6.0	16.5	7.0	3.5	6.9
2007	5.7	13.4	5.9	3.4	6.4

Note: Blank cells represent no data.

Appendix A24.—Average price paid in dollars per pound for salmon, by species, Bristol Bay, 1987–2007.

Year	Sockeye	Chinook	Chum	Pink	Coho
1987	1.40	1.17	0.30	0.18	0.72
1988	2.11	1.08	0.47	0.35	1.40
1989	1.25	0.82	0.26	0.32	0.71
1990 ^a	1.09	0.91	0.27	0.29	0.73
1991	0.75	0.67	0.22	0.15	0.60
1992	1.12	0.93	0.26	0.14	0.59
1993	0.67	0.76	0.22	0.25	0.52
1994	0.97	0.64	0.22	0.12	0.71
1995	0.77	0.66	0.20	0.14	0.43
1996	0.81	0.51	0.11	0.05	0.31
1997	0.90	0.52	0.10	0.07	0.50
1998	1.22	0.62	0.10	0.08	0.48
1999	0.84	0.53	0.10	0.09	0.72
2000	0.67	0.46	0.09	0.08	0.41
2001	0.42	0.31	0.11	0.09	0.33
2002	0.49	0.33	0.09	0.06	0.32
2003	0.51	0.32	0.08	0.07	0.27
2004	0.51	0.37	0.09	0.09	0.31
2005	0.62	0.58	0.11	0.02	0.29
2006	0.55	0.74	0.11	0.03	0.35
20-Year Ave.	0.89	0.65	0.17	0.13	0.53
1987-1996 Ave.	1.09	0.81	0.25	0.20	0.67
1997-2006 Ave.	0.68	0.48	0.10	0.07	0.40
2007	0.61	0.65	0.12	0.03	0.38

Note: Blank cells represent no data. Price does not include all postseason adjustments.

^a Price paid in Nushagak District. Bristol Bay average unavailable.

Appendix A25.—Estimated exvessel value of the commercial salmon catch by species paid to fishermen, in thousands of dollars, Bristol Bay, 1987–2007.

Year	Sockeye	Chinook	Chum	Pink ^a	Coho	Total
1987	134,179	1,774	2,988		326	139,267
1988	185,153	909	4,815	1,205	2,108	194,190
1989	205,654	627	2,028		1,263	209,573
1990	210,057	524	1,740	553	564	213,439
1991	112,114	316	1,758		492	114,680
1992	204,604	1,073	1,526	251	792	208,245
1993	163,089	1,133	1,194		263	165,679
1994	188,918	1,616	1,201	41	1,019	192,796
1995	187,863	1,295	1,262		142	190,562
1996	150,968	754	606	7	336	152,671
1997	65,743	652	198		183	66,777
1998	70,529	1,414	234	7	503	72,688
1999	114,504	207	407		97	115,215
2000	83,940	165	232	16	403	84,756
2001	40,395	132	679		40	41,246
2002	31,899	272	290	0	19	32,479
2003	47,993	249	482		77	48,801
2004	77,897	647	398	19	158	79,119
2005	96,650	738	962		154	98,503
2006	90,233	1,330	1,350	19	178	93,110
20 Year Ave.	123,119	791	1,218	193	456	125,690
1987-1996 Ave.	174,260	1,002	1,912	343	731	178,110
1997-2006 Ave.	71,978	580	523	12	181	73,269
2007	103,192	549	1,288	0	127	105,156

Note: Value paid to fishermen, derived from price per pound times commercial catch. Blank cells represent no data.

^a Includes even-years only.

Appendix A26.—South Unimak and Shumagin Island preseason sockeye allocation, actual sockeye and chum harvest in thousands of fish, Alaska Peninsula, 1987–2007.

Year	South Unimak			Shumagin Island			Total		
	Sockeye		Chum	Sockeye		Chum	Sockeye		Chum
	Actual	Quota ^a		Actual	Quota ^a		Actual	Quota ^a	
1987	652	635	406	141	140	37	793	775	443
1988	474	1,263	465	282	279	62	756	1,542	527
1989	1,348	1,199	408	397	264	48	1,745	1,463	456
1990	1,091	1,087	455	256	240	64	1,347	1,327	519
1991	1,216	1,573	669	333	347	102	1,549	1,920	771
1992	2,047	1,959	324	410	432	102	2,457	2,391	426
1993	2,365	2,375	382	607	524	150	2,972	2,899	532
1994	1,001	2,938	374	460	648	208	1,461	3,586	582
1995	1,451	2,987	342	653	659	195	2,104	3,646	537
1996	572	2,564	129	446	566	228	1,018	3,130	357
1997	1,179	1,840	196	449	406	126	1,628	2,246	322
1998	975	1,529	195	314	336	50	1,289	1,865	245
1999	1,106	1,024	187	269	226	58	1,375	1,250	245
2000	892	1,650	169	359	363	70	1,251	2013	239
2001	271		185	130		149	401		334
2002	356		201	235		178	591		379
2003	336		121	117		161	453		282
2004	532		131	816		357	1,348		488
2005	437		144	567		282	1,004		426
2006	491		96	441		204	932		300
20-yr Ave.	940	1,759	279	384	388	142	1,324	2,147	421
1987-1996 Ave.	1,222	1,858	395	399	410	120	1,620	2,268	515
1997-2006 Ave.	658	1,511	163	370	333	164	1,027	1,844	326
2007	738		153	852		144	1,590		297

Note: South Unimak includes statistical area 284 in June and July, while Shumagin Islands includes statistical area 282 in June only.

^a The sockeye quota management system was initiated in 1974, and is based on 8.3 % of the Bristol Bay projected inshore harvest and traditional harvest patterns. This quota system was removed in 2001.

Appendix A27.—Subsistence salmon harvest, by district and species, Bristol Bay, 1987–2007.

	Permits						
Year ^a	Issued	Sockeye	Chinook	Chum	Pink	Coho	Total
NAKNEK KVICHAK DISTRICT							
1987	407	86,706	1,289	756	490	1,106	90,347
1988	391	88,145	1,057	588	917	813	91,520
1989	411	87,103	970	693	277	1,927	90,970
1990	466	92,326	985	861	1,032	726	95,930
1991	518	97,101	1,152	1,105	191	1,056	100,605
1992	571	94,304	1,444	2,721	1,601	1,152	101,222
1993	560	101,555	2,080	2,476	762	2,025	108,898
1994	555	87,662	1,843	503	460	1,807	92,275
1995	533	75,644	1,431	1,159	383	1,791	80,407
1996	540	81,305	1,574	816	794	1,482	85,971
1997	533	85,248	2,764	478	422	1,457	90,368
1998	567	83,095	2,433	784	1,063	1,592	88,967
1999	528	85,315	1,567	725	210	856	88,674
2000	562	61,817	894	560	845	937	65,053
2001	506	57,250	869	667	383	740	59,909
2002	471	52,805	837	909	1,137	943	56,632
2003	489	61,443	1,221	259	198	812	63,934
2004	481	71,110	1,075	469	1,080	566	74,300
2005	462	69,211	1,047	546	275	1,224	72,302
2006	468	69,097	881	341	757	720	71,796
20 Year Ave.	501	79,412	1,371	871	969	^b 1,187	83,504
1987-1996 Ave.	495	89,185	1,383	1,168	961	^b 1,389	93,815
1997-2006 Ave.	507	69,639	1,359	574	976	^b 985	73,193
2007 ^c	474	64,733	1,012	505	689	853	67,793
EGEGIK DISTRICT							
1987	49	3,350	87	139	2	284	3,862
1988	52	1,405	97	87	54	333	1,976
1989	50	1,636	50	33	1	414	2,134
1990	61	1,105	53	85	39	331	1,613
1991	70	4,549	82	141	32	430	5,234
1992	80	3,322	124	270	51	729	4,496
1993	69	3,633	128	148	15	905	4,829
1994	59	3,208	166	84	153	857	4,468
1995	60	2,818	86	192	100	690	3,886
1996	44	2,321	99	89	85	579	3,173
1997	34	2,438	101	21	5	740	3,304
1998	36	1,795	44	33	52	389	2,314
1999	42	2,434	106	35	2	806	3,384
2000	31	842	16	11	0	262	1,131
2001	57	2,493	111	105	16	928	3,653
2002	53	1,892	65	34	12	356	2,359
2003	62	3,240	84	32	10	297	3,663
2004	46	2,618	169	410	91	1,423	4,711
2005	45	2,267	81	231	2	526	3,106
2006	41	1,641	94	34	7	641	2,418
20 Year Ave.	52	2,450	92	111	54	^b 596	3,286
1987-1996 Ave.	59	2,735	97	127	76	^b 555	3,567
1997-2006 Ave.	45	2,166	87	95	32	^b 637	3,004
2007 ^c	49	2,332	99	148	24	649	3,251

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	Permits						
Year	Issued	Sockeye	Chinook	Chum	Pink	Coho	Total
UGASHIK DISTRICT							
1987	22	892	104	51	29	272	1,348
1988	23	1,400	84	55	35	330	1,904
1989	22	1,309	32	35	2	214	1,592
1990	37	1,578	51	143	120	280	2,172
1991	38	1,403	121	168	42	614	2,348
1992	37	2,348	106	79	8	397	2,938
1993	39	1,766	86	107	24	495	2,478
1994	31	1,587	126	42	38	579	2,372
1995	20	1,513	56	18	6	290	1,883
1996	26	1,247	50	21	7	298	1,623
1997	28	2,785	169	39	23	311	3,327
1998	27	1,241	59	75	82	485	1,942
1999	25	1,365	35	5	0	271	1,675
2000	31	1,927	51	34	1	467	2,481
2001	24	1,197	61	8	2	357	1,624
2002	23	1,294	51	14	2	460	1,821
2003	23	1,113	31	30	0	392	1,567
2004	21	804	64	9	4	234	1,116
2005	22	818	27	18	2	249	1,114
2006	25	962	41	6	16	339	1,364
20 Year Ave.	27	1,427	70	48	31 ^b	367	1,934
1987-1996 Ave.	30	1,504	82	72	42 ^b	377	2,066
1997-2006 Ave.	25	1,351	59	24	21 ^b	356	1,803
2007 ^c	23	998	43	15	5	335	1,396
NUSHAGAK DISTRICT							
1987	474	40,900	12,200	6,000	200	6,200	65,500
1988	441	31,086	10,079	8,234	6,316	5,223	60,938
1989	432	34,535	8,122	5,704	407	8,679	57,447
1990	441	33,003	12,407	7,808	3,183	5,919	62,320
1991	528	33,161	13,627	4,688	292	10,784	62,552
1992	476	30,640	13,588	7,076	3,519	7,103	61,926
1993	500	27,114	17,709	3,257	240	5,038	53,358
1994	523	26,501	15,490	5,055	2,042	5,338	54,426
1995	484	22,793	13,701	2,786	188	3,905	43,373
1996	481	22,935	15,941	4,704	1,573	5,217	50,370
1997	538	25,080	15,318	2,056	218	3,433	46,106
1998	562	25,217	12,258	2,487	1,076	5,316	46,355
1999	548	29,387	10,057	2,409	124	3,993	45,969
2000	541	24,451	9,470	3,463	1,662	5,983	45,029
2001	554	26,939	11,760	3,011	378	5,993	48,080
2002	520	22,777	11,281	5,096	1,179	4,565	44,897
2003	527	25,491	18,686	5,064	403	5,432	55,076
2004	511	17,491	15,610	3,869	1,944	4,240	43,154
2005	502	23,916	12,529	5,006	793	5,596	47,841
2006	461	20,773	9,971	4,448	1,591	3,590	40,373
20 Year Ave.	502	27,209	12,990	4,611	2,409 ^b	5,577	51,754
1987-1996 Ave.	478	30,267	13,286	5,531	3,327 ^b	6,341	57,221
1997-2006 Ave.	526	24,152	12,694	3,691	1,490 ^b	4,814	46,288
2007 ^c	504	22,090	13,615	4,696	1,182	4,685	46,268

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Year	Permits Issued	Sockeye	Chinook	Chum	Pink	Coho	Total
TOGIAK DISTRICT							
1987	46	3,600	700	1,000	0	1,600	6,900
1988	29	2,413	429	716	45	792	4,395
1989	40	2,825	551	891	112	976	5,355
1990	37	3,689	480	786	60	1,111	6,126
1991	43	3,517	470	553	27	1,238	5,805
1992	40	3,716	1,361	626	135	1,231	7,069
1993	38	2,139	784	571	8	743	4,245
1994	25	1,777	904	398	77	910	4,066
1995	22	1,318	448	425	0	703	2,894
1996	19	662	471	285	59	199	1,676
1997	31	1,440	667	380	0	260	2,747
1998	42	2,211	782	412	76	310	3,791
1999	76	3,780	1,244	479	84	217	5,804
2000	54	3,013	1,116	569	90	342	5,130
2001	92	4,162	1,612	367	61	388	6,590
2002	36	2,319	703	605	10	241	3,878
2003	92	4,403	1,208	483	451	883	7,428
2004	46	1,795	1,094	383	108	204	3,584
2005	45	2,299	1,528	301	26	295	4,448
2006	61	2,728	1,630	492	355	408	5,613
20 Year Ave.	46	2,690	909	536	102 ^b	653	4,877
1987-1996 Ave.	34	2,566	660	625	75 ^b	950	4,853
1997-2006 Ave.	58	2,815	1,158	447	128 ^b	355	4,901
2007 ^c	56	2,709	1,233	453	190	406	4,990
TOTAL BRISTOL BAY AREA							
1987	998	135,493	14,356	7,895	689	9,453	167,886
1988	936	124,449	11,746	9,680	7,367	7,491	160,733
1989	955	127,408	9,725	7,356	799	12,210	157,498
1990	1,042	131,701	13,976	9,683	4,434	8,367	168,161
1991	1,197	139,731	15,452	6,655	584	14,122	176,544
1992	1,204	134,330	16,623	10,772	5,314	10,612	177,651
1993	1,206	136,207	20,787	6,559	1,049	9,206	173,808
1994	1,193	120,735	18,529	6,082	2,770	9,491	157,607
1995	1,119	104,086	15,722	4,580	677	7,378	132,443
1996	1,110	108,470	18,136	5,915	2,518	7,775	142,813
1997	1,166	116,991	19,159	2,974	668	6,201	145,992
1998	1,234	113,560	15,576	3,792	2,349	8,093	143,368
1999	1,219	122,281	13,009	3,653	420	6,143	145,506
2000	1,219	92,050	11,547	4,637	2,599	7,991	118,824
2001	1,226	92,041	14,412	4,158	839	8,406	119,856
2002	1,093	81,088	12,936	6,658	2,341	6,565	109,587
2003	1,182	95,690	21,231	5,868	1,062	7,816	131,667
2004	1,100	93,819	18,012	5,141	3,225	6,667	126,865
2005	1,076	98,511	15,212	6,102	1,098	7,889	128,811
2006	1,050	95,201	12,617	5,321	2,726	5,697	121,564
20 Year Ave.	1,126	113,192	15,438	6,174	3,564 ^b	8,379	145,359
1987-1996 Ave.	1,096	126,261	15,505	7,518	4,481 ^b	9,611	161,514
1997-2006 Ave.	1,157	100,123	15,371	4,830	2,648 ^b	7,147	129,204
2007 ^c	1,100	92,862	16,002	5,818	2,090	6,927	123,699

^a Permit and harvest estimates prior to 1989 are based on the community where the permit was issued; estimates from 1989 to the present are based on the area fished, as first recorded on the permit.

^b Includes even years only.

^c A 5 year average was used as data was not available at the time of publication.

Appendix A28.—Subsistence harvest of sockeye salmon by community, in numbers of fish, Kvichak River drainage, Bristol Bay, 1987–2007.

Year ^{ab}	Iliamna-					Port			Total
	Levelock	Igiugig	Pedro Bay	Kokhanok	Newhalen ^c	Nondalton	Alsworth	Other ^d	
1987	5,700	^e	7,300	16,500	27,500	11,800	3,200		72,000
1988	3,500	^e	5,500	14,400	29,800	20,700	3,200	^f	77,100
1989	5,100	1,200	6,700	13,000	24,700	18,500	2,200	^f	71,400
1990	4,700	2,200	6,600	12,400	18,800	27,300	3,200	1,400	76,600
1991	1,029	1,712	9,739	17,184	29,094	4,163	2,755	1,110	66,786
1992	4,374	1,056	6,932	11,477	29,633	13,163	2,954	2,559	72,148
1993	4,699	1,397	6,226	18,810	19,067	17,890	3,254	2,780	74,123
1994	1,467	1,201	8,747	15,771	15,553	15,246	3,074	3,284	64,343
1995	3,756	497	5,359	14,412	20,134	4,188	2,892	3,441	54,679
1996	1,120	2,309	5,219	14,011	14,787	11,856	3,263	2,307	54,872
1997	1,062	2,067	5,501	8,722	19,513	17,194	2,348	3,101	59,508
1998	2,454	1,659	3,511	10,418	16,165	13,136	2,678	3,635	53,656
1999	1,276	1,608	5,005	10,725	14,129	17,864	4,282	2,834	57,723
2000	1,467	1,981	1,815	7,175	6,679	11,953	3,200	2,720	36,990
2001	908	779	2,118	9,447	8,132	7,566	1,958	1,901	32,808
2002	625	2,138	2,687	9,847	9,417	5,508	1,201	1,578	33,001
2003	737	1,081	2,135	9,771	13,824	8,016	1,370	1,591	38,495
2004	1,000	1,026	4,803	11,869	21,652	8,789	2,455	1,631	53,225
2005	914	1,017	4,162	16,801	12,010	8,824	2,457	2,078	48,263
2006	0	1,252	4,319	19,028	11,487	8,885	2,418	2,461	49,850
20 Year Ave.	2,294	1,454	5,219	13,088	18,104	12,627	2,718	2,377	57,379
1987-1996 Ave.	3,545	1,447	6,832	14,797	22,907	14,481	2,999	2,412	68,405
1997-2006 Ave.	1,044	1,461	3,606	11,380	13,301	10,774	2,437	2,353	46,352
2007 ^g	655	1,303	3,621	13,463	13,678	8,005	1,980	1,868	44,567

Note: Blank cells represent no data.

^a Harvests are extrapolated for all permits issued, based on those returned. Harvest estimates from 1991 are rounded to the nearest hundred fish.

^b Harvest estimates prior to 1990 are based on the community where the permit was issued; estimates from 1990 to the present are based on community of residence and include fish caught only in the Kvichak District.

^c Includes Chekok.

^d Subsistence harvests by non-Kvichak River watershed residents.

^e No permits issued.

^f No permits issued. Only residents of the Naknek/Kvichak watershed could obtain subsistence permits.

^g A 5 year average was used as current data was not available at the time of publishing.

Appendix A29.—Subsistence salmon harvest by community, Nushagak District, Bristol Bay, 1987–2007.

Year ^{ab}	New							Total
	Dillingham ^c	Manokotak	Aleknagik	Ekwok	Stuyahok	Koliganek	Other ^d	
1987	33,500	5,900	3,100	6,400	11,400	4,900		65,200
1988	29,600 ^e	5,500	2,400	6,100	11,700	5,700	^f	61,000
1989	31,800 ^e	5,800	2,000	4,700	9,700	3,800	^f	57,800
1990	28,860 ^e	6,600	2,300	4,900	9,900	8,000	700	61,260
1991	34,399 ^e	5,873	3,043	4,532	8,326	5,438	2,163	63,774
1992	31,702 ^e	4,317	2,184	5,971	11,325	3,708	2,635	61,842
1993	25,315 ^e	3,048	2,593	2,936	12,169	4,180	2,538	52,779
1994	30,145 ^e	3,491	2,289	4,343	8,056	4,513	2,322	55,159
1995	24,998 ^e	2,453	1,468	2,046	6,911	2,983	2,406	43,265
1996	27,161 ^e	3,883	1,733	2,866	8,892	3,319	2,113	49,967
1997	23,255 ^e	3,988	1,989	1,797	6,427	4,179	4,598	46,233
1998	24,072 ^e	4,069	1,112	3,555	5,419	3,166	4,958	46,351
1999	26,502 ^e	3,413	1,532	1,805	4,556	2,772	5,389	45,969
2000	27,931 ^e	3,173	1,111	3,946	3,715	2,792	2,362	45,029
2001	26,435 ^e	3,700	2,129	2,218	7,294	2,209	4,096	48,080
2002	25,004 ^e	3,254	1,517	2,735	6,043	3,098	3,247	44,897
2003	26,955 ^e	4,214	2,044	2,291	10,817	5,721	3,034	55,076
2004	23,308 ^e	2,052	2,206	1,891	6,714	3,619	3,364	43,154
2005	21,898 ^e	1,576	1,795	1,388	9,673	8,422	3,088	47,841
2006	22,184 ^e	1,655	2,048	1,499	6,160	3,886	2,941	40,373
20 Year Ave.	27,251	3,898	2,030	3,396	8,260	4,320	3,056	51,752
1987-1996 Ave.	29,748	4,687	2,311	4,479	9,838	4,654	2,125	57,205
1997-2006 Ave.	24,754	3,109	1,748	2,312	6,682	3,986	3,708	46,300
2007 ^g	23,870	2,550	1,922	1,961	7,882	4,949	3,135	46,268

Note: Blank cells represent no data.

^a Harvests are extrapolated for all permits issued, based on those returned. Harvest estimates prior to 1991 are rounded to the nearest hundred fish.

^b Harvest estimates prior to 1990 are based on the community where the permit was issued; estimates from 1990 to the present are based on community of residence and include fish caught only in the Nushagak District.

^c Includes the village of Portage Creek and Clarks Point.

^d Subsistence harvests by non-watershed residents.

^e Includes permits issued in Clarks Point and Ekuk.

^f No permits issued. Only residents of the Nushagak watershed could obtain subsistence permits.

^g A 5 year average was used as current data was not available at the time of publishing.

APPENDIX B. HERRING

Appendix B1.—Sac roe herring industry participation, fishing effort and harvest, Togiak District, 1987–2007.

Year	Number of Buyers	Daily Processing Capacity ^a	Fishery Dates	Gillnet					Purse Seine					Total Harvest ^c
				Effort ^b	Duration (hours)	Harvest	CPUE	Roe %	Effort ^b	Duration (hours)	Harvest ^c	CPUE	Roe %	
1987	18		4/27-5/6	148	36.0	2,685	0.5	8.6	111	5.5	12,845	21.0	8.9	15,530
1988	22		5/17	300	4.0	3,695	3.1	8.3	239	0.5	10,472	87.6	10.9	14,167
1989	19		5/9-5/14	320	5.0	2,844	1.8	7.8	310	3.0	9,415	10.1	8.5	12,259
1990	16	3,100	5/8-5/20	277	66.0	3,072	0.2	9.0	221	3.0	9,158	13.8	9.7	12,230
1991	16	3,350	5/10-5/17	170	14.0	3,182	1.3	8.5	200	3.0	11,788	19.6	10.0	14,970
1992	18	3,700	5/20-5/27	274	25.5	5,030	0.7	8.8	301	0.3	20,778	230.1	9.2	25,808
1993	12	2,500	4/27-5/9	75	144.5	3,564	0.3	10.1	140	33.8	14,392	3.0	9.6	17,956
1994	16	3,300	5/11-5/20	146	76.0	7,462	0.7	12.0	240	4.6	22,853	20.7	9.4	30,315
1995	22	4,350	5/7-5/15	250	33.5	6,995	0.8	12.0	254	12.2	19,737	6.4	10.1	26,732
1996	19	4,850	5/3-5/8	461	18.0	6,863	0.8	11.1	268	2.4	18,008	27.8	9.0	24,871
1997	18	4,200	5/2-5/6	336	24.0	5,164	0.6	11.8	231	6.4	18,648	12.6	9.4	23,812
1998	15	2,475	4/29-5/10	152	46.0	5,952	0.9	12.5	123	16.5	16,824	8.3	9.6	22,776
1999	12	2,400	5/18-5/26	171	28.0	4,858	1.0	11.5	96	4.7	14,368	31.8	9.2	19,226
2000	12	2,100	5/6-5/14	227	67.0	5,464	0.4	10.6	90	15.8	14,957	10.6	10.1	20,421
2001	11	2,255	5/6-5/13	96	84.0	6,491	0.8	10.6	64	26.0	15,879	9.5	9.2	22,370
2002	8	1,920	5/3-5/13	82	102.0	5,216	0.6	10.9	37	57.5	11,833	5.6	9.3 ^d	17,049
2003	7	1,920	4/25-5/7	75	142.0	6,505	0.6	10.9	35	110.2	15,158	3.9	8.9 ^d	21,663
2004	6	2,150	4/29-5/9	54	162.0	4,980	0.6	10.4	31	78.0	13,888	5.7	9.5	18,868
2005	8	2,330	4/30-5/8	56	149.0	5,841	0.7	11.2	33	83.0	15,071	5.5	9.6	20,912
2006	7	2,060	5/12-5/21	49	143.9	7,132	1.0	10.8	28	113.0	16,821	5.3	9.2	23,953
1987-2006 Ave.	14	2,880		186	68.5	5,150	0.9	10.4	153	29.0	15,145	27.0	9.5	20,294
1997-2006 Ave.	10	2,381		130	94.8	5,760	0.7	11.1	77	51.1	15,345	9.9	9.5	21,105
2007	5	1,420	5/10-5/25	25	366.0	4,012	0.4	11.2	21	244.0	13,120	2.6	10.0	17,132

Note: Blank cells represent no data.

^a Number of tons per day based on companies registered.

^b Peak aerial survey count.

^c Harvest total does include deadloss and test fish harvest.

^d Values are lower than inseason assessment due to more stringent post-season market scrutiny compared with previous years.

Appendix B2.—Exploitation of Togiak herring stock, 1987–2007.

	Biomass			Sac Roe				Total	Exploitation
	Estimate ^a	S-O-K Herring	Dutch Harbor						
Year	(short tons)	Equivalent	Food/Bait	Gillnet ^b	Purse Seine ^c	Waste ^d	Total	Harvest	Rate
1986	88,435	1,446		3,448	12,828		16,276	17,722	20.0%
1987	76,000	1,309		2,685	12,845		15,530	16,839	22.2%
1988	128,959	1,782	2,004	3,695	10,472		14,167	17,953	13.9%
1989	80,100	2,499	3,081	2,844	9,415		12,259	17,839	22.3%
1990	71,879	1,617	820	3,072	9,158		12,230	14,667	20.4%
1991	55,000	1,310	1,325	3,182	11,788		14,970	17,605	32.0%
1992	129,256	1,482	1,949	5,030	20,778		25,808	29,239	22.6%
1993	164,130	1,481	2,790	3,564	14,392		17,956	22,227	13.5%
1994	148,716	1,134	3,349	7,462	22,853		30,315	34,798	23.4%
1995	149,093	996	1,748	6,995	19,737		26,732	29,476	19.8%
1996	135,585	1,899	2,239	6,863	18,008		24,871	29,009	21.4%
1997	125,000	0	1,950	5,164	18,593	350	23,757	25,707	20.6%
1998	121,000	0	1,994	5,952	16,424	400	22,376	24,370	20.1%
1999	124,946	1,605	2,398	4,858	14,170	198	19,028	23,031	18.4%
2000	130,904	0	2,014	5,464	14,857	100	20,321	22,335	17.1%
2001	119,818	0	1,439	6,491	15,660	219	22,151	23,590	19.7%
2002	120,196	260	2,846	5,216	11,793	40	17,009	20,115	16.7%
2003	126,213	55	1,487	6,505	14,778	380	21,283	22,825	18.1%
2004	143,124	0	1,258	4,980	13,785	103	18,868	20,126	14.1%
2005	108,585	0	1,154	5,841	14,287	784	20,128	21,282	19.6%
2006	129,976	0	953	7,132	16,321	500	23,953	24,906	19.2%
1987-06 Ave.	119,424	871	1,937	5,150	15,006	307	20,186	22,897	19.2%
1997-06 Ave.	124,976	192	1,749	5,760	15,067	307	20,887	22,829	18.3%
2007	134,566	0	1,214	4,012	12,800	320	17,132	18,346	13.6%

—continued—

Appendix B1.–Page 2 of 2.

Year	Estimate ^a	S-O-K Herring	Dutch Harbor	Sac Roe			Total	Exploitation
	(short tons)	Equivalent	Food/Bait	Gillnet ^b	Purse Seine ^c	Waste ^d	Harvest	Rate
1986	88,435	1,446		3,448	12,828		17,722	20.0%
1987	76,000	1,309		2,685	12,845		16,839	22.2%
1988	128,959	1,782	2,004	3,695	10,472		17,953	13.9%
1989	80,100	2,499	3,081	2,844	9,415		17,839	22.3%
1990	71,879	1,617	820	3,072	9,158		14,667	20.4%
1991	55,000	1,310	1,325	3,182	11,788		17,605	32.0%
1992	129,256	1,482	1,949	5,030	20,778		29,239	22.6%
1993	164,130	1,481	2,790	3,564	14,392		22,227	13.5%
1994	148,716	1,134	3,349	7,462	22,853		34,798	23.4%
1995	149,093	996	1,748	6,995	19,737		29,476	19.8%
1996	135,585	1,899	2,239	6,863	18,008		29,009	21.4%
1997	125,000	0	1,950	5,164	18,593	350	25,707	20.6%
1998	121,000	0	1,994	5,952	16,424	400	24,370	20.1%
1999	124,946	1,605	2,398	4,858	14,170	198	23,031	18.4%
2000	130,904	0	2,014	5,464	14,857	100	22,335	17.1%
2001	119,818	0	1,439	6,491	15,660	219	23,590	19.7%
2002	120,196	260	2,846	5,216	11,793	40	20,115	16.7%
2003	126,213	55	1,487	6,505	14,778	380	22,825	18.1%
2004	143,124	0	1,258	4,980	13,785	103	20,126	14.1%
2005	108,585	0	1,154	5,841	14,287	784	21,282	19.6%
2006	129,976	0	953	7,132	16,321	500	24,906	19.2%
1987-2006 Ave.	119,424	871	1,937	5,150	15,006	307	22,897	19.2%
1997-2006 Ave.	124,976	192	1,749	5,760	15,067	307	22,829	18.3%
2007	134,566	0	1,214	4,012	12,800	320	18,346	13.6%

Note: Blank cells represent no data.

^a Preseason forecast unless peak biomass estimate inseason exceeded preseason forecast.

^b Includes bait harvest.

^c Includes test fish harvest.

^d Estimated waste, also included in purse seine harvest.

Appendix B3.—Age composition of inshore herring, Togiak District, 1987–2007.

Year	Age Composition (%) ^a							Total ^b
	3 ^c	4	5	6	7	8	9 +	Run (tons)
1986			1.0	2.0	15.0	44.0	38.0	94,770
1987				8.0	10.0	28.0	54.0	88,398
1988		2.0	5.0	1.0	13.0	5.0	74.0	134,718
1989			5.0	11.0	4.0	15.0	65.0	98,965
1990	^d	^d	^d	6.0	11.0	3.0	80.0	88,105
1991		7.0	1.0	1.0	16.0	18.0	57.0	83,229
1992	^d	10.0	20.0	1.0	1.0	15.0	53.0	156,957
1993		^d	6.0	23.0	1.0	1.0	67.0	193,847
1994		^d	2.0	12.0	28.0	3.0	55.0	185,412
1995		1.0	4.0	7.0	24.0	30.0	35.0	^e
1996		^d	3.0	5.0	7.0	21.0	64.0	^e
1997	^d	7.0	5.0	12.0	11.0	10.0	55.0	144,887
1998		^d	4.0	5.0	10.0	11.0	70.0	^e
1999	^d	^d	1.0	13.0	9.0	12.0	65.0	157,028
2000	^d	^d	1.0	2.0	17.0	16.0	63.0	^e
2001		5.0	21.0	5.0	4.0	27.0	39.0	115,155
2002		1.0	25.0	28.0	4.0	5.0	36.0	^e
2003		^d	3.0	37.0	25.0	4.0	31.0	^e
2004		^d	^d	3.8	43.7	24.6	27.5	^e
2005		^d	^d	0.8	11.0	41.4	46.4	156,727
2006	^d	1.8	5.4	2.8	5.4	25.9	58.7	176,288
2007		0.7	7.3	15.5	5.5	9.4	61.7	134,221

^a Age composition in 1984–1992 is weighted by aerial survey data and weight at age.

^b Includes commercial catch, escapement, and documented waste.

^c Includes age 1, 2 and 3 herring.

^d Contribution of age class is less than 0.5%.

^e Age contribution of the commercial purse seine harvest (by weight) was used to represent the total run for the season. Aerial surveys to determine abundance were hampered by poor weather conditions preventing estimation of total biomass estimate.

Appendix B4.—Herring spawn-on-kelp industry participation, fishing effort, area and harvest, Togiak District, 1987–2007.

Year	Companies	Fishery Dates	Hours	Effort ^a	Area	Total Harvest in pounds	Herring Equivalent (in tons)	Openings	Average Roe %
1987	5	4/29-5/4	6.6	187	K 9, K 10	307,307	1,309	5	8.8
1988	10	5/20	6.0	259	K 4, K 8	489,320	1,782	1	10.3
1989	11	5/14	4.0	487	K 9	559,780	2,499	1	8.3
1990	7	5/11	3.0	481	K 8	413,844	1,617	1	9.5
1991	7	5/13	2.5	532	K 4	348,357	1,310	1	9.7
1992	5	5/23	3.3	386	K 9	363,600	1,482	2	9.1
1993	2	5/1-5/2	7.0	173	K 8	383,000	1,481	2	9.7
1994	3	5/13-5/14	7.5	204	K 5	308,400	1,134	2	10.0
1995	5	5/11-5/14	14.5	188	K 2, K 3	281,600	996	3	10.6
1996	3	5/9-5/10	12.0	200	K 8, K 9	455,800	1,899	2	9.6
1997		no fishery							
1998		no fishery							
1999	1	5/23	8.0	130	K 9	419,563	1,605	2	9.8
2000		no fishery							
2001		no fishery							
2002	1	5/14	2.0	50	K 9	67,793	260	1	9.8
2003	1	5/3-5/4	3.0	35	K 3	13884 ^b	55	1	9.45 ^b
2004		no fishery							
2005		no fishery							
2006		no fishery							
1997-2006 Ave.	2		6.3	104		167,080	640	1	10
2002-2006 Ave.	1		2.5	43		40,839	158	1	10
2007		no fishery							

Note: Blank cells represent no data.

^a 1984–1989 and 1992–1996, number of permits fished based on fish tickets. 1990 and 1991, peak aerial survey count.

^b Data confidential under Alaska Statute 16.05.815.

Appendix B5.—Aerial survey estimates of herring biomass and spawn deposition, Togiak District, 1987–2007.

Year	Preseason	Biomass	Spawn Estimates	
	Forecast ^a	Estimate	Observations	Miles
1987	61,100	88,398	160	76
1988	54,500	134,718	107	61
1989	80,100	98,965	69	53
1990	56,000	88,105	94	66
1991	55,000	83,229	90	70
1992	60,214	156,957	160	97
1993	148,786	193,847	76	53
1994	142,497	185,412	80	72
1995	149,093	149,093 ^b	70	59
1996	135,585	135,585 ^b	99	73
1997	125,000	144,887	79	59
1998	121,000	121,000 ^b	42	33
1999	90,000	157,028	33	56
2000	130,904	130,904 ^b	71	46
2001	119,818	115,155 ^b	100	57
2002	120,196	120,196 ^b	79	32
2003	126,213	126,213 ^b	182	95
2004	143,124	143,124 ^b	47	36
2005	96,029	156,727	106	28
2006	129,976	176,288	66	18
1987-2006 Ave.	107,257	135,292	91	57
1997-2006 Ave.	120,226	139,152	81	46
2007	134,566	134,221	43	19

^a 1993–2006 forecasts based on Age Structured Analysis. Previous years based on age composition, abundance, average growth and mortality rates.

^b Peak biomass estimate could not be determined, therefore, preseason forecast was used.

Appendix B6.—Exvessel value of the commercial herring and spawn-on-kelp harvest, in thousands of dollars, Togiak District, 1987–2007.

Herring				
Year	Sac Roe	Food/Bait	Spawn-on-Kelp	Total
1987	8,614	49	166	8,829
1988	14,103	3	346	14,452
1989	4,983	19	448	5,450
1990	6,494	9	360	6,863
1991	6,173	21	383	6,577
1992	8,818	26	254	9,098
1993	5,218	3	268	5,489
1994	9,090	0	212	9,302
1995	16,713	0	362	17,075
1996	14,395	5	510	14,910
1997	4,306	0	a	4,306
1998	3,986	0	a	3,986
1999	6,211	0	315	6,526
2000	4,000	0	a	4,000
2001	3,090	0	a	3,090
2002	1,880	0	b	1,900
2003	2,797	0	b	2,801
2004	2,541	0	a	2,541
2005	2,978	0	a	2,978
2006	2,618	0	a	2,618
1987-2006 Ave.	6,450	7	281	6,640
1997-2006 Ave.	3,441	0	113	3,475
2007	1,869	0	a	1,869

Note: Exvessel value (value paid to the fishermen) is derived by multiplying price/ton by the commercial harvest. These estimates do not include any postseason adjustments to fishermen from processors and should therefore be treated as minimum estimates.

^a Fishery not conducted.

^b Data confidential under Alaska Statute 16.05.815.

Appendix B7.—Guideline and actual harvests of sac roe herring (tons) and spawn-on-kelp (lbs), Togiak District, 1987–2007.

Year	Gillnet Sac Roe			Purse Seine Sac Roe			Spawn-on-Kelp		
	Guideline ^a	Actual	% Difference ^c	Guideline ^a	Actual ^b	% Difference ^c	Guideline ^a	Actual	% Difference ^c
1987		2,685			12,845		350,000	307,307	-12
1988	5,647	3,695	-35	16,943	10,472	-38	350,000	489,320	40
1989	3,376	2,844	-16	10,128	9,415	-7	350,000	559,780	60
1990	2,993	3,072	3	8,980	9,158	2	350,000	413,844	18
1991	3,143	3,182	1	9,429	11,788	25	350,000	348,357	0
1992	5,662	5,030	-11	16,985	20,778	22	350,000	363,600	4
1993	6,570	3,564	-46	19,709	14,392	-27	350,000	383,000	9
1994	6,277	7,462	19	18,832	22,853	21	350,000	308,400	-12
1995	6,582	6,995	6	19,747	19,737	0	350,000	281,600	-20
1996	5,956	6,863	15	17,868	18,008	1	350,000	455,800	30
1997	5,464	5,164	-5	16,391	18,593	13	350,000	d	
1998	5,280	5,952	13	15,840	16,824	6	350,000	d	
1999	6,914	4,858	-30	20,741	14,368	-31	350,000	419,563	20
2000	5,738	5,464	-5	17,215	14,957	-13	350,000	d	
2001	6,268	6,491	4	14,624	15,879	9	350,000	d	
2002	6,288	5,216	-17	14,673	11,833	-19	350,000	e	-81
2003	6,624	6,505	-2	15,457	15,158	-2	350,000	e	-96
2004	7,568	4,980	-34	17,658	13,888	-21	350,000	d	
2005	5,667	5,841	3	13,224	15,071	14	350,000	d	
2006	7,059	7,132	1	16,471	16,821	2	350,000	d	
1990-2006 Ave.	5,885	5,516	-5	16,108	15,889	0	350,000	305,584	-13
1997-2006 Ave.	6,287	5,760	-7	16,229	15,339	-4	350,000	167,080	-52
2007	7,090	4,012	-43	16,544	13,120	-21	350,000	d	

^a Harvest guideline derived from inseason biomass estimate when available, or preseason forecast if weather prevents an estimate. Harvest guidelines were not adopted until 1988.

^b Actual minus guideline divided by guideline.

^c Includes deadloss and test fish harvest.

^d No fishery conducted.

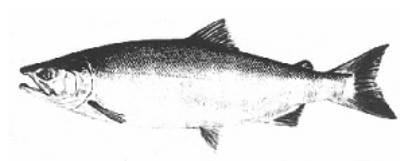
^e Data confidential under Alaska Statute 16.05.815.

APPENDIX C. 2007 BRISTOL BAY SALMON OUTLOOK

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
NEWS RELEASE



Denby S. Lloyd, Commissioner
John Hilsinger, Director



Contact:
Tim Sands, Area Biologist
Charlotte Westing, Assistant Area Biologist
Phone: (907) 842-5227
Fax: (907) 842-5937

Issuing Area Office
PO Box 230
Dillingham, Alaska, 99576
Date Issued: Monday, April 2
Time: 12:00 p.m.

BRISTOL BAY
2007 OUTLOOK FOR COMMERCIAL
SALMON FISHING

INTRODUCTION

This document is provided as a guide to fishers, processors, and the public. The intent of this document is to provide the reader with information regarding the 2007 Bristol Bay salmon season. Included is a short narrative regarding the general management approach for each of the five major districts and the 2007 salmon forecast as well as a brief summary of regulation changes adopted by the Board of Fisheries (BOF).

Bristol Bay salmon fishing announcements will be broadcast on marine VHF Channel 07A and 2509 MHz. SSB. Current fishing announcements will be aired on the local radio stations – KAKN, KDLG and KRUP. Regular announcement times that may be utilized are 9:00 a.m., 12:00 noon, 3:00 p.m., 6:00 p.m., and 8:00 p.m., unless otherwise stated. If you miss an announcement, we have two telephone information lines. For information on the east-side fisheries (Naknek-Kvichak, Egegik, and Ugashik), dial **246-INFO (4636)**. For west-side fisheries (Nushagak and Togiak) dial **842-5226**. The direct line from the Dillingham boat harbor will be operational in late April and is located on the west end of the harbormaster's house.

Blue and Green permit district registration cards will be available at the Anchorage, King Salmon, and Dillingham offices beginning May 1, and must be picked-up by the permit holder or their authorized agent. As a reminder: a permit holder may take salmon only after a department representative at one of the area offices has accepted their registration card.

Fishers and processors should be aware of the reporting requirements in 5 AAC 06.377 (b) that state **“Each commercial fisherman shall report, on an ADF&G fish ticket, at the time of landing, the number of Chinook and coho salmon taken but not sold.”**

During the 2007 season catch, escapement, and announcements will be available at the Commercial Fisheries website:

<http://www.cf.adfg.state.ak.us/region2/finfish/salmon/bbayhome.php>

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REGULATORY CHANGES

5 AAC 06.333. Requirements and specifications for use of 200 fathoms of drift gillnet in Bristol Bay. Permit holders are allowed to fish an additional **50 fathoms of gear (200 fathoms total)** when two permit-holders are fishing at the same time from the same vessel, except in Special Harvest Areas when they are in effect. Both permit holders must be registered for the same district and legal to fish at the time the gear is being deployed. Any vessel fishing 2 permits (i.e. 200 fathoms of gear) must be marked with the ADFG number followed by a D (for dual permits). The D must be the same size as the existing numbers (12" high x 1" wide) as described in 5 AAC 06.343 Vessel Identification. If only one permit holder is on board, the D must be covered or removed and normal gear limits apply.

The BOF in December 2006 expanded the grounding regulations bay wide, instituted requirements for reporting lost gear, made small boundary changes in the Ugashik and Nushagak Districts and made other district specific changes. Please review the information for the district you plan to fish in and the news release put out by the Department of Public Safety.

SALMON OUTLOOKS

BAYWIDE

The forecasted Bristol Bay sockeye salmon run for 2007 is approximately 34.4 million fish. From this total, a commercial harvest of approximately 26.3 million fish is projected (Table 1).

NAKNEK/KVICHAK DISTRICT

An inshore run of 11.5 million sockeye salmon is expected for the Naknek/Kvichak District in 2007. The forecasted harvest in the Naknek/Kvichak District is approximately 7.4 million sockeye salmon; roughly 1.9 million from the Kvichak River, 1.0 from the Alagnak River and 4.5 million from the Naknek River. The 2007 Kvichak River minimum biological escapement goal will be 2.0 million. The **preseason** point goal for the Kvichak River is the minimum 2.0 million, if the return is greater than the forecast, the **inseason** point goal will be changed to reflect the actual inseason total run. The Naknek River escapement goal is 800,000 to 1.4 million with an objective of 1.1 million. Sockeye salmon returning to the Naknek/Kvichak District will be comprised of 54% age-1.3, 23% age-1.2, 15% 2.2 and 9% 2.3 fish.

The Board of Fisheries, during its December 2006 meeting in Dillingham, passed several proposals, of which, one affects specifically the Naknek/Kvichak Special Harvest Area. The BOF adopted an allocation plan based on the number of periods fished versus percent of catch. The new allocation plan will be one set gillnet period for every three drift gillnet periods.

To begin the season, the Naknek Section only will be open to drift gillnet gear, for set gillnet gear both the Naknek and Kvichak Sections will be open beginning June 1. Fishing time during the first 3 weeks of June will be 4 days a week 9:00 a.m. Monday to 9:00 a.m. Friday beginning 12:00 a.m. Friday, June 1 and ending 9:00 a.m. Friday, June 22. Permit holders participating in the Naknek/Kvichak District salmon fishery should be advised that once sufficient run strength appears in the district they may be put on short notice.

There is the possibility of escapements falling behind schedule in the Kvichak River. In order to reduce the harvest of Kvichak stocks, the department may restrict fishing to the flood only, from the 7-foot to high water slack. This could cause the escapement in the Naknek River to exceed the 1.1 million midpoint, however the department will attempt to keep the escapement below the upper range of 1.4 million.

With limited information and abundance over the past 2 years special attention will be given to Chinook salmon run strength and effort levels early in June. Mesh size restriction of 5.5 inches or less will be in effect beginning June 1, to help in the conservation of Chinook salmon.

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During closures, there will be extensive use of district test fish boats. Additional volunteer test boats might be needed because of this increase in test fishing. Permit holders interested in getting on the roster for district test fishing in the Naknek-Kvichak District should contact Slim Morstad at (907) 246-3341 in King Salmon.

EGEGIK DISTRICT

A forecasted run of approximately 9.2 million sockeye salmon is expected for the Egegik River in 2007. The escapement goal range is 800,000 to 1.4 million sockeye with a midpoint of 1.1 million. The expected surplus potentially available for harvest is approximately 8.1 million fish. Approximately 32% of the run is expected to be age-2.2 fish, followed by age-1.3 (27%) followed by age-1.2 (25%), and age-2.3 (17%) fish.

The proportion of harvest between set gillnets and drift gillnets (during the allocation period) in 2006 was approximately 16% and 84% respectively; 2% off the percentages specified in the sockeye salmon allocation plan. In 2007, separate gear openings and extensions are tools that will be used to adjust harvest in an attempt to achieve allocation percentages. At the January 2001 BOF meeting, the Board adopted a regulation that directs the department to avoid “to the extent practicable”, continuous fishing with set gillnet gear in the Egegik District. Therefore, set gillnet fishers in Egegik should expect breaks in fishing.

Based on the forecasted run size for the Kvichak River, fishing will begin in the full Egegik District. The emergency order period starts Friday, June 1 and the season will start with a 3 day per week schedule that will be in effect through June 16. By emergency order, commercial fishing will be allowed in the Egegik District from 9:00 a.m. Monday, to 9:00 a.m. Wednesday, and from 9:00 a.m. Thursday, until 9:00 a.m. Friday. This schedule will be in effect beginning 12 Midnight Friday, June 1 and run through 9:00 a.m. Friday, June 15. After this date fishing will be scheduled according to sockeye salmon run strength. Considering the size of the forecast substantial fishing time should occur after June 15. As in previous years some openings could occur on short notice. Periods will also be adjusted to allocate harvest between drift and set gear groups.

The 2003 parent-year escapement for coho salmon was assessed using aerial surveys and produced an index count of 5,280 coho compared to the 1998-2003 average of 5,455; the commercial harvest in 2003 was approximately 40,000 coho, 33% above the recent 20-year average of approximately 31,000. Management of the fall coho fishery will be based on fishery performance.

District test fishing for inseason management may be conducted periodically depending on run characteristics. Permit holders interested in test fishing in the Egegik District should contact Paul Salomone by calling (907) 267-2229 (Anchorage) or 246-3341 (King Salmon after 5/31/07).

Ugashik District

The forecasted Ugashik sockeye salmon run is 4.2 million fish. With an escapement goal range of 500,000 to 1.2 million (mid range goal of 800,000), approximately 3.3 million fish are potentially available for harvest. Approximately 52% of the run are expected to be age-1.2 fish, 24% age-1.3, 17% age-2.2, and 7% age-2.3 fish.

The allocation of the sockeye salmon harvest between set gillnets and drift gillnets (during the allocation period) in 2006 was approximately 12% and 88% respectively, 2% off the percentages specified in the Ugashik District allocation plan. Separate gear openings and extensions will be used to adjust harvest between gear groups in 2007.

The emergency order period in the Ugashik District will begin at 12 Midnight June 1. Commercial fishing will be allowed on a 9:00 a.m. Monday to 9:00 a.m. Friday schedule through 9:00 a.m. Friday, June 15. With an expected run to the Kvichak that exceeds a 40% exploitation rate stipulated in regulation, fishing

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time after June 15 will be allowed under E.O. authority and will depend on fishery performance and run strength indicators. Permit holders should note that the regulation restricting opportunity to no more than 48 hours between June 16 and June 23 will not be in effect.

Like the Egegik District, parent-year coho salmon escapements in the Ugashik District were assessed using aerial survey methodology. The escapement index for Ugashik coho in 2003 was approximately 20,000 with a harvest of less than 1,000. Recent effort for coho salmon within the Ugashik District has been low. Directed commercial openings for coho salmon in 2007 will depend on fishery performance and run strength indicators.

Area T permit holders who fish the Cinder River and Port Heiden sections prior to July 1 and deliver their catch in the Ugashik District are reminded to report the section of catch on the appropriate fish tickets. Only the inner Port Heiden Section and the Cinder River Lagoon have fishing periods available to Area T permit holders in June, the outside waters of the Cinder River section are open after August 1. There is a closed waters area southwest of Cape Meshik as defined by 5 AAC 09.350(1). Permit holders interested in test fishing in the Ugashik District should contact Paul Salomone at (907) 267-2229 (Anchorage) or 243-3341 (King Salmon after 5/31/07). Permit holders fishing in the Ugashik District should be aware that during the 2006 Board of Fisheries meeting the following boundary change was adopted for the northern boundary of the Ugashik District see map for new boundary.

NUSHAGAK DISTRICT

The variable escapement goal adopted for the Nushagak River is contained in the Wood River Special Harvest Area (WRSHA) Management Plan. This plan directs the department to achieve sockeye salmon escapements within the escapement goal range of 340,000 to 760,000 when the preseason forecast is greater than 1 million fish. If the preseason forecast is below 1 million fish, then an Optimum Escapement Goal (OEG) minimum of 235,000 sockeye salmon is in effect when the ratio of Wood River to Nushagak River sockeye salmon is projected to exceed 3:1. The first week of July, the department assesses Nushagak River sockeye salmon run strength through July 1 and adjusts the escapement goal based on that assessment. If the forecasted sockeye salmon runs to the Wood and Nushagak Rivers for 2007, 5.85 million and 1.87 million respectively, materialize the department projects little if any fishing time in the WRSHA.

The Nushagak District Commercial Set and Drift Gillnet Sockeye Salmon Fisheries Management and Allocation Plan remains in effect. The allocation plan specifies that 74% of the sockeye salmon harvest in the Nushagak District is to be taken by drift gillnets with the remaining 26% divided geographically between the Nushagak Section set gillnets (20%) and Igushik Section set gillnets (6%). Sockeye salmon taken in the WRSHA are counted separately, but have the same allocation ratio of 74% drift and 26% set gillnet. To attain the specified allocation percentages between gear types, differential fishing time and/or single gear group openings are likely, as is primarily ebb fishing for the drift fleet. The calculation period for the sockeye salmon allocation plan ends July 17. No management action directed at allocation will occur after July 17; both gear types will then fish concurrently. The department will attempt to achieve the specified allocation percentages, but achievement of escapement goals and harvest of surplus fish are the primary objectives.

The 2007 forecast for Chinook salmon returning to the Nushagak River is 215,000 fish (78% age-1.3 and older). Nushagak River Chinook salmon are managed according to the Nushagak/Mulchatna Chinook Salmon Management Plan. This plan directs the commercial fishery to be managed for an inriver goal of 75,000 Chinook salmon, while the sport fishery is to be managed for a guideline harvest of 5,000 fish, if the projected inriver escapement is between 65,000 and 75,000 fish. Based on the preseason forecast and the inriver goal, 135,000 Chinook salmon should be available for commercial harvest. A portion of this

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surplus may be taken in the subsistence fishery (8,000 to 12,000 Chinook salmon taken on Dillingham beaches), but there should be ample fish available for directed Chinook openings in 2007. Permit holders should expect the first directed Chinook opening on June 1. Subsequent openings will follow every 2 days. After June 11, we expect to have openings on June 13, 15, 17, 19, 21 and June 23. The duration of these openings will be based on escapement information, fleet size, and harvest and will not occur if escapement is below historical levels. Nushagak escapement enumeration should begin on June 8 or 9. Openings will be announced as usual, locally on marine VHF channel 7 and broadcast on local radio stations. We will strive to provide 24 hours notice for all directed Chinook openings. For all directed Chinook openings, the Nushagak District will be open to the Chinook line the BOF instituted in 2003 and mesh size will be restricted to 7.5 inches or larger. Permit holders are reminded that either gear type can be closed if the harvest ratio of sockeye to Chinook exceeds 2:1.

The 2007 forecasted run of sockeye salmon for the Nushagak District is 8.91 million fish with distribution by river as follows: Wood River at 5.85 million with a 1.1 million midpoint goal, leaving 4.75 million available for harvest; Igushik River at 1.2 million with a 225,000 midpoint goal, leaving 970,000 available for harvest; and the Nushagak River at 1.87 million with the midpoint goal of 550,000, leaving 1.32 million available for harvest. Approximately 30% of the forecasted run is age-1.2 sockeye salmon, 1% age-2.2, 63% age-1.3, and 3% age-2.3 fish. Projected harvest for the Nushagak District is 7.04 million sockeye salmon.

Management strategies for 2007 include: 1) multiple directed Chinook salmon openings beginning June 1, 2) Igushik Section sockeye salmon openings are likely beginning in the third week of June and will likely be set gillnet only until escapement dictates otherwise, and 3) although WRSOA openings are not out of the question, fishing should begin in the regular district in late June with short openings. The management strategy for 2007 is to harvest Chinook salmon surplus to escapement needs prior to large numbers of sockeye arriving. Once sockeye escapement warrants, we will switch from Chinook to sockeye management. Openings will be scheduled based on sockeye salmon escapement levels in the Nushagak and Wood Rivers and mesh size will be limited to 5.5 inches or smaller unless Chinook escapement is above expectations. If the Nushagak sockeye salmon escapement falls below the expected 340,000 fish curve, then a strong movement of sockeye salmon into the Wood River will precipitate openings in the WRSOA. Commercial openings in the district would follow as allowed by escapement levels in the Nushagak River.

Igushik River sockeye salmon will be managed independently of the Nushagak/Wood sockeye salmon stocks. Subsistence harvest information from Igushik Beach will be our initial indicator of sockeye salmon entry into the Igushik River. When subsistence information indicates increased passage of sockeye salmon into the river, fishing periods for set gillnets will be announced. Drift gillnet openings (8–12 hours daily) in the Igushik Section will be added as needed to control sockeye salmon escapement. Igushik sockeye salmon returns can be quite variable relative to forecasted run strength as was the case in 2004. Management will incorporate a readiness to respond with early set gillnet openings, and an attempt to maintain the 6% sockeye harvest allocated to the Igushik Section set gillnet permit holders by only adding drift gillnet openings as needed. If escapement falls below what is necessary to meet the minimum escapement goal of 150,000, the department may reduce fishing area in the Nushagak Section to protect Igushik River sockeye.

In 2007, there is no expectation on the size of the coho salmon run to the Nushagak River. There was no enumeration of the spawning escapement in 2003. At this time the sonar project is not budgeted to operate after July 20, so commercial openings will be announced based on market availability, and indications of run strength from subsistence harvests. It is likely that we will have a conservative weekly schedule of 36–48 hours per week beginning in late July.

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There was a small adjustment to the south end of the line between the Nushagak and Igushik Sections during the December Board of Fisheries meeting. Permit holders should be aware of this change.

TOGIAC DISTRICT

Commercial fisheries in the Togiak District are managed under the Togiak District Salmon Management Plan (TDSMP), which was adopted by the Board of Fisheries in January 1996. The plan restricts permit holders from fishing in the Togiak District until July 24, if they have fished in any other district in Bristol Bay, and conversely, restricts permit holders from fishing in any other district until July 24, if they have fished in the Togiak District. It also increases the weekly fishing schedule between July 1 and July 16, and restricts mesh size to 5 ½ inches or smaller between June 15 and July 15 for the conservation of Chinook salmon.

Chinook salmon run strength in the Togiak River declined between 1994 and 1997, from a total run of 26,000 fish in 1994 down to 18,000 fish in 1997. For the last 5 years of complete surveys, escapement estimates have averaged over 11,300 Chinook salmon and have all exceeded 9,500, within 5% of the 10,000 fish escapement goal. Adequate yearly Chinook escapement can be attributed to reductions in the weekly fishing schedule during late June. Based on the anticipated Chinook run strength, reduction in the weekly fishing schedule is again likely for the 2007 season. These reductions will likely limit commercial fishing to not more than 72 hours of fishing time during each of the last 2 weeks of June.

The 2007 inshore run of sockeye salmon to the Togiak River is forecasted at 590,000 fish. With a mid range escapement goal of 150,000 sockeye salmon past the towers into Togiak Lake, approximately 440,000 sockeye salmon will be potentially available for commercial harvest. Approximately 27% of the run is expected to be 2-ocean fish and 73% is expected to be 3-ocean fish. The increased weekly fishing schedule in early July, specified in the TDSMP, will likely be utilized for the harvest of sockeye salmon. However, escapement will be monitored with consideration for run timing to assure achievement of escapement within the desired range.

Coho salmon returns are not formally forecasted in the Togiak District due to lack of sufficient age class information and accurate escapement data. It is difficult to predict the strength of the 2007 run of coho salmon to the Togiak District because information on parent-year escapement in 2003 is unavailable. If a market for coho is present, a very conservative harvest strategy will be utilized due to the lack of information about the returning coho salmon run.

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Table 1.- Spawning escapement goals, and expected harvests of sockeye salmon returning to Bristol Bay River systems in 2007.

Millions of Sockeye Salmon							
District: River	Forecasted Production by Age Class				Total	Spawning Goal	Total Harvest
	1.2	2.2	1.3	2.3			
NAKNEK-KVICHAK:							
Kvichak	1.28	0.95	1.39	0.26	3.88	2.00	1.88
Alagnak	0.40	0.13	1.43	0.06	2.03	1.00	1.03
Naknek	0.96	0.61	3.38	0.68	5.64	1.10	4.54
Total	2.64	1.69	6.20	1.00	11.54	4.10	7.44
EGEGIK	2.29	2.89	2.47	1.55	9.20	1.10	8.10
UGASHIK	2.19	0.71	1.01	0.28	4.18	0.85	3.33
NUSHAGAK							
Wood	2.18	0.04	3.42	0.21	5.85	1.10	4.75
Igushik	0.17	0.01	0.99	0.03	1.20	0.23	0.97
Nushagak	0.29	0.03	1.23	0.02	1.87	0.55	1.32
Total	2.64	0.08	5.63	0.26	8.91	1.88	7.04
TOGIAK	0.10	0.06	0.34	0.09	0.59	0.15	0.44
BRISTOL BAY	9.86	5.43	15.65	3.19	34.42	8.08	26.34

APPENDIX D. 2007 TOGIAK HERRING OUTLOOK

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
NEWS RELEASE



Denby S. Lloyd, Commissioner
John Hilsinger, Director



Contact:
Tim Sands, Area Management Biologist
Charlotte Westing, Assistant Area Biologist
Phone: (907) 842-5227
Fax: (907) 842-5937

Issuing Area Office
546 Kenny Wren Road
P.O. Box 230
Dillingham, AK, 99576
Date Issued: February 28, 2007

2007 TOGIAC HERRING FISHERY INFORMATION

This notice is intended to provide information to participants in the 2007 Togiak herring fisheries. The 2007 herring biomass in Togiak District is forecasted to be 134,566 tons, a slight increase from 2006. The 2007 forecast is based on an age-structured-analysis (ASA) model, used for Togiak since 1993. Ages -9 -10 and -11 herring are expected to comprise 60% of the projected biomass (Figure 1), with ages 6-8 making up another 23% of the biomass. Average weight for age -7 and older herring should exceed 300 grams. The forecasted overall average weight of the harvested biomass is 390 grams.

The Bristol Bay Herring Management Plan (BBHMP) (5 AAC 27.865) sets a maximum 20% exploitation rate for the Togiak District stock. Based on a forecasted run of 134,566 tons, up to 26,913 tons will be available for harvest in 2007. Harvest allocation, in accordance with the BBHMP will be:

Fishery	Harvest Allocation
Spawn-on-Kelp	1,500 tons
Dutch Harbor Food and Bait	1,779 tons
Togiak Sac Roe	23,634 tons
Purse Seine (70%)	16,544 tons
Gillnet (30%)	7,090 tons

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REGULATORY CHANGES FOR 2007

The Alaska Board of Fisheries made three changes to the Togiak sac roe fishery management plan at the meeting in December of 2006. The first change allows the allocations to be uncoupled after each gear group has harvested 50% of its allocation. This may prevent one gear group from being shut down because the other gear group can't harvest its entire quota, as happened to the gillnet fleet in 2002 and the seine fleet in 2004 and 2006. The second change allows the department to adjust the amount of time herring can be held in seines after the closure of the fishery; currently, fish may be held for 36 hours. Lastly, the earliest start date of the fishery was changed from April 25 to April 15.

SAC ROE FISHERY

Management strategies for Togiak fisheries are designed to provide for maximum sustained yield, while affording the greatest economic benefit to fishermen and processors. In 2007, sac roe fisheries will again be managed to maximize product quality by having long openings so permit holders can make smaller sets and harvest the best fish available. Processors will also have more flexibility to control harvest volume so holding time between harvest and processing is optimal. Available processing capacity will be assessed as companies register for the 2007 season. Daily freezing capacity is expected to be less than last year's capacity and will probably be between 1,700 and 1,900 tons per day. Multiple openings will occur to achieve harvest guidelines and mature roe quality will be maximized through volunteer test fisheries. The department will attempt to maximize overall production from the Togiak sac roe fishery by providing ample opportunity to harvest fish.

Purse Seine

In recent years, the seine fleet has operated in conjunction with the processing industry in cooperative groups. This is likely to be the case again in 2007. Therefore fishing time and area will be very liberal. This should allow purse seine vessels to locate high quality herring and allow each cooperative to fill their company's' daily processing capacity. This approach should result in fresher, higher quality roe, thereby maximizing product quality and value.

With the expected decrease in effort and the increasing fuel costs, the department will work closely with industry to minimize any expense from test fishing efforts to determine fish maturity. Invariably some test fishing will need to be done and the department wants to thank all the participants in advance for their willingness to help in this.

Gillnet

Management of the gillnet fishery will be similar to past years. Ample fishing time and area will be allowed to attempt to take the entire harvest guideline of 7,090 tons, while maintaining the specified 70/30-purse seine/gillnet ratio. Product quality will be a priority throughout the gillnet fishery.

In 2007, the department will primarily focus the gillnet fleet in the area east of Right Hand Point. The department will consider opening areas west of Right Hand Point to the gillnet fleet if weather conditions are unfavorable,. Test fishing becomes more of a burden with the ever dwindling number of participants in the gillnet fishery. The department hopes to discuss this

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issue with industry during a preseason teleconference, but some amount of test fishing is likely to be necessary. Managers will give full consideration for adequate test fishing and travel time to gillnet test fish vessels.

SPAWN-ON-KELP FISHERY

This fishery is restricted to individuals that hold a valid limited entry or interim-use permit. Only permit holders are permitted to pick or rake kelp, place the kelp in containers, transport containers, operate skiffs, or perform any other duties associated with the fishery while the fishery is open. At the time the fishery closes, all harvested roe-on-kelp must be in containers. ***Any crewmember participation is limited to after the closure;*** after the closure, crewmembers may assist permit holders in transporting containers and operating skiffs. Crewmembers assisting permit holders must possess a valid 2007 crewmember license or other limited entry permit.

The 2007 spawn-on-kelp fishery will be regulated similar to recent year's fisheries. The maximum guideline harvest of 175 tons (350,000 lbs.) remains unchanged. If sufficient spawning is observed throughout the district, a harvest of spawn-on-kelp will be allowed in areas with sufficient spawn deposition and plant cover. If time and weather permit, a public meeting will be held before a harvest is announced, to evaluate product samples from the kelp areas. The time and location of the meeting will be announced on marine VHF 7, with as much notice as possible.

ADF&G OPERATIONS 2007

Beginning April 17, current fishery information will be available by calling the telephone recorder in Dillingham at (907) 842-5226. Recordings will be updated regularly throughout the season, as information becomes available. The department will conduct regular aerial surveys of Togiak District beginning approximately April 15, weather permitting. Once fish are observed, the department will relocate to a new field office in Togiak. The department will monitor marine VHF channel 7 from Togiak. Fishing announcements and regular fishery updates will be broadcast over this channel and 2509 MHz. SSB. Reports will be broadcast from Togiak each evening at 6:30 p.m., and at other times as needed. Catch and opening information will be available with some delay at the Commercial Fisheries website: <http://www.cf.adfg.state.ak.us/>

Test Fish Guidelines

Gillnet and Purse Seine

- 1 Verbal approval to test fish must be obtained from ADF&G in Togiak prior to any test fishing activity. Department representatives will assign an area to each test fish volunteer, and a starting and ending time. Approval to test fish is limited to the area and time frame assigned.
- 2 The department representative, upon contact, will assign number of test sets and number of samples per set. Number of sets typically ranges from one to three sets per vessel. Number of samples per set typically ranges from one to two for gillnet sets, and up to four for purse seine sets.
- 3 Samples should weigh approximately 10 to 15kg (25 to 30 lbs), and be placed in a container (trash bag or bucket) labeled with set location, vessel name, time of set and, for gillnets, mesh size.

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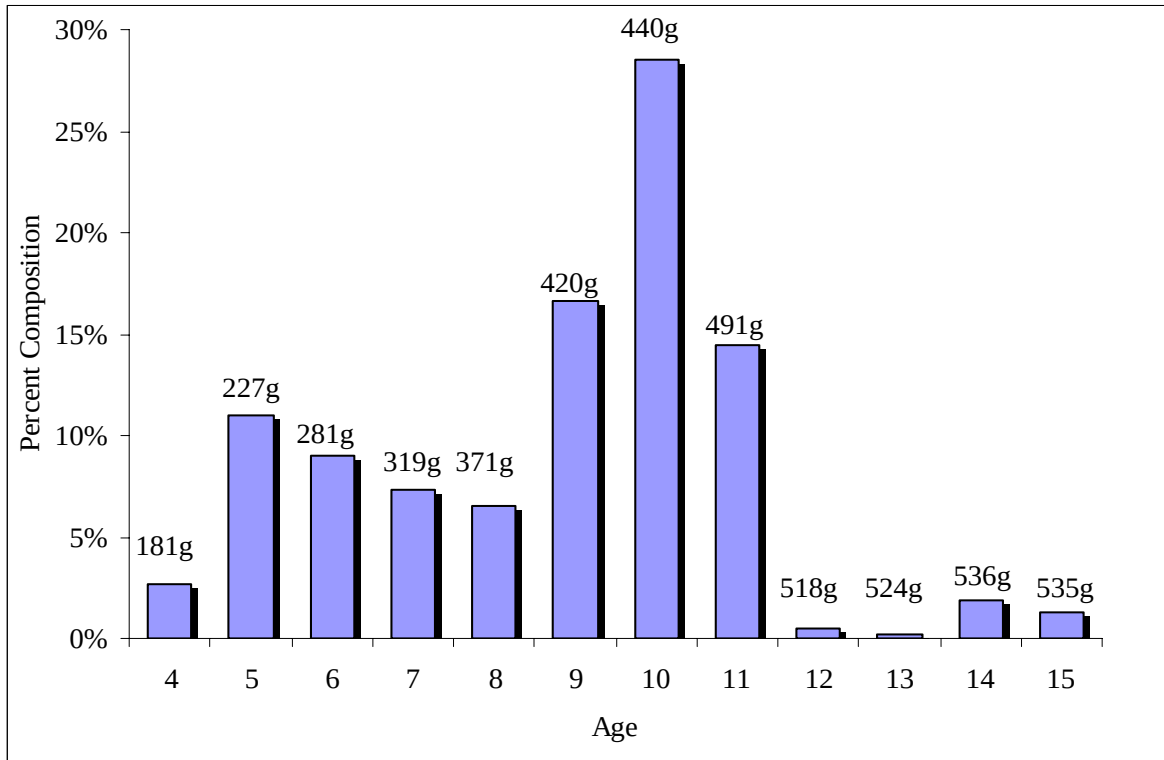


Figure 1. Forecasted age composition by weight and number for the 2007 Togiak herring return. Forecasted average weight (grams) by age is also presented.