Fishery Management Report No. 15-24

2014 Bristol Bay Area Annual Management Report

by

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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)

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

Weights and measures (English)

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

Time and temperature

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

Physics and chemistry

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

General

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

Mathematics, statistics

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

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ABSTRACT

The *2014 Bristol Bay Area Annual Management Report* is the 53rd 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 annual 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. The 2014 inshore sockeye salmon run of 41.1 million fish was 55% above the preseason forecast of 26.6 million fish. Sockeye salmon dominated the inshore commercial harvest, totaling 29.1 million fish of the 30.8 million total commercial salmon harvest. Sockeye salmon escapement goals were met or exceeded in all systems where spawning requirements have been defined with a baywide escapement of 12.0 million fish. There was a total harvest of 15,000 Chinook; 483,000 chum; 1.3 million pink; and 287,000 coho salmon. The 2014 Togiak District herring preseason biomass forecast was 157,448 tons. The purse seine harvest was 19,544 tons and the gillnet harvest was 6,016 tons. The combined harvest was 25,560 tons with an average weight of 374 grams and an average roe percentage of 10.2%. The Dutch Harbor food and bait fishery harvest was 1,645, bringing the total harvest for 2014 to 27,259 tons. All 2014 harvest data are considered final and are based on fish tickets.

Key words: Bristol Bay, Naknek, Kvichak, Egegik, Ugashik, Wood, Nushagak, Igushik, Togiak, Annual Management Report (AMR), commercial fisheries, Pacific herring *Clupea pallasii*, Pacific salmon *Oncorhynchus* spp., sockeye salmon, Chinook salmon, chum salmon, coho salmon, pink salmon.

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 *Oncorhynchus nerka* fishery in the world. Sockeye salmon 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 fishery as well. The Bristol Bay area is divided into 5 management districts (Naknek-Kvichak, Egegik, Ugashik, Nushagak, and Togiak) that correspond to major river systems. The management objective for each river is to achieve salmon escapements within established escapement goal ranges while harvesting fish in excess of those ranges through orderly fisheries. In addition, regulatory management plans have been adopted for individual species in certain districts.

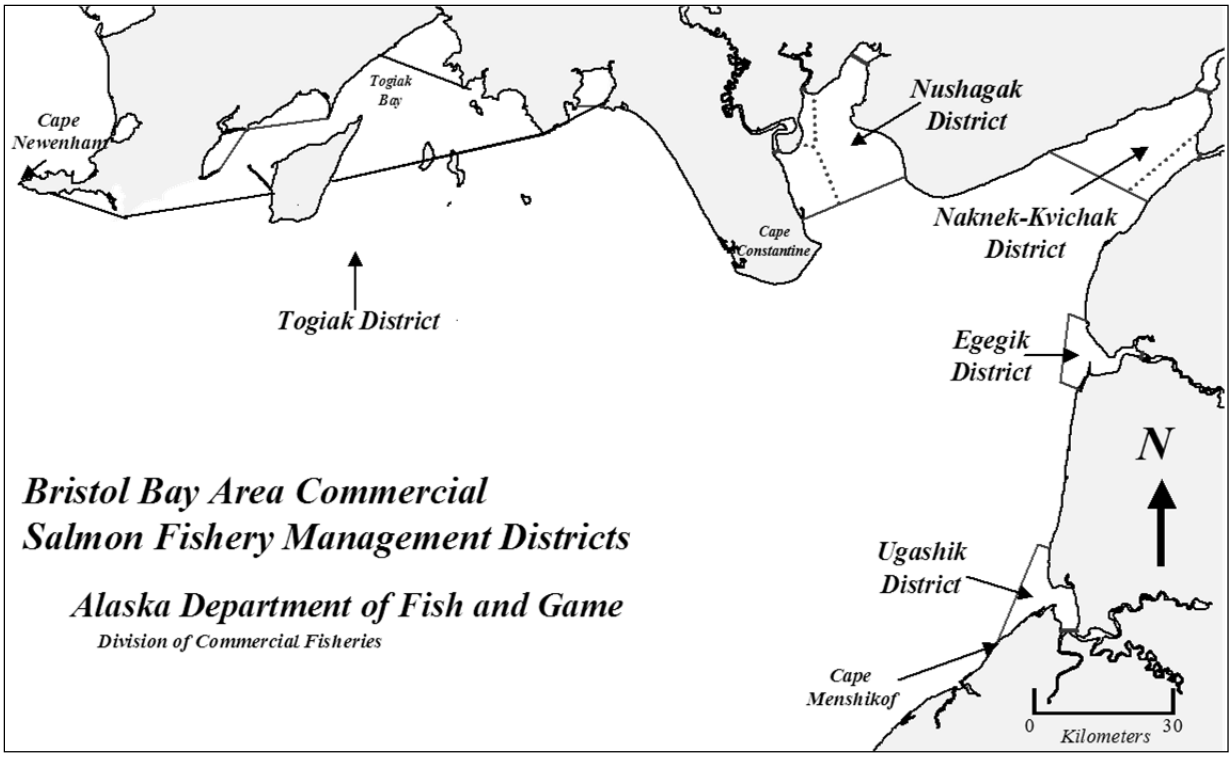

Figure 1.–Bristol Bay area commercial fisheries salmon management districts.

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 (1994–2013) averaged approximately 23.5 million sockeye, 61,000 Chinook, 957,000 chum, 294,000 (even-years only) pink, and 79,000 coho salmon (Appendices A3–A7). Since 1994, the value of the commercial salmon harvest in Bristol Bay has averaged approximately $110.6 million, with sockeye salmon being the most valuable, averaging $108.7 million annually (Appendix A24). Subsistence catches are composed primarily of sockeye salmon and average approximately 132,000 fish (Appendix A27). Sport fisheries harvest all species of salmon, with most effort directed toward Chinook and coho salmon stocks.

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 2 drift permit holders to concurrently fish from the same vessel and jointly operate up to 200 fathoms of drift gillnet gear. In 2009, this regulation was modified so that it does not apply when the Naknek River Special Harvest Area is in use. Drift gillnet permits are the most numerous at 1,863 in Bristol Bay (Area T), and of those, 1,728 registered to fish in 2014. There are a total of 977 set gillnet permits in Bristol Bay, and of those, 881 made at least 1 delivery in 2014 (Appendix A2).

2014 COMMERCIAL SALMON FISHERY

RUN STRENGTH INDICATORS

Fishery managers in Bristol Bay have several early indicators of sockeye salmon run size, including the preseason forecast, the False Pass commercial fishery, an offshore test fishery operating from Port Moller, genetic stock identification, individual district test fishery programs, early performance of the commercial fishery, inriver test fishery programs, and timely escapement information from counting towers and a sonar project. Individually, these pieces of information may not give a correct assessment of run size, but collectively, they allow broad scale examination of inseason data such as relative strengths of year classes, discrepancies from the forecast (relative to expected year class contributions), or differences in run timing that can be important to successful management of the commercial fishery.

In response to early run timing in 2013, with community support and funding from Bristol Bay Regional Seafood Development Association (BBRSDA), tower projects in Naknek, Kvichak, Egegik, Igushik, and Wood river systems started operations 5 days early in 2014.

PRESEASON FORECASTS

Total inshore (excluding harvest in other areas) sockeye salmon production for Bristol Bay in 2014 was forecast to be 26.6 million (Table 1). The Bristol Bay sockeye salmon inshore harvest was predicted to reach 17.9 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 2014 was the sum of individual predictions for 9 river systems (Kvichak, Alagnak, Naknek, Egegik, Ugashik, Wood, Igushik, Nushagak, and Togiak) and 4 major age classes (age 1.2, 1.3, 2.2, and 2.3, plus age 0.3 and 1.4 for Nushagak) (Table 2). Adult escapement and return data from brood years 1972 to 2010 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 and recent year averages. All models were evaluated for time series trends. 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 2011 through 2013.

SOUTH UNIMAK/SHUMAGIN ISLANDS FISHERY

From 1975 to 2000 these fisheries were managed under a guideline harvest level (GHL) based on a percentage of the Bristol Bay inshore sockeye salmon harvest. The original intent was to prevent overharvest of sockeye salmon runs bound for river systems in Bristol Bay. From 1986 to 2000, a chum salmon cap was implemented due to concerns over large chum salmon harvest and a weak Yukon River fall chum salmon run. In 2001, the BOF modified the *South Unimak/Shumagin Islands June Fishery Management Plan* (5 AAC 09.365) to eliminate the GHL and chum salmon cap and established a June fishing schedule. In 2004, the BOF established a fishing schedule that began at 6:00 AM on June 7 and ended at 10:00 PM on June 29 for all gear types. Fishing periods were 88 hours in duration interspersed by 32-hour

closures (Poetter 2014a). In 2013, the BOF modified the fishing schedule for seine and drift gillnet gear by beginning the season at 6:00 AM on June 10 and ending at 10:00 PM on June 28, which reduced fishing time by 64 hours (Poetter 2014b).

Preliminary catch information for 2014 indicates that the June South Unimak fishery landed 413,000 sockeye salmon and 208,000 chum salmon, and the June Shumagin Islands fishery landed 252,000 sockeye salmon and 181,000 chum salmon (Appendix A25). The June South Unimak sockeye and chum salmon harvests represent 54% and 108% of the 20-year (1994–2013) average, respectively. In the June Shumagin Islands fishery, sockeye and chum salmon harvests represent 55% and 96% of the 20-year (1994–2013) average, respectively.

PORT MOLLER TEST FISHERY

From 1967 to 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 gillnets at specific coordinates on transect lines perpendicular to the migration path of sockeye salmon returning to Bristol Bay. Collected data were used to estimate strength, timing, age, and size composition of the run. Although 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 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 fishery project operated from 1987 through 2003. Beginning in 2004, the FRI contribution to the project was replaced by Bristol Bay Science and Research Institute (BBSRI), which operated the project and performed the bulk of daily inseason analysis. The project is currently operated jointly by ADF&G and BBSRI staff. See Raborn et al. (2014) for details on the 2014 Port Moller test fishery operations.

GENETICS

Over the last 14 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 2 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 use in the estimates of total runs and development of brood tables.

Genetic sampling was added to the Port Moller test fishery project starting in 2004. The intent is to use inseason genetic analysis to identify components of the annual run in time to inform management decisions for individual stocks. ADF&G genetics can complete analysis and deliver results in 3 to 5 days depending on several factors (e.g., timing of airline flights, weather on the fishing grounds). The travel time for fish from Port Moller to Bristol Bay is approximately 7 days depending on several factors (e.g., district, water temperature, wind). Therefore, results from genetic sampling should be available before those fish reach the fishing districts of Bristol Bay.

ECONOMICS AND MARKET PRODUCTION

In 2014, exvessel value of the inshore commercial salmon harvest was estimated at $198.2 million (Table 3), 63% greater than the $121.4 million 10-year (2004–2013) average (Appendix A24). The 2014 average sockeye salmon price was $1.20/pound (Table 3).

During the 2014 season, a total of 42 processors/buyers reported that they processed fish from Bristol Bay (Table 4). Of those processors, 7 companies canned, 35 froze, 18 exported fresh, 1 cured salmon, and 12 extracted roe in Bristol Bay. Product was exported by air by 33 companies and exported by sea by 22 companies.

RUN AND HARVEST PERFORMANCE BY SPECIES

Sockeye Salmon

The 2014 inshore sockeye salmon run of 41.1 million fish was 55% above the preseason forecast of 26.6 million (Table 1). All districts had run sizes that were above forecast with the exception of Togiak District. Sockeye salmon dominated the inshore commercial harvest, totaling 29.1 million fish (Table 5). Sockeye salmon escapement goals were met or exceeded in all systems where spawning requirements have been defined.

Chinook Salmon

Chinook salmon harvests in 2014 were well below recent 20-year (1994–2013) averages in all districts. The 2014 baywide commercial harvest of 15,077 Chinook salmon was 75% below the 20-year (1994–2013) average of 61,000 fish. The largest producer of Chinook salmon in the Bay, the Nushagak District, achieved a harvest of 11,448, compared to the 20-year (1994–2013) average of 49,400 fish (Appendix A4). The Nushagak River Chinook salmon sustainable escapement goal was met; however escapement was below the inriver escapement goal.

Chum Salmon

In 2014, the commercial harvest of 482,531 chum salmon was 50% below the 20-year (1994–2013) average of 957,500 fish. Chum salmon catches were below 20-year (1994–2013) averages in all districts (Appendix A5).

Pink Salmon

Bristol Bay has a dominant even-year pink salmon cycle. In 2014, a cycle year, the baywide pink salmon harvest was 1.3 million fish, with 1.2 million of that harvest occurring in the Nushagak District. The Nushagak District pink salmon harvest in 2014 was 480% above the 20-year (1994–2013) average harvest of 243,000 fish (Appendix A6). The Nushagak River pink salmon escapement goal was met in 2014.

Coho Salmon

Commercial harvest of coho salmon in the Nushagak District was 242,391 fish, the second largest on record and 650% above the 20-year (1994–2013) average of 37,000. The 2014 coho salmon baywide commercial harvest of 287,048 fish was the largest since 1984 and 360% above the 20-year (1994–2013) average of 79,000 fish (Appendix A7). The Nushagak River coho salmon escapement goal was met in 2014.

SEASON SUMMARY BY DISTRICT

Naknek-Kvichak District

The 2014 total run forecast for the Naknek-Kvichak District was 10.5 million sockeye salmon composed of a projected 6.1 million for escapement and 5.9 million for harvest. The forecast by river system was 5.3 million for the Kvichak River, 1.7 million for the Alagnak River, and 3.5

million for the Naknek River (Table 1). The escapement goal for Naknek River is a range of 800,000 to 1.4 million. The escapement goal for the Kvichak River is unique, as it has a range of 2.0 to 10.0 million with a maximum exploitation rate of 50% on run sizes between 4.0 million and 20.0 million. Therefore, the lower bound of the Kvichak River escapement goal is adjusted based on the preseason forecast and 1 time at the midpoint of the run based on inseason catch and escapement data. The total inshore run to the district for 2014 was 19.9 million sockeye salmon with a commercial harvest of 13.8 million sockeye salmon (Table 1).

ADF&G does not forecast Chinook, chum, coho, or pink salmon for systems in Naknek-Kvichak District. Commercial harvest of Chinook salmon has remained relatively small due to current mesh size restrictions that have been in effect since the early 1990s. Mesh restrictions are set by EO and prohibit gillnets with a mesh size larger than 5.5 inches until July 25.

For the commercial fishery to begin in the full Naknek-Kvichak District, the preseason sockeye salmon forecast for the Kvichak River must be 30% greater than the 2.0 million lower end of the sustainable escapement goal (SEG). Should the forecast be below that level, fishing will begin in special harvest areas of Naknek, Egegik and Ugashik rivers (5 AAC 06.360 (h)). Based on the 2014 sockeye salmon forecast for the Kvichak River, these restrictions were not implemented. However, fishing with drift gillnets was restricted to the Naknek Section when the fishery first opened, while the set gillnet fleet was allowed to fish the whole district. Fishing periods during the first 2 weeks of June were from 9:00 AM Monday until 9:00 AM Friday, beginning 9:00 AM Monday, June 2, and ending 9:00 AM Friday, June 13. During the third week of June the set gillnet fleet was allowed to fish from 9:00 AM Monday, June 16 until 9:00 AM Friday, June 20. From June 16 through June 20, the drift gillnet fleet was allowed to fish the Naknek Section only during periods that were announced preseason and were based around the high tides. There were 7 periods during this week ranging from 5.5 hours to 8 hours (Table 6). The intent of putting the drift gillnet fleet on predetermined fishing periods during the third week of June was to reduce boundary line fishing, improve enforcement coverage during open periods, and allow some fish to get by the drift gillnet fleet.

The Naknek-Kvichak District opened at 9:00 AM Monday, June 2; however, the first deliveries did not occur until June 10 (Table 7). During the week of June 9, fewer than 200 sockeye salmon were harvested. During the week of June 16, a total of 150,814 sockeye salmon were harvested. Following the closure at 9:00 AM June 20, subsequent fishing periods were based on escapement into Naknek and Kvichak rivers.

Escapement counting towers for Naknek and Kvichak rivers were operational during the 2014 season. The Naknek River tower began counting on June 14 and the Kvichak River tower began on June 16, which is 5 days earlier than normal for each project (Table 8). The lower bound of the escapement goal was exceeded in the Kvichak River with 4.5 million sockeye salmon, and the upper end of the escapement goal was exceeded on the Naknek River with 1.5 million sockeye salmon (Appendix A1).

Escapement on the Naknek River was low and similar to historical averages through June 21. Escapement began to increase on June 22, and on June 23, 101,538 sockeye salmon were counted for a cumulative of 140,166, which greatly exceeded the historical average of 25,775 (Table 8). Through June 23, Kvichak River escapement remained low and similar to the historical average. With escapement well above projected levels for the Naknek River and similar to projected levels for the Kvichak River, commercial fishing was warranted; however,

caution on the Kvichak River was still needed that early in the season. On the evening of June 23, the fleet was put on short notice, and on the morning of June 24 a fishing period was announced for that day. The set gillnet fleet was given 7 hours in the Naknek-Kvichak District, and the drift gillnet fleet was given 6 hours but was restricted to the Naknek Section. Fishing continued during each high tide through June 27 and on that day 1.1 million fish were harvested in the district. The allocation through June 27 was 10% Naknek set, 9% Kvichak set, and 81% drift. With the drift fleet behind in the allocation, additional time was given during each period for drift gillnet gear. Escapements on the Naknek and Kvichak rivers continued to be well above projected levels; however, only 1 tide per day was fished from June 28 to 30 to allow for escapement from this portion of the run. By the morning of June 30, the lower bound of Naknek River escapement goal had been surpassed; Kvichak River escapement was at 932,508, and the inriver estimate was 650,000 fish (Table 9). The projected cumulative escapement for Kvichak River through June 30 was 235,789. With escapements into both rivers well ahead of schedule, the entire Naknek-Kvichak District was opened to the drift and set gillnet fleets for 1 tide on June 30. Fishing continued during both tides on July 1 and the drift gillnet fleet restricted to the Naknek Section. On July 2 and July 3, the drift gillnet fleet was allowed to fish the entire district during the morning tide each day and restricted to the Naknek Section on the evening tide each day.

On July 2, assuming early run timing, ADF&G projected the Kvichak River total run would be above the preseason forecast and increased the 2014 forecasted run size to 7.0 million sockeye salmon, consequently increasing the escapement goal to 3.5 million fish. Catches peaked again on July 3 and July 4 with 1.2 million fish harvested each day (Table 7). On July 6, the Kvichak River escapement goal was achieved and the midpoint of the Naknek River escapement goal was exceeded, thereby dropping the 48 hour transfer notification requirement for the Naknek-Kvichak District. Fishing with set gillnets was opened on the morning of July 2 and, using daily extensions, remained open continuously through July 21 when the fall schedule took effect. With the exception of 2 periods that were restricted to the Naknek Section, the drift gillnet fleet fished each high tide in the Naknek-Kvichak District from July 4 until July 21 when the fall schedule went into effect (Table 6).

The total harvest in Naknek-Kvichak District was 13.8 million sockeye salmon, which was 180% above the 20-year (1994–2013) average of 7.7 million (Appendix A3). The sockeye salmon harvest allocation was 9% Naknek set, 8% Kvichak set, and 83% drift (Appendix A9). Regulation specifies 8% Naknek set, 8% Kvichak set, and 84% drift. The midpoint of the sockeye salmon run into the district was July 2, which was 3 days earlier than average.

The Chinook salmon total harvest was 1,526 fish, which was less than the 20-year (1994–2013) average of 2,100 fish (Appendix A4). The chum salmon harvest totaled 87,188 fish, compared to the 20-year (1994–2013) average of 179,000 (Appendix A5). There was a commercial harvest of 7,435 pink salmon and 618 coho salmon (Appendices A6 and A7).

Egegik District

The 2014 Egegik District harvest of 6.9 million sockeye salmon was 97% above the projected harvest of 3.5 million sockeye (Table 1). The harvest of 6.9 million sockeye was the eleventh largest in the last 20 years (Appendix A13). The sockeye escapement of 1.38 million fish was within the SEG range of 800,000 to 1.4 million (Appendix A1). With an inshore total of approximately 8.3 million fish to the Egegik District, the 2014 run ranks 12th over the last 20

years and was 79% above the forecast of 4.7 million fish (Table 1; Appendix A13). In 2014, the midpoint of the sockeye salmon run was July 2, or 1 day earlier than the 20-year average (1994–2013) of July 3.

The 2014 preseason projection for a Kvichak River run that would provide for the minimum escapement of 2.0 million sockeye salmon allowed commercial fishing to begin in the full Egegik District. The district opened to commercial salmon fishing on a set schedule of 3 days per week on June 2. Fishing was permitted 9:00 AM Monday to 9:00 AM Wednesday and 9:00 AM Thursday to 9:00 AM Friday until June 13 (Table 6). After that date, additional fishing time was based on inseason indicators.

First deliveries were recorded June 2 (Table 10). Catch was small and remained so through the end of the early season schedule on Friday June 13. Through June 13, total catch was just over 21,000 fish, indicating low volume and resulting in the district remaining closed over the weekend of June 14–15.

The Egegik counting tower was deployed and operational on June 13, 5 days earlier than normal. A warming trend in Bering Sea water temperatures in late May and early June led to speculation of earlier run timing than in 2013. However, counts from the escapement project for the first 5 days of operation totaled 8,316 fish, which supported catch information suggesting low abundance within the commercial district (Table 11).

Daily inriver test fishing, which provides estimates of sockeye salmon passage into the lower Egegik River, began on June 18 at established sites just upstream of Wolverine Creek (Table 11). Initial catches from the test fishery did not indicate that large numbers of fish were moving into the Egegik River.

The district reopened for 4 hour drift and 8 hour set gillnet periods on June 16 and June 17 (Table 6). Combined harvest was over 83,000 fish. However, the inriver test fishery was not detecting fish moving into the river, which resulted in the district remaining closed to commercial fishing until escapement increased. Cumulative catch through June 17 was 106,000 and cumulative escapement was 8,316 (Tables 10 and 11).

Inriver test fishery indices remained low June 17–20. On June 21 a set gillnet only period was allowed to confirm the information from the inriver test fishery. A harvest of 11,000 fish supported that the test fishery was correctly indexing low passage into the Egegik River (Tables 10 and 11).

On June 22, the inriver test fishery had higher catches, which prompted an opening for both gear groups during the daytime tide on June 23. A 2-hour drift period was announced and subsequently extended to a total of 4 hours. The set gillnet fleet was allowed an 8-hour period. Harvest from this period was 75,000 fish, bringing the cumulative harvest through June 23 to 196,000. Concurrently, counts at the escapement project increased with daily counts on June 23 and June 24 of 76,752 and 64,134, respectively. Through June 24, cumulative escapement was 214,062 (Table 10). This is near the upper end of the 5-year average (2009–2013) escapement curve for that date and suggested an earlier run timing compared to the long term average (from 1957 to present), but not as early as 2013.

With escapement progressing ahead of anticipated curves, a 6-hour drift period and an 8-hour set gillnet period was announced for the morning tide of June 25. Harvest from these periods was 324,000, suggesting a volume of fish in the district. Reports from fishermen suggested

significant escapement occurred during the evening and early morning hours of June 25–26. This was subsequently confirmed by increased inriver test fishery indices on June 26 (Table 11).

Because the inriver test fishery indicated high passage into the Egegik River, a 12-hour drift period and an 8-hour set gillnet period was announced for the daytime of June 26 to slow down the pace of escapement. Harvest was 837,000 and on June 26 the daily tower count was 55,992 (Table 11).

Fishing opportunity continued on June 27 and June 28, with 10 hours for the drift fleet and 8 hours for the set gillnet fleet on June 27 and another 11-hour drift and 23-hour set gillnet opportunity on June 28. Over the 4 days from June 25 to June 28, cumulative commercial harvest was 2.5 million fish (Table 10).

Meanwhile escapement counts increased as fish detected in the June 26 inriver test fishery began to pass the counting tower. Escapement counts rose to 255,594 on June 27 but then dropped to 59,868, demonstrating the effects of the extended commercial fishing time (Table 11). Through June 28, cumulative escapement was 610,356 or about 75% of the lower end of the escapement goal range.

Inriver test fishery indices were lower on June 27 and June 28, and fishing time was decreased for both gear groups on June 29, with the drift fleet being permitted a 6-hour period and the set gillnet fleet allowed to fish an 8-hour period. On June 29 harvest was 247,000 and escapement was 82,866.

Beginning June 30, because allocation favored the drift fleet, the set gillnet fleet was allowed to fish 2 tides per day. Drift fishermen were permitted to fish 1 tide a day on June 30 and July 2 but did not fish on July 1 and July 3 in an attempt to adjust allocation percentages.

The strategy was partially successful in that the allocation for the set gillnet group went from 8% to 12% of the catch; however, without the drift gillnet fleet fishing, the pace of escapement increased. The lower end of the escapement goal range was reached on July 1 when a daily escapement of 44,718 fish brought the cumulative escapement to 841,620 (Table 11). Through July 3, cumulative harvest was 3.6 million and cumulative escapement was 925,806.

Escapement continued to increase with 140,862 and 116,454 fish counted on July 4 and 5, bringing the cumulative escapement to 1.2 million fish. To control escapement, fishing opportunity was liberalized and both gear groups were permitted to fish 2 tides per day. Effects of this approach began to appear on July 6, when escapement dropped to 56,892, then 15,090 on July 7, and subsequently averaged below 15,000 per day for the rest of the season (Table 11). On July 14, the fishery was opened continuously until Monday, July 28 when the fall schedule of 9:00 AM Monday to 9:00 AM Friday went into effect.

The 2014 Egegik run was above forecast and exhibited slightly early run timing; the midpoint was July 2 compared to the 20-year (1994–2013) average of July 3. By the end of the EO period on July 17, cumulative catch was 6.9 million and cumulative escapement was 1,382,466 sockeye salmon (Tables 10 and 11).

The 2014 Egegik sockeye salmon run was composed of mostly 2- and 3-ocean fish, which came from the 2009 and 2010 escapements of 1.1 million and 927,000 fish, respectively (Table 12 and Appendix A10). Commercial fishermen harvested approximately 83% of the 2014 Egegik inshore sockeye salmon run, compared to the average of 83% for the last 20-year period (Appendix A13). Peak tower counts occurred June 27, July 4, and July 5 with 255,594, 140,862,

and 116,454 sockeye salmon counted, respectively (Table 11). During the period from June 16 to July 17 in 2014, a total of 309.5 hours were fished by the drift gillnet group (107 hours more than 2013) and 398.8 hours were fished by the set gillnet gear group (95.3 hours more than in 2013), equating to 41% and 53%, respectively, of the 753 available hours (Table 10). By the end of the EO period on July 17, harvest allocations were 89% drift and 11% set gillnet (Appendix A9). Regulation specifies 86% drift and 14% set.

Commercial harvest of other salmon species in the Egegik District was 49,799 fish, or about 0.7% of the total (Table 10). The reported Chinook salmon harvest was 318 fish, 57% below the 20-year (1994–2013) average of 732 fish (Appendix A4). The district chum salmon harvest of 33,173 fish was 50% below the 20-year (1994–2013) average of 67,000 fish (Appendix A5). Pink salmon harvest was reported as 4,835 (Appendix A6). The coho salmon harvest of 11,473 fish is 40% below the 20-year (1994–2013) average of 19,000 fish (Appendix A7).

In summary, the 2014 harvest of 6.9 million sockeye salmon in the Egegik District ranked eleventh out of the last 20 years, was 6% lower than the 20-year (1994–2013) average of approximately 7.2 million fish, and was 97% above the preseason forecast (Table 1; Appendix A13). The fishery harvested 83% of the run into the district compared to the 20-year (1994–2013) average of 83%. The midpoint of the run was July 2, 1 day earlier than the 20-year (1994–2013) average. Peak effort occurred on June 27 and June 28 when 377 drift gillnet vessels, including 85 dual permits, registered to fish in the district (Table 13). There were 14 processors registered to purchase fish in the Egegik District this season (Table 4).

Ugashik District

The 2014 inshore sockeye salmon run to the Ugashik District of 2.1 million fish ranks seventeenth in the last 20 years (1994–2013) and was 17% above forecast (Table 1; Appendix A14). The midpoint of the run was July 9, 1 day earlier than the most recent 20-year (1994–2013) average of July 10. The commercial sockeye salmon catch of approximately 1.5 million fish was 60% below the 20-year (1994–2013) average and ranked seventeenth for the same period (Table 14; Appendix A14). Sockeye salmon escapement to the Ugashik River totaled 640,158 and was within the SEG range of 500,000 to 1.2 million fish (Table 15).

The district was opened to a fishing schedule of 4 days per week (9:00 AM Monday to 9:00 AM Friday) on June 2 by EO (Table 6). Initial landings occurred on June 3 (Table 14). Because the preseason forecast for the Kvichak River allowed all fishing districts to start the season in their full areas, the schedule of 4 days per week was continued until June 13, when fishery management switched to a tide-by-tide basis (Table 6).

The preseason forecast for the Ugashik District projected a potential harvest of 890,000 sockeye salmon (Table 1), which is a fairly small surplus. Accordingly, commercial fishermen were advised ADF&G would proceed with caution and that fishing time after June 13 would depend on inriver test fishery results and tower escapement levels.

Catch through June 13 was 4,158 fish, well below the historical average for the first 2 weeks of June (Table 14). With no escapement assessment this early in the season and available indicators suggesting low levels of abundance, the district stayed closed the weekend of June 14 to June 15.

The district was opened to set gillnet only fishing on June 22 to gain some insight about levels of abundance within the district. Harvest was just under 700 fish with a small amount of effort,

suggesting low abundance. However, a contributing factor to the low catch was that much of the set gillnet fleet suspended fishing to participate in a search and rescue operation in the district.

Initial information from the Ugashik District inriver test fishery became available on June 22 (Table 15). Inriver test fishing, which occurs about 3 miles upstream of Ugashik Village, provided daily estimates of sockeye salmon passage into the lower part of the Ugashik River. Early information suggested that fish were passing into the river in low volume. On June 26, another set gillnet only period was allowed with most of the set gillnet fleet participating. Harvest was 5,600 fish showing an increase over the June 22 period (Table 14), but still indicating relatively low levels of abundance.

The escapement tower project, operating about 24 miles upstream of Ugashik Village, started counting on June 27 and ended the day with an estimated passage of 186 fish (Table 15). On June 28 and June 29 counts were 2,514 and 2,694, indicating low numbers of fish moving above the commercial district.

Inriver test fishery indices increased beginning on June 28 and June 29, indicating increased passage into the Ugashik River. On June 29, 12-hour periods were announced for both gear groups and harvest was almost 67,000 fish. Beginning June 30, fishing was permitted on a 1 day off followed by 2 days of 1 tide per day opportunity for both gear groups, followed by a day off to allow for escapement and to let fish redistribute within the district. This pattern continued until July 7 when the drift gillnet fleet was allowed to fish alone to help balance allocation. Through July 6, cumulative catch was 408,000, and cumulative escapement was 285,660 and 2 days ahead of the 5-year (2008–2013) run timing curve. The inriver test fishery indicated several days of low passage still inriver and yet to reach the counting tower project (Tables 14 and 15).

Fishing was permitted on a 1 tide per day basis on July 8 and 9 for both gear groups. Harvest from these 2 periods was 87,000 and 150,000 fish, respectively. The catch on these 2 days prompted additional daily fishing opportunity from July 10 to July 13 for both gear groups. Harvest through July 13 was 1.3 million and cumulative escapement was 476,784, slightly below the lower end of the escapement goal range (Tables 14 and 15).

On July 14 the district was closed to allow additional escapement, and on July 15 the drift fleet was allowed a 4-hour period to adjust allocation. Daily escapement counts for July 15 at the tower project were 14,268 bringing the cumulative escapement to 500,544 (Table 15), which is above the 500,000 minimum of the escapement goal range. The district was closed again on July 16 to allow additional escapement.

On July 17 the district was opened to continuous fishing until July 28 when the fall schedule of 9:00 AM Monday to 9:00 AM Friday took effect. However, in Ugashik the fall schedule changes on August 1 to 9:00 AM Thursday to 9:00 AM Monday. The net result was that the district was open continuously from July 17 to August 4. Through August 1, cumulative catch was 1.5 million fish and cumulative escapement was 640,158, with the tower project ending operation for the season on July 27 (Table 14 and 15).

By the end of the EO period (July 17), set gillnet fishermen caught approximately 18% of the sockeye salmon harvest and drift gillnet fishermen caught 82%; the allocation specified in regulation is 10% set gillnet and 90% drift gillnet (Appendix A9). Between June 23 and July 17, set gillnet permit holders were permitted to fish a total of 147 hours, or 85 hours less fishing time

than in 2013, while drift gillnet permit holders were permitted to fish a total of 136 hours, or 19.5 hours less than in 2013 (Table 14).

The reported harvest of 77 Chinook salmon represents 7% of the 20-year (1994–2013) average of 1,097 (Appendix A4). Chinook and chum escapement is assessed by aerial surveys in the Dog Salmon and King Salmon rivers, major tributaries of the Ugashik River and the biggest producers of these species in the district. In 2014, no escapement surveys were flown in the Ugashik drainages due to budget constraints. The chum salmon harvest of 19,677 fish represents 30% of the 20-year (1994–2013) average of 67,000 (Appendix A5). Reported pink harvest was 227 (Appendix A6) and largely incidental to directed sockeye salmon fishing. There was little directed commercial effort for coho salmon in 2014; reported harvest was 435 fish and is roughly 10% of the 20-year (1994–2013) average of 4,700 (Appendix A7).

In summary, the 2014 Ugashik District fishery harvested approximately 70% of the sockeye salmon run to the district, compared to the 20-year (1994–2013) average exploitation rate of 70%. Days of peak catch occurred on July 9, July 10, and July 11 when 150,000, 272,000, and 163,000 fish were harvested, respectively (Table 14). The midpoint of the run was July 9, 1 day early compared to the 20-year average of July 10. Days of peak escapement were July 1, July 2, and July 5 when 43,572, 58,434, and 43,986 sockeye salmon passed the counting tower, respectively (Table 15). Peak effort occurred on July 13 when 204 drift gillnet vessels, including 47 with dual permits, registered to fish in the district (Table 13). There were 11 processors registered to purchase fish in the Ugashik District this season (Table 4).

Nushagak District

The 2014 Nushagak District total inshore sockeye salmon run was approximately 10.2 million fish, 14% above the preseason forecast of 8.9 million fish (Table 1). Commercial sockeye salmon harvest in Nushagak District reached 6.4 million fish, 7% below the preseason projected harvest of 7.0 million fish and above the 1994–2013 average harvest of 5.6 million sockeye salmon (Table 1; Appendix A15). Escapement in the district's 3 major river systems was 2,764,614 for Wood River; 340,590 for Igushik River; and 618,477 sockeye salmon for Nushagak River (Tables 16 and 17). Wood and Igushik rivers sockeye salmon escapements exceeded the upper ends of their escapement goal ranges, and Nushagak River sockeye salmon escapement fell within the escapement goal range (Appendix A1). Chinook salmon escapement into Nushagak River was 70,482, which is within the sustainable escapement goal range of 55,000–120,000; however, it was 26% below the inriver goal of 95,000 (Table 17). Harvest was 11,448 Chinook salmon in Nushagak District (Table 5).

ADF&G no longer produces a forecast for Nushagak District Chinook salmon. The preseason plan for Chinook salmon management was to have directed openings if and when escapement warranted such openings. This decision was based on the poor Chinook salmon runs in 2010 and 2011 and the lack of a 2014 forecast.

The sonar escapement enumeration project at Portage Creek was fully operational on June 6 (Table 17). Relatively early and consistent run entry indicated that the 2014 Chinook salmon run to the Nushagak District was similar to years with a strong return. By June 11, escapement was ahead of expectations, allowing for an 8-hour directed Chinook salmon commercial opening on June 13 (Tables 18 and 19). Escapement continued to be strong through June 19 and there were 3 additional directed Chinook salmon openings through June 20. Escapement slowed after June 20 and was below expectations for the rest of the season. The final escapement for Chinook salmon

on the Nushagak River was 70,482 fish, within the escapement goal range, but below the inriver goal of 95,000 fish (Table 17).

The 4 directed Chinook salmon openings resulted in a harvest of approximately 4,000 of the 11,448 Chinook salmon harvested in the Nushagak District in 2014 (Tables 18 and 19). The harvest of 11,448 Chinook salmon was well below the 1994–2013 average harvest of 49,368 fish for the Nushagak District (Appendices A4 and A19).

Sockeye salmon enumeration on the Wood River began June 13, 5 days earlier than previous seasons. Fish passage was slow but steady and gradually increasing through June 23 (Table 16). On June 23, the expectation was that the cumulative escapement would exceed 100,000 sockeye salmon on June 24. A set gillnet only opening was announced for the morning of June 24 (Table 18). This 6-hour opening would give ADF&G options, such as being able to have a drift gillnet opening on short notice, if there was a significant push of fish into the Wood River overnight. Escapement overnight remained slow and the daily total for June 24 was about 21,000, bringing the cumulative total to 95,000 (Table 16). Staff flew over the set gillnet fishery during the opening and, based on the aerial observation and talking with industry, felt that fishing was good at the beginning of the opening but slowed toward the end. This indicated that there were some fish around but there was not a large body of fish pushing strongly into the district. Once again ADF&G announced a set gillnet only opening for the morning of June 25. The drift fleet was advised they were on short notice and could fish as early as 4:00 PM June 25. The midnight to 6:00 AM escapement count for the Wood River was 22,000 sockeye salmon on June 25. With the 9:00 AM announcement ADF&G extended the set gillnet opening and announced a 4-hour drift gillnet opening that would close at 8:00 PM (Tables 18 and 19). Staff flew over the start of the set gillnet fishery and flew the Wood River to look at escapement into the lower river. Escapement seemed strong and the harvest in the fishery was stronger and more sustained than the previous day. A 3:00 PM announcement opened set gillnet fishing from 12:30 AM until 9:00 PM June 26 and drift gillnet fishing from 3:00 AM until 9:00 AM. The morning of June 26, ADF&G staff learned that some companies had implemented limits or stopped buying completely on June 25 or the morning of June 26. The daily escapement into the Wood River on June 25 was 207,522 sockeye salmon, and the midnight to 6:00 AM count was over 30,000. With the fleet limited by capacity issues, ADF&G opened the drift gillnet fishery again at 3:00 PM for 44 hours and also extended the set gillnet fishery until the morning of June 28.

The daily escapement for the Wood River on June 26 was 583,308 sockeye salmon and 315,426 on June 27 (Table 16). These large escapements pushed the cumulative escapement past the 1.1 million mark by June 27, which prompted ADF&G to announce that it was likely the Wood River Special Harvest Area (WRSHA) would open to drift gillnet fishing concurrently with the regular district on June 28. Based on the management plan the gear type that was behind on allocation in the commercial district would be allowed to fish in the WRSHA (Appendix A9). The WRSHA opened to commercial fishing with drift gillnets at noon on June 28 for 29 hours (Tables 18 and 19). Participation in this opening was minimal because there was no tender support available in the WRSHA.

Gear group harvest percentages changed based on the harvest of June 28, and the set gillnet fleet was below their allocated harvest by June 29 (Appendix A9). Based on the allocation disparity, ADF&G let the WRSHA close to drift gillnet fishing as scheduled and reopened it to set gillnet fishing at 6:00 PM June 29 (Tables 18 and 19). The WRSHA remained open to set gillnet fishing until 7:00 AM July 15 (Table 18). At this point, the drift gillnet fleet harvest percentage was

below their allocation. The WRSHA opened at 8:00 AM July 15 to drift gillnet fishing and remained open until July 22.

Set gillnet fishing was extended until further notice in the commercial district on June 30 (Table 18). After some eastside districts waived the transfer period and the fleet size in the Nushagak District diminished, commercial fishing with drift gillnets was extended until further notice on July 7 (Tables 18 and 19).

Escapement during this time was strong for all river systems in the Nushagak District. Wood River sockeye salmon escapement was especially strong with 9 days exceeding 100,000 fish and a strong late push of over 61,000 fish on July 15 (Table 16). The final escapement of 2,764,614 was far above the 1.5 million upper end of the escapement goal range when the enumeration project ceased operations on July 19 (Appendix A1). The Wood River sockeye salmon escapement was also exceptional in that 80% of the escapement were age-1.2 fish. The Nushagak River sockeye salmon escapement, a major concern preseason based on the forecast, quickly surpassed the lower end of the escapement goal range of 340,000 to 760,000 and ended at 618,493 fish (Table 17; Appendix A1).

Commercial fishing with set gillnets in the Igushik Section of the Nushagak District began on June 10 (Tables 18 and 19) with 8-hour openings daily. Similar to the Wood River, escapement enumeration on the Igushik River began 5 days early on June 18 (Table 16). Escapement was very slow until June 28. Set gillnet fishing was also slow but spiked dramatically on June 25. With increased harvest in the set gillnet fishery, fishing time was liberalized on June 25 for set gillnets, and the area was opened to the drift gillnet fleet on June 26 (Tables 18 and 19). Fishing continued on an aggressive schedule for the rest of the season in the Igushik Section. The final escapement into the Igushik system was 340,590 sockeye salmon (Appendix A1), above the upper end of the escapement goal range of 150,000 to 300,000 fish.

Management for coho and pink salmon began on July 24. Fishing was open for 12 hours a day with the time of the opening changing throughout the week to accommodate the tide. Escapement for both pink and coho salmon was strong and fishing continued in this manner until August 5 when fishing was extended until further notice (Tables 18 and 19). Participation varied quite a bit during the coho and pink salmon fishery. Overall there were 3 processing companies that purchased fish during this time and effort peaked with 156 combined drift and set gillnet deliveries on July 27, although there was significant effort through August 8. The final harvest was 1,188,464 pink salmon and 245,056 coho salmon (Table 19).

Togiak District

The 2014 inshore sockeye salmon run of 595,000 fish was the eighteenth largest run to Togiak District in the last 20 years and was 18% below the preseason forecast (Table 1; Appendix A17). The harvest for the Togiak District was approximately 443,000 sockeye salmon, the fifteenth largest since 1994 (Table 20; Appendix A3). Escapement into Togiak Lake was 151,934 sockeye salmon, within the escapement goal range of 120,000 to 270,000 fish (Table 16; Appendix A1).

The Togiak District is managed differently than other districts in Bristol Bay. This district uses a fixed fishing schedule of 60 hours per week in Kulukak Section, 4 days per week in Togiak River Section except for a peak fishing schedule of 5.5 days per week from July 1 to July 15, and 5 days per week in Osviak, Matogak, and Cape Peirce sections. This schedule is adjusted by EO, as necessary, to achieve desired escapement objectives. In addition, transferring into Togiak

District prior to July 27 is prohibited by regulation if the permit has been fished in any of the other 4 Bristol Bay districts. Conversely, permit holders that have fished in Togiak District are prohibited from fishing in any other Bristol Bay district until July 27.

The 2014 Togiak River inshore run forecast was 720,000 sockeye salmon, of which 78% were projected to be 3-ocean fish and 22% were projected to be 2-ocean fish (Table 1). Achieving the escapement goal range of 120,000 to 270,000 sockeye salmon for Togiak Lake would leave approximately 520,000 fish available for harvest in Togiak River Section (Table 1). Smaller sockeye salmon 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. A contribution of 50,000 sockeye salmon to the district harvest was projected from drainages other than Togiak River.

Based on recent year harvests, the Chinook salmon run was again anticipated to be below average. In 2014, the weekly fishing schedule in Togiak River Section was reduced by 24 hours in the third and fourth weeks of June for Chinook salmon conservation (Table 18). Kulukak and western sections (Cape Peirce, Osviak, and Matogak) remained open for regularly scheduled periods throughout the season. While the *Togiak District Salmon Management Plan* provides for a directed Chinook salmon fishery if run strength is adequate, effort largely focuses on sockeye salmon for the entire season. In an effort to reduce the targeting of Togiak River Chinook salmon, a regulation was passed in December 2012. The regulation moved the drift gillnet boundary away from the Togiak River mouth from June 1 through July 15. Total Chinook salmon harvest for Togiak River Section was 1,505 fish, with an additional 203 caught in the remainder of Togiak District (Tables 21, 22, 23, 24 and 25). Chinook salmon escapement to the Togiak River was 4,000 fish from aerial survey assessments, making the total Chinook salmon run to the Togiak River 7,156 fish, well below the 20-year average (1994–2013) of 19,392 (Appendix A20).

Commercial fishing for sockeye salmon opened by regulation on Monday, June 2, but the first deliveries of the season did not occur until June 10 (Table 21). Fishing continued through the week and into the next 2 weeks at expected, low early season participation levels, leaving cumulative harvests at 613 Chinook salmon and 19,047 sockeye salmon at the close of fishing on June 28 (Table 21). Beginning Monday, June 30 management turned from Chinook salmon to active sockeye salmon management and the peak season weekly fishing schedule began.

The escapement enumeration project on Togiak River began on July 3 with a count of 1,542 sockeye salmon (Table 16). Escapement continued to be below average early, reaching 9,942 after 6 days of counting compared to an expected cumulative of 17,000. Coincident with lower than anticipated escapement, participation remained unusually low throughout June until the peak fishing schedule effectively began on Monday, June 30. The very low early season effort was attributed to 1 area processor not operating because of construction delays and to effort focused on halibut and other fisheries. Cumulative catch of 11,000 sockeye salmon in the Togiak River Section through June 29 was about half the average for this date (Table 22).

The 2 weeks of the peak fishing schedule saw expected strong participation, with daily catches starting off average at 8,000 and 7,000 in Togiak River Section before dropping off to catches of between 5,000 and 8,000 through the first week of peak fishing on July 5. This decline in harvest was unexpected for this time of the season when the strongest part of the run was expected to develop. The second week of the peak fishing schedule began with a near average harvest of

10,600 on July 7 before dropping off dramatically to harvests of about 6,000 on July 8 and July 9, compared to anticipated harvests of 17,000 sockeye salmon for these dates. The peak fishing schedule was effectively over at the close of fishing on July 12, bringing cumulative harvest in the Togiak River Section to 115,000 (Table 22).

Through July 12, escapement to the Togiak River was 19,332 sockeye salmon (Table 16), far behind the pace need to reach the 120,000 lower end of the escapement goal range. At this time, managers became aware of some potentially widespread illegal fishing activity occurring outside Togiak District near Kulukak Bay that may have directly impacted the unexpectedly low escapement. Illegal fishing near Kulukak Bay on the eastern edge of the district, coupled with several days of poor fishing in Togiak Bay, indicated escapement would continue to be slow given the 7- to 10-day travel time from fishery to counted escapement at Togiak Lake. These concerns prompted managers to reduce the weekly fishing schedule in Togiak River Section by 48 hours for the week of July 14–19. As expected, escapement remained slow with 3 consecutive days below 2,000 fish from July 13 to July15, compared to daily expectations of 6,000 to 7,000 sockeye salmon for this typical peak of the season. During this same period, harvest in Togiak River Section remained well below expectations, furthering manager anxiety. Concerns were alleviated later in the week when escapement nearly tripled from July 16 to July 19, bringing the cumulative escapement near expectations at 68,028 fish. After a disappointing harvest up to this point, harvest was well above average the week of July 21–26, prompting an extension of the weekly schedule in Togiak River Section and leaving the cumulative harvest at 298,000 through July 27 (Table 22).

Escapement saw average passage days for the remainder of the season before the Togiak River enumeration project ceased operations on August 3 with a final escapement of 151,934, within the escapement goal range of 120,000 to 270,000 sockeye salmon (Appendix A1). By August 3, sockeye salmon harvest and effort in the Togiak District dropped off abruptly, leaving the season total at 428,000 fish harvested (Table 21). Although escapement information to parts of the Togiak River drainage is incomplete, the total 2014 sockeye salmon run ranked eighteenth among the most recent 20 years (Appendix A17).

By regulation, Togiak District opens to all Area T salmon permit holders on July 27. As with most seasons, some shift in effort from other districts to Togiak took place but may have been offset by decreasing local effort. Similar to the last few years, several drift gillnet permit holders registered in Togiak prior to July 27, utilizing permits that had yet to be registered for the season.

The biggest effort and harvest of coho salmon since 1998 took place this August. After the last processor stopped buying on August 29, harvest was 32,000 coho salmon, doubling the 20-year average (1994–2013) of 16,000 (Appendix A7). The 2014 commercial Chinook salmon harvest of 1,704 fish represented only 23% of the 20-year (1994–2013) average, and the chum salmon harvest of 100,195 fish was 64% of the 20-year average (Appendices A4 and A5).

2014 BRISTOL BAY HERRING FISHERY

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 3 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 kilometers (Figure 2). Togiak village lies at the center of the district, 108 kilometers west of Dillingham.

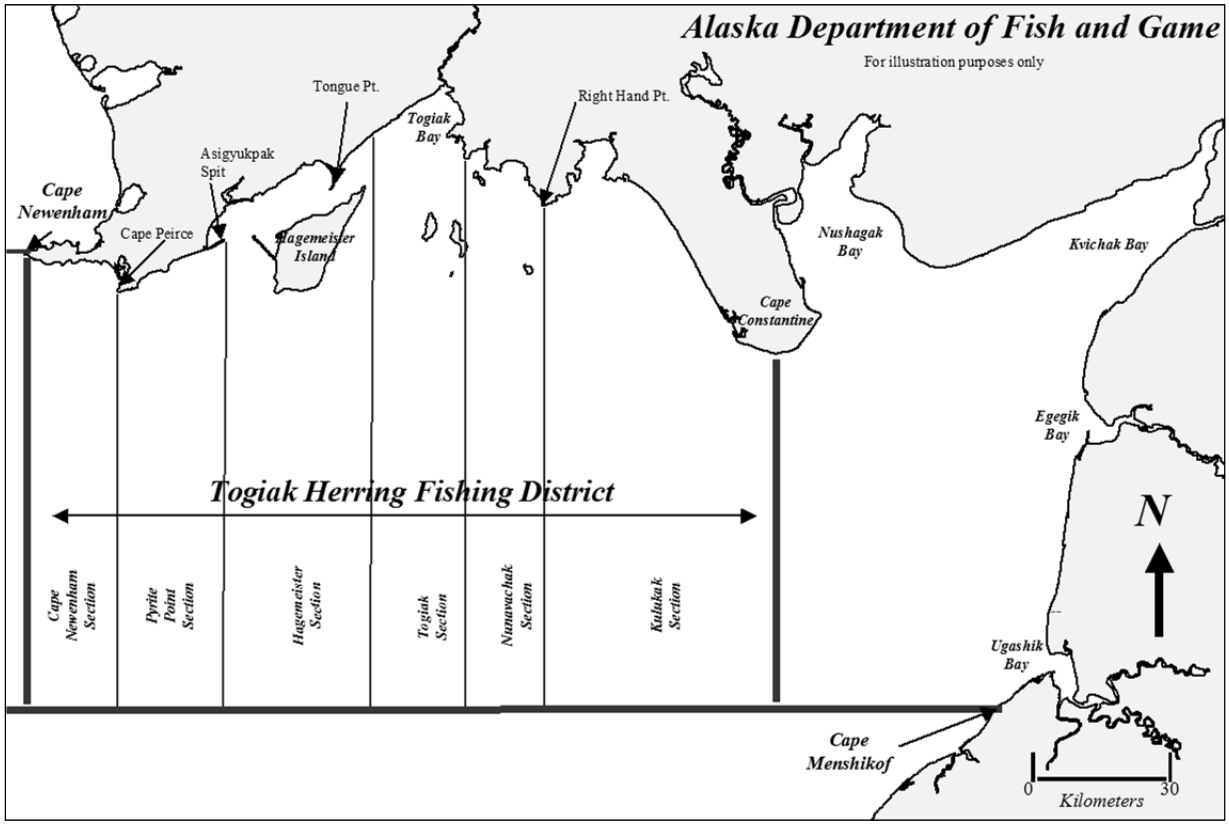

Figure 2.–Togiak Herring District, Bristol Bay.

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 (later becoming the Magnusson-Stevens Act) resulted in a rapid expansion of the Togiak herring fishery in 1977.

The Togiak herring fishery is the largest in Alaska. From 1994 to 2013, sac roe harvests averaged 24,049 tons, worth an average of $5.35 million annually (Appendices B2 and B5). Spawn-on-kelp harvests have not occurred in the last decade. Given the volatile nature of the herring sac roe market, historic harvests and value are of limited utility when contemplating future harvest or value. In 2014, sac roe harvests brought $1.26 million to permit holders, well below the most recent 10-year average of $3 million (Appendix B5). This value represents the grounds price and does not necessarily include postseason adjustments. No spawn-on-kelp fishery has occurred since 2003 (Appendix B2).

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 after there is a reasonable expectation that herring might be present in the Togiak area. Surveys occur several times a week after threshold biomass has been documented. Surveys are conducted as weather, pilot availability, and funding allow.

Aerial survey methods 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 ft^2 of surface area is applied to herring school surface areas to estimate the total biomass observed during each flight. Over the last 9 years, ADF&G has transitioned to aerial survey data collection methods that use Geographic Information Systems (GIS), allowing "real-time" data entry and analysis. The new GIS-based program, among other improvements, allows observers to use the survey aircraft to estimate length and width dimensions of very large herring schools, providing a more objective and reliable estimate.

Herring ages 2 through 20 have been observed in the Togiak District, but herring are generally considered to begin recruiting into the fishery at age-4 and to be fully recruited at age-9. Herring abundance is related to year class survival and is strongly driven by large recruitment events that occur approximately every 8 to 10 years. The fishery biomass is currently dominated by age-7, -8, and -9 herring (Table 26; Appendix B3). The herring biomass is considered healthy and stable.

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 from year to 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. For over a decade processors have utilized cooperative fleets for the purse seine fishery. Under limited markets, processors choose the makeup of their fishing fleets to maximize their efficiency, thereby influencing the number of participants.

Fishing effort in the sac roe fishery increased through the late 1980s, decreased early in the 1990s, increased again to a peak in 1996, and has generally declined since that time. Since 1994, gillnet effort increased from 146 vessels to a peak of 461 in 1996, followed by a general decline to an all-time low of 18 in 2012. Purse seine participation fluctuated between 100 and 300 vessels from 1994 to 1998 before a general decline to an all-time low in 2012 of 16 vessels. The 2014 participation of 17 purse seine vessels was down from 26 in 2013. In 2014, gillnet participation decreased from 37 to 24 vessels (Appendix B1).

Industry participation in the fishery peaked between 1979 and 1982, when 33 processors participated in the herring fishery. From 1994 through 1997, 16 to 22 companies have purchased herring in Togiak. Since 1998, industry participation has steadily declined to a low in 2012 of 4 companies (Appendix B1). In 2014, processor participation involved 6 companies (Table 27). 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 1,420 tons per day, increasing slightly to 3,065 tons per day in 2014 (Appendix B1).

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. This has also led to changes in the way the fishery is managed. Since fishing is less aggressive and processing capacity is limited, managers are able to allow extended openings that lead to increased selectivity and smaller sets.

2014 SEASON SUMMARY

Biomass Estimation

Togiak District aerial surveys began April 22, 2014, and herring were first observed in the district on April 24. ADF&G observed 4,554 tons of herring just entering the district on the Southeast end of Hagemeister Island on April 24. The fishery opened on April 27 after 37,285 tons of herring were documented, which exceeded the threshold biomass of 35,000 tons. Peak biomass was documented on May 2 when 99,219 tons of herring were documented. Peak spawning observation occurred on April 28 when 21.9 miles of spawn was documented. Excellent weather allowed staff to fly nearly every day for the first week of the season. Overall, 92 miles of spawn and more than 675,000 combined tons of biomass were documented. The last survey was flown on May 23 when 71,986 tons of herring were still on the grounds with spawn still occurring (Table 28).

Age Composition

A total of 3,780 samples collected from the commercial purse seine fishery (all sections) produced 3,234 readable scales of the 3,965 total readable scales from all gear. Age classes composing more than 10% of the total run either in individual abundance or run biomass were age-6, -7, -8 and -9 fish, which composed 10%, 24%, 28% and 19%, respectively, of the run by weight and 11%, 25%, 27%, and 17%, respectively, of the total run by number of fish (Table 26).

Commercial Fishery

Togiak District herring fisheries are managed in accordance with the *Bristol Bay Herring Management Plan* (5 AAC 27.865), which specifies a maximum allowable exploitation rate of 20% and allocates the harvestable surplus among all the fisheries harvesting the Togiak herring stock. The 2014 preseason biomass forecast was 157,448 tons (Appendix B4). This forecast is

down from the 2013 forecast, but is the second largest forecast since 1994. The projected harvest guideline for each fishery was as follows: 1,500 tons herring equivalent or 350,000 lb of product for the spawn-on-kelp fishery; 2,099 tons for the Dutch Harbor food and bait fishery; and the remaining 29,990 tons for the sac roe fishery (Appendix B6). The management plan further specifies that ADF&G will manage the sac roe fishery so that 70% of the harvest is taken by purse seine (19,523 tons in 2014) and 30% of the harvest is taken by gillnet (8,367 tons in 2014; Appendix B6).

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 2014 season, management staff allowed long-duration seine openings over a large area of the district and let processors limit harvest for their individual fleets based on processing capacity.

ADF&G polled processing companies prior to the 2014 season to assess processing capacity and to inquire about additional concerns or issues. The poll indicated that 7 companies intended to participate in the 2014 Togiak herring fishery. One company indicated they planned to buy only gillnet fish, and 1 company planned to buy only purse seine fish. In the end only 6 companies participated in the 2014 Togiak sac roe herring fishery. All 6 companies bought purse seine fish, while 5 companies bought gillnet fish.

Purse Seine

The Togiak purse seine fishery opened at 6:00 PM on April 27 (Table 29). ADF&G initially opened the purse seine fishery for 76 hours. Commercial quality fish were available late on April 29 when 1,646 tons of herring were harvested by the purse seine fleet (Table 30). Herring continued to be of marketable quality for the remainder of the purse seine fishery, and ADF&G extended the fishery on April 30 for 48 hours, again on May 2 for 72 hours, and finally on May 5 until further notice (Table 29). Excellent weather prevailed throughout the season and the purse seine fleet steadily harvested the quota at a pace of at least 1,200 tons per day for the first 10 days of the fishery; day 11 was somewhat slower with only 546 tons harvested, but the harvest increased to over 1,000 tons for each of the next 2 days. On May 11, all but 1 company completed its purse seine fishing operations for the season. The last company finished operations on May 13. The final harvest was 19,544 tons of herring, equal to 100% of the purse seine quota and the largest harvest since 1995 (Table 29; Appendix B6).

Gillnet

The Togiak gillnet fishery opened at 6:00 PM April 27 until further notice with no prior test fishing (Table 29). In 2014, 5 companies participated in the Togiak sac roe gillnet fishery, a decrease from 6 in 2013 (Table 27). Although the season opened on April 27, the first day that more than 3 companies purchased fish was April 30. The combined harvest from April 29 and 30 was 1,161 tons of herring. Harvest continued at a somewhat erratic rate for the entire season. The best single day catch was April 30, with 916 tons of herring harvested. May 9 was the slowest day, with only 95 tons of herring harvested (Table 30). Allocation between the purse seine fleet and the gillnet fleet was not an issue during the season. Both gear groups were very close in their respective harvest percentages until after they each passed the actively managed 50% mark. The season officially closed at 12:00 PM on May 14, although the last company ceased operations on

May 11. The total gillnet harvest was 6,016 tons of herring, representing 77% of the quota and 14% above the 10-year average (Table 29; Appendix B6).

Spawn on Kelp

No companies registered to buy herring spawn-on-kelp in 2014; therefore, there were no openings and no commercial harvest.

Exploitation

The 2014 Togiak herring fisheries were managed for a maximum exploitation rate of 20% of the preseason biomass estimate. The purse seine harvest was 19,544 tons, with a reported average weight of 364 grams and an average roe percentage of 9.7% (Table 30). The gillnet harvest was 6,016 tons, with a reported average weight of 404 grams and an average roe percentage of 11.9%, making the combined harvest 25,560 tons with an average weight of 374 grams and an average roe percentage of 10.2% (Table 30). The Dutch Harbor food and bait fishery harvest was 1,645, bringing the total harvest for 2014 to 27,259 tons (Appendix B2). Based on the preseason biomass estimate of 157,448 tons, the 2014 exploitation rate would be approximately 17.3%.

Exvessel Value

The projected exvessel value of the 2014 Togiak herring fishery is approximately $1.26 million (Appendix B5). This is based on a grounds price estimate of $50 per ton for seine caught fish and $50 per ton for gillnet caught fish and does not include any postseason adjustments.

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TABLES

Table 1.–Comparison of inshore sockeye salmon forecast versus actual run, escapement goals versus actual escapements, and projected versus actual commercial catch, by river system and district, in thousands of fish, Bristol Bay, 2014.

District and river system [a]	Inshore run			Escapement		Inshore catch		
	Forecast [b]	Actual	Percent deviation [c]	Range	Actual	Projected harvest [b]	Actual	Percent deviation [c]
Naknek-Kvichak District								
Kvichak River	5,301	13,489	154	2,000-10,000	4,459	2,651	9,030	241
Alagnak River	1,723	896	-48	320 minimum	201	862	695	-19
Naknek River	3,486	5,540	59	800-1,400	1,474	2,386	4,066	70
Total	10,510	19,925	90	3,120-11,720	6,134	5,898	13,791	134
Egegik District	4,649	8,311	79	800-1,400	1,382	3,549	6,928	95
Ugashik District	1,811	2,148	19	500-1,200	640	961	1,507	57
Nushagak District								
Wood River	6,887	7,521	9	700-1,500	2,765	5,787	4,756	-18
Igushik River	828	992	20	150-300	341	603	652	8
Nushagak-Mulchatna	1,168	1,659	42	370-840	614	568	1,040	83
Total	8,883	10,171	14	1,190-2,560	3,720	6,958	6,448	-7
Togiak District	720	595	-17	120-270	152	520	443	-15
Total Bristol Bay [d]	26,577	41,149	55	5,730-17,150	12,031	17,915	29,118	63

[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 systems in Togiak District. Catches, 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] Does not include South Peninsula projected harvest.

[c] Percent deviation = (Actual - Forecast) / Forecast.

[d] Total may not equal some of all districts due to rounding.

Table 2.–Inshore forecast of sockeye salmon returns by age class, river system, and district, in thousands of fish, Bristol Bay, 2014.

	2-Ocean			3-Ocean			
District and river system	1.2 (2010)	2.2 (2009)	Total	1.3 (2009)	2.3 (2008)	Total	Total
Naknek-Kvichak District							
Kvichak River	2,371	1,206	3,577	1,311	413	1,724	5,301
Alagnak River	262	39	301	1,297	125	1,422	1,723
Naknek River	1,200	489	1,689	1,212	585	1,797	3,486
Total	3,833	1,734	5,567	3,820	1,123	4,943	10,510
Egegik District	258	2,591	2,849	645	1,155	1,800	4,649
Ugashik District	640	405	1,045	614	152	766	1,811
Nushagak District							
Wood River	4,925	151	5,076	1,751	60	1,811	6,887
Igushik River	147	23	170	638	20	658	828
Nushagak River [a]	60	6	66	978	11	989	1,168
Total	5,132	180	5,312	3,367	91	3,458	8,883
Togiak District [b]	124	40	164	524	36	560	724
Total Bristol Bay [c]							
Number	9,987	4,950	14,937	8,970	2,557	11,527	26,577
Percent	38%	19%	56%	34%	10%	43%	100%

Note: Forecast includes projected harvest of Bristol Bay sockeye salmon in South Peninsula commercial salmon fisheries.

[a] Nushagak River forecast total includes age-0.3 (6,650) and age-1.4 (105,980) fish.

[b] Forecasts for Kulukak, Kanik, Osviak, and Matogak River systems were not included. These systems contribute approximately 50,000 sockeye salmon to Togiak District harvest each year.

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

Table 3.–Mean round weight, price per pound, and total exvessel value of the commercial salmon catch, Bristol Bay, 2014.

Species	Total catch (lb)	Mean weight (lb)	Mean price ($/lb)	Exvessel value ($)
Sockeye	161,796,473	5.6	1.20	194,155,768
Chinook	232,751	15.4	0.80	186,201
Chum	2,932,216	6.1	0.30	879,665
Pink	4,763,522	3.7	0.28	1,333,786
Coho	1,846,216	6.4	0.90	1,661,594
Total	171,571,178			198,217,014

Note: Weighted averages used.

Table 4.–Commercial salmon processors and buyers operating in Bristol Bay, 2014.

	Name of operator/buyer	Base of operation	District[a]	Method[b]	Export
1	Alaska General Seafoods	Kenmore, WA	K,E,	C,EF,F,RE	AIR,SEA
2	Alaska Salmon Wild	Ruidoso, NM	K	F	AIR
3	Alaska Wild Kenai Salmon	Wasilla, AK	N	F	AIR
4	Big Creek Fisheries	Everett, WA	E,U	F	AIR,SEA
5	Bristol Siren Salmon	College Place, WA	K	F	AIR
6	Byron Singley	King Salmon, AK	K	C	AIR
7	Cape Greig	Seattle, WA	E,U	EF	AIR
8	Coffee Point Seafoods of Washington	Seattle, WA	E	EF,F,RE	AIR,SEA
9	David Wright	Louisville, KY	K	F	SEA
10	Ekuk Fisheries	Seattle, WA	N	F	SEA
11	Extreme Salmon	Lynnwood, WA	E,K,N,U	F,EF,RE	SEA,AIR
12	Freedom Fish	Naknek, AK	K	F	AIR
13	Favco, Inc.	Anchorage, AK	N	F	AIR
14	Greg Fransen	Lynden, WA	K	F	SEA
15	Friedman Family Fisheries	Baltimore, MD	N	F	SEA
16	Great Ruby Fish Company	Anchorage, AK	K	EF,F,RE	AIR
17	Icicle Seafoods	Seattle, WA	E,K,N,U	C,EF,F,RE	AIR,SEA
18	Leader Creek Fisheries	Seattle, WA	E,K,N,U	F,RE	SEA
19	My Girl (Randy Alvarez)	Igiugig, AK	K	F	AIR
20	Nakeem Homepack	King Salmon, AK	K	EF,F,RE	AIR,SEA
21	Naknek Family Fisheries	Naknek, AK	K	F	AIR,SEA
22	North Pacific Seafoods (Togiak Fisheries)	Seattle, WA	T	F	SEA
23	North Pacific Seafoods (Red Salmon Cannery)	Seattle, WA	E,K,N,U	C,F,RE	SEA
24	North Pacific Seafoods (Pederson Point)	Seattle, WA	E,K,N,U	F,RE	SEA
25	Ocean Beauty Seafoods	Seattle, WA	E,K,N,U	C,EF,F,RE	AIR,SEA
26	P&P Fish (Matthew Crimp)	Anchorage, AK	N	EF	AIR
27	Peter Pan Seafoods	Seattle, WA	E,K,N,T,U	C,EF,F,RE,S	AIR,SEA
28	Shannon Ford	Federal Way, WA	K	F	AIR
29	Silver Bay Seafoods	Sitka, AK	E,K,N,T,U	F,EF,RE	AIR,SEA
30	Sunrise Salmon	Fergus Falls, MN	K	F	AIR
31	Ted Wolfson	Woodstock, GA	U	EF	AIR
32	Togiak Seafoods (Copper River Seafoods)	Anchorage, AK	K,N,T	EF	AIR
33	Tony Neal (Bristol Trading)	Homer, AK	E	F	AIR,SEA
34	Trident Seafoods	Seattle, WA	E,K,N,T,U	C,EF,F	AIR,SEA
35	Tulchina Fisheries	Naknek, AK	K	F	AIR
36	Tyler Casperson	Fairbanks, AK	U	EF	AIR
37	Victor Popa	Fallbrook, CA	E	EF	SEA
38	Whiz Bang Fisheries	Friday Harbor, WA	K	F	AIR
39	Wild Alaska Salmon and Seafood	King Salmon, AK	K	EF, F	AIR,SEA
40	Wild Premium Salmon	Vista, CA	E	EF,F	AIR
41	Jamie Wolfson	Woodstock, GA	U	F	AIR
42	Ted Wolfson	Woodstock, GA	U	F	AIR

[a] E = Egegik; K = Naknek-Kvichak; N = Nushagak; U = Ugashik; T = Togiak.

[b] Type of processing: C = canned; EF = export fresh; F = frozen; RE = roe extraction; S = cured.

Table 5.–Commercial salmon catch by district and species, in number of fish, Bristol Bay, 2014.

District and river system		Sockeye	Chinook	Chum	Pink	Coho	Total
Naknek-Kvichak District							
Kvichak River		9,030,227					9,030,227
Alagnak River		695,155					695,155
Naknek River		4,065,671					4,065,671
	Total	13,791,053	1,526	87,188	7,435	618	13,887,820
Egegik District		6,928,350	318	33,173	4,835	11,473	6,978,149
Ugashik District		1,507,440	77	19,677	227	435	1,527,856
Nushagak District							
Wood River		4,755,921					4,755,921
Igushik River		651,661					651,661
Nushagak River		1,040,068					1,040,068
	Total	6,447,650	11,448	242,261	1,166,993	242,391	8,110,743
Togiak District							
Togiak Section							0
Kulukak Section		371,933					371,933
Matogak Section		59,088					59,088
Osviak Section		12,237					12,237
	Total	443,258	1,708	100,195	118,673	32,131	695,965
Total Bristol Bay		29,117,751	15,077	482,531 [a]	1,298,163	287,048	30,718,039

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

[a] Includes 37 fish that were not assigned to a district.

Table 6.–Commercial fishing emergency orders by period, district, and statistical area, Bristol Bay eastside, 2014.

Number	Start date	Start time		End date	End time	Effective time	
Naknek/Kvichak District							
Drift Net							
AKN.35	30 Jun	3:00 PM	to	30 Jun	11:00 PM	8.0 hours	
AKN.38	2 Jul	4:00 AM	to	2 Jul	1:00 PM	9.0 hours	
AKN.41	3 Jul	4:30 AM	to	3 Jul	1:30 PM	9.0 hours	
AKN.45	4 Jul	6:00 AM	to	4 Jul	1:30 PM	7.5 hours	
AKN.47	4 Jul	7:00 PM	to	5 Jul	2:00 AM	7.0 hours	
AKN.47	5 Jul	6:30 AM	to	5 Jul	2:00 PM	7.5 hours	
AKN.50	5 Jul	8:00 PM	to	6 Jul	3:00 AM	7.0 hours	
AKN.50	6 Jul	7:00 AM	to	6 Jul	2:30 PM	7.5 hours	
AKN.50	6 Jul	9:00 AM	to	7 Jul	4:00 AM	7.0 hours	
AKN.51	7 Jul	8:00 AM	to	7 Jul	3:00 PM	7.0 hours	[a]
AKN.54	7 Jul	9:30 PM	to	8 Jul	5:30 AM	8.0 hours	
AKN.54	8 Jul	8:30 AM	to	8 Jul	3:30 PM	7.0 hours	
AKN.57	8 Jul	10:00 PM	to	9 Jul	6:30 AM	8.5 hours	
AKN.57	9 Jul	9:30 AM	to	9 Jul	4:00 PM	6.5 hours	
AKN.60	9 Jul	10:30 PM	to	10 Jul	6:30 AM	8.0 hours	
AKN.60	10 Jul	10:30 AM	to	10 Jul	5:00 PM	6.5 hours	
AKN.63	10 Jul	11:30 PM	to	11 Jul	7:30 AM	8.0 hours	
AKN.63	11 Jul	11:30 AM	to	11 Jul	5:30 PM	6.0 hours	
AKN.66	12 Jul	12:30 AM	to	12 Jul	8:00 AM	7.5 hours	
AKN.66	12 Jul	12:00 PM	to	12 Jul	6:30 PM	6.5 hours	
AKN.69	13 Jul	1:30 AM	to	13 Jul	9:30 AM	8.0 hours	
AKN.69	13 Jul	1:30 PM	to	13 Jul	7:30 PM	6.0 hours	
AKN.72	14 Jul	2:00 AM	to	14 Jul	10:00 AM	8.0 hours	
AKN.72	14 Jul	2:00 PM	to	14 Jul	8:30 PM	6.5 hours	
AKN.74	15 Jul	3:30 PM	to	15 Jul	9:30 PM	6.0 hours	
AKN.75	16 Jul	4:30 PM	to	16 Jul	11:00 PM	6.5 hours	
AKN.77	17 Jul	4:30 AM	to	21 Jul	9:00 AM	100.5 hours	
							fall schedule
Set Net							
AKN.01	1 Jun	9:00 AM	to	20 Jun	9:00 AM		[b, c]
AKN.18	24 Jun	10:00 AM	to	24 Jun	5:00 PM	7.0 hours	
AKN.20	24 Jun	11:00 PM	to	25 Jun	8:00 PM	9.0 hours	
AKN.20	25 Jun	10:30 AM	to	25 Jun	6:00 PM	7.5 hours	
AKN.21	26 Jun	12:00 AM	to	26 Jun	6:30 PM	18.5 hours	
AKN.25	27 Jun	12:30 AM	to	27 Jun	7:30 PM	19.0 hours	

-continued-

Table 6.–Page 2 of 6.

Number	Start date	Start time		End date	End time	Effective time	
AKN.27	28 Jun	1:00 PM	to	28 Jun	8:30 PM	7.5 hours	
AKN.30	29 Jun	2:00 PM	to	29 Jun	9:00 PM	7.0 hours	
AKN.32	30 Jun	3:00 PM	to	30 Jun	10:00 PM	7.0 hours	
AKN.35	1 Jul	3:30 AM	to	1 Jul	12:30 PM	9.0 hours	
AKN.36	1 Jul	12:30 PM	to	1 Jul	11:00 PM	10.5 hours	d
AKN.38	2 Jul	4:00 AM	to	3 Jul	12:00 AM	20.0 hours	
AKN.41	3 Jul	12:00 AM	to	4 Jul	1:00 AM	25.0 hours	d
AKN.45	4 Jul	1:00 AM	to	5 Jul	2:00 AM	25.0 hours	d
AKN.47	5 Jul	2:00 AM	to	6 Jul	3:00 AM	25.0 hours	d
AKN.50	6 Jul	3:00 AM	to	7 Jul	4:00 AM	25.0 hours	d
AKN.51	7 Jul	4:00 AM	to	7 Jul	3:00 PM	11.0 hours	d
AKN.54	7 Jul	3:00 PM	to	8 Jul	3:30 PM	24.5 hours	d
AKN.57	8 Jul	3:30 PM	to	9 Jul	4:00 PM	24.5 hours	d
AKN.60	9 Jul	4:00 PM	to	10 Jul	5:00 PM	25.0 hours	d
AKN.63	10 Jul	5:00 PM	to	11 Jul	5:30 PM	24.5 hours	d
AKN.66	11 Jul	5:30 PM	to	12 Jul	6:30 PM	25.0 hours	d
AKN.69	12 Jul	6:30 PM	to	13 Jul	7:30 PM	25.0 hours	d
AKN.74	14 Jul	8:30 PM	to	15 Jul	9:30 PM	25.0 hours	d
AKN.75	15 Jul	9:30 PM	to	16 Jul	11:00 PM	25.5 hours	d
AKN.77	16 Jul	11:00 PM	to	21 Jul	9:00 AM	106.0 hours	d
							fall schedule
Naknek Section							
Drift Net							
AKN.01	1 Jun	9:00 AM	to	20 Jun	9:00 AM		b, c
AKN.18	24 Jun	11:00 AM	to	24 Jun	5:00 PM	6.0 hours	
AKN.20	25 Jun	12:00 AM	to	25 Jun	8:00 AM	8.0 hours	
AKN.20	25 Jun	11:30 AM	to	25 Jun	6:00 PM	6.5 hours	
AKN.21	26 Jun	12:00 AM	to	26 Jun	9:00 AM	9.0 hours	
AKN.21	26 Jun	11:30 AM	to	26 Jun	6:30 PM	7.0 hours	
AKN.25	27 Jun	12:30 AM	to	27 Jun	9:30 AM	9.0 hours	
AKN.25	27 Jun	12:30 PM	to	27 Jun	7:30 PM	7.0 hours	
AKN.27	28 Jun	1:00 PM	to	28 Jun	8:30 PM	7.5 hours	
AKN.30	29 Jun	2:00 PM	to	29 Jun	9:30 PM	7.5 hours	
AKN.32	30 Jun	3:00 PM	to	30 Jun	11:00 PM	8.0 hours	
AKN.35	1 Jul	3:30 AM	to	1 Jul	12:30 PM	9.0 hours	
AKN.36	1 Jul	4:00 PM	to	1 Jul	11:00 PM	7.0 hours	
AKN.38	2 Jul	4:30 PM	to	3 Jul	12:00 AM	7.5 hours	

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Table 6.–Page 3 of 6.

Number	Start date	Start time		End date	End time	Effective time	
AKN.41	3 Jul	5:30 PM	to	4 Jul	1:00 AM	7.5 hours	
AKN.45	4 Jul	7:00 PM	to	5 Jul	2:00 AM	7.0 hours	
AKN.74	15 Jul	3:00 AM	to	15 Jul	10:30 AM	7.5 hours	
AKN.75	16 Jul	3:30 AM	to	16 Jul	11:30 AM	8.0 hours	
Egegik District							
Drift Net							
AKN.02	2 Jun	9:00 AM	to	13 Jun	9:00 AM		c, e
AKN.06	16 Jun	2:30 PM	to	16 Jun	6:30 PM	4.0 hours	
AKN.07	17 Jun	3:30 PM	to	17 Jun	7:30 PM	4.0 hours	
AKN.10	20 Jun	7:30 AM	to	20 Jun	12:30 PM	5.0 hours	
AKN.14	23 Jun	8:30 AM	to	23 Jun	10:30 PM	2.0 hours	
AKN.15	23 Jun	10:30 AM	to	23 Jun	12:30 PM	2.0 hours	d
AKN.19	25 Jun	10:00 AM	to	25 Jun	4:00 PM	6.0 hours	
AKN.22	26 Jun	10:30 AM	to	26 Jun	5:30 PM	7.0 hours	
AKN.24	26 Jun	5:30PM	to	26 Jun	10:30PM	5.0 hours	d
AKN.24	27 Jun	11:30 AM	to	27 Jun	6:30 PM	7.0 hours	
AKN.26	27 Jun	6:30 PM	to	27 Jun	9:30 PM	3.0 hours	d
AKN.26	28 Jun	8:00 AM	to	28 Jun	7:00 PM	11 hours	
AKN.28	29 Jun	2:00 PM	to	29 Jun	8:00 PM	6.0 hours	
AKN.34	30 Jun	3:00 PM	to	30 Jun	8:00 PM	5.0 hours	
AKN.40	2 Jul	4:30 PM	to	2 Jul	8:30 PM	4.0 hours	
AKN.42	2 Jul	8:30 PM	to	2 Jul	10:30 PM	2.0 hours	d
AKN.43	4 Jul	5:00 AM	to	4 Jul	9:00 AM	4.0 hours	
AKN.46	4 Jul	9:00 AM	to	4 Jul	10:30 AM	1.5 hours	d
AKN.46	4 Jul	6:00 PM	to	4 Jul	11:59 PM	6.0 hours	
AKN.46	5 Jul	5:30 AM	to	5 Jul	1:30 PM	8.0 hours	
AKN.49	5 Jul	4:30 PM	to	6 Jul	2:30 AM	10.0 hours	
AKN.49	6 Jul	5:30 AM	to	6 Jul	3:30 PM	10.0 hours	
AKN.52	6 Jul	6:30 PM	to	7 Jul	3:30 AM	9.0 hours	a
AKN.52	7 Jul	6:00 AM	to	7 Jul	3:00 PM	9.0 hours	
AKN.55	7 Jul	7:00 PM	to	8 Jul	2:00 AM	7.0 hours	
AKN.55	8 Jul	6:30 AM	to	8 Jul	2:30 PM	8.0 hours	
AKN.58	8 Jul	8:30 PM	to	9 Jul	3:30 AM	7.0 hours	
AKN.58	9 Jul	8:00 AM	to	9 Jul	3:00 PM	7.0 hours	
AKN.61	9 Jul	9:00 PM	to	10 Jul	4:00 AM	7.0 hours	
AKN.61	10 Jul	9:00 AM	to	10 Jul	4:00 PM	7.0 hours	
AKN.64	10 Jul	10:30 PM	to	11 Jul	5:30 AM	7.0 hours	

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Table 6.–Page 4 of 6.

Number	Start date	Start time		End date	End time	Effective time	
AKN.64	11 Jul	10:00 AM	to	11 Jul	5:00 PM	7.0 hours	
AKN.67	11 Jul	11:00 PM	to	12 Jul	6:00 AM	7.0 hours	
AKN.67	12 Jul	10:00 AM	to	12 Jul	5:00 PM	7.0 hours	
AKN.70	13 Jul	12:01 AM	to	13 Jul	7:00 AM	7.0 hours	
AKN.70	13 Jul	12:00 PM	to	13 Jul	7:00 PM	7.0 hours	
AKN.73	14 Jul	12:01 AM	to	28 Jul	9:00 AM	345.0 hours	[e]
Set Net							
AKN.02	2 Jun	9:00 AM	to	13 Jun	9:00 AM		[e, c]
AKN.06	16 Jun	2:15 PM	to	16 Jun	10:15 PM	8.0 hours	
AKN.07	17 Jun	3:15 PM	to	17 Jun	11:15 PM	8.0 hours	
AKN.12	21 Jun	6:00 AM	to	21 Jun	2:00 PM	8.0 hours	
AKN.14	23 Jun	8:00 AM	to	23 Jun	4:00 PM	8.0 hours	
AKN.19	25 Jun	9:45 AM	to	25 Jun	5:45 PM	8.0 hours	
AKN.22	26 Jun	10:15 AM	to	26 Jun	6:15 PM	8.0 hours	
AKN.24	27 Jun	11:15 AM	to	27 Jun	7:15 PM	8.0 hours	
AKN.26	28 Jun	12:01 AM	to	28 Jun	11:00 PM	11.0 hours	
AKN.28	29 Jun	1:00 PM	to	29 Jun	9:00 PM	8.0 hours	
AKN.31	30 Jun	1:30 AM	to	30 Jun	9:30 AM	8.0 hours	
AKN.31	30 Jun	2:00 PM	to	30 Jun	10:30 PM	8.0 hours	
AKN.34	1 Jul	1:45 AM	to	1 Jul	9:45 PM	8.0 hours	
AKN.34	1 Jul	2:30 PM	to	1 Jul	10:30 PM	8.0 hours	
AKN.37	2 Jul	3:15 AM	to	2 Jul	11:15 PM	8.0 hours	
AKN.37	2 Jul	4:00 PM	to	2 Jul	11:59 PM	8.0 hours	
AKN.40	3 Jul	3:15 AM	to	3 Jul	11:15 AM	8.0 hours	
AKN.40	3 Jul	4:00 PM	to	3 Jul	11:59 PM	8.0 hours	
AKN.43	4 Jul	4:00 AM	to	4 Jul	12:00 AM	8.0 hours	
AKN.46	4 Jul	5:00 PM	to	5 Jul	1:00 AM	8.0 hours	
AKN.46	5 Jul	4:30 AM	to	5 Jul	12:30 PM	8.0 hours	
AKN.49	5 Jul	5:30 PM	to	6 Jul	1:30 AM	8.0 hours	
AKN.49	6 Jul	5:00 AM	to	6 Jul	1:00 PM	8.0 hours	
AKN.52	6 Jul	6:15 PM	to	7 Jul	2:15 AM	8.0 hours	[a]
AKN.52	7 Jul	5:45 AM	to	7 Jul	1:45 PM	8.0 hours	
AKN.55	7 Jul	7:00 PM	to	8 Jul	3:00 AM	8.0 hours	
AKN.55	8 Jul	6:30 AM	to	8 Jul	2:30 PM	8.0 hours	
AKN.58	8 Jul	8:00 PM	to	9 Jul	4:30 AM	8.0 hours	
AKN.58	9 Jul	7:30 AM	to	9 Jul	3:30 PM	8.0 hours	
AKN.61	9 Jul	8:30 PM	to	10 Jul	4:30 AM	8.0 hours	
AKN.61	10 Jul	8:30 AM	to	10 Jul	4:30 PM	8.0 hours	

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Table 6.–Page 5 of 6.

Number	Start date	Start time		End date	End time	Effective time	
AKN.64	10 Jul	10:00 PM	to	11 Jul	6:00 AM	8.0 hours	
AKN.64	11 Jul	9:30 AM	to	11 Jul	5:30 PM	8.0 hours	
AKN.67	11 Jul	10:45 PM	to	12 Jul	6:45 AM	8.0 hours	
AKN.67	12 Jul	9:45 AM	to	12 Jul	5:45 PM	8.0 hours	
AKN.70	12 Jul	11:30 PM	to	13 Jul	7:30 AM	8.0 hours	
AKN.70	13 Jul	11:30 AM	to	13 Jul	7:30 PM	8.0 hours	
AKN.73	14 Jul	12:01 AM	to	28 Jul	9:00 AM	345.0 hours	d
Ugashik District							
Drift Net							
AKN.03	2 Jun	9:00 AM	to	13 Jun	9:00 AM		b,c
AKN.29	29 Jun	11:30 AM	to	29 Jun	11:30 PM	12.0 hours	
AKN.33	1 Jul	1:00 PM	to	1 Jul	11:59 PM	10.0 hours	
AKN.39	2 Jul	4:00 AM	to	2 Jul	4:00 PM	12.0 hours	
AKN.44	4 Jul	5:00 AM	to	4 Jul	9:00 AM	4.0 hours	
AKN.48	5 Jul	5:00 AM	to	5 Jul	12:00 PM	7.0 hours	
AKN.53	7 Jul	8:00 AM	to	7 Jul	3:00 PM	7.0 hours	
AKN.56	8 Jul	7:00 AM	to	8 Jul	2:00 PM	7.0 hours	
AKN.59	9 Jul	8:00 AM	to	9 Jul	3:00 PM	7.0 hours	
AKN.62	10 Jul	7:00 AM	to	10 Jul	7:00 PM	12.0 hours	
AKN.65	10 Jul	7:00 PM	to	10 Jul	10:00 PM	3.0 hours	d
AKN.65	11 Jul	8:00 AM	to	11 Jul	8:00 PM	12.0 hours	
AKN.68	11 Jul	8:00 PM	to	11 Jul	11:00 PM	3.0 hours	d
AKN.68	12 Jul	9:00 AM	to	12 Jul	9:00 PM	12.0 hours	
AKN.71	13 Jul	11:00 AM	to	13 Jul	7:00 PM	8.0 hours	
AKN.76	15 Jul	4:00 PM	to	15 Jul	8:00 PM	4.0 hours	
AKN.78	17 Jul	9:00 AM	to	28 Jul	9:00 AM	250.0 hours	d
Set Net							
AKN.03	2 Jun	9:00 AM	to	13 Jun	9:00 AM		b, c
AKN.13	22 Jun	5:30 AM	to	22 Jun	5:00 PM	12.0 hours	
AKN.23	26 Jun	9:00 AM	to	26 Jun	6:00 PM	9.0 hours	
AKN.29	29 Jun	11:30 AM	to	29 Jun	11:30 PM	12.0 hours	
AKN.33	1 Jul	1:00 PM	to	1 Jul	11:59 PM	10.0 hours	
AKN.39	2 Jul	4:00 AM	to	2 Jul	4:00 PM	12.0 hours	
AKN.44	4 Jul	2:00 AM	to	4 Jul	2:00 PM	12.0 hours	
AKN.56	8 Jul	5:00 AM	to	8 Jul	5:00 PM	12.0 hours	
AKN.59	9 Jul	6:00 AM	to	9 Jul	6:00 PM	12.0 hours	
AKN.62	10 Jul	7:00 AM	to	10 Jul	4:00 PM	8.0 hours	

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Table 6.–Page 6 of 6.

Number	Start date	Start time		End date	End time	Effective time	
AKN.65	11 Jul	8:00 AM	to	11 Jul	8:00 PM	12.0 hours	
AKN.68	12 Jul	9:00 AM	to	12 Jul	6:00 PM	9.0 hours	
AKN.71	13 Jul	10:00 AM	to	13 Jul	8:00 PM	10.0 hours	
AKN.78	17 Jul	9:00 AM	to	28 Jul	9:00 AM	258.0 hours	[d]

[a] Midpoint of escapement reached, transfer waiting period waived.

[b] Weekly schedule: 9:00 AM Monday until 9:00 AM Friday.

[c] Gillnet mesh size is restricted to 5.5 inches or less.

[d] Extends current fishing period.

[e] Weekly schedule: 9:00 AM Monday to 9:00 AM Wednesday, and 9:00 AM Thursday to 9:00 AM Friday.

Table 7.–Commercial salmon catch by date and species, in numbers of fish, Naknek-Kvichak District; Bristol Bay, 2014.

	Hours fished		Deliveries							
Date	Drift	Set	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/9 [a]	15	15								
6/10 [a,b]	24	24	1	1						
6/11 [a,b]	24	24	1	1						
6/12 [a,b]	24	24	1	2						
6/13 [a,b]	9	9	3							
6/16 [a]	6	15	149	32	6,155	2	68	0	0	6,225
6/17 [a]	14	24	277	121	43,767	36	229	0	0	44,032
6/18 [a]	13	24	529	123	69,206	39	474	0	0	69,719
6/19 [a]	12	24	598	118	30,875	10	191	0	0	31,076
6/20 [a]	1	9	3	29	811	0	2	0	0	813
6/24 [a]	7	8	579	420	273,766	22	499	0	0	274,287
6/25 [a]	14.5	16.5	799	353	585,119	35	1,488	0	0	586,642
6/26 [a]	16	18.5	819	525	676,372	71	2,405	0	0	678,848
6/27 [a]	16	19	894	681	1,136,933	77	2,836	0	0	1,139,846
6/28 [a]	7.5	7.5	480	402	723,834	4	1,186	0	0	725,024
6/29 [a]	7.5	7	458	363	385,257	22	709	0	0	385,988
6/30	8	7	497	360	733,533	13	2,119	0	0	735,665
7/1 [a]	16	19.5	872	407	657,656	37	1,117	0	0	658,810
7/2 [c]	16.5	20	990	467	908,217	51	2,442	0	0	910,710
7/3 [c]	13.5	24	1,093	528	1,166,646	75	2,345	0	0	1,169,066
7/4	13.5	24	1,107	532	1,186,796	73	3,549	0	0	1,190,418
7/5	13.5	24	1,137	600	947,074	100	3,978	0	0	951,152
7/6	13.5	24	1,119	457	491,902	77	3,219	0	0	495,198
7/7	13.5	24	997	338	480,939	48	2,630	0	0	483,617
7/8	14.5	24	1,127	482	644,762	103	3,222	0	0	648,087
7/9	14.5	24	1,142	396	744,925	61	4,793	1	0	749,780
7/10	14	24	1,003	432	358,399	72	4,149	0	0	362,620
7/11	13.5	24	756	334	299,536	68	4,757	0	0	304,361
7/12	14	24	911	422	649,416	96	13,987	0	0	663,499
7/13	14	24	923	359	273,573	70	7,977	0	0	281,620
7/14	14.5	24	820	311	184,084	64	6,692	0	0	190,840
7/15 [c]	13.5	24	421	250	52,587	49	1,876	0	0	54,512
7/16 [c]	14.5	24	213	174	29,220	50	1,013	3	5	30,291
7/17	19.5	24	140	124	23,417	24	1,097	39	5	24,582

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Table 7.–Page 2 of 2.

Date	Hours fished Drift	Hours fished Set	Deliveries Drift	Deliveries Set	Sockeye	Chinook	Chum	Pink	Coho	Total
7/19	24	24	24	26	4,987	5	235	76	6	5,309
7/20	24	24	15	12	3,538	8	812	115	5	4,478
7/21	24	24	17	24	3,993	14	924	108	1	5,040
7/22	24	24	12	26	2,844	14	1,392	239	1	4,490
7/23	24	24	6	15	1,264	19	1,042	657	5	2,987
7/24	24	24		9	303	3	55	150	4	515
7/25 [b]	9	9	1	2						
7/28 [b]	15	15		2						
7/29 [b]	24	24		3						
7/30 [b]	24	24		2						
7/31 [b]	24	24		3						
8/1	9	9								
8/4	15	15								
8/5	24	24		4						
8/6	24	24		1						
8/7 [b]	24	24		1						
8/8 [b]	9	9		1						
8/11 [b]	15	15		1						
8/12 [b]	24	24		2						
8/13 [b]	24	24		2						
8/14 [b]	24	24								
Total			21,004	10,329	13,791,057	1,526	87,188	7,435	618	13,887,824

Note: Unless otherwise noted, blank cells represent days with no data.

[a] Fishery was restricted to the Naknek Section only for drift gillnet gear.

[b] Fewer than 4 permits; records are confidential.

[c] Fishery was restricted to the Naknek Section only for drift gillnet gear during 1 of 2 periods.

Table 8.–Daily sockeye salmon escapement tower counts by river system, eastside Bristol Bay, 2014.

	Kvichak River		Naknek River		Egegik River		Ugashik River	
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
6/13					744	744		
6/14			468	468	3,816	4,560		
6/15			696	1,164	1,578	6,138		
6/16	48	48	366	1,530	450	6,588		
6/17	246	294	138	1,668	1,728	8,316		
6/18	150	444	960	2,628	3,672	11,988		
6/19	132	576	4,818	7,446	6,546	18,534		
6/20	504	1,080	2,712	10,158	19,020	37,554		
6/21	918	1,998	2,160	12,318	12,390	49,944		
6/22	342	2,340	26,310	38,628	23,232	73,176		
6/23	672	3,012	101,538	140,166	76,752	149,928		
6/24	5,508	8,520	132,360	272,526	64,134	214,062		
6/25	70,014	78,534	31,542	304,068	25,020	239,082		
6/26	181,032	259,566	48,798	352,866	55,992	295,074		
6/27	208,548	468,114	68,844	421,710	255,594	550,668	186	186
6/28	146,484	614,598	146,340	568,050	59,868	610,536	2,514	2,700
6/29	236,292	850,890	220,260	788,310	82,866	693,402	2,694	5,394
6/30	487,236	1,338,126	140,940	929,250	103,500	796,902	17,622	23,016
7/01	560,844	1,898,970	73,764	1,003,014	44,718	841,620	43,572	66,588
7/02	643,110	2,542,080	16,092	1,019,106	29,904	871,524	58,434	125,022
7/03	481,890	3,023,970	25,560	1,044,666	54,282	925,806	38,364	163,386
7/04	269,208	3,293,178	33,798	1,078,464	140,862	1,066,668	36,954	200,340
7/05	150,894	3,444,072	51,420	1,129,884	116,454	1,183,122	43,986	244,326
7/06	183,108	3,627,180	75,366	1,205,250	56,892	1,240,014	41,334	285,660
7/07	175,422	3,802,602	23,406	1,228,656	15,090	1,255,104	34,536	320,196
7/08	107,208	3,909,810	29,718	1,258,374	17,994	1,273,098	41,922	362,118
7/09	46,506	3,956,316	30,756	1,289,130	14,358	1,287,456	26,244	388,362
7/10	90,108	4,046,424	43,440	1,332,570	27,966	1,315,422	23,682	412,044
7/11	75,072	4,121,496	24,996	1,357,566	24,522	1,339,944	27,090	439,134
7/12	78,036	4,199,532	31,752	1,389,318	6,336	1,346,280	21,192	460,326
7/13	16,848	4,216,380	36,312	1,425,630	13,842	1,360,122	16,458	476,784
7/14	67,704	4,284,084	22,734	1,448,364	13,146	1,373,268	9,492	486,276
7/15	105,000	4,389,084	12,354	1,460,718	3,312	1,376,580	14,268	500,544
7/16	45,726	4,434,810	7,356	1,468,074	5,886	1,382,466	16,200	516,744
7/17	17,736	4,452,546	6,354	1,474,428			16,056	532,800
7/18	5,994	4,458,540					15,528	548,328
7/19							11,526	559,854
7/20							16,440	576,294
7/21							11,676	587,970
7/22							19,236	607,206
7/23							5,280	612,486
7/24							4,986	617,472
7/25							13,374	630,846
7/26							9,312	640,158

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

Table 9.–Comparison of daily sockeye salmon escapement estimates by tower count, aerial survey estimate and river test fishing enumeration methods, Kvichak River, Bristol Bay, 2014.

	Tower count		River test fishing				
				Index points			
Date	Daily	Cum	Fish per index point [a]	Daily	Cum	Cumulative escapement	Estimated river fish [b]
6/16	48	48					
6/17	246	294					
6/18	150	444					
6/19	132	576					
6/20	504	1,080					
6/21	918	1,998	100	0	0	0	
6/22	342	2,340	100	23	23	2,300	
6/23	672	3,012	100	378	401	40,100	
6/24	5,508	8,520	100	1,573	1,974	197,400	
6/25	70,014	78,534	100	2,735	4,709	470,900	150,000
6/26	181,032	259,566	100	978	5,687	568,700	250,000
6/27	208,548	468,114	99	964	6,651	658,449	300,000
6/28	146,484	614,598	108	1,788	8,439	911,412	200,000
6/29	236,292	850,890	115	4,566	13,005	1,495,575	250,000
6/30	487,236	1,338,126	131	4,714	17,719	2,321,189	650,000
7/01	560,844	1,898,970	131	2,320	20,039	2,625,109	800,000
7/02	643,110	2,542,080	135	219	20,258	2,734,830	700,000
7/03	481,890	3,023,970	153	106	20,364	3,115,692	200,000
7/04	269,208	3,293,178	166	310	20,674	3,431,884	100,000
7/05	150,894	3,444,072	167	2,769	23,443	3,914,981	150,000
7/06	183,108	3,627,180					500,000
7/07	175,422	3,802,602					
7/08	107,208	3,909,810					
7/09	46,506	3,956,316					
7/10	90,108	4,046,424					
7/11	75,072	4,121,496					
7/12	78,036	4,199,532					
7/13	16,848	4,216,380					
7/14	67,704	4,284,084					
7/15	105,000	4,389,084					
7/16	45,726	4,434,810					
7/17	17,736	4,452,546					
7/18	5,994	4,458,540					

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

[a] The FPI used to estimate the daily ERFs prior to using lag time relationships was calculated using the 5-year average of median FPIs. This method was used through June 27 when FPIs were based on lag time relationships.

[b] Estimated river fish (ERF) was based on the river test fishery cumulative escapement estimate less the cumulative tower count. On occasion, ADF&G staff adjusted the ERF based on catchability and other factors.

Table 10.–Commercial salmon catch by date and species, in numbers of fish, Egegik District, Bristol Bay, 2014.

	Hours fished		Deliveries							
Date	Drift	Set	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/2	15	15	1	5	33	1				34
6/3	24	24	2	12	2008	2	5			2,015
6/4	9	9								0
6/5	15	15	4	12	254	1	5			260
6/6 [a]	9	9		3						
6/7										0
6/8										0
6/9	15	15	51	29	1,650	13	102			1,765
6/10	24	24	53	61	3,486	13	105			3,604
6/11	9	9	10	21	641	4	17			662
6/12	15	15	128	79	10,584	11	179			10,774
6/13	9	9	15	16	1,780		9			1,789
6/14										0
6/15										0
6/16	4	8	410	130	36,980	9	487			37,476
6/17	4	8	335	106	50,529	3	598			51,130
6/18										0
6/19 [a]			1							
6/20 [a]			1							
6/21		8	1	154	10,447	3	131			10,581
6/22 [a]			1							
6/23	4	8	524	211	74,366	41	549			74,956
6/24 [a]			1							
6/25	6	8	379	190	322,625	21	918			323,564
6/26	12	8	553	246	835,758	39	1,232			837,029
6/27	10	8	440	229	674,733	21	1,894			676,648
6/28	11	23	396	309	673,454	16	991			674,461
6/29	6	8	377	244	246,987	16	451			247,454
6/30	5	16	355	316	171,580	14	332			171,926
7/1		16	1	263	20,326	7	142			20,475
7/2	6	16	326	267	372,695	14	568			373,277
7/3		16	2	319	69,104	2	206			69,312
7/4	11.5	15	623	386	462,813	12	1,085			463,910
7/5	15.5	15.5	591	273	484,804	5	1,528			486,337
7/6	17.5	15.25	584	247	251,517	6	794			252,317

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Date	Hours fished		Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set	Drift	Set						
7/7	19.5	15.3	510	255	315,242	9	1,197			316,448
7/8	13.5	15	565	286	440,069	12	1,176			441,257
7/9	13.5	15.5	494	184	208,725	5	1,697			210,427
7/10	14	14.5	425	187	207,612	2	1,859			209,473
7/11	13.5	15.25	469	214	317,774	5	2,553			320,332
7/12	13	15	337	214	158,770	1	1,635			160,406
7/13	14	15.5	390	224	158,456	4	2944			161,404
7/14	24	24	276	182	102,989	1	1394			104,384
7/15	24	24	166	164	66,820		839			67,659
7/16	24	24	221	111	66,565	1	1098			67,664
7/17	24	24	123	98	27,675		395	2		28,072
7/18	24	24	101	45	26,875	1	575	3		27,454
7/19	24	24	39	12	7,604	1	261	2		7,868
7/20	24	24	27	13	4,451		152			4,603
7/21	24	24	17	11	4,943	1	278			5,222
7/22	24	24	17	10	3,835		235			4,070
7/23	24	24	11	11	2,723		124			2,847
7/24	24	24	12	9	3,779		171			3,950
7/25	24	24	9	12	2,895		161			3,056
7/26	24	24	12	9	3,179		263	284		3,726
7/27	24	24	11	11	2,719		274	614	187	3,794
7/28	24	24	12	8	2,615		147	534	300	3,596
7/29	24	24	9	11	3316		265	753	349	4,683
7/30	24	24	16	10	2796		386	1226	530	4,938
7/31	24	24	9	9	2434		289	1197	446	4,366
8/1	9	9	3	6	411		54	220	80	765
8/2										0
8/3										0
8/4	15	15	10	6	1185		164		525	1,874
8/5	24	24	8	7	957		128		363	1,448
8/6 [a]	24	24	1	1						
8/7 [a]	24	24	1	1						
8/8	9	9								0
8/9										0
8/10										0
8/11 [a]	15	15	1	1						

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Date	Hours fished			Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set		Drift	Set						
8/12 [a]	24	24		1	1						
8/13 [a]	24	24		1	1						
8/14 [a]	24	24		1	1						
8/15	9	9									0
8/16											0
8/17											0
8/18 [a]	15	15		1	1						
8/19 [a]	24	24		1	1						
8/20 [a]	24	24		1	1						
8/21 [a]	24	24		1	1						
8/22	9	9									0
8/23											0
8/24											0
8/25 [a]	15	15		1	1						
8/26 [a]	24	24		1	1						
8/27 [a]	24	24		1	1						
8/28 [a]	24	24		1	1						
Totals	1,174	1,263	0	10,478	6,461	6,928,350	318	33,173	4,835	11,473	6,978,149

Note: Blank cells indicate no data.

[a] Fewer than 4 permits; records are confidential.

Table 11.–Comparison of daily sockeye salmon escapement estimates by tower count and river test fishing enumeration methods, Egegik River, Bristol Bay, 2014.

	Tower count		River test fishing				
				Index points			
Date	Daily	Cum	Fish per index point [a]	Daily	Cum	Estimated cumulative escapement	Estimated river fish [b]
6/13	744	744					
6/14	3,816	4,560					
6/15	1,578	6,138					
6/16	450	6,588					
6/17	1,728	8,316	66	59	59	3,921	
6/18	3,672	11,988	66	211	270	17,828	6,000
6/19	6,546	18,534	66	151	421	27,939	10,000
6/20	19,020	37,554	66	214	635	41,904	10,000
6/21	12,390	49,944	99	131	766	75,820	30,000
6/22	23,232	73,176	105	685	1,451	152,304	20,000
6/23	76,752	149,928	103	264	1,714	176,555	70,000
6/24	64,134	214,062	137	391	2,105	288,432	25,000
6/25	25,020	239,082	127	589	2,694	342,127	70,000
6/26	55,992	295,074	110	2,073	4,767	524,359	100,000
6/27	255,594	550,668	118	304	5,071	598,342	250,000
6/28	59,868	610,536	120	522	5,593	671,132	50,000
6/29	82,866	693,402	124	1,211	6,804	843,677	70,000
6/30	103,500	796,902	117	434	7,237	846,787	100,000
7/1	44,718	841,620	116	228	7,465	865,942	50,000
7/2	29,904	871,524	117	245	7,710	902,099	25,000
7/3	54,282	925,806	124	146	7,856	974,151	25,000
7/4	140,862	1,066,668	147	841	8,697	1,278,489	50,000
7/5	116,454	1,183,122	136	537	9,234	1,255,834	200,000
7/6	56,892	1,240,014	136	72	9,306	1,265,637	80,000
7/7	15,090	1,255,104	135	237	9,543	1,288,293	20,000
7/8	17,994	1,273,098	133	134	9,677	1,287,046	25,000
7/9	14,358	1,287,456	133	136	9,813	1,305,171	15,000
7/10	27,966	1,315,422	134	276	10,089	1,351,914	15,000
7/11	24,522	1,339,944	133	171	10,260	1,364,618	25,000
7/12	6,336	1,346,280					20,000
7/13	13,842	1,360,122					
7/14	13,146	1,373,268					
7/15	3,312	1,376,580					
7/16	5,886	1,382,466					

Note: Blank cells indicate no data.

[a] The FPI used to estimate the daily ERFs prior to using lag time relationships was calculated using the 2009–2013 mean of median FPIs. This method was used Until June 21 when FPIs were based on lag time relationships.

[b] Estimated river fish (ERF) was based on the river test fishery cumulative escapement estimate less the cumulative tower count. On occasion, ADF&G staff adjusted the ERF based on catchability and other factors.

Table 12.–Inshore run of sockeye salmon by age class, river system, and district, in thousands of fish, Bristol Bay, 2014.

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	5,484	6,787	12,271	745	346	1,091	23	13,385
	Percent	40.7	50.3	91.0	5.5	2.6	8.1	0.2	99.3
Alagnak River									
	Number	477	135	612	246	35	281	3	896
	Percent	53.2	15.0	68.2	27.4	4.0	31.4	0.3	99.9
Naknek River									
	Number	3,498	394	3,892	890	638	1,528	8	5,428
	Percent	63.1	7.1	70.2	16.1	11.5	27.6	0.1	97.9
Total	Number	9,459	7,316	16,775	1,881	1,019	2,900	34	19,709
	Percent	47.5	36.7	84.2	9.4	5.1	14.5	0.2	98.9
Egegik District									
	Number	983	4,848	5,831	752	1,351	2,103	2	7,936
	Percent	11.8	58.3	70.1	9.1	16.3	25.4	0.0	95.6
Ugashik District									
	Number	930	592	1,522	458	79	537	3	2,062
	Percent	43.3	27.6	70.9	21.3	3.7	25.0	0.1	96.0
Nushagak District									
Wood River									
	Number	4,959	223	5,182	2,219	81	2,300	20	7,502
	Percent	65.9	3.0	68.9	29.5	1.1	30.6	0.3	99.8
Igushik River									
	Number	425	48	473	475	43	518	2	993
	Percent	42.8	4.8	47.6	47.8	4.3	52.1	0.2	99.9
Nushagak River									
	Number	214	5	219	1,273	14	1,287	144	1,650
	Percent	12.9	0.3	13.2	76.8	0.8	77.6	8.7	99.5
Total	Number	5,598	276	5,874	3,967	138	4,105	166	10,145
	Percent	55.0	2.7	57.7	38.9	1.4	56.2	1.6	115.5
Togiak District [c]									
	Number	407	29	436	407	9	416	3	855
	Percent	24.4	4.9	29.3	68.3	1.6	69.9	0.5	99.7
Total Bristol Bay [d]									
	Number	17,377	13,061	30,438	7,465	2,596	10,061	208	40,707
	Percent	41.6	31.7	73.3	18.1	6.3	24.4	0.5	98.2

[a] Does not include the South Peninsula catch of Bristol Bay sockeye salmon or immature high seas bycatch.

[b] Totals do not include minor age classes, therefore totals are greater than the sum of age classes listed.

[c] Does not include rivers other than Togiak River.

[d] Totals may not equal column sums due to rounding.

Table 13.–Daily district registration of drift gillnet permit holders by district, Bristol Bay, 2014.

Date	Naknek-Kvichak		Egegik		Ugashik		Nushagak		Togiak[a]	Total
	Total	Dual	Total	Dual	Total	Dual	Total	Dual	Total	
6/25	557	95	452	80	17	1	586	119	57	1,669
6/26	566	95	459	83	20	1	584	118	59	1,688
6/27	573	96	462	85	19	1	590	119	59	1,703
6/28	581	98	462	85	20	1	558	109	59	1,680
6/29	581	97	449	84	22	1	537	105	60	1,649
6/30	604	104	423	76	22	1	456	79	61	1,566
7/01	617	105	390	65	38	5	432	74	61	1,538
7/02	702	133	390	65	80	15	419	72	61	1,652
7/03	737	142	376	65	110	25	407	67	61	1,691
7/04	749	143	376	65	110	25	402	67	61	1,698
7/05	773	147	375	65	109	24	401	67	62	1,720
7/06	807	152	373	69	111	24	365	57	62	1,718
7/07	852	166	320	56	113	25	359	55	63	1,707
7/08	812	155	369	69	131	29	344	52	65	1,721
7/09	839	162	345	65	143	29	318	44	66	1,711
7/10	841	155	335	66	150	31	285	37	66	1,677
7/11	785	143	341	70	168	34	261	34	69	1,624
7/12	806	148	322	70	205	44	255	34	69	1,657
7/13	840	156	314	68	252	47	248	31	70	1,724
7/14	872	162	293	62	241	45	250	31	70	1,726
7/15	875	160	297	66	227	41	251	32	71	1,721
7/16	876	159	299	66	229	42	253	32	71	1,728
Average	738	135	374	70	115	22	389	65	64	1,680

Note: Total permit sum includes dual boat registrations.

[a] Dual boat registration is not permitted by regulation in Togiak District.

Table 14.–Commercial salmon catch by date and species, in numbers of fish, Ugashik District, Bristol Bay, 2014.

Date	Hours fished		Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set	Drift	Set						
6/2	15	15								0
6/3 [a]	24	24	1							
6/4	24	24								0
6/5	24	24								0
6/6	9	9								0
6/7										0
6/8										0
6/9	15	15	24		1,113	2	36			1,151
6/10	24	24	17		974	3	20			997
6/11	24	24	19		893	8	20			921
6/12	24	24	16		889	7	48			944
6/13 [a]	9	9	2							
6/14										0
6/15										0
6/16										0
6/17										0
6/18										0
6/19										0
6/20										0
6/21										0
6/22		12		14	661					661
6/23										0
6/24										0
6/25										0
6/26		9		42	5,630	6				5,636
6/27										0
6/28 [a]			1							
6/29	12	12	39	67	66,311	5	652			66,968
6/30 [a]			2							
7/1	11	11	37	84	93,194	6	207			93,407
7/2	12	12	52	53	73,009	4	306			73,319
7/3 [a]			2							
7/4	4	12	83	74	61,151	1	352			61,504
7/5	7	12	86	64	101,111	3	739			101,853
7/6 [a]			1							
7/7	7		84		90,626		589			91,215
7/8	7	12	74	64	86,485		445			86,930
7/9	7	12	115	61	149,474	1	887			150,362

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Table 14.–Page 2 of 2.

Date	Hours fished		Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set	Drift	Set						
7/10	15	9	128	59	272,110	2	2,643			274,755
7/11	15	12	135	60	161,848	3	1,512			163,363
7/12	12	9	135	56	68,917	6	1,389			70,312
7/13	8	10	159	41	89,359	1	3,282			92,642
7/14										0
7/15	4		166		41,203	3	1,617			42,823
7/16 [a]			2							
7/17	15	15	156	32	44,296	8	1,411			45,715
7/18	24	24	77	20	24,586	3	679			25,268
7/19	24	24	24	9	9,587	1	478			10,066
7/20	24	24	25	16	11,729	2	603			12,334
7/21	24	24	57	14	19,768		759	2		20,529
7/22 [a]	24	24	2	4						
7/23	24	24	7	3	3,685		141			3,826
7/24	24	24	16	8	8,155	1	305			8,461
7/25	24	24	13	3	5,628		202			5,830
7/26	24	24	7	7	3,937		139			4,076
7/27	24	24		11	2,608				75	2,683
7/28 [a]	24	24								
7/29	24	24		7	1,143				10	1,153
7/30 [a]	24	24	2	1						
7/31 [a]	24	24	2	1						
8/1 [a]	24	24		1						
8/2 [a]	24	24		1						
8/3 [a]	24	24		1						
8/4	24	24								
8/5										
8/6										
8/7 [a]	15	15		2						
8/8 [a]	24	24		2						
8/9 [a]	24	24		2						
Totals	823	846	1,770	885	1,507,440	77	19,677	227	435	1,527,856

Note: Unless otherwise noted, blank cells represent days with no data. Due to rounding, totals may not equal column sums.

[a] Fewer than 4 permits; records are confidential.

Table 15.–Comparison of daily sockeye salmon escapement estimates by tower count and river test fishing enumeration methods, Ugashik River, Bristol Bay, 2014.

	Tower count		River test fishing				
				Index points		Estimated cumulative	Estimated
Date	Daily	Cum	Fish per index point [a]	Daily	Cum	escapement	river fish [b]
6/22			63	8	8		
6/23			63	50	59		
6/24			63	122	180		
6/25			63	34	214	13,476	10,000
6/26			63	61	275	17,328	12,000
6/27	186	186	63	48	323	20,367	12,000
6/28	2,514	2,700	63	198	521	32,832	15,000
6/29	2,694	5,394	63	838	1,359	85,636	30,000
6/30	17,622	23,016	71	1,604	2,963	210,408	80,000
7/1	43,572	66,588	88	1,018	3,981	350,370	200,000
7/2	58,434	125,022	92	501	4,483	412,404	300,000
7/3	38,364	163,386	63	512	4,995	314,681	300,000
7/4	36,954	200,340	58	462	5,457	316,509	150,000
7/5	43,986	244,326	60	291	5,748	344,876	120,000
7/6	41,334	285,660	57	346	6,094	347,366	100,000
7/7	34,536	320,196	64	593	6,687	427,948	70,000
7/8	41,922	362,118	63	326	7,013	441,826	100,000
7/9	26,244	388,362	64	235	7,249	463,905	80,000
7/10	23,682	412,044	63	239	7,488	471,715	60,000
7/11	27,090	439,134	66	362	7,850	518,095	60,000
7/12	21,192	460,326	65	401	8,250	536,281	70,000
7/13	16,458	476,784	62	126	8,377	519,346	70,000
7/14	9,492	486,276	59	317	8,693	512,896	40,000
7/15	14,268	500,544	61	310	9,003	549,212	30,000
7/16	16,200	516,744	59	381	9,385	553,696	40,000
7/17	16,056	532,800	59	341	9,725	573,786	40,000
7/18	15,528	548,328					40,000
7/19	11,526	559,854					
7/20	16,440	576,294					
7/21	11,676	587,970					
7/22	19,236	607,206					
7/23	5,280	612,486					
7/24	4,986	617,472					
7/25	13,374	630,846					
7/26	9,312	640,158					

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

[a] The FPI used to estimate the daily ERFs prior to using lag time relationships was calculated using the 2009–2013 mean of median FPIs. This method was used until June 30 when FPIs were based on lag time relationships.

[b] Estimated river fish (ERF) was based on the river test fishery cumulative escapement estimate less the cumulative tower count. On occasion, ADF&G staff adjusted the ERF based on catchability and other factors.

Table 16.–Daily sockeye salmon escapement tower counts by river system, west side Bristol Bay, 2014.

	Wood River		Igushik River		Togiak River	
Date	Daily	Cum	Daily	Cum	Daily	Cum
6/13	840	840				
6/14	1,968	2,808				
6/15	9,396	12,204				
6/16	3,798	16,002				
6/17	1,752	17,754				
6/18	7,800	25,554	0	0		
6/19	13,866	39,420	0	0		
6/20	8,148	47,568	0	0		
6/21	7,314	54,882	96	96		
6/22	10,500	65,382	60	156		
6/23	8,460	73,842	18	174		
6/24	21,216	95,058	60	234		
6/25	207,522	302,580	114	348		
6/26	583,308	885,888	12	360		
6/27	315,426	1,201,314	540	900		
6/28	160,200	1,361,514	16,488	17,388		
6/29	196,368	1,557,882	27,774	45,162		
6/30	158,508	1,716,390	20,676	65,838		
7/1	119,460	1,835,850	21,636	87,474		
7/2	85,734	1,921,584	16,428	103,902		
7/3	101,052	2,022,636	15,936	119,838	1,542	1,542
7/4	105,660	2,128,296	8,226	128,064	2,412	3,954
7/5	98,532	2,226,828	7,044	135,108	2,070	6,024
7/6	70,344	2,297,172	10,056	145,164	2,124	8,148
7/7	37,728	2,334,900	10,362	155,526	924	9,072
7/8	41,370	2,376,270	8,586	164,112	870	9,942
7/9	33,030	2,409,300	14,982	179,094	1,182	11,124
7/10	30,300	2,439,600	10,470	189,564	3,396	14,520
7/11	40,038	2,479,638	11,094	200,658	3,534	18,054
7/12	57,162	2,536,800	9,726	210,384	1,278	19,332
7/13	25,590	2,562,390	8,214	218,598	1,704	21,036
7/14	30,906	2,593,296	11,964	230,562	1,836	22,872
7/15	61,188	2,654,484	17,628	248,190	1,590	24,462
7/16	40,824	2,695,308	13,428	261,618	7,434	31,896
7/17	39,342	2,734,650	12,042	273,660	15,984	47,880
7/18	20,850	2,755,500	9,534	283,194	8,562	56,442
7/19	9,114	2,764,614	11,940	295,134	11,586	68,028
7/20			10,542	305,676	4,614	72,642
7/21			9,918	315,594	5,562	78,204
7/22			7,482	323,076	7,638	85,842
7/23			9,564	332,640	11,472	97,314
7/24			7,950	340,590	12,138	109,452
7/25					8,238	117,690
7/26					5,570	123,260

-continued-

Table 16.–Page 2 of 2.

	Wood River		Igushik River		Togiak River	
Date	Daily	Cum	Daily	Cum	Daily	Cum
7/27					3,756	127,016
7/28					3,990	131,006
7/29					7,440	138,446
7/30					6,390	144,836
7/31					3,642	148,478
8/1					912	149,390
8/2					1,260	150,650
8/3					1,284	151,934

Note: Blank cells represent days when escapement projects were not in operation.

Table 17.–Final daily and cumulative escapement estimates by species, Nushagak River sonar project, Bristol Bay, 2014.

Date	Chinook		Chum		Sockeye		Pink		Coho		Total	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
6/6	55	55	355	355	172	172	0	0	0	0	582	582
6/7	340	395	917	1,272	387	558	0	0	0	0	1,644	2,226
6/8	541	937	1,276	2,548	505	1,063	0	0	0	0	2,322	4,548
6/9	1,821	2,757	4,102	6,650	264	1,327	0	0	0	0	6,186	10,734
6/10	5,558	8,315	17,680	24,330	1,560	2,887	0	0	0	0	24,798	35,532
6/11	2,892	11,207	7,543	31,873	455	3,342	0	0	0	0	10,890	46,422
6/12	3,077	14,284	7,158	39,031	1,290	4,633	0	0	0	0	11,526	57,948
6/13	2,016	16,301	4,554	43,585	2,178	6,810	0	0	0	0	8,748	66,696
6/14	2,319	18,620	6,664	50,249	3,203	10,013	0	0	0	0	12,186	78,882
6/15	6,127	24,747	35,264	85,513	4,443	14,456	0	0	0	0	45,834	124,716
6/16	1,647	26,394	15,577	101,090	3,524	17,980	0	0	0	0	20,748	145,464
6/17	2,027	28,421	5,140	106,230	1,250	19,231	0	0	0	0	8,418	153,882
6/18	2,629	31,050	8,298	114,528	4,001	23,232	0	0	0	0	14,928	168,810
6/19	4,873	35,924	38,266	152,793	6,937	30,169	0	0	0	0	50,076	218,886
6/20	2,479	38,403	19,068	171,861	2,693	32,862	0	0	0	0	24,240	243,126
6/21	893	39,296	11,546	183,408	7,469	40,331	0	0	0	0	19,908	263,034
6/22	93	39,388	2,774	186,182	5,701	46,032	0	0	0	0	8,568	271,602
6/23	229	39,617	5,673	191,854	5,043	51,075	0	0	0	0	10,944	282,546
6/24	594	40,211	9,301	201,155	23,291	74,366	0	0	0	0	33,186	315,732
6/25	424	40,635	32,330	233,485	37,572	111,938	0	0	0	0	70,326	386,058
6/26	3,351	43,986	48,323	281,808	98,422	210,360	0	0	0	0	150,096	536,154
6/27	2,773	46,759	43,685	325,493	71,148	281,507	0	0	0	0	117,606	653,760
6/28	801	47,560	12,436	337,930	31,456	312,964	0	0	0	0	44,694	698,454
6/29	1,494	49,055	16,415	354,345	30,528	343,492	0	0	0	0	48,438	746,892
6/30	2,294	51,348	8,021	362,366	28,793	372,285	0	0	0	0	39,108	786,000
7/1	3,006	54,354	4,656	367,022	22,608	394,894	0	0	0	0	30,270	816,270
7/2	1,696	56,050	3,976	370,999	21,532	416,426	0	0	0	0	27,204	843,474

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Table 17.–Page 2 of 3.

Date	Chinook		Chum		Sockeye		Pink		Coho		Total	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
7/3	1,258	57,308	15,643	386,641	15,697	432,123	0	0	0	0	32,598	876,072
7/4	189	57,498	5,128	391,769	20,177	452,300	0	0	0	0	25,494	901,566
7/5	408	57,906	6,958	398,727	27,764	480,063	0	0	0	0	35,130	936,696
7/6	1,340	59,246	8,453	407,180	19,007	499,070	0	0	0	0	28,800	965,496
7/7	293	59,539	2,514	409,694	12,901	511,971	0	0	0	0	15,708	981,204
7/8	598	60,137	1,561	411,254	14,347	526,318	0	0	0	0	16,506	997,710
7/9	340	60,478	4,187	415,442	8,360	534,679	0	0	0	0	12,888	1,010,598
7/10	820	61,298	5,610	421,052	10,802	545,480	0	0	0	0	17,232	1,027,830
7/11	780	62,077	8,263	429,315	6,779	552,260	0	0	0	0	15,822	1,043,652
7/12	547	62,624	5,673	434,988	12,855	565,114	0	0	0	0	19,074	1,062,726
7/13	871	63,495	7,401	442,388	16,052	581,167	0	0	0	0	24,324	1,087,050
7/14	1,398	64,893	8,194	450,582	6,014	587,180	0	0	910	910	16,516	1,103,566
7/15	52	64,945	2,745	453,327	5,235	592,415	0	0	1,746	2,656	9,778	1,113,343
7/16	60	65,005	12,104	465,431	1,195	593,610	0	0	1,428	4,084	14,787	1,128,130
7/17	1,929	66,934	9,895	475,325	1,878	595,488	370	370	5,422	9,507	19,494	1,147,624
7/18	1,390	68,324	7,216	482,542	1,357	596,845	154	525	4,278	13,785	14,396	1,162,020
7/19	1,687	70,011	8,618	491,160	1,567	598,412	298	822	5,316	19,101	17,485	1,179,505
7/20	0	70,011	2,662	493,821	2,306	600,718	10,943	11,766	7,033	26,134	22,944	1,202,449
7/21	0	70,011	1,786	495,607	2,883	603,600	13,442	25,207	9,576	35,710	27,686	1,230,135
7/22	0	70,011	1,564	497,170	908	604,509	28,662	53,869	2,244	37,954	33,378	1,263,513
7/23	0	70,011	2,375	499,546	1,601	606,109	41,197	95,067	10,981	48,935	56,154	1,319,667
7/24	472	70,482	3,163	502,709	4,492	610,601	62,924	157,990	12,908	61,842	83,958	1,403,625
7/25	0	70,482	12,831	515,540	1,767	612,369	64,136	222,126	10,552	72,394	89,286	1,492,911
7/26	0	70,482	4,594	520,134	2,474	614,843	89,443	311,569	1,445	73,839	97,956	1,590,867
7/27	0	70,482	5,710	525,844	3,634	618,477	133,684	445,253	0	73,839	143,028	1,733,895
7/28	0	70,482	4,489	530,333	0	618,477	162,949	608,202	4,468	78,307	171,906	1,905,801

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Table 17.–Page 3 of 3.

Date	Chinook		Chum		Sockeye		Pink		Coho		Total	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
7/29	0	70,482	8,987	539,320	0	618,477	209,865	818,067	28,157	106,464	247,008	2,152,809
7/30	0	70,482	1,659	540,978	0	618,477	192,118	1,010,185	29,555	136,019	223,332	2,376,141
7/31	0	70,482	0	540,978	0	618,477	238,540	1,248,726	24,230	160,248	262,770	2,638,911
8/1	0	70,482	11,787	552,765	0	618,477	169,878	1,418,604	71,486	231,735	253,151	2,892,062
8/2	0	70,482	0	552,765	0	618,477	163,260	1,581,863	35,429	267,164	198,689	3,090,751
8/3	0	70,482	0	552,765	0	618,477	164,188	1,746,051	20,071	287,235	184,259	3,275,010
8/4	0	70,482	0	552,765	0	618,477	102,761	1,848,812	9,456	296,690	112,217	3,387,226
8/5	0	70,482	0	552,765	0	618,477	98,259	1,947,071	5,240	301,930	103,499	3,490,725
8/6	0	70,482	0	552,765	0	618,477	78,528	2,025,599	17,117	319,047	95,644	3,586,370
8/7	0	70,482	0	552,765	0	618,477	55,399	2,080,998	33,527	352,573	88,926	3,675,296
8/8	0	70,482	0	552,765	0	618,477	27,375	2,108,373	41,169	393,742	68,544	3,743,840
8/9	0	70,482	0	552,765	0	618,477	31,064	2,139,437	14,404	408,146	45,468	3,789,308
8/10	0	70,482	237	553,002	0	618,477	40,526	2,179,964	7,897	416,043	48,660	3,837,968
8/11	0	70,482	1,811	554,813	0	618,477	21,641	2,201,605	16,022	432,065	39,474	3,877,442
8/12	0	70,482	755	555,568	0	618,477	26,786	2,228,391	4,157	436,222	31,698	3,909,140
8/13	0	70,482	0	555,568	0	618,477	13,156	2,241,547	16,412	452,634	29,568	3,938,708
8/14	0	70,482	0	555,568	0	618,477	13,844	2,255,392	11,914	464,548	25,758	3,964,466
8/15	0	70,482	0	555,568	0	618,477	13,723	2,269,115	11,627	476,175	25,350	3,989,816
8/16	0	70,482	0	555,568	0	618,477	8,315	2,277,430	7,045	483,219	15,360	4,005,176

Note: All counts rounded to nearest whole fish.

Table 18.–Commercial fishing emergency orders, by district and statistical area, west side Bristol Bay, 2014.

Number[a]	Start date	Start time		End date	End time	Effective time	
Nushagak District							
Nushagak Section							
Drift Net							
DLG.04	13 Jun	6:30 AM	to	13 Jun	2:30 PM	8.0 hours	[b]
DLG.07	16 Jun	6:00 AM	to	16 Jun	4:00 PM	10.0 hours	[b]
DLG.11	18 Jun	2:00 PM	to	18 Jun	7:00 PM	5.0 hours	[b]
DLG.13	20 Jun	5:30 PM	to	20 Jun	8:30 PM	3.0 hours	[b]
DLG.19	25 Jun	4:00 PM	to	25 Jun	8:00 PM	4.0 hours	
DLG.20	26 Jun	3:00 AM	to	26 Jun	9:00 AM	6.0 hours	
DLG.20	26 Jun	3:00 PM	to	26 Jun	9:00 PM	6.0 hours	
DLG.21	26 Jun	9:00 PM	to	28 Jun	11:00 AM	38.0 hours	[d]
DLG.22	28 Jun	4:00 PM	to	28 Jun	11:00 PM	7.0 hours	
DLG.22	29 Jun	3:00 AM	to	29 Jun	11:00 AM	8.0 hours	
DLG.25	29 Jun	4:00 PM	to	29 Jun	11:00 PM	7.0 hours	[c]
DLG.25	30 Jun	3:00 AM	to	30 Jun	11:00 AM	8.0 hours	
DLG.27	30 Jun	4:00 PM	to	30 Jun	11:00 PM	7.0 hours	
DLG.27	1 Jul	3:00 AM	to	1 Jul	11:00 AM	8.0 hours	
DLG.28	1 Jul	5:00 PM	to	2 Jul	2:00 AM	9.0 hours	
DLG.28	2 Jul	6:00 AM	to	2 Jul	3:00 PM	9.0 hours	
DLG.30	2 Jul	7:00 PM	to	3 Jul	4:00 AM	9.0 hours	
DLG.30	3 Jul	8:00 AM	to	3 Jul	5:00 PM	9.0 hours	
DLG.31	3 Jul	7:00 PM	to	4 Jul	4:00 AM	9.0 hours	
DLG.31	4 Jul	8:00 AM	to	4 Jul	5:00 PM	9.0 hours	
DLG.32	4 Jul	7:00 PM	to	5 Jul	6:00 AM	11.0 hours	
DLG.32	5 Jul	8:00 AM	to	5 Jul	5:00 PM	9.0 hours	
DLG.33	5 Jul	7:00 PM	to	6 Jul	6:00 AM	11.0 hours	
DLG.33	6 Jul	8:00 AM	to	6 Jul	5:00 PM	9.0 hours	
DLG.34	6 Jul	8:00 PM	to	7 Jul	7:00 AM	11.0 hours	
DLG.34	7 Jul	9:00 AM	to	7 Jul	6:00 PM	9.0 hours	
DLG.35	7 Jul	10:00 PM	to				[e]
DLG.40			to	22 Jul	8:00 PM	360.0 hours	
DLG.40	23 Jul	10:00 AM	to	23 Jul	10:00 PM	12.0 hours	
DLG.41	24 Jul	11:00 AM	to	24 Jul	11:00 PM	12.0 hours	
DLG.41	25 Jul	11:00 AM	to	25 Jul	11:00 PM	12.0 hours	
DLG.44	26 Jul	12:00 PM	to	26 Jul	11:59 PM	12.0 hours	
DLG.44	27 Jul	12:00 PM	to	27 Jul	11:59 PM	12.0 hours	
DLG.44	28 Jul	12:00 PM	to	28 Jul	11:59 PM	12.0 hours	
DLG.45	29 Jul	2:00 PM	to	30 Jul	2:00 AM	12.0 hours	
DLG.45	30 Jul	2:00 PM	to	31 Jul	2:00 AM	12.0 hours	
DLG.45	31 Jul	2:00 PM	to	31 Jul	11:59 PM	10.0 hours	
DLG.47	1 Aug	5:00 AM	to	1 Aug	5:00 PM	12.0 hours	
DLG.47	2 Aug	5:00 AM	to	2 Aug	5:00 PM	12.0 hours	
DLG.47	3 Aug	5:00 AM	to	3 Aug	5:00 PM	12.0 hours	
DLG.47	4 Aug	6:00 AM	to	4 Aug	6:00 PM	12.0 hours	
DLG.48	5 Aug	7:00 AM	to				[e]

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Table 18.–Page 2 of 4.

Number[a]	Start date	Start time		End date	End time	Effective time	
Nushagak District							
Nushagak Section							
Set Net							
DLG.04	13 Jun	12:30 PM	to	13 Jun	8:30 PM	8.0 hours	[b]
DLG.17	24 Jun	10:30 AM	to	24 Jun	4:30 PM	6.0 hours	
DLG.18	25 Jun	11:30 AM	to	25 Jun	5:30 PM	6.0 hours	
DLG.19	25 Jun	5:30 PM	to	25 Jun	8:00 PM	2.5 hours	[d]
DLG.20	26 Jun	12:30 AM	to	26 Jun	9:00 PM	20.5 hours	
DLG.21	26 Jun	9:00 PM	to	28 Jun	11:00 AM	38.0 hours	[d]
DLG.22	28 Jun	2:00 PM	to	29 Jun	11:00 AM	21.0 hours	
DLG.25	29 Jun	2:30 PM	to	30 Jun	12:00 PM	21.5 hours	[c]
DLG.27	30 Jun	3:00 PM	to				[e]
DLG.40			to	22 Jul	8:00 PM	509.0 hours	
DLG.40	23 Jul	10:00 AM	to	23 Jul	10:00 PM	12.0 hours	
DLG.41	24 Jul	11:00 AM	to	24 Jul	11:00 PM	12.0 hours	
DLG.41	25 Jul	11:00 AM	to	25 Jul	11:00 PM	12.0 hours	
DLG.44	26 Jul	12:00 PM	to	26 Jul	11:59 PM	12.0 hours	
DLG.44	27 Jul	12:00 PM	to	27 Jul	11:59 PM	12.0 hours	
DLG.44	28 Jul	12:00 PM	to	28 Jul	11:59 PM	12.0 hours	
DLG.45	29 Jul	2:00 PM	to	30 Jul	2:00 AM	12.0 hours	
DLG.45	30 Jul	2:00 PM	to	31 Jul	2:00 AM	12.0 hours	
DLG.45	31 Jul	2:00 PM	to	31 Jul	11:59 PM	10.0 hours	
DLG.47	1 Aug	5:00 AM	to	1 Aug	5:00 PM	12.0 hours	
DLG.47	2 Aug	5:00 AM	to	2 Aug	5:00 PM	12.0 hours	
DLG.47	3 Aug	5:00 AM	to	3 Aug	5:00 PM	12.0 hours	
DLG.47	4 Aug	6:00 AM	to	4 Aug	6:00 PM	12.0 hours	
DLG.48	5 Aug	7:00 AM	to				[e]
Nushagak District							
Igushik Section							
Drift Net							
DLG.04	13 Jun	6:30 AM	to	13 Jun	2:30 PM	8.0 hours	[b]
DLG.07	16 Jun	6:00 AM	to	16 Jun	4:00 PM	10.0 hours	[b]
DLG.11	18 Jun	2:00 PM	to	18 Jun	7:00 PM	5.0 hours	[b]
DLG.13	20 Jun	5:30 PM	to	20 Jun	8:30 PM	3.0 hours	[b]
DLG.21	26 Jun	3:00 PM	to	28 Jun	11:00 AM	44.0 hours	
DLG.22	28 Jun	4:00 PM	to	28 Jun	11:00 PM	7.0 hours	
DLG.22	29 Jun	3:00 AM	to	29 Jun	11:00 AM	8.0 hours	
DLG.25	29 Jun	4:00 PM	to	29 Jun	11:00 PM	7.0 hours	[c]
DLG.25	30 Jun	3:00 AM	to	30 Jun	11:00 AM	8.0 hours	
DLG.27	30 Jun	4:00 PM	to	30 Jun	11:00 PM	7.0 hours	
DLG.27	1 Jul	3:00 AM	to	1 Jul	11:00 AM	8.0 hours	
DLG.28	1 Jul	5:00 PM	to	2 Jul	2:00 AM	9.0 hours	
DLG.28	2 Jul	6:00 AM	to	2 Jul	3:00 PM	9.0 hours	
DLG.30	2 Jul	7:00 PM	to	3 Jul	4:00 AM	9.0 hours	
DLG.30	3 Jul	8:00 AM	to	3 Jul	5:00 PM	9.0 hours	

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Table 18.–Page 3 of 4.

Number[a]	Start date	Start time		End date	End time	Effective time	
DLG.31	3 Jul	7:00 PM	to	4 Jul	4:00 AM	9.0 hours	
DLG.31	4 Jul	8:00 AM	to	4 Jul	5:00 PM	9.0 hours	
DLG.32	4 Jul	7:00 PM	to	5 Jul	6:00 AM	11.0 hours	
DLG.32	5 Jul	8:00 AM	to	5 Jul	5:00 PM	9.0 hours	
DLG.33	5 Jul	7:00 PM	to	6 Jul	6:00 AM	11.0 hours	
DLG.33	6 Jul	8:00 AM	to	6 Jul	5:00 PM	9.0 hours	
DLG.34	6 Jul	8:00 PM	to	7 Jul	7:00 AM	11.0 hours	
DLG.34	7 Jul	9:00 AM	to	7 Jul	6:00 PM	9.0 hours	
DLG.35	7 Jul	10:00 PM	to				e
DLG.40			to	22 Jul	8:00 PM	360.0 hours	
DLG.40	23 Jul	10:00 AM	to	23 Jul	10:00 PM	12.0 hours	
DLG.41	24 Jul	11:00 AM	to	24 Jul	11:00 PM	12.0 hours	
DLG.41	25 Jul	11:00 AM	to	25 Jul	11:00 PM	12.0 hours	
DLG.44	25 Jul	11:00 PM	to				d,e
Nushagak District							
Igushik Section							
Set Net							
DLG.03	10 Jun	10:00 AM	to	10 Jun	6:00 PM	8.0 hours	
DLG.03	11 Jun	11:00 AM	to	11 Jun	7:00 PM	8.0 hours	
DLG.03	12 Jun	11:30 AM	to	12 Jun	7:30 PM	8.0 hours	
DLG.04	13 Jun	12:30 PM	to	13 Jun	8:30 PM	8.0 hours	
DLG.04	14 Jun	1:30 PM	to	14 Jun	9:30 PM	8.0 hours	
DLG.04	15 Jun	2:30 PM	to	15 Jun	10:30 PM	8.0 hours	
DLG.04	16 Jun	3:30 PM	to	16 Jun	11:30 PM	8.0 hours	
DLG.09	17 Jun	4:30 PM	to	18 Jun	12:30 AM	8.0 hours	
DLG.09	18 Jun	5:30 PM	to	19 Jun	1:30 AM	8.0 hours	
DLG.09	19 Jun	5:30 AM	to	19 Jun	1:30 PM	8.0 hours	
DLG.13	20 Jun	6:30 AM	to	20 Jun	2:30 PM	8.0 hours	
DLG.13	21 Jun	7:30 AM	to	21 Jun	3:30 PM	8.0 hours	
DLG.13	22 Jun	8:30 AM	to	22 Jun	4:30 AM	8.0 hours	
DLG.13	23 Jun	9:30 AM	to	23 Jun	5:30 PM	8.0 hours	
DLG.15	24 Jun	10:30 AM	to	24 Jun	6:30 PM	8.0 hours	
DLG.18	25 Jun	11:30 AM	to	25 Jun	7:30 PM	8.0 hours	
DLG.21	26 Jun	12:30 AM	to	28 Jun	11:00 AM	58.5 hours	d
DLG.22	28 Jun	2:00 PM	to	29 Jun	11:00 AM	21.0 hours	
DLG.25	29 Jun	2:30 PM	to	30 Jun	12:00 PM	21.5 hours	c
DLG.27	30 Jun	3:00 PM	to				e
Wood River Special Harvest Area							
Drift Net							
DLG.23	28 Jun	12:00 PM	to	29 Jun	5:00 PM	29.0 hours	
DLG.37	15 Jul	8:00 AM	to	16 Jul	8:00 PM	36.0 hours	
DLG.39	16 Jul	8:00 PM	to	17 Jul	8:00 PM	24.0 hours	d
DLG.40	17 Jul	8:00 PM	to	22 Jul	8:00 PM	120.0 hours	d

-continued-

Table 18.–Page 4 of 4.

Number[a]	Start date	Start time		End date	End time	Effective time	
Wood River Special Harvest Area							
Set Net							
DLG.26	29 Jun	6:00 PM	to				[e]
DLG.37			to	15 Jul	7:00 AM	373.0 hours	
Togiak District							
Drift and set net							
DLG.08	19 Jun	9:00 AM	to	20 Jun	9:00 AM	24.0 hours	[f]
DLG.12	26 Jun	9:00 AM	to	27 Jun	9:00 AM	24.0 hours	[f]
DLG.36	15 Jul	9:00 AM	to	16 Jul	9:00 AM	24.0 hours	[f]
DLG.38	16 Jul	9:00 AM	to	16 Jul	9:00 PM	12.0 hours	[h]
DLG.38	17 Jul	9:00 AM	to	18 Jul	9:00 AM	24.0 hours	[f]
DLG.43	26 Jul	9:00 AM	to	28 Jul	9:00 AM	48.0 hours	[g]
DLG.46	1 Aug	9:00 AM	to	3 Aug	9:00 AM	48.0 hours	[g]
DLG.49	8 Aug	9:00 AM	to	10 Aug	9:00 AM	48.0 hours	[g]

[a] Prefix code on emergency orders indicate where announcement originated ("DLG" for Dillingham field office).

[b] Gillnet mesh size 7.5 inches or larger.

[c] Gillnet mesh size is restricted to 5.5 inches or less.

[d] Extends current fishing period.

[e] Commercial fishing open until further notice.

[f] Reduces the weekly fishing schedule in Togiak River Section.

[g] Extends the weekly fishing schedule in Togiak River Section.

[h] Extends the weekly fishing schedule in Cape Peirce, Osviak, and Matogak Sections of the Togaik District.

Table 19.–Commercial salmon catch by date and species, in numbers of fish, Nushagak District, Bristol Bay, 2014.

	Hours fished (drift/set)			Deliveries							
Date	Nushagak	Igushik		Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/10	0/0	0/8		0	7						
6/11	0/0	0/8		0	12						
6/12	0/0	0/8		0	12						
6/13	8/8	8/8		28	14						
6/14	0/0	0/8	[a]	0	12						
6/15	0/0	0/8	[a]	0	12						
6/16	10/0	10/8	[a]	58	11						
6/17	0/0	0/8	[a]	0	14						
6/18	5/0	5/8	[a]	73	19						
6/19	0/0	0/8	[a]	0	8						
6/20	3/0	3/8	[a]	38	5						
6/21	0/0	0/8		0	9	98	0	1	0	0	99
6/22	0/0	0/8		0	8	112	0	3	1	0	116
6/23	0/0	0/8		0	18	474	0	9	1	0	484
6/24	0/6	0/8		0	274	52,801	362	5,666	13	0	58,842
6/25	4/8.5	0/8		479	550	546,409	1,287	58,925	12	0	606,633
6/26	15/23.5	9/23.5		958	525	510,955	905	25,814	12	0	537,686
6/27	24/24	24/24		745	436	768,614	769	35,184	3	0	804,570
6/28	18/21	18/21		710	401	652,896	398	33,354	10	0	686,658
6/29	15/21.5	15/21.5		569	374	399,753	215	18,021	7	0	417,996
6/30	15/24	15/24	[b]	695	360	365,028	215	16,684	9	0	381,936
7/1	15/24	15/24		637	430	226,107	254	11,206	21	1	237,589
7/2	16/24	16/24		603	393	195,046	267	8,751	48	0	204,112
7/3	18/24	18/24		648	384	332,214	248	17,942	38	0	350,442
7/4	18/24	18/24		584	427	389,240	310	18,458	45	0	408,053
7/5	20/24	20/24		467	448	340,131	318	16,855	25	0	357,329
7/6	19/24	19/24		441	453	241,158	369	11,499	60	1	253,087
7/7	18/24	18/24		581	387	173,118	137	9,333	49	2	182,639
7/8	24/24	24/24		316	522	278,957	187	11,842	83	0	291,069
7/9	24/24	24/24		333	382	146,290	85	7,377	56	2	153,810
7/10	24/24	24/24		248	327	124,702	143	6,908	81	9	131,843
7/11	24/24	24/24		199	347	109,458	109	6,319	120	9	116,015
7/12	24/24	24/24		173	340	120,465	53	4,992	112	18	125,640
7/13	24/24	24/24		204	327	87,797	63	3,476	247	46	91,629
7/14	24/24	24/24		132	286	52,233	46	2,348	534	108	55,269
7/15	24/24	24/24		93	151	26,907	23	1,115	1,135	154	29,334
7/16	24/24	24/24		51	192	23,426	13	1,007	1,812	1,063	27,321
7/17	24/24	24/24		41	139	9,870	9	494	2,065	242	12,680
7/18	24/24	24/24		38	103	10,886	12	342	1,161	803	13,204
7/19	24/24	24/24		11	64	5,581	4	128	606	664	6,983
7/20	24/24	24/24		13	56	3,328	1	53	680	446	4,508
7/21	24/24	24/24		64	80	2,806	2	57	3,818	185	6,868
7/22	20/20	20/24		9	54	7,136	2	116	21,698	6,092	35,044
7/23	12/12	12/24		31	41	2,564	6	260	18,555	2,345	23,730
7/24	12/12	12/24		57	56	4,580	4	726	45,527	3,065	53,902
7/25	12/12	13/24		61	64	2,956	1	2,440	80,874	6,164	92,435
7/26	12/12	24/24		66	56	3,343	4	2,455	104,076	5,525	115,403

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Table 19.–Page 2 of 3.

	Hours fished (drift/set)			Deliveries							
Date	Nushagak	Igushik		Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
7/27	12/12	24/24		71	85	3,439	1	1,489	129,468	4,193	138,590
7/28	12/12	24/24		60	28	5,550	0	1,941	46,275	21,027	74,793
7/29	12/12	24/24		87	42	1,027	1	666	108,712	10,007	120,413
7/30	12/12	24/24		115	67	853	1	793	130,695	7,673	140,015
7/31	12/12	24/24		78	43	458	0	265	82,014	13,059	95,796
8/1	12/12	24/24	[a]	103	37						
8/2	12/12	24/24	[a]	47	33						
8/3	12/12	24/24	[a]	57	46						
8/4	12/12	24/24	[a]	74	51						
8/5	17/17	24/24	[a]	73	54						
8/6	24/24	24/24	[a]	84	52						
8/7	24/24	24/24	[a]	62	35						
8/8	24/24	24/24	[a]	50	54						
8/9	24/24	24/24	[a]	58	44						
8/10	24/24	24/24	[a]	38	45						
8/11	24/24	24/24	[a]	15	33						
8/12	24/24	24/24	[a]	53	37						
8/13	24/24	24/24	[a]	16	12						
8/14	24/24	24/24	[a]	32	8						
8/15	24/24	24/24	[a]	4	2						
8/16	24/24	24/24	[a]								
8/17	24/24	24/24	[a]								
8/18	24/24	24/24	[a]								
Total	1,082/1,145.5	1,204/1,418		11,631	10,398	6,237,710	10,819	348,743	1,187,061	244,937	8,029,270

Wood River Special Harvest Area

	Hours fished			Deliveries							
Date	Drift	Set		Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/28	12.0	0.0		14		4,855	13	13	0	0	4,881
6/29	17.0	6.0	[b]	16	17	12,775	7	18	1	0	12,801
6/30	0.0	24.0			25	12,893	20	54	2	0	12,969
7/1	0.0	24.0			114	22,963	34	182	4	1	23,184
7/2	0.0	24.0			75	12,347	36	97	23	0	12,503
7/3	0.0	24.0			77	17,115	42	103	20	0	17,280
7/4	0.0	24.0			70	18,464	39	68	29	0	18,600
7/5	0.0	24.0			79	20,358	0	176	22	0	20,556
7/6	0.0	24.0			94	22,199	45	60	34	1	22,339
7/7	0.0	24.0			62	11,035	26	42	24	2	11,129
7/8	0.0	24.0			71	13,510	31	121	46	0	13,708
7/9	0.0	24.0			64	14,997	25	113	36	0	15,171
7/10	0.0	24.0			64	9,625	47	116	31	2	9,821
7/11	0.0	24.0			69	10,351	61	350	80	3	10,845
7/12	0.0	24.0			59	12,565	28	193	61	9	12,856
7/13	0.0	24.0			69	15,183	33	266	151	32	15,665
7/14	0.0	24.0			55	8,139	26	163	228	11	8,567
7/15	17.0	7.0		27	20	4,267	4	124	29	9	4,433
7/16	24.0	0.0	[b]	14		1,789	0	77	103	8	1,977
7/17	24.0	0.0		10		82	1	2	141	20	246

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Table 19.–Page 3 of 3.

	Hours fished		Deliveries							
Date	Drift	Set	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
7/18	24.0	0.0	0							0
7/19	24.0	0.0	0							0
7/20	24.0	0.0	0							0
7/21	24.0	0.0	0							0
7/22	24.0	0.0	1	[a]						
Total	214	373	82	1,084	245,611	518	2,339	1,403	119	249,990

[a] Fewer than 4 permit holders involved in fishery; records are confidential.

[b] Fishing extended until further notice.

Table 20.–Inshore commercial catch and escapement of sockeye salmon, in numbers of fish, Bristol Bay, 2014.

District and river system		Catch	Escapement	Total run
Naknek-Kvichak District				
Kvichak River		9,030,227	4,458,540	13,488,767
Alagnak River		695,155	200,500	895,655
Naknek River		4,065,671	1,474,428	5,540,099
	Total	13,791,053	6,133,468	19,924,521
Egegik District		6,928,350	1,382,466	8,310,816
Ugashik District		1,507,440	640,158 [a]	2,147,598
Nushagak District				
Wood River		4,755,921	2,764,614	7,520,535
Igushik River		651,661	340,590	992,251
Nushagak River		1,040,068	618,477	1,658,545
	Total	6,447,650	3,723,681	10,171,331
Togiak District				
Togiak Lake			151,934	151,934
Togiak River/Tributaries		371,933	[b]	371,933
Kulukak System		59,088	[b]	59,088
Other Systems [c]		12,237	[b]	12,237
	Total	443,258	151,934	595,192
Total Bristol Bay		29,117,751	12,031,707	41,149,458

[a] Includes Ugashik River tower and aerial survey estimates from King Salmon and Dog Salmon rivers.

[b] No monitoring of escapement occurs.

[c] Includes Negukthlik, Ungalikthluk, Osviak, Matogak, Quigmy, and Slug rivers.

Table 21.–Commercial salmon catch by date and species, in numbers of fish, Togiak District, Bristol Bay, 2014.

Date	Sockeye	Chinook	Chum	Pink	Coho	Total
6/10						
6/11						
6/13						
6/16	1,257	57	737	15		2,066
6/17	552	62	254	1	0	869
6/18	635	30	244	4	0	913
6/19	141	9	153	1	0	304
6/20	207	15	303	3	0	528
6/21 [b]						
6/23	2,812	90	851	20	0	3,773
6/24	5,408	178	2,914	53	0	8,553
6/25	5,001	97	2,116	50	0	7,264
6/26	2,073	36	1,365	11	0	3,485
6/27	638	17	1,365	4	0	2,024
6/28	253	8	191	2		454
6/30	10,748	123	3,156	73	0	14,100
7/1	12,074	130	5,830	115	0	18,149
7/2	9,374	120	6,058	73	0	15,625
7/3	5,561	105	6,138	45	0	11,849
7/4	7,524	60	4,385	36	0	12,005
7/5	8,452	56	2,752	47	0	11,307
7/7	16,394	64	4,571	107	0	21,136
7/8	16,165	73	5,439	168	0	21,845
7/9	11,647	60	4,266	142	0	16,115
7/10	9,300	35	3,123	71	0	12,529
7/11	12,639	37	3,261	75	0	16,012
7/12	17,403	38	3,381	87	0	20,909
7/14	13,247	32	3,154	308	0	16,741
7/15	11,379	24	2,325	131	0	13,859
7/16	10,069	17	2,723	281	0	13,090
7/17	5,904	2	1,118	149	0	7,173
7/18	1,587	7	715	212	0	2,521
7/19	967	1	305	159		1,432
7/21	41,627	11	5,234	3,943	0	50,815
7/22	32,164	19	4,425	5,534	0	42,142
7/23	28,668	10	3,378	6,609	1	38,666
7/24	22,726	21	2,484	6,120	2	31,353
7/25	10,430	1	1,050	4,677	5	16,163
7/26	12,762	5	1,583	5,855	4	20,209
7/27	15,244		1,638	7,512	11	24,405
7/28	18,648	7	1,505	11,697	24	31,881

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Table 21.–Page 2 of 2.

Date	Sockeye	Chinook	Chum	Pink	Coho	Total
7/29	11,393	4	1,120	9,533	32	22,082
7/30	12,586	5	1,011	12,463	101	26,166
7/31	8,645	1	739	9,406	112	18,903
8/1	6,874	4	594	8,177	81	15,730
8/2	5,236	3	508	6,308	143	12,198
8/3	1,443	1	110	1,740	46	3,340
8/4	3,398	3	355	2,866	192	6,814
8/5	3,713	6	414	4,527	301	8,961
8/6	1,988	2	242	3,144	230	5,606
8/7	1,653	0	144	2,529	169	4,495
8/8	1,231	1	125	1,807	182	3,346
8/9	718	0	58	291	110	1,177
8/10	171		13	69	30	284
8/11	224	0	28	178	348	778
8/12	634	1	38	297	719	1,689
8/13	323	0	28	221	546	1,118
8/14	338	0	28	184	769	1,319
8/15	115	0	4	140	283	542
8/16						
8/18	85	1	11	37	993	1,127
8/19	185	1	16	57	2,366	2,625
8/20	158	1	14	86	2,625	2,884
8/21	145	1	26	72	4,088	4,332
8/22	30	0	5	17	677	729
8/23						
8/25	29	0	8		3,334	3,378
8/26	45	0	3	47	4,248	4,343
8/27	66	1	9	22	4,038	4,136
8/28	47	0	8	37	3,564	3,656
8/29	14	0	3	21	1,105	1,143
Total	443,258	1,708	100,195	118,673	32,131	695,965

Note: Blank cells indicate fewer than 4 permit holders involved in fishery; records are confidential.

Table 22.–Commercial salmon catch by date and species, in numbers of fish, Togiak River Section, Bristol Bay, 2014.

	Deliveries							
Date	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/10	0	1						
6/11	0	3						
6/13	0	0	21	4	2	0	0	27
6/16	0	0						
6/17	4	15	397	58	151	1		607
6/18	2	0	252	23	88	1	0	364
6/19	0	1	65	7	15	0	0	87
6/23	4	8	1,716	84	671	7	0	2,478
6/24	29	13	3,351	161	2,453	24	0	5,989
6/25	29	60	2,535	92	1,504	17	0	4,148
6/26	19	58	1,875	32	920	7	0	2,834
6/30	41	39	7,881	109	1,986	60	0	10,036
7/1	63	75	7,250	118	4,429	70	0	11,867
7/2	53	95	5,450	104	4,529	52	0	10,135
7/3	67	90	5,561	105	6,138	45	0	11,849
7/4	60	77	7,390	55	4,059	29	0	11,533
7/5	40	97	8,365	56	2,516	47	0	10,984
7/7	46	55	10,636	59	3,446	96	0	14,237
7/8	55	89	6,448	56	3,428	133	0	10,065
7/9	54	91	5,590	45	2,833	79	0	8,547
7/10	72	81	9,300	35	3,123	71	0	12,529
7/11	80	84	12,639	37	3,261	75	0	16,012
7/12	61	102	17,403	38	3,381	87	0	20,909
7/14	41	96	11,999	30	2,839	276	0	15,144
7/15	48	57	7,061	16	1,407	107	0	8,591
7/16	59	50	7,976	10	1,937	229	0	10,152
7/17	37	85	5,771	2	1,047	143	0	6,963
7/21	93	48	38,487	9	5,028	3,696	0	47,220
7/22	98	137	29,105	17	4,173	5,111	0	38,406
7/23	100	133	24,679	8	2,997	6,206	1	33,891
7/24	89	122	21,431	21	2,351	5,932	2	29,737
7/25	43	105	9,381	1	953	3,961	5	14,301
7/26	57	56	12,105	5	1,527	5,539	4	19,180
7/27	52	92	15,244		1,638	7,512	11	24,405
7/28	67	62	16,998	7	1,425	10,910	23	29,363
7/29	75	111	10,147	4	1,049	8,609	32	19,841
7/30	61	106	11,150	4	886	11,583	64	23,687

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Table 22.–Page 2 of 2.

Date	Deliveries		Sockeye	Chinook	Chum	Pink	Coho	Total
	Drift	Set						
7/30	61	106	11,150	4	886	11,583	64	23,687
7/31	57	113	8,035	1	696	8,233	109	17,074
8/1	34	91	6,590	4	565	6,415	72	13,646
8/2	10	58	4,910	3	480	5,766	113	11,272
8/3	0	46	1,443	1	110	1,740	46	3,340
8/4	27	52	2,974	3	328	2,514	161	5,980
8/5	26	82	3,106	4	393	4,173	272	7,948
8/6	18	40	1,988	2	242	3,144	230	5,606
8/7	11	23	1,653	0	144	2,529	169	4,495
8/8	9	24	1,231	1	125	1,807	182	3,346
8/9	13	22	718	0	58	291	110	1,177
8/10	1	7	171	1	13	69	30	284
8/11	5	11	224	0	28	178	348	778
8/12	7	31	634	1	38	297	719	1,689
8/13	5	27	323	0	28	221	546	1,118
8/14	6	24	338	0	28	184	769	1,319
8/15	2	7	115	0	4	140	283	542
8/18	0	14	85	1	11	37	993	1,127
8/19	12	27	185	1	16	57	2,366	2,625
8/20	11	24	158	1	14	86	2,625	2,884
8/21	18	28	145	1	26	72	4,088	4,332
8/22	5	6	30	0	5	17	677	729
8/25	11	17	29	0	8	7	3,334	3,378
8/26	16	33	45	0	3	47	4,248	4,343
8/27	18	31	66	1	9	22	4,038	4,136
8/28	13	36	47	0	8	37	3,564	3,656
8/29	4	13	14	0	3	21	1,105	1,143
Total	2,038	3,281	371,933	1,505	82,276	108,834	31,339	595,887

Note: Blank cells indicate fewer than 4 permit holders involved in fishery; records are confidential.

Table 23.–Commercial salmon catch by date and species, in numbers of fish, Kulukak Section, Bristol Bay, 2014.

	Deliveries							
Date	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/16	2	3	265		37			302
6/17	2	3	155	4	103			262
6/18	2	3	383	7	156	3		549
6/23	3	2	1,096	6	180	13		1,295
6/24	8	19	2,057	17	461	29		2,564
6/25	11	9	2,466	5	612	29		3,112
6/30	7	13	2,867	14	1,170	13		4,064
7/1	16	26	4,824	12	1,401	45		6,282
7/2	14	16	3,555	10	1,137	6		4,708
7/7	18	23	5,758	5	1,125	11		6,899
7/8	22	27	9,487	9	1,536	35		11,067
7/9	19	21	6,057	15	1,409	63		7,544
7/14	3	15	1,248	2	306	32		1,588
7/15	21	32	4,182	7	852	11		5,052
7/16	11	11	1,537	1	465	35		2,038
7/21	1	24	3,140	2	206	247		3,595
7/22	4	21	3,059	2	252	416		3,729
7/23	6	21	3,989	2	381	403		4,775
7/28		4						
7/29		7						
7/30		5						
8/1	1							
8/4		2						
8/5		6						
Total	171	313	59,088	120	11,938	3,770	22	74,938

Note: Blank cells indicate fewer than 4 permit holders involved in fishery; records are confidential.

Table 24.–Commercial salmon catch by date and species, in numbers of fish, Matogak Section, Bristol Bay, 2014.

Date [a]	Sockeye	Chinook	Chum	Pink	Coho	Total
6/19 [b]						
6/20 [b]						
6/21 [b]						
6/25 [b]						
6/26	163	4	384	4		555
6/27	409	8	905	4		1,326
6/28	253	8	191	2		454
7/02 [b]						
7/05 [b]						
7/09 [b]						
7/14 [b]						
7/15 [b]						
7/18	1,364	5	554	174		2,097
7/19	786		240	136		1,162
7/22 [b]						
7/24 [b]						
7/25	1,049		97	716		1,862
7/26 [b]						
7/28 [b]						
7/29 [b]						
7/30	871	1	111	738	37	1,758
7/31	610		43	1173	3	1,829
8/01 [b]						
8/02 [b]						
8/04 [b]						
8/05 [b]						
Total	10,058	40	3,545	5,978	118	19,739

[a] Matogak Section is open 5 days per week by regulation.

[b] Fewer than 4 permit holders involved in fishery; records are confidential.

Table 25.–Commercial salmon catch by date and species, in numbers of fish, Osviak Section, Bristol Bay, 2014.

Date [a]	Sockeye	Chinook	Chum	Pink	Coho	Total
6/20 [b]						
6/26 [b]						
6/27 [b]						
7/02 [b]						
7/04 [b]						
7/08 [b]						
7/15 [b]						
7/16 [b]						
7/17 [b]						
7/18 [b]						
7/19 [b]						
8/16 [b]						
8/23 [b]						
Total [b]						

[a] Osviak Section is open 5 days per week by regulation.

[b] Fewer than 4 permit holders involved in fishery; records are confidential.

Table 26.–Herring total run, harvest and escapement biomass by age, Togiak District, 2014.

Total harvest [a]			Escapement			Total run		
Age	Biomass	%	Age	Biomass	%	Age	Biomass	%
3	20	0.1	3	5	0.0	3	25	0.0
4	146	0.6	4	1,310	0.7	4	1,456	0.7
5	1,094	4.3	5	7,645	4.3	5	8,739	4.3
6	2,494	9.8	6	17,081	9.6	6	19,575	9.6
7	5,861	22.9	7	41,898	23.6	7	47,759	23.5
8	7,494	29.3	8	48,542	27.3	8	56,036	27.6
9	4,773	18.7	9	33,092	18.6	9	37,865	18.6
10	2,020	7.9	10	14,637	8.2	10	16,657	8.2
11	984	3.8	11	7,725	4.3	11	8,709	4.3
12	327	1.3	12	2,672	1.5	12	2,999	1.5
13	224	0.9	13	1,735	1.0	13	1,959	1.0
14	41	0.2	14	491	0.3	14	532	0.3
15	53	0.2	15	606	0.3	15	659	0.3
16	27	0.1	16	270	0.2	16	298	0.1
Total	25,560	100	Total	177,707	100	Total	203,267	100

[a] Dutch Harbor harvest not included.

Table 27.–Commercial herring sac roe and spawn-on-kelp buyers in Togiak District, 2014.

			Product purchased		
			Sac roe		
	Operator/Buyer[a]	Base of operation	Gillnet	Purse seine	Spawn-on-kelp
1	Icicle Seafoods	P/Vs R.M. Thorstensen, Gordon Jensen, S/P	X	X	
2	Leader Creek Fisheries	S/P Naknek	X	X	
3	North Pacific Seafoods	S/Ps Pedersen Pt., Togiak	X	X	
4	Silver Bay Seafoods	S/P Naknek	X		
5	Trident Seafoods	P/Vs Independence, ALF	X	X	
6	Y.A.K. Inc.	S/P Naknek		X	

[a] Osviak Section is open 5 days per week by regulation.

Table 28.–Daily observed estimates of spawn (in miles) and herring (in tons) by index area, in the Togiak District, 2014.

Date	Start time	Survey rating [b]	Miles of spawn	Estimated biomass by index area [a] NUS	KUK	MET	NVK	UGL	TOG	TNG	MTG	OSK	PYR	CPN	HAG	WAL	Daily total
4/22	9:00	4.0															0
4/24	10:30	1.0													4,554		4,554
4/27	10:00	2.7		4,438	13,780	628		228	15,743	2,468							37,285
4/28	11:30	1.4	21.9	4,177	29,068	8,353	2,120	11,070	17,388	3,210	8,283	1,023					84,692
4/29	10:00	4.5	16.7														[c]
4/30	10:00	2.7	17.5		23,233	2,160	1,032	1,827	16,060	13,527	7,407	2,206			1,572		69,024
5/1	10:00	3.5	16.6	682	4,628	774	1,077	3,863	11,937	1,417	3,481				849		28,708
5/2	10:00	2.5	6.4	4	34,110	2,537	4,081	4,780	40,865	9,138	1,219	1,250	1,235				99,219
5/4	10:00	2.5	0.4		23,738	5,320	365	354	43,393	619	653	12			18		74,472
5/7	10:00	2.5	2.3		10,380	1,473	109	405	31,322	86	45	317	235				44,372
5/12	10:00	1.0	7.3	24,085	3,360	28	49	170	34,497	561	172	1,252					64,174
5/16	10:00	1.3	1.8	17,586	28,449	2,222	100	1,820	46,662	10	11						96,860
5/23	10:00	1.8	0.7	4,801	10,541	11,586	990	36	36,174	7,524	334						71,986
Total linear miles of spawn			91.6										Peak biomass estimate				99,219

Note: Blank cells represent days or sections where no biomass was observed.

[a] Index areas: NUS – Nushagak Peninsula; KUK – Kulukak; MET – Metervik; NVK – Nunavachak; UGL – Ungalikthluk; TOG – Togiak; TNG – Tongue Pt.; MTG – Matogak; OSK – Osviak; PYR – Pyrite Point; CPN – Cape Newenham; HAG – Hagemeister; WAL – Walrus Islands.

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

Table 29.–Emergency order commercial fishing periods for herring sac roe and spawn-on-kelp in the Togiak District, 2014.

EO #	Area [a]		Start date	Start time		End date	End time
Herring sac roe gillnet							
DLG-02	Egg Island Section; Right Hand Point to 58° 50.50′		4/27	6:00 PM	to	end of season	
DLG-06	Egg Island Section to 159° 30.00′; Right Hand Point to 58° 50.50′	area change	5/4	1:30 PM			
DLG-07	Egg Island Section to 159° 30.00′; Right Hand Point to 58° 50.50′	closure	5/14	12:00 PM			
Herring sac roe purse seine							
DLG-01	Anchor Pt. to 58° 50.50′, Togiak Reef to Cape Newenham		4/27	6:00 PM	to	4/30	10:00 PM
DLG-03	Anchor Pt. to 58° 50.50′, Togiak Reef to Cape Newenham	extension	4/30	10:00 PM	to	5/2	10:00 PM
DLG-04	Anchor Pt. to 58° 50.50′, Togiak Reef to Cape Newenham	extension	5/2	10:00 PM	to	5/5	10:00 PM
DLG-05	Anchor Pt. to 58° 50.50′, Togiak Reef to Cape Newenham	extension	5/5	10:00 PM	to	end of season	
DLG-08	Anchor Pt. to 58° 50.50′, Togiak Reef to Cape Newenham	closure	5/14	12:00 PM			
Herring spawn on kelp [b]							

[a] Area descriptions are approximate. Precise boundaries are described in Emergency Orders (EO).

[b] There was no market for spawn on kelp; a fishery did not occur.

Table 30.–Commercial herring harvest (in tons) by fishing section, gear type, and date in the Togiak District, Bristol Bay, 2014.

			Kulukak		Nunavachak		Togiak		Hagemeister		Pyrite Point		Cape Newenham		Total	
Date	Duration	Period	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %
Purse Seine																
4/29	76:00	1			1,184.7	9.7			461.4	8.6					1,646.1	9.4
4/30	24:00	2			1,489.7	9.6			399.2	8.1					1,888.9	9.3
5/1	24:00	3			971.3	9.7	117.1	9.0	1,016.4	9.5					2,104.8	9.6
5/2	24:00	4			148.6	10.4			960.1	10.3	105.0	9.1			1,213.8	10.2
5/3	24:00	5							1,004.1	9.7	181.5	11.6			1,185.6	10.0
5/4	24:00	6			155.1	9.9			1,260.0	9.5	305.3	10.0			1,720.3	9.6
5/5	24:00	7			156.3	10.7			378.7	10.1	1,228.9	10.2			1,763.9	10.3
5/6	24:00	8			267.2	10.7			326.3	9.2	729.1	9.9			1,322.6	9.9
5/7	24:00	9							314.2	9.2	1,752.0	9.9			2,066.2	9.8
5/8	24:00	10							535.2	10.0	1,047.1	10.1	75.9	9.6	1,658.2	10.0
5/9	24:00	11							304.7	10.4	241.3	11.2			546.1	10.7
5/10	24:00	12			959.4	9.6			102.0	8.5	93.8	11.0	17.3	10.1	1,172.4	9.6
5/11	72:00	13			294.5	9.2	65.4	9.1	766.4	8.5	128.4	8.6			1,254.7	8.7
Subtotal	412:00				5,626.8	9.7	182.5	9.0	7,828.7	9.5	5,812.4	10.1	93.1	9.7	19,543.5	9.7
Gillnet																
4/29	76:00	1														[a]
4/30	24:00	2	916.0	11.6											916.0	11.6
5/1	24:00	3	828.2	11.1	7.0	9.4									835.2	11.1
5/2	24:00	4	601.7	11.6	7.0	9.4									608.7	11.6
5/3	24:00	5	376.1	10.7											376.1	10.7
5/4	24:00	6	456.7	11.6											456.7	11.6
5/5	24:00	7	359.6	12.1											359.6	12.1
5/6	24:00	8	459.0	12.2											459.0	12.2
5/7	24:00	9	348.9	12.1											348.9	12.1
5/8	24:00	10	104.8	11.9											104.8	11.9
5/9	24:00	11	94.5	11.6											94.5	11.6
5/10	24:00	12	458.5	12.6											458.5	12.6
5/11	72:00	13	752.9	13.4											752.9	13.4
Subtotal	412:00		6,002.1	11.9	14.0	9.4									6,016.1	11.9

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			Kulukak		Nunavachak		Togiak		Hagemeister		Pyrite Point		Cape Newenham		Total	
Date	Duration	Period	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %	Tons	Roe %
Combined																
4/29		1	245.1	10.8	1,184.7	9.7			461.4	8.6					1,891.2	9.6
4/30		2	916.0	11.6	1,489.7	9.6			399.2	8.1					2,805.0	10.0
5/1		3	828.2	11.1	978.3	9.7	117.1	9.0	1,016.4	9.5					2,940.1	10.0
5/2		4	601.7	11.6	155.6	10.3			960.1	10.3	105.0	9.1			1,822.5	10.7
5/3		5	376.1	10.7					1,004.1	9.7	181.5	11.6			1,561.7	10.2
5/4		6	456.7	11.6	155.1	9.9			1,260.0	9.5	305.3	10.0			2,177.0	10.0
5/5		7	359.6	12.1	156.3	10.7			378.7	10.1	1,228.9	10.2			2,123.5	10.6
5/6		8	459.0	12.2	267.2	10.7			326.3	9.2	729.1	9.9			1,781.6	10.5
5/7		9	348.9	12.1					314.2	9.2	1,752.0	9.9			2,415.1	10.2
5/8		10	104.8	11.9					535.2	10.0	1,047.1	10.1	75.9	9.6	1,763.0	10.1
5/9		11	94.5	11.6					304.7	10.4	241.3	11.2			640.6	10.9
5/10		12	458.5	12.6	959.4	9.6			102.0	8.5	93.8	11.0	17.3	10.1	1,630.8	10.5
5/11		13	752.9	13.4	294.5	9.2	65.4	9.1	766.4	8.5	128.4	8.6			2,007.7	10.5
Total			6,002.1	11.9	5,640.8	9.7	182.5	9.0	7,828.8	9.5	5,812.4	10.1	93.1	9.7	25,559.6	10.2

Note: Blank cells represent no data due to area closures or no fishing. Roe % is weighted using this formula: (tons*roe % + tons*roe % + ….) / total tons.

[a] Less than 4 processors involved in fishery; records are confidential.

APPENDIX A: SALMON

Appendix A1.–Escapement goal ranges and actual counts of sockeye salmon by river system, in thousands of fish, Bristol Bay, 1994–2014.

	Kvichak River			Naknek River [a]		
	Range			Range		
Year	Lower	Upper	Actual	Lower	Upper	Actual
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	800	1,400	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
2007	2,000	10,000	2,810	800	2,000	2,945
2008	2,000	10,000	2,758	800	1,400	2,473
2009	2,000	10,000	2,266	800	1,400	1,170
2010	2,000	10,000	4,207	800	1,400	1,464
2011	2,000	10,000	2,264	800	1,400	1,177
2012	2,000	10,000	4,164	800	1,400	900
2013	2,000	10,000	2,089	800	1,400	938
20-Year Avg	3,000	9,600	3,329	800	1,610	1,552
1994-03 Avg	4,000	9,200	3,514	800	1,580	1,333
2004-13 Avg	2,000	10,000	3,145	800	1,640	1,770
2014	2,000	10,000	4,459	800	1,400	1,474

	Egegik River			Ugashik River		
	Range			Range		
Year	Lower	Upper	Actual	Lower	Upper	Actual
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
2007	800	1,400	1,433	500	1,200	2,599
2008	800	1,400	1,260	500	1,200	569
2009	800	1,400	1,146	500	1,200	1,346
2010	800	1,400	927	500	1,200	805
2011	800	1,400	961	500	1,200	1,030
2012	800	1,400	1,234	500	1,200	671
2013	800	1,400	1,114	500	1,200	898
20-Year Avg	800	1,390	1,242	500	1,185	989
1994-03 Avg	800	1,380	1,239	500	1,170	932
2004-13 Avg	800	1,400	1,245	500	1,200	1,045
2014	800	1,400	1,382	500	1,200	640

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	Wood River			Igushik River		
	Range			Range		
Year	Lower	Upper	Actual	Lower	Upper	Actual
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
2007	700	1,500	1,528	150	300	415
2008	700	1,500	1,725	150	300	1,055
2009	700	1,500	1,319	150	300	514
2010	700	1,500	1,804	150	300	518
2011	700	1,500	1,098	150	300	421
2012	700	1,500	764	150	300	193
2013	700	1,500	1,183	150	300	387
20-Year Avg	700	1,395	1,567	150	283	377
1994-03 Avg	700	1,290	1,488	150	265	325
2004-13 Avg	700	1,500	1,647	150	300	428
2014	700	1,500	2,765	150	300	341

	Nushagak River			Togiak River		
	Range			Range		
Year	Lower [b]	Upper	Actual [c]	Lower	Upper	Actual
1994	340	760	563	140	250	155
1995	340	760	311	140	250	186
1996	340	760	557	140	250	157
1997	340	760	413	100	200	132
1998	340	760	508	100	200	154
1999	235	760	345	100	200	156
2000	235	760	446	100	200	312
2001	340	760	897	100	200	297
2002	235	760	349	100	200	162
2003	340	760	642	100	200	232
2004	340	760	544	100	200	129
2005	340	760	1,107	100	200	149
2006	340	760	541	100	200	312
2007	340	760	518	120	270	270
2008	340	760	493	120	270	206
2009	340	760	484	120	270	314
2010	340	760	469	120	270	188
2011	340	760	428	120	270	191
2012	340	760	432	120	270	203
2013	370	840	895	120	270	128
20-Year Avg	326	764	547	113	232	202
1994-03 Avg	309	760	503	112	215	194
2004-13 Avg	343	768	591	114	249	209
2014	370	840	618	120	270	152

[a] An optimal escapement goal of up to 2.0 million sockeye salmon was set by the Alaska Board of Fisheries (BOF) in 2001 when fishing in the Naknek River special harvest area.

[b] An optimal escapement goal of 235,000 sockeye salmon was set by the BOF in 1999.

[c] Nushagak River sonar (at Portage Creek) escapement estimates prior to 2006 were adjusted after the 2012 season to account for a transition in sonar technology that occurred in 2006 (Buck et al. 2012).

Appendix A2.–Salmon entry permit registration by gear and residency, Bristol Bay, 1994–2014.

	Drift net [a]						Set net [a]						Total
Year	Resident	Non-resident	Drift total	Permits fished	% fished	Interim use	Resident	Non-resident	Set total	Permits fished	% fished	Interim use	Drift and set [b]
1994	970	917	1,887	1,865	95%	77	760	259	1,019	939	92%	7	2,990
1995	967	921	1,888	1,882	96%	75	762	257	1,019	967	94%	8	2,990
1996	966	925	1,891	1,884	96%	70	760	257	1,017	941	92%	6	2,984
1997	959	940	1,899	1,875	95%	67	757	262	1,019	921	90%	7	2,992
1998	954	945	1,899	1,858	95%	55	756	259	1,015	901	88%	6	2,975
1999	937	961	1,898	1,847	95%	52	748	266	1,014	925	91%	6	2,970
2000	945	945	1,890	1,823	95%	38	735	277	1,012	921	90%	6	2,946
2001	958	925	1,883	1,566	82%	24	729	281	1,010	834	82%	2	2,919
2002	945	933	1,878	1,183	62%	16	717	289	1,006	680	67%	2	2,902
2003	923	944	1,867	1,389	74%	7	713	288	1,001	714	71%	1	2,876
2004	912	948	1,860	1,426	77%	3	703	286	989	797	81%	1	2,853
2005	895	967	1,862	1,526	82%	3	688	300	988	829	84%	1	2,854
2006	893	966	1,859	1,567	84%	1	683	302	985	844	86%	0	2,845
2007	881	981	1,862	1,621	87%	1	672	311	983	836	85%	0	2,846
2008	887	976	1,863	1,636	88%	0	678	302	980	850	87%	0	2,843
2009	864	999	1,863	1,642	88%	0	674	307	981	855	87%	0	2,844
2010	866	997	1,863	1,731	93%	0	672	311	983	861	88%	0	2,846
2011	1005	857	1,862	1,747	94%	0	660	321	981	878	90%	0	2,843
2012	849	1,013	1,862	1,740	93%	0	654	325	979	883	90%	0	2,841
2013	862	1,000	1,862	1,709	92%	0	646	332	978	854	87%	0	2,840
20-Year Avg	928	948	1,876	1,684	88%	29	714	286	1,000	867	86%	3	2,908
1993-02 Avg	958	932	1,890	1,766	91%	56	749	267	1,015	899	88%	6	2,967
2003-12 Avg	898	965	1,862	1,603	86%	2	680	305	985	835	85%	0	2,849
2014	848	1,015	1,863	1,728	93%	0	636	341	977	881	90%	0	2,840

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

[b] Includes interim use permits.

Appendix A3.–Sockeye salmon commercial catch by district, in numbers of fish, Bristol Bay, 1994–2014.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
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
2007	9,022,511	6,495,908	5,026,615	8,404,111	816,581	29,765,726
2008	10,381,844	7,403,885	2,334,022	6,903,157	651,315	27,674,223
2009	8,514,944	11,527,462	2,555,263	7,730,168	559,442	30,887,279
2010	10,858,209	5,070,816	4,031,832	8,424,030	667,850	29,052,737
2011	9,016,321	4,810,362	2,643,495	4,886,552	744,626	22,101,356
2012	10,152,917	5,062,390	2,418,653	2,663,014	622,909	20,919,883
2013	4,853,030	4,779,133	2,168,216	3,163,805	467,329	15,431,513
20-Year Avg	7,681,514	7,100,385	2,598,365	5,603,215	539,517	23,466,059
1994-03 Avg	7,223,523	7,122,358	2,300,371	4,581,283	473,151	21,700,687
2004-13 Avg	8,139,506	7,078,412	2,896,360	6,625,147	605,882	25,427,583
2014	13,791,057	6,928,655	1,507,440	6,447,650	443,258	29,122,018 [a]

[a] Includes 3,958 fish that were not assigned to a district.

Appendix A4.–Chinook salmon commercial catch by district, in numbers of fish, Bristol Bay, 1994–2014.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1994	6,016	1,243	3,685	119,480	10,484	140,908
1995	5,130	782	1,551	79,943	11,982	99,388
1996	4,273	1,012	596	72,123	8,603	86,607
1997	3,132	2,144	1,098	64,390	6,074	76,838
1998	2,722	795	347	117,820	14,132	135,816
1999	1,439	740	1,640	11,178	11,932	26,929
2000	1,077	1,067	893	12,120	7,862	23,019
2001	995	967	1,021	11,746	1,021	15,750
2002	1,002	284	623	40,039	2,801	44,749
2003	611	135	478	43,485	3,231	47,940
2004	1,496	1,632	891	96,759	9,310	114,280
2005	1,458	486	1,818	62,764	10,759	77,285
2006	2,333	915	2,608	84,881	16,225	106,962
2007	1,520	528	1,473	51,831	7,769	63,121
2008	1,344	416	1,191	18,968	3,087	25,006
2009	1,026	308	948	24,693	4,602	31,577
2010	1,060	223	460	26,056	5,553	33,352
2011	1,962	567	372	26,927	6,731	36,559
2012	2,306	282	212	11,952	4,829	19,581
2013	1,360	144	52	10,213	2,718	14,487
20-Year Avg	2,113	734	1,098	49,368	7,485	61,008
1994-03 Avg	2,640	917	1,193	57,232	7,812	69,794
2004-13 Avg	1,587	550	1,003	41,504	7,158	52,221
2014	1,526	318	77	11,448	1,708	15,077

Appendix A5.–Chum salmon commercial catch by district, in numbers of fish, Bristol Bay, 1994–2014.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total	
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	97,582	85,153	106,169	331,494	206,233	826,631	
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	170,806	111,677	685,299	
2000	68,218	38,777	36,349	114,456	140,175	397,975	
2001	16,526	33,579	43,404	526,739	211,701	831,949	
2002	19,189	23,516	35,792	276,787	112,987	468,271	
2003	34,481	37,116	52,908	740,372	68,154	933,031	
2004	29,972	75,061	49,358	458,916	94,025	732,481	
2005	204,777	62,029	39,513	966,069	124,695	1,397,083	
2006	457,855	153,777	168,428	1,240,235	223,364	2,243,659	
2007	383,927	157,991	242,025	953,292	202,486	1,939,721	
2008	237,260	92,901	135,292	492,341	301,967	1,259,761	
2009	255,520	118,212	64,974	745,161	141,375	1,325,242	
2010	337,911	57,324	62,987	424,234	118,767	1,001,223	
2011	218,710	39,246	34,287	296,909	113,234	702,386	
2012	133,959	35,375	31,352	272,163	206,614	679,463	
2013	272,754	36,792	32,624	586,117	209,946	1,138,233	
20-year Avg	178,753	67,078	67,169	485,435	157,786	957,479	
1994-03 Avg	104,242	51,286	48,255	327,326	141,924	673,032	
2004-13 Avg	253,265	82,871	86,084	643,544	173,647	1,241,925	
2014	87,188	33,173	19,677	242,261	100,195	482,531	[a]

[a] Includes 37 fish that were not assigned to a district.

Appendix A6.–Pink salmon commercial catch by district, in numbers of fish, Bristol Bay, 1994–2014.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
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
2005	32	0	1	554	2,108	2,695
2006	25,149	700	0	39,011	80,748	145,608
2007	9	9	2	384	533	937
2008	20,682	1,033	16	138,284	125,409	285,424
2009	23	0	1	320	544	888
2010	8,237	1,655	0	1,289,970	39,734	1,339,596
2011	13	0	5	257	352	627
2012	3,535	285	0	877,466	28,055	909,341
2013	467	0	0	208	187	862
20-Year Avg[a]	11,247	455	50	242,751	39,951	294,454
1994-03 Avg[a]	9,423	175	59	11,327	21,454	42,437
2004-13 Avg[a]	13,070	735	41	474,176	58,448	546,470
2014	7,435	4,835	227	1,166,993	118,673	1,298,163

[a] Averages include even-numbered years only.

Appendix A7.–Coho salmon commercial catch by district, in numbers of fish, Bristol Bay, 1994–2014.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
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	112,852	2,758	130,997
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
2007	2,180	18,111	1,954	29,578	157	51,980
2008	7,059	29,682	2,220	76,932	1,159	117,052
2009	732	10,594	2,602	35,171	9,209	58,308
2010	901	9,984	407	72,909	24,065	108,266
2011	633	440	84	4,712	7,605	13,474
2012	431	2,493	0	97,382	15,977	116,283
2013	467	812	479	124,182	11,420	137,360
20-Year Avg	1,861	19,025	4,788	37,150	15,929	78,753
1994-03 Avg	1,419	25,866	7,202	16,759	23,307	74,553
2004-13 Avg	2,302	12,184	2,374	57,541	8,551	82,953
2014	618	11,473	435	242,391	32,131	287,048

Appendix A8.–Total salmon commercial catch by district, in numbers of fish, Bristol Bay, 1994–2014.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total	
1994	16,570,406	10,862,998	4,427,880	3,855,157	808,696	36,525,137	
1995	20,524,652	14,518,212	4,587,225	4,920,302	847,601	45,397,992	
1996	8,325,520	10,933,544	4,531,033	6,111,339	767,032	30,668,468	
1997	602,061	7,614,359	1,427,849	2,761,086	198,926	12,604,281	
1998	2,694,447	3,589,915	751,988	3,347,789	337,001	10,721,140	
1999	9,715,807	7,475,451	2,328,047	6,360,934	511,689	26,391,928	
2000	4,818,024	7,082,486	1,577,446	6,645,252	946,486	21,069,694	
2001	5,299,384	2,919,874	526,114	5,277,729	1,032,116	15,055,217	
2002	1,439,831	4,641,902	1,610,548	3,157,042	350,596	11,199,919	
2003	3,385,814	2,369,459	1,804,199	7,452,178	778,472	15,790,122	
2004	4,758,330	10,288,807	3,194,507	6,734,064	574,325	25,550,033	
2005	6,940,395	8,099,368	2,266,400	8,168,138	602,660	26,076,961	
2006	7,641,821	7,591,163	2,603,760	12,285,064	947,228	31,069,036	
2007	9,414,797	6,674,941	5,272,187	9,440,219	1,027,528	31,829,672	
2008	10,651,517	7,528,622	2,472,742	7,629,892	1,082,937	29,365,710	
2009	8,774,759	11,658,846	2,623,819	8,774,759	714,804	32,546,987	
2010	11,208,947	5,144,104	4,095,854	10,222,381	866,201	31,537,487	
2011	9,240,963	4,853,480	2,678,405	5,216,149	872,551	22,403,764	
2012	10,293,536	5,101,370	2,450,220	3,918,549	878,294	22,641,969	
2013	5,127,632	4,816,881	2,201,371	3,884,525	691,600	16,722,009	
20-Year Avg	7,871,432	7,188,289	2,671,580	6,308,127	741,837	24,758,376	
1994-03 Avg	7,337,595	7,200,820	2,357,233	4,988,881	657,862	22,542,390	
2004-13 Avg	8,405,270	7,175,758	2,985,927	7,627,374	825,813	26,974,363	
2014	13,887,824	6,978,454	1,527,856	8,110,743	695,965	31,204,837	[a]

[a] Includes 3,995 fish that were not assigned to a district.

Appendix A9.–Commercial sockeye salmon catch, in percent, by gear type and district, Bristol Bay, 1994–2014.

	Naknek-Kvichak									Nushagak								
		Setnet Sec.		NRSHA [a]		Egegik		Ugashik			Setnet Sec.		WRSHA [b]		Togiak		Total	
Year	Drift	Nak.	Kvi.	Drift	Set	Drift	Set	Drift	Set	Drift	Nush.	Igushik	Drift	Set	Drift	Set	Drift	Set
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
2007	82	12	6	80	12	84	16	92	8	80	17	3			59	41	81	19
2008	81	12	7			85	15	92	8	79	16	5			60	40	82	18
2009	80	12	9			85	15	87	13	76	20	4			60	40	82	18
2010	81	10	9			84	16	90	10	78	17	6	71	29	61	39	82	18
2011	84	10	7			83	17	87	13	76	16	7			60	40	81	19
2012	85	7	8			83	17	90	10	67	27	6	45	55	67	33	73	27
2013	84	9	7			85	15	90	10	78	17	5			65	35	84	16
1994-03 Avg	85	13	4	68	32	87	13	89	11	74	23	4	72	28	54	47	84	16
2004-13 Avg	82	10	8	83	16	84	16	89	11	79	17	4	58	42	60	40	79	21
2014	83	9	8			89	11	82	18	73	16	7			58	42	82	18
Allocation [d]	84	8	8	84	16	86	14	90	10	74	20	6	74	26	NA	NA	NA	NA

Note: Blank cells indicate no data.

[a] Naknek River Special Harvest Area (NRSHA), Naknek-Kvichak District; allocation plan enacted in December 2003.

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

[c] NRSHA prior to allocation plan; fishing periods were alternated between gear types.

[d] The Alaska Board of Fisheries enacted allocation plan in 1998; reviewed in December 2003. Historical data prior to 1998 is based on postseason numbers. Inseason numbers are presented for 1998 to present because they were used to make management decisions regarding allocation.

Appendix A10.–Sockeye salmon escapement by district, in numbers of fish, Bristol Bay, 1994–2014.

Year	Naknek-Kvichak [a]	Egegik [b]	Ugashik [c]	Nushagak [d]	Togiak [e]	Total
1994	9,571,245	1,894,977	1,095,068	2,503,624	233,632	15,298,546
1995	11,365,573	1,282,508	1,321,108	2,284,060	240,266	16,493,515
1996	2,835,426	1,075,596	692,167	2,607,401 [f]	212,524	7,423,114
1997	2,747,511	1,104,004	656,641	2,061,085	171,373	6,740,614
1998	3,750,246	1,110,932	924,853	2,490,324	214,626	8,490,981
1999	8,303,878	1,727,772	1,662,042	2,302,934 [f]	231,196	14,227,822
2000	3,654,568	1,032,138	638,420	2,159,628 [f]	390,080	7,874,834
2001	3,194,708	968,872	866,368	2,765,440 [f]	338,616 [g]	9,102,876
2002	2,303,463	1,036,092	905,584	1,755,993 [f]	199,507	6,200,639
2003	5,627,974 [h]	1,152,120	790,202	2,295,963 [f]	261,851 [g]	10,128,110
2004	12,836,100 [h]	1,290,144	815,104	2,196,864 [f]	154,681 [g]	17,292,893
2005	9,283,980 [h]	1,621,734	799,612	2,968,962 [f]	155,778 [g]	14,830,066
2006	6,795,420 [h]	1,465,158	1,003,158	4,861,780 [f]	312,126 [i]	14,437,642
2007	8,221,926 [h]	1,432,500	2,599,186	2,461,579 [f]	269,646 [i]	14,984,837
2008	7,411,104 [h]	1,259,568	596,332	3,271,926 [f]	205,680 [i]	12,744,610
2009	4,406,424 [h]	1,146,276	1,364,338	2,317,569 [f]	313,946 [i]	9,548,553
2010	6,859,068 [h]	927,054	830,886	2,791,080 [f]	188,298 [i]	11,596,386
2011	4,325,220 [h]	961,200	1,029,853	1,947,577	190,970 [i]	8,454,820
2012	5,926,503	1,233,900	695,018	1,389,975	203,148 [i]	9,448,544
2013	4,122,686	1,113,630	898,110	2,465,791	128,118 [i]	8,728,335
20-Year Avg	6,177,151	1,241,809	1,009,203	2,494,978	230,803	11,202,387
1994-03 Avg	5,335,459	1,238,501	955,245	2,322,645	249,367	10,198,105
2004-13 Avg	7,018,843	1,245,116	1,063,160	2,667,310	212,239	12,206,669
2014	6,133,492	1,382,466	640,158	3,723,697	151,934 [i]	12,031,747

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

[b] Includes Egegik River. May include King Salmon River and Shosky Creek.

[c] Includes Ugashik River. Also includes Mother Goose River and Dog Salmon River systems in 1991–2004.

[d] Includes Wood, Igushik, Nuyakuk, Nushagak-Mulchatna, and Snake rivers. Nushagak River sonar escapement estimates prior to 2006 were adjusted after the 2012 season to account for a transition in sonar technology that occurred in 2006 (Buck et al. 2012).

[e] Includes aerial survey of Togiak River, Lake tributaries, Kulukak system, other miscellaneous river systems, and Togiak River tower count except where noted.

[f] Snake River not surveyed.

[g] Only partial and/or late aerial survey of Togiak streams.

[h] Includes Alagnak tower count.

[i] Togiak River 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, 1994–2014.

		Escapement				
Year	Catch	Kvichak [a]	Alagnak	Naknek [a]	Total	Total run
1994	16,327,858	8,337,840	242,595 [b]	990,810	9,571,245	25,899,103
1995	20,280,970	10,038,720	215,713 [b]	1,111,140	11,365,573	31,645,154
1996	8,215,474	1,450,578	306,750 [b]	1,078,098	2,835,426	11,047,409
1997	589,545	1,503,732	218,115 [b]	1,025,664	2,747,511	3,336,822
1998	2,596,490	2,296,074	252,200 [b]	1,202,172	3,750,446	6,345,885
1999	9,454,109	6,196,914	481,600 [b]	1,625,364	8,303,878	17,756,850
2000	4,728,095	1,827,780	451,300 [b]	1,375,488	3,654,568	8,381,629
2001	5,281,837	1,095,348	267,000 [b]	1,830,360	3,192,708	8,473,246
2002	1,419,630	703,884	335,661 [b]	1,263,918	2,303,463	3,722,401
2003	3,350,656	1,686,804	3,676,146 [a]	1,831,170	7,194,120	10,542,573
2004	4,716,715	5,500,134	5,396,592 [a]	1,939,374	12,836,100	17,551,170
2005	6,730,812	2,320,422	4,219,026 [a]	2,744,622	9,284,070	15,990,456
2006	7,151,741	3,068,226	1,773,966 [a]	1,953,228	6,795,420	13,949,170
2007	9,027,161	2,810,208	2,466,414 [a]	2,945,304	8,221,926	17,244,437
2008	10,385,172	2,757,912	2,180,502 [a]	2,472,690	7,411,104	17,792,948
2009	8,517,450	2,266,140	970,818 [a]	1,169,466	4,406,424	12,925,769
2010	10,861,016	4,207,410	1,187,730 [a]	1,463,928	6,859,068	17,720,084
2011	9,019,372	2,264,352	883,794 [a]	1,177,074	4,325,220	13,344,592
2012	10,152,917	4,164,444	861,747 [b]	900,312	5,926,503	16,079,420
2013	4,853,030	2,088,576	1,095,950 [b]	938,160	4,122,686	8,975,716
20-Year Avg	7,683,003	3,329,275	1,374,181	1,551,917	6,255,373	13,936,242
1994-03 Avg	7,224,466	3,513,767	644,708	1,333,418	5,491,894	12,715,107
2004-13 Avg	8,141,539	3,144,782	2,103,654	1,770,416	7,018,852	15,157,376
2014	13,791,053	4,458,540	200,500	1,474,428	6,133,468	19,924,521

[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, 1994–2014.

	Kvichak		Alagnak			Naknek		
Year	Number	%	Number	%		Number	%	Total run [a]
1994	22,273	86	518	2	[b]	3,108	12	25,899
1995	27,531	87	633	2	[b]	3,481	11	31,645
1996	3,425	31	663	6	[b]	6,849	62	11,047
1997	1,669	50	234	7	[b]	1,402	42	3,337
1998	3,427	54	381	6	[b]	2,538	40	6,346
1999	12,963	73	1,065	6	[b]	3,729	21	17,757
2000	2,850	34	754	9	[b]	4,778	57	8,382
2001	1,440	17	424	5	[b]	6,609	78	8,473
2002	707	19	335	9	[b]	2,680	72	3,722
2003	2,003	19	2,530	24	[c]	6,010	57	10,543
2004	7,371	42	6,494	37	[c]	3,686	21	17,551
2005	2,878	18	5,277	33	[c]	7,835	49	15,990
2006	5,859	42	2,790	20	[c]	5,301	38	13,949
2007	4,311	25	4,311	25	[c]	8,794	51	17,244
2008	5,694	32	5,872	33	[c]	6,228	35	17,793
2009	5,558	43	2,714	21	[c]	4,653	36	12,926
2010	9,392	53	2,658	15	[c]	5,670	32	17,720
2011	7,073	53	2,002	15	[c]	4,270	32	13,345
2012	10,372	65	2,417	15	[b]	3,216	20	16,079
2013	4,587	51	2,377	26	[b]	2,249	25	8,976
20-Year Avg	7,069	45	2,222	16		4,654	40	13,936
1994-03 Avg	7,829	47	754	8		4,118	45	12,715
2004-13 Avg	6,309	42	3,691	24		5,190	34	15,157
2014	13,408	28	842	4	[b]	5,648	67	19,898

[a] Due to rounding of river system total runs, district total run may not equal the sum of the rows.

[b] Total run is based on aerial survey estimate.

[c] Total run is based on tower count.

Appendix A13.–Inshore commercial catch and escapement of sockeye salmon in the Egegik District by river system, in numbers of fish, Bristol Bay, 1994–2014.

		Escapement			
Year	Catch	Egegik [a]	Shosky Cr. [b]	King Salmon River [b]	Total run
1994	10,747,211	1,894,932	15	30	12,642,188
1995	14,383,850	1,281,678		830	15,666,358
1996	10,809,115	1,075,596			11,884,711
1997	7,461,533	1,103,964		40	8,565,537
1998	3,503,745	1,110,882		50	4,614,677
1999	7,383,750	1,727,772		625	9,112,147
2000	6,996,138	1,032,138			8,028,276
2001	2,836,555	968,862	10		3,805,427
2002	4,525,293	1,036,092			5,561,385
2003	2,253,721	1,152,030		90	3,405,841
2004	9,881,907	1,290,144			11,172,051
2005	8,015,950	1,621,584	0		9,637,534
2006	7,388,027	1,465,128	0		8,853,155
2007	6,474,027	1,432,500	0	1,500	7,908,027
2008	7,379,871	1,259,568	0	250	8,639,689
2009	11,527,282	1,146,276	0	4	12,673,562
2010	5,059,029	926,904		150	5,986,083
2011	4,806,939	961,200			5,768,139
2012	5,057,490	1,233,900		300	6,291,690
2013	4,779,133	1,113,630	[c]	[c]	5,892,763
20-Year Avg	7,063,528	1,241,739	4	352	8,305,462
1994-03 Avg	7,090,091	1,238,395	13	278	8,328,655
2004-12 Avg	6,602,125	1,236,624	0	382	7,838,958
2014	6,928,655	1,382,466	[c]	[c]	8,311,121

Note: Blank cells represent no survey conducted.

[a] Tower count.

[b] Aerial survey index count.

[c] No survey conducted.

Appendix A14.–Inshore commercial catch and escapement of sockeye salmon in the Ugashik District by river system, in numbers of fish, Bristol Bay, 1994–2014.

		Escapement			
Year	Catch	Ugashik [a] River	King Salmon [b] River	Dog Salmon [b] River	Total run
1994	4,349,912	1,080,858	8,885	5,325	5,444,980
1995	4,475,879	1,304,058	7,650	9,400	5,796,987
1996	4,411,084	667,518	7,230	17,419	5,103,251
1997	1,392,516	618,396	27,645	10,600	2,049,157
1998	716,814	890,508	27,425	6,920	1,641,667
1999	2,255,131	1,651,572	6,350	4,120	3,917,173
2000	1,517,236	620,040	12,900	5,480	2,155,656
2001	474,759	833,628	22,940	9,800	1,341,127
2002	1,570,418	892,104	11,460	2,020	2,476,002
2003	1,731,657	758,532	27,620	4,000	2,521,809
2004	3,077,745	776,364	22,850	15,890	3,892,849
2005	2,216,906	779,172	[c]	20,440	3,016,518
2006	2,428,334	978,718	[c]	24,440	3,431,492
2007	4,996,077	2,523,686	5,420 [c]	70,020	7,595,203
2008	2,319,790	588,632	[c]	7,700	2,916,122
2009	2,555,268	1,346,630	[c]	17,920	3,919,818
2010	4,031,625	805,686	[c]	25,200	4,862,511
2011	2,641,882	1,003,753	[c]	26,100	3,671,735
2012	2,415,580	670,578	8	24,432	3,110,598
2013	2,168,216	898,110	[c]	[c]	3,066,326
20-Year Avg	2,587,341	984,427	14,491	16,170	3,596,549
1993-02 Avg	2,289,541	931,721	16,011	7,508	3,244,781
2003-12 Avg	2,780,280	1,011,806	13,975	23,614	3,818,635
2014	1,507,440	640,158	[c]	[c]	2,147,598

[a] Tower count plus aerial survey index count.

[b] Aerial survey index count.

[c] Not surveyed.

Appendix A15.–Inshore commercial catch and escapement of sockeye salmon in the Nushagak District by river system, in numbers of fish, Bristol Bay, 1994–2014.

		Escapement							
Year	Catch	Wood [a]	Igushik [a]	Nuyakuk [a]	Nush/Mul [b]	Nushagak [c]	Snake [d]	Total	Total run
1994	3,393,143	1,471,890	445,920	[e]	[e]	563,334 [f]	22,480	2,503,624	5,896,767
1995	4,445,900	1,482,162	473,382	69,702	241,434	311,136 [f]	17,380	2,284,060	6,729,960
1996	5,693,594	1,649,598	400,746	250,692	306,365	557,057 [f]	[g]	2,607,401	8,300,995
1997	2,506,857	1,512,396	127,704	272,982	139,609	412,591 [f]	8,394	2,061,085	4,567,942
1998	2,991,841	1,755,768	215,904	146,250	361,282	507,532 [f]	11,120	2,490,324	5,482,165
1999	6,176,051	1,512,426	445,536	81,006	263,966	344,972 [f]	[g]	2,302,934	8,478,985
2000	6,367,502	1,300,026	413,316	129,468	316,818	446,286 [f]	[g]	2,159,628	8,527,130
2001	4,735,718	1,458,732	409,596	184,044	713,068	897,112 [f]	[g]	2,765,440	7,501,158
2002	2,839,918	1,283,682	123,156	68,928	280,227	349,155 [f]	[g]	1,755,993	4,595,911
2003	6,667,538	1,459,782	194,088	116,646	525,447	642,093 [f]	[g]	2,295,963	8,963,501
2004	6,104,492	1,543,342	109,650	77,406	466,466	543,872 [f]	[g]	2,196,864	8,301,356
2005	7,096,296	1,496,550	365,709	251,016	855,687	1,106,703 [f]	[g]	2,968,962	10,065,258
2006	10,876,552	4,008,102	305,268	170,760	377,650	548,410	[g]	4,861,780	15,738,332
2007	8,404,532	1,528,086	415,452	[e]	[e]	518,041	[g]	2,461,579	10,866,111
2008	6,903,367	1,724,676	1,054,704	[e]	[e]	492,546	[g]	3,271,926	10,175,293
2009	7,731,518	1,319,232	514,188	[e]	[e]	484,149	[g]	2,317,569	10,049,087
2010	8,424,702	1,804,344	518,040	[e]	[e]	468,696	27,135	2,818,215	11,242,917
2011	4,887,305	1,098,006	421,380	[e]	[e]	428,191	21,167	1,968,744	6,856,049
2012	2,663,014	764,211	193,326	[e]	[e]	432,438	2,000	1,391,975	4,054,989
2013	3,163,805	1,183,348	387,744	[e]	[e]	894,172	1,288	2,466,552	5,630,357
20-year Avg	5,603,682	1,567,818	376,740	151,575	404,002	547,424	13,871	2,497,531	8,101,213
1994-03 Avg	4,581,806	1,488,646	324,935	146,635	349,802	503,127	14,844	2,322,645	6,904,451
2004-13 Avg	6,625,558	1,646,990	428,546	166,394	566,601	591,722	12,898	2,672,417	9,297,975
2014	6,447,650	2,764,614	340,590	[e]	[e]	618,477	[g]	3,723,681	10,171,331

Note: Blank cells represent no data.

[a] Tower count.

[b] Escapement estimates derived from the difference between Nushagak River sonar estimate and Nuyakuk tower count.

[c] Total escapements determined for the entire drainage using Nushagak River sonar estimate.

[d] Aerial survey estimate.

[e] The Nuyakuk tower project was in operation from 1995 to 2006. There is no breakdown of Nuyakuk or Nush/Mul. River escapements outside of these years.

[f] Nushagak River sonar escapement estimates before 2006 were adjusted after 2012 to account for a transition in sonar technology occurring in 2006 (Buck et al. 2012).

[g] No survey conducted.

Appendix A16.–Inshore sockeye salmon total run by river system, in thousands of fish and percent of total district run, Nushagak District, Bristol Bay, 1994–2014.

	Wood		Igushik		Nushagak								Snake [c]		
	Total run		Total run		Nushagak escapement [a]					Catch	Total run				
					Nuyakuk		Nush-Mul		Sonar	Total					
Year	Number	%	Number	%	Number	%	Number	%	estimate [b]	number	Number	%	Number	%	Total run [d]
1994	2,957	50	1,300	22					563	1,034	1,597	27	42	0.7	5,896
1995	4,022	60	1,902	28	70	23	241	77	311	475	786	12	20	0.3	6,730
1996	5,007	60	1,481	18	251	45	306	55	557	1,256	1,813	22			8,301
1997	3,365	74	291	6	273	66	140	34	413	491	904	20	8	0.2	4,568
1998	3,901	71	571	10	146	29	362	71	508	490	998	18	11	0.2	5,481
1999	5,930	70	1,563	18	81	23	264	77	345	640	985	12			8,478
2000	5,278	62	1,748	21	129	29	317	71	446	1,054	1,500	18			8,526
2001	3,987	53	1,315	18	184	21	713	79	897	1,301	2,198	29			7,500
2002	3,715	81	207	5	69	20	280	80	349	325	674	15			4,596
2003	5,647	63	1,018	11	117	18	525	82	642	1,655	2,297	26			8,962
2004	5,375	65	564	7	77	14	467	86	544	1,801	2,345	28			8,284
2005	4,771	47	1,878	19	251	23	856	77	1,107	2,346	3,453	34			10,102
2006	11,064	70	1,435	9	171	31	377	69	548	2,690	3,238	21			15,737
2007	6,523	60	1,762	16					518	2,062	2,580	24			10,865
2008	5,236	56	2,394	26					493	1,152	1,645	18			9,275
2009	7,195	72	926	9					484	1,443	1,927	19			10,048
2010	7,698	66	1,365	12					469	2,153	2,622	22	27	0.2	11,712
2011	4,328	63	1,036	15					428	1,042	1,470	21	21	0.3	6,855
2012	2,449	60	703	17					432	469	901	22	2		4,055
2013	3,174	46	745	11					891	2,090	2,981	43			6,900
20-Year Avg	5,081	62	1,210	15	152	28	404	72	547	1,298	1,846	23	19	0	8,144
1994-03 Avg	4,381	64	1,140	16	147	30	350	70	503	872	1,375	20	20	0	6,904
2004-13 Avg	5,781	61	1,281	14	166	23	567	77	591	1,725	2,316	25	17	0	9,383
2014	7,521	74	992	10					618	1,040	1,658	16		0	10,171

Note: Blank cells represent no data.

[a] The Nuyakuk Tower project was in operation from 1995 to 2006. There is no breakdown of Nuyakuk or Nush/Mul. River escapements outside of these years.

[b] Nushagak River sonar escapement estimates prior to 2006 were adjusted after the 2012 season to account for a transition in sonar technology that occurred in 2006 (Buck et al 2012).

[c] Aerial survey count.

[d] Due to rounding, district total runs may not equal the sum of the rows. District total run is the sum of Wood, Igushik, Nushagak, and Snake River system 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, 1994–2014.

	Catch				Escapement						
					Togiak						
Year	Togiak	Kulukak	Os/Mat [a]	Total	Lake [b]	River [c]	Tributaries [d]	Kulukak [e]	Other [f]	Total	Total run
1994	321,121	76,781	2,137	400,039	154,752	6,200	13,220	29,740	29,720	233,632	633,671
1995	527,142	76,056	2,130	605,328	185,718	6,520	18,988	14,620	14,420	240,266	845,594
1996	384,886	76,313	1,705	462,904	156,954	18,320	11,900	18,980	6,370	212,524	675,428
1997	91,639	47,979	2,951	142,569	131,682	12,300	8,325	7,950	11,116	171,373	313,942
1998	112,994	75,279	1,375	189,648	153,576	9,780	12,120	12,950	26,200	214,626	404,274
1999	346,750	38,662	0	385,412	155,898	10,800	29,438	12,300	22,760	231,196	616,608
2000	727,384	67,612	0	794,996	311,970	25,200	15,075	22,350	15,485	390,080	1,185,076
2002	214,240	19,032	471	233,743	162,402	4,100	12,075	8,500	12,430	199,507	433,250
2001 [g]	798,427	10,052	1,618	810,097	296,676	6,520	150	17,280	17,990	338,616	1,148,713
2003 [h]	650,066	55,081	861	706,008	232,302			8,004	21,545	261,851	967,859
2004 [g,h]	356,747	79,392	1,095	437,234	129,462	6,100	75		19,044	154,681	591,915
2005 [h]	411,042	54,052	0	465,094	149,178	5,580	1,020		3,713	159,491	624,585
2006 [i]	574,629	51,813	0	626,442	312,126					312,126	938,568
2007 [i]	758,736	57,845	0	816,581	269,646					269,646	1,086,227
2008 [i]	626,792	24,523	0	651,315	205,680					205,680	856,995
2009 [i]	516,955	42,504	0	559,459	313,946					313,946	873,388
2010 [i]	535,489	132,392	4	667,885	190,970					190,970	858,855
2011 [i]	625,423	118,664	547	744,634	188,298					188,298	932,932
2012 [i]	586,160	34,731	1,929	622,820	203,148					203,148	825,968
2013 [i]	425,407	34,692	7,230	467,329	128,118					128,118	595,447
20-Year Avg	479,601	58,673	1,203	539,477	201,625	10,129	11,126	15,267	16,733	230,989	770,465
1994-03 Avg	417,465	54,285	1,325	473,074	194,193	11,082	13,477	15,267	17,804	249,367	722,442
2004-13 Avg	541,738	63,061	1,081	605,879	209,057	5,840	548		11,379	212,610	818,488
2014 [i]	371,933	59,088	12,237	443,258	151,934					151,934	595,192

Note: Blank cells represent no data.

[a] Catches in the Osviak and Matogak sections were combined.

[b] Tower count.

[c] Aerial survey estimate.

[d] Aerial survey estimate includes Gechiak, Pungokepuk, Kemuk, Nayorurun, and Ongivinuck river systems.

[e] Aerial survey estimate includes Kulukak River, Kulukak Lake, and Tithe Creek ponds.

[f] Aerial survey estimate includes Matogak, Osviak, Slug, Negukthlik, Ungalikthluk, and Quigmy rivers.

[g] Only the Ongivinuk River was surveyed in tributaries.

[h] Partial survey.

[i] No aerial surveys to assess sockeye salmon escapement conducted.

Appendix A18.–Inshore total run of sockeye salmon by district, in numbers of fish, Bristol Bay, 1994–2014.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak [a]	Togiak	Total
1994	25,899,103	12,645,190	5,447,865	5,896,763	633,671	50,522,592
1995	31,645,154	15,708,515	5,830,526	6,729,960	845,594	60,759,749
1996	11,050,454	11,884,711	5,103,222	8,300,964	675,421	37,014,772
1997	3,336,822	8,621,393	2,059,331	4,567,903	313,942	18,899,391
1998	6,345,685	4,639,777	1,655,127	5,480,921	405,053	18,526,563
1999	17,756,850	9,115,852	3,918,049	8,478,353	616,607	39,885,711
2000	8,381,629	8,061,535	2,177,210	8,526,836	1,185,076	28,332,286
2001	8,475,246	3,841,534	1,346,877	7,500,240	1,148,712	22,312,609
2002	3,722,401	5,646,466	2,478,818	4,595,417	433,250	16,876,352
2003	8,976,478	3,443,622	2,539,136	8,961,928	967,859	24,889,023
2004	17,551,170	11,499,371	3,954,333	8,300,912	591,915	41,897,701
2005	16,012,449	9,637,684	3,016,247	10,064,993	620,872	39,352,245
2006	13,947,161	8,874,141	3,432,795	15,738,332	938,568	42,930,997
2007	17,244,437	7,928,408	7,625,801	10,865,690	1,086,227	44,750,563
2008	17,792,948	8,663,453	2,930,354	10,175,083	856,995	40,418,833
2009	12,921,368	12,673,738	3,919,601	10,047,737	873,388	40,435,832
2010	17,717,277	5,997,870	4,862,718	11,215,110	856,148	40,649,123
2011	13,341,541	5,771,562	3,673,348	6,834,129	935,596	30,556,176
2012	16,079,420	6,296,290	3,113,671	4,052,989	826,057	30,368,427
2013	9,148,587	5,950,083	3,070,893	5,648,098	621,670	24,439,331
20-Year Avg	13,867,309	8,345,060	3,607,796	8,099,118	771,631	34,690,914
1994-03 Avg	12,558,982	8,360,860	3,255,616	6,903,929	722,519	31,801,905
2004-13 Avg	15,175,636	8,329,260	3,959,976	9,294,307	820,744	37,579,923
2014	19,924,521	8,310,816	2,147,598	10,171,331	595,192	41,149,458

[a] Reflects a 2012 adjustment of Nushagak River sonar escapement estimates prior to 2006 to account for a transition in sonar technology that occurred in 2006 (Buck et al. 2012).

Appendix A19.–Chinook salmon harvest, escapement and total runs in the Nushagak District, in numbers of fish, Bristol Bay, 1994–2014.

	Harvests by fishery				Inriver	Spawning	Total
Year	Commercial	Sport	Subsistence	Total	abundance[a]	escapement[b]	run
1994	119,480	10,627	15,490	145,597	199,643	186,791	332,388
1995	79,943	4,951	13,701	98,595	178,146	169,541	268,136
1996	72,123	5,391	15,941	93,455	108,456	98,556	192,011
1997	64,390	3,497	15,318	83,205	170,610	82,000	165,205
1998	117,820	5,827	12,258	135,905	244,461	235,003	370,908
1999	11,178	4,237	10,057	25,472	129,686	122,059	147,531
2000	12,120	6,017	9,470	27,607	117,288	108,588	136,195
2001	11,746	5,899	11,760	29,405	191,988	182,632	212,037
2002	40,039	3,693	11,281	55,013	181,307	173,956	228,969
2003	43,485	5,590	18,686	67,761	166,507	155,085	222,846
2004	96,759	6,813	15,610	119,182	242,183	231,224	350,406
2005	62,764	8,565	12,529	83,858	234,123	223,034	306,892
2006	84,881	7,473	9,971	102,325	124,683	116,088	218,413
2007	51,831	9,669	13,330	74,830	60,464	48,644	123,474
2008	18,968	6,700	12,960	38,628	96,641	87,673	126,301
2009	24,693	6,354	12,737	43,784	81,480	72,100	115,884
2010	26,056	3,907	9,150	39,113	36,625 [c]	30,443	69,556
2011	26,927	4,844	12,461	44,232	59,728 [c]	51,068	95,300
2012	11,952	5,931	10,350	28,233	107,786 [c]	101,049	129,282
2013	10,213	6,685	11,602	28,500	113,709	104,746	133,246
20-Year Avg	49,368	6,134	12,733	68,235	142,276	129,014	197,249
1994-03 Avg	57,232	5,573	13,396	76,202	168,809	151,421	227,623
2004-13 Avg	41,504	6,694	12,070	60,269	115,742	106,607	166,875
2014	11,448	5,544 [d]	11,260 [d]	28,252	70,482	62,496	90,748

[a] Inriver abundance estimated by sonar below the village of Portage Creek. Estimates prior to 2006 were adjusted after the 2012 season to account for a transition in sonar technology that occurred in 2006 (Buck et al. 2012).

[b] Spawning escapement estimated from the following: 1997 - from comprehensive aerial surveys; 1993–1996, 1998–2013 - from inriver abundance estimated by sonar minus inriver harvests.

[c] Inseason management count. Revised passage estimates for 2010, 2011, and 2012 are 60,185, 108,278, and 174,085, respectively.

[d] Data not available at the time of publication; 5-year average used.

Appendix A20.–Chinook salmon harvest, escapement and total runs in the Togiak District, in numbers of fish, Bristol Bay, 1994–2014.

	Harvests by fishery				Spawning		Total	
Year	Commercial	Sport [a]	Subsistence	Total	escapement [b]		run	
1994	9,350	663	904	10,917	15,117		26,034	
1995	10,768	581	448	11,797	12,600		24,397	
1996	8,114	790	471	9,375	8,299		17,674	
1997	5,365	1,165	667	7,197	10,300		17,497	
1998	12,867	763	782	14,412	9,856		24,268	
1999	10,830	644	1,244	12,718	9,520		22,238	
2000	7,258	470	1,116	8,844	11,813		20,657	
2001	9,518	1,006	1,612	12,136	13,110		25,246	
2002	2,682	76	703	3,461	9,515		12,976	
2003	3,078	706	1,208	4,992	3,050	[c]		[d]
2004	7,673	1,388	1,094	10,155	12,324		22,479	
2005	10,125	1,734	1,528	13,387	10,200		23,587	
2006	15,078	1,064	1,630	17,772		[e]		[d]
2007	7,142	1,501	1,234	9,877	0	[c]		[d]
2008	2,891	592	1,337	4,820	2,140	[c]		[d]
2009	4,429	606	827	5,862		[e]		[d]
2010	5,160	591	1,162	6,913	10,096	[f]	17,009	
2011	5,780	871	966	7,617	2,140		9,757	
2012	4,357	859	951	6,167	1,503		7,670	
2013	2,458	900	691	4,049		[e]		[d]
20-Year Avg	7,246	849	1,029	9,123	8,328		19,392	
1994-03 Avg	7,983	686	916	9,585	10,318		21,221	
2004-13 Avg	6,509	1,011	1,142	8,662	5,486		16,100	
2014	1,477	765 [g]	919 [g]	3,162	3,994		7,156	

[a] Sport fish harvest estimate only includes the Togiak River section.

[b] Spawning escapement estimated from comprehensive aerial surveys.

[c] Partial survey.

[d] Total run size cannot be determined in the absence of complete escapement data.

[e] No survey conducted due to poor weather/pilot availability.

[f] USFWS radiotelemetry-derived escapement estimate.

[g] Data not available at the time of publication. 5-year average used.

Appendix A21.–Inshore commercial catch and escapement of chum salmon in the Nushagak and Togiak Districts, in numbers of fish, 1994–2014.

	Nushagak District			Togiak District		
Year	Catch	Escapement [a]	Total run	Catch	Escapement [b]	Total run
1994	328,260	481,004	809,264	232,559	229,470	462,029
1995	390,158	269,886	660,044	221,126	163,040	384,166
1996	331,494	285,648	617,142	206,233	117,240	323,473
1997	185,635	78,011	263,646	47,285	106,580	153,865
1998	208,551	379,818	588,369	67,345	102,455	169,800
1999	170,806	307,586	478,392	111,677	116,183	227,860
2000	114,456	179,394	293,850	140,175	80,860 [c]	[d]
2001	526,739	716,850	1,243,589	211,701	252,610	464,311
2002	276,787	533,095	809,882	112,987	154,360	267,347
2003	740,372	374,992	1,115,364	68,154	39,090 [c]	[d]
2004	458,916	360,265	819,181	94,025	103,810	197,835
2005	966,069	519,618	1,485,687	124,695	108,346	233,041
2006	1,240,235	661,003	1,901,238	223,364	26,900 [c]	[d]
2007	953,292	161,483	1,114,775	202,486	[e]	[d]
2008	492,341	326,300	818,641	301,967	279,580 [c]	[d]
2009	745,161	438,481	1,183,642	141,375	[e]	[d]
2010	424,234	273,914	698,148	118,767	[e]	[d]
2011	296,909	248,278	545,187	113,234	[e]	[d]
2012	272,163	364,499	636,662	206,614	[e]	[d]
2013	340,881	623,326	628,134	208,786	[e]	[d]
20-Year Avg	473,173	379,173	835,542	157,728	134,323	144,186
1994-03 Avg	327,326	360,629	687,954	141,924	136,189	245,285
2004-13 Avg	619,020	397,717	983,129	173,531	129,659	43,088
2014	242,261	552,797	795,058	100,195	[e]	[d]

Note: Blank cells represent no data.

[a] Escapement based on estimates from the Nushagak River sonar project at Portage Creek. Estimates prior to 2006 were adjusted after the 2012 season to account for a transition in sonar technology that occurred in 2006 (Buck et al. 2012).

[b] Escapement estimates based on aerial surveys.

[c] Partial survey count.

[d] Total run cannot be determined; escapement information incomplete or unavailable.

[e] Chum salmon spawning escapement survey did not occur.

Appendix A22.–Average round weight (in pounds) of the commercial salmon catch by species, Bristol Bay, 1994–2014.

Year	Sockeye	Chinook	Chum	Pink	Coho
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
2007	5.8	13.5	6.1	3.5	6.4
2008	5.8	15.5	6.5	3.6	6.5
2009	5.9	15.2	6.3	3.3	6.5
2010	5.5	14.7	6.4	3.2	8.9
2011	6.2	13.0	7.0	3.2	6.8
2012	5.7	13.9	6.7	3.1	5.4
2013	6.0	15.3	6.4	3.9	6.0
20-Year Avg	5.9	16.1	6.8	3.5	6.9
1994-03 Avg	6.0	17.2	6.9	3.5	7.1
2004-13 Avg	5.9	15.0	6.7	3.5	6.6
2014	5.6	15.4	6.1	3.7	6.4

Appendix A23.–Average price paid (in dollars/pound) for salmon, by species, Bristol Bay, 1994–2014.

Year	Sockeye	Chinook	Chum	Pink	Coho
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	0.66	0.71	0.12	0.03	0.38
2007	0.67	0.64	0.13	0.03	0.41
2008	0.75	0.83	0.17	0.17	0.55
2009	0.80	0.89	0.17	0.07	0.56
2010	1.07	1.18	0.28	0.36	0.66
2011	1.17	1.04	0.37	0.29	0.74
2012	0.97	1.31	0.34	0.39	0.55
2013	1.50	1.48	0.30	0.14	0.79
20-Year Avg	0.82	0.70	0.16	0.12	0.49
1994-03 Avg	0.76	0.49	0.12	0.08	0.45
2004-13 Avg	0.87	0.90	0.21	0.16	0.53
2014 [a]	1.20	0.80	0.30	0.28	0.90

Source: OCEANAK ADF&G Commercial Operators Annual Report (COAR) By Subject Area. ADF&G is not responsible for errors or deficiencies in reproduction, subsequent analysis, or interpretation.

Note: The exvessel value includes any postseason adjustments or bonuses paid after the fish was purchased. Prices represent a weighted average price per pound by species and area. Prices may reflect a mixture of gear types and delivery conditions.

[a] Price does not include postseason adjustments or bonuses.

Appendix A24.–Estimated exvessel value of the commercial salmon catch by species, in thousands of dollars, Bristol Bay, 1994–2014.

Year	Sockeye	Chinook	Chum	Pink [a]	Coho	Total [b]
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
2007	119,196	542	1,583		120	121,441
2008	109,904	298	1,271	158	288	111,919
2009	127,615	400	1,291		162	129,468
2010	180,818	464	1,711	1,565	469	185,027
2011	135,655	430	1,604		37	137,726
2012	113,777	254	831	339	155	115,356
2013	138,884	327	2,185		653	142,049
20 Year Avg	108,669	609	939	217	260	110,585
1994-03 Avg	98,275	676	559	14	282	99,799
2004-13 Avg	119,063	543	1,319	420	237	121,372
2014	194,156	186	880	1,334	1,463	198,018

Note: Value paid to fishermen is derived from price per pound multiplied by commercial catch.

[a] Includes even-numbered years only.

[b] Total may vary from actual sum due to rounding.

Appendix A25.–South Unimak and Shumigan Island preseason sockeye allocation and actual sockeye and chum salmon harvest in thousands of fish, Alaska Peninsula, 1994–2014.

	South Unimak			Shumigan Island			Total		
	Sockeye			Sockeye			Sockeye		
Year	Actual	Quota [a]	Chum	Actual	Quota [a]	Chum	Actual	Quota [a]	Chum
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	2,013	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
2007	738		153	852		144	1,023		297
2008	1,064		285	650		126	1,714		411
2009	594		201	573		496	1,167		697
2010	488		100	331		171	819		271
2011	937		231	422		192	1,359		423
2012	900		212	628		181	1,528		393
2013	1,049		189	508		208	1,557		397
20-yr Avg	768	2,076	192	461	458	189	1,201	2,534	381
1994-03 Avg	814	2,076	210	343	458	142	1,157	2,534	352
2004-13 Avg	723		174	579		236	1,245		410
2014	413		208	252		181	665		389

Note: Blank cells represent no data.

[a] Sockeye salmon quota management system used from 1992 to 2000. The system was based on 8.3% of the Bristol Bay projected inshore harvest and traditional harvest patterns.

Appendix A26.–Subsistence salmon harvest by species, in numbers of fish, by district and location fished, Bristol Bay, 2013.

Area and river system	Permits issued[a]	Estimated salmon harvest					
		Chinook	Sockeye	Coho	Chum	Pink	Total
Naknek-Kvichak District	460	502	62,143	399	403	88	63,535
Naknek River Subdistrict	270	321	19,587	372	213	80	20,573
Kvichak River/Iliamna Lake Subdistrict:	191	181	42,556	27	190	8	42,962
Igiugig	4	4	356	10	0	0	371
Iliamna Lake-General	33	0	4,596	0	0	0	4,596
Kijik	5	0	516	0	0	0	516
Kokhanok	31	162	13,477	16	190	8	13,853
Kvichak River	14	0	658	0	0	0	658
Lake Clark	54	0	5,021	0	0	0	5,021
Levelock	4	15	984	0	0	0	999
Newhalen River	31	0	7,861	0	0	0	7,861
Pedro Bay	16	0	4,264	0	0	0	4,264
Pile Bay	1	0	145	0	0	0	145
Six Mile Lake	14	0	4,678	0	0	0	4,678
Egegik District	44	45	2,108	205	17	5	2,380
Ugashik District	14	19	537	106	10	0	672
Nushagak District	584	11,602	30,283	7,717	4,368	206	54,176
Igushik/Snake River	19	98	1,484	62	23	2	1,670
Nushagak Bay Commercial	45	525	1,896	750	372	113	3,655
Nushagak Bay Noncommercial	211	2,268	9,349	2,697	872	69	15,254
Nushagak River	169	7,296	10,299	2,813	2,640	11	23,060
Site Unknown	5	45	94	47	46	0	232
Wood River	178	1,370	7,161	1,348	415	11	10,305
Togiak District	64	691	3,695	208	375	33	5,002
Total[b]	1,162	12,858	98,765	8,635	5,173	333	125,764

Note: 2014 data were not available at the time of publication.

[a] Sum of sites may exceed district totals, and sum of districts may exceed area total, because a permit holder may use more than 1 site.

[b] 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 1,162 permits issued for the management area, 986 were returned (84.9%).

Appendix A27.–Subsistence salmon harvest by district and species, Bristol Bay, 1994–2014.

Year	Permits issued	Sockeye	Chinook	Chum	Pink	Coho	Total
Naknek Kvichak District							
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
2007	480	69,837	672	405	262	1,104	72,280
2008	481	69,823	719	404	801	1,437	73,184
2009	461	67,970	392	167	36	669	69,235
2010	437	62,309	422	233	835	645	64,445
2011	484	67,164	550	215	56	690	68,675
2012	483	72,708	785	127	474	485	74,579
2013	460	62,143	502	403	88	399	63,535
20-Year Avg	499	70,648	1,124	509	528	1,018	73,826
1994-03 Avg	528	73,158	1,543	686	589	1,242	77,219
2004-13 Avg	470	68,137	705	331	466	794	70,433
2014 [a]	465	66,459	530	229	298	578	68,094
Egegik District							
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
2007	28	980	165	72	26	334	1,577
2008	37	1,502	91	35	4	295	1,928
2009	26	778	31	6	5	133	953
2010	37	1,657	93	59	8	275	2,091
2011	37	1,772	91	23	2	377	2,265
2012	38	1,172	37	19	7	190	1,425
2013	44	2,108	45	17	5	205	2,380
20-Year Avg	43	1,999	89	77	30	515	2,709
1994-03 Avg	48	2,348	88	64	44	590	3,133
2004-13 Avg	38	1,650	90	91	16	440	2,285
2014 [a]	36	1,497	59	25	5	236	1,823

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Year	Permits Issued	Sockeye	Chinook	Chum	Pink	Coho	Total
Ugashik District							
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
2007	17	1,056	43	88	79	281	1,546
2008	14	1,660	47	17	9	222	1,955
2009	15	1,061	33	4	41	131	1,270
2010	18	896	21	4	0	135	1,056
2011	15	531	15	3	2	136	687
2012	20	997	31	25	0	228	1,281
2013	14	537	19	10	0	106	672
20-Year Avg	22	1,230	51	24	16	299	1,619
1994-03 Avg	26	1,527	69	29	16	391	2,032
2004-13 Avg	18	932	34	18	15	206	1,206
2014 [a]	16	804	24	9	9	147	993
Nushagak District							
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
2007	496	25,127	13,330	3,006	430	3,050	44,944
2008	571	26,828	12,960	4,552	1,923	5,133	51,395
2009	530	26,922	12,737	4,510	355	6,777	51,300
2010	528	22,326	9,150	3,660	1,672	2,983	39,791
2011	525	28,006	12,461	3,055	230	5,746	49,498
2012	517	20,587	10,350	3,072	1,309	2,642	37,960
2013	584	30,283	11,602	4,368	206	7,717	54,176
20-Year Avg	525	24,691	12,733	3,784	965	4,832	47,006
1994-03 Avg	528	25,157	13,396	3,613	884	4,917	47,968
2004-13 Avg	523	24,226	12,070	3,955	1,045	4,747	46,043
2014 [a]	537	25,625	11,260	3,733	754	5,173	46,545

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Year	Permits Issued	Sockeye	Chinook	Chum	Pink	Coho	Total
Togiak District							
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	2,576	1,612	367	61	388	6,590
2002	36	2,890	703	605	10	241	3,878
2003	92	2,357	1,208	483	451	883	7,428
2004	46	2,221	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
2007	48	2,548	1,234	420	19	110	4,332
2008	91	3,770	1,337	701	114	541	6,463
2009	40	2,220	827	365	5	272	3,689
2010	64	3,256	1,162	735	113	514	5,779
2011	68	3,462	966	497	42	545	5,512
2012	53	5,265	933	764	84	293	7,339
2013	64	3,695	691	375	33	208	5,002
20-Year Avg	53	2,674	1,028	472	90	392	4,788
1994-03 Avg	49	2,202	915	440	91	445	4,400
2004-13 Avg	58	3,146	1,140	503	90	339	5,176
2014 [a]	58	3,580	916	547	55	366	5,464
Total Bristol Bay Area							
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
2007	1,062	107,778	15,484	3,972	796	4,870	132,901
2008	1,178	103,583	15,153	5,710	2,851	7,627	134,924
2009	1,063	98,951	14,020	5,052	442	7,982	126,447
2010	1,082	90,444	10,852	4,692	2,627	4,623	113,238
2011	1,129	100,935	14,083	3,793	332	7,494	126,637
2012	1,107	100,728	12,136	4,007	1,874	3,837	122,582
2013	1,162	98,765	12,858	5,173	333	8,635	125,764
20-Year Avg	1,142	103,424	15,308	4,945	1,600	7,161	132,438
1994-03 Avg	1,176	104,699	16,026	4,832	1,624	7,586	134,766
2004-13 Avg	1,101	98,872	14,043	4,896	1,630	6,532	125,973
2014 [a]	1,109	97,965	12,790	4,543	1,122	6,514	122,934

Note: The sum of columns and rows may not equal the estimated total due to rounding. Harvests extrapolated over areas based on permits returned.

[a] 5-year average was used because data were 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, 1994–2014.

Year	Levelock	Igiugig	Pedro Bay	Kokhanok	Iliamna-Newhalen [a]	Nondalton	Port Alsworth	Other [b]	Total
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
2007	102	1,803	5,487	15,105	11,453	7,902	3,211	2,410	47,473
2008	30	1,558	4,884	14,755	13,569	8,916	3,307	2,544	49,563
2009	759	1,457	7,802	15,759	9,871	5,709	3,155	2,260	46,772
2010	940	2,901	5,609	13,973	8,815	3,185	3,250	2,015	40,688
2011	933	1,931	3,898	9,895	15,433	7,947	4,026	1,163	45,226
2012	750	2,608	4,028	16,530	12,933	9,247	4,420	1,855	52,370
2013	984	345	3,971	13,392	7,632	10,550	3,377	2,305	42,556
20-Year Avg	1,064	1,561	4,553	12,870	13,159	9,624	2,917	2,356	48,103
1994-03 Avg	1,487	1,532	4,210	11,030	13,833	11,253	2,627	2,639	48,607
2004-13 Avg	641	1,590	4,896	14,711	12,486	7,996	3,208	2,072	47,599
2014 [c]	873	1,848	5,061	13,910	10,937	7,328	3,646	1,920	45,522

Note: Harvests are extrapolated over areas for all permits issued, based on those returned. Harvest estimates based on community of residence and include fish caught only in the Naknek-Kvichak District.

[a] Includes Chekok.

[b] Subsistence harvests by non-Kvichak River watershed residents.

[c] 5-year average was used because current data were not available at the time of publishing.

Appendix A29.–Subsistence salmon harvest by community, Nushagak District, Bristol Bay, 1994–2014.

Year	Dillingham[a]	Manokotak	Aleknagik	Ekwok	New Stuyahok	Koliganek	Other [b]	Total
1994	30,145	3,491	2,289	4,343	8,056	4,513	2,322	55,159
1995	24,998	2,453	1,468	2,046	6,911	2,983	2,406	43,265
1996	27,161	3,883	1,733	2,866	8,892	3,319	2,113	49,967
1997	23,255	3,988	1,989	1,797	6,427	4,179	4,598	46,233
1998	24,072	4,069	1,112	3,555	5,419	3,166	4,958	46,351
1999	26,502	3,413	1,532	1,805	4,556	2,772	5,389	45,969
2000	27,931	3,173	1,111	3,946	3,715	2,792	2,362	45,029
2001	26,435	3,700	2,129	2,218	7,294	2,209	4,096	48,080
2002	25,004	3,254	1,517	2,735	6,043	3,098	3,247	44,897
2003	26,955	4,214	2,044	2,291	10,817	5,721	3,034	55,076
2004	23,308	2,052	2,206	1,891	6,714	3,619	3,364	43,154
2005	21,898	1,576	1,795	1,388	9,673	8,422	3,088	47,841
2006	22,184	1,655	2,048	1,499	6,160	3,886	2,941	40,373
2007	25,237	2,442	1,382	1,267	8,284	3,054	3,278	44,944
2008	27,446	5,429	3,309	1,902	5,690	4,423	3,196	51,395
2009	30,184	2,068	2,646	2,345	6,855	3,700	3,502	51,300
2010	22,903	2,665	1,570	1,380	5,608	2,406	3,259	39,791
2011	26,850	1,433	3,016	1,805	7,980	3,539	4,875	49,498
2012	22,037	1,212	2,457	1,253	5,062	2,834	3,105	37,960
2013	26,302	1,375	2,368	2,448	11,104	7,290	3,290	54,176
20-Year Avg	25,540	2,877	1,986	2,239	7,063	3,896	3,421	47,023
1994-03 Avg	26,246	3,564	1,692	2,760	6,813	3,475	3,453	48,003
2004-13 Avg	24,835	2,191	2,280	1,718	7,313	4,317	3,390	46,043
2014 [c]	25,655	1,751	2,411	1,846	7,321	3,954	3,606	46,545

Note: Harvests are extrapolated over areas for all permits issued based on those returned. Harvest estimates are based on community of residence and include fish caught only in the Nushagak District.

[a] Includes Portage Creek, Clarks Point, and Ekuk.

[b] Subsistence harvests by non-watershed residents.

[c] A 5-year average was used because current data were not available at the time of publishing.

APPENDIX B: HERRING

Appendix B1.–Sac roe herring industry participation, fishing effort, and harvest, Togiak District, 1994–2014.

			Gillnet					Purse seine				
Year	Number of buyers	Daily processing capacity [a]	Fishery dates	Effort [b]	Duration (hours)	Harvest [c]	Roe %	Effort [b]	Duration (hours)	Harvest [c]	Roe %	Total harvest [c]
1994	16	3,300	5/11-5/20	146	76.0	7,462	12.0	240	4.6	22,853	9.4	30,315
1995	22	4,350	5/7-5/15	250	33.5	6,995	12.0	254	12.2	19,737	10.1	26,732
1996	19	4,850	5/3-5/8	461	18.0	6,863	11.1	268	2.4	18,008	9.0	24,871
1997	18	4,200	5/2-5/6	336	24.0	5,164	11.8	231	6.4	18,649	9.4	23,813
1998	15	2,475	4/29-5/10	152	46.0	5,952	12.5	123	16.5	16,824	9.6	22,776
1999	12	2,400	5/18-5/26	171	28.0	4,858	11.5	96	4.7	14,368	9.2	19,226
2000	12	2,100	5/6-5/14	227	67.0	5,464	10.6	90	15.8	14,957	10.1	20,421
2001	11	2,255	5/6-5/13	96	84.0	6,491	10.6	64	26.0	15,879	9.2	22,370
2002	8	1,920	5/3-5/13	82	102.0	5,216	10.9	37	57.5	11,833	9.3	17,049
2003	7	1,920	4/25-5/7	75	142.0	6,505	10.9	35	110.2	15,158	8.9	21,663
2004	6	2,150	4/29-5/9	54	162.0	4,980	10.4	31	78.0	13,888	9.5	18,868
2005	8	2,330	4/30-5/8	56	149.0	5,841	11.2	33	83.0	15,071	9.6	20,912
2006	7	2,060	5/12-5/21	49	143.9	7,132	10.8	28	113.0	16,821	9.2	23,953
2007	5	1,420	5/10-5/25	25	366.0	4,012	11.2	21	244.0	13,120	10.0	17,132
2008	7	1,950	5/16-5/31	27	312.0	4,832	11.4	28	292.0	15,691	8.4	20,523
2009	6	2,015	5/16-5/31	32	314.0	4,140	10.2	21	266.0	12,967	10.3	17,107
2010	6	2,690	5/11-5/27	35	338.0	7,540	10.1	26	266.0	18,816	9.7	26,356
2011	5	2,413	5/8-5/31	25	318.0	5,907	12.1	22	268.0	16,970	9.6	22,877
2012	4	1,970	5/14-6/1	18	534.0	4,027	12.1	16	328.0	12,994	9.4	17,021
2013	6	2,675	5/11-5/28	37	408.0	8,244	10.9	26	224.0	19,366	9.0	27,610
20-year Avg	10	2,572		118	183	5,881	11.2	85	121	16,199	9.4	22,080
1994-03 Avg	14	2,977		200	62	6,097	11.4	144	26	16,827	9.4	22,924
2004-13 Avg	6	2,167		36	304	5,666	11.0	25	216	15,570	9.5	21,236
2014	6	3,065	4/29-5/11	24	412.0	6,016	11.9	17	412.0	19,544	9.7	25,560

[a] Number of tons per day based on companies registered.

[b] Total vessels fished.

[c] Harvest total includes dead loss and test fishery harvest.

Appendix B2.–Exploitation of Togiak herring stock, 1994–2014.

Year	Biomass estimate[a] (short tons)	SOK herring equivalent	Dutch Harbor Food/Bait	Sac Roe				Total harvest	Exploitation rate
				Gillnet[b]	Purse Seine[c]	Waste[d]	Total[e]		
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		1,950	5,164	18,298	350	23,462	25,412	20.3%
1998	121,000		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		2,014	5,464	14,857	100	20,321	22,335	17.1%
2001	119,818		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		1,258	4,980	13,785	103	18,765	20,023	14.0%
2005	108,585		1,154	5,841	14,287	784	20,128	21,282	19.6%
2006	129,976		953	7,132	16,321	500	23,453	24,406	18.8%
2007	134,566		1,214	4,012	12,800	320	16,812	18,026	13.4%
2008	136,495		1,536	4,832	15,691		20,523	22,059	16.2%
2009	121,800		1,941	4,140	12,967		17,107	19,048	15.6%
2010	146,775		1,938	7,540	18,816		26,356	28,294	19.3%
2011	140,860		1,795	5,907	16,970		22,877	24,672	17.5%
2012	123,745		1,807	4,027	12,994		17,021	18,828	15.2%
2013	169,020		1,764	8,243	19,366	1,593	27,609	29,373	17.4%
20-year Avg	132,821	992	1,841	5,881	16,029	416	21,910	24,049	18.1%
1994-03 Avg	130,147	992	2,146	6,097	16,658	241	22,755	25,496	19.5%
2004-13 Avg	135,495		1,536	5,665	15,400	660	21,065	22,601	16.7%
2014	157,448		1,645	6,016	19,544	54	25,614	27,259	17.3%

Note: Blank cells represent no data. SOK = spawn-on-kelp.

[a] Preseason forecast unless peak biomass estimate inseason exceeded preseason forecast.

[b] Includes bait harvest.

[c] Includes test fishery harvest.

[d] Aerial survey estimated waste.

[e] Does not include waste.

Appendix B3.–Age composition, by weight, of total inshore herring run, Togiak District, 1994–2014.

	Age Composition (%)						Total Run
Year	≤ 4	5	6	7	8	≥ 9	(short tons) [a]
1994 [b]		2	12	28	3	55	185,412
1995	1	4	7	24	30	35	[c]
1996 [b]		3	5	7	21	64	[c]
1997	7	5	12	11	10	55	144,887
1998 [b]		4	5	10	11	70	[c]
1999 [b]		1	13	9	12	65	157,028
2000 [b]		1	2	17	16	63	[c]
2001	5	21	5	4	27	39	115,155
2002	1	25	28	4	5	36	[c]
2003 [b]		3	37	25	4	31	[c]
2004 [b]			3.8	43.7	24.6	27.5	[c]
2005 [b]			0.8	11	41.4	46.4	156,727
2006	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
2008	6.2	9	14.6	15.5	8.1	46.5	136,495
2009	9.4	14.7	14.5	14.9	12.2	34	142,133
2010	1.4	16.1	18.1	13.2	13.2	38.3	135,214
2011 [b]		4	25.3	21.7	15.7	33.3	[c]
2012	0.5	6.6	16.9	35.8	17.6	22.7	167,738
2013	0.1	2	9.6	24.7	28.8	34.8	169,020
2014	0.7	4.3	9.6	23.5	27.6	34.3	203,267

[a] Includes commercial catch, escapement, and documented waste.

[b] Contribution of age class is less than 0.5%.

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

Appendix B4.–Preseason forecast (in tons), aerial survey estimates of herring biomass (in tons), and spawn deposition (in miles), Togiak District, 1994–2014.

Year	Preseason forecast [a]	Biomass estimate	Spawn estimate
1994	142,497	185,412	72
1995	149,093	149,093 [b]	59
1996	135,585	135,585 [b]	73
1997	125,000	144,887	59
1998	121,000	121,000 [b]	33
1999	90,000	157,028	56
2000	130,904	130,904 [b]	46
2001	119,818	115,155 [b]	57
2002	120,196	120,196 [b]	32
2003	126,213	126,213 [b]	95
2004	143,124	143,124 [b]	36
2005	96,029	156,727	28
2006	129,976	176,288	18
2007	134,566	134,221	19
2008	134,516	136,495	49
2009	121,800	142,133	15
2010	146,775	135,214	8
2011	140,860	140,860 [b]	36
2012	123,745	167,738	31
2013	169,094	169,020	47
20-year Avg	130,040	144,365	43
1994-03 Avg	126,031	138,547	58
2004-13 Avg	134,049	150,182	29
2014	157,448	203,267	92

[a] Forecasts based on Age Structured Analysis.

[b] Peak biomass estimate could not be determined; therefore, preseason forecast was used for exploitation rate determination.

Appendix B5.–Exvessel value of the commercial herring and spawn-on-kelp harvest, in thousands of dollars, Togiak District, 1994–2014.

	Herring			
Year	Sac Roe	Food/Bait	Spawn-on-Kelp	Total
1994	9,329	0	212	9,541
1995	22,235	0	362	22,597
1996	17,658	1	511	18,170
1997	5,340	57	[a]	4,306
1998	5,352	0	[a]	3,986
1999	5,511	1,305	315	6,526
2000	3,718	0	[a]	4,000
2001	3,283	0	[a]	3,090
2002	2,264	228	[b]	1,900
2003	2,664	200	[b]	2,914
2004	2,077	582	[a]	2,659
2005	3,308	0	[a]	3,308
2006	3,168	0	[a]	3,168
2007	2,254	0	[a]	2,254
2008	2,748	0	[a]	2,748
2009	2,803	0	[a]	2,803
2010	3,481	0	[a]	3,481
2011	2,555	0	[a]	2,555
2012	2,611	0	[a]	2,611
2013	4,417	0	[a]	4,417
20-year Avg	5,339	119	245	5,352
1994-03 Avg	7,735	179	245	7,703
2004-13 Avg	2,942	58	[a]	3,000
2014	1,260	0	[a]	1,260

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

[a] Fishery not conducted.

[b] Fewer than 4 permit holders involved in fishery; records are confidential.

Appendix B6.–Guideline and actual harvests of sac roe herring (tons) and spawn-on-kelp (pounds), Togiak District, 1994–2014.

	Gillnet Sac Roe			Purse Seine Sac Roe			Spawn-on-Kelp		
Year	Guideline[a]	Actual	% Difference[b]	Guideline[a]	Actual[c]	% Difference[b]	Guideline[a]	Actual	% Difference[b]
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]	
2003	6,624	6,505	-2	15,457	15,158	-2	350,000	[e]	
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]	
2007	7,090	4,012	-43	16,544	13,120	-21	350,000	[d]	
2008	6,864	4,832	-30	16,017	15,602	-3	350,000	[d]	
2009	6,378	4,167	-35	14,882	12,404	-17	350,000	[d]	
2010	7,772	7,540	-3	18,134	18,816	4	350,000	[d]	
2011	7,442	5,907	-21	17,364	16,970	-2	350,000	[d]	
2012	6,487	4,027	-38	15,135	12,994	-14	350,000	[d]	
2013	9,017	8,244	-9	21,040	19,366	-9	350,000	[d]	
20-year Avg	6,637	5,883	-11	16,893	16,163	-4	350,000	257,840	-26
1994-03 Avg	6,139	6,097	0	17,139	16,821	-1	350,000	257,840	-26
2004-13 Avg	7,134	5,668	-21	16,647	15,505	-7	350,000	[d]	
2014	8,367	6,468	-23	19,523	19,544	0	350,000	[d]	

[a] Harvest guideline derived from inseason biomass estimate when available, or preseason forecast if weather prevents an estimate.

[b] Actual minus guideline divided by guideline multiplied by 100.

[c] Includes deadloss and test fishery harvest.

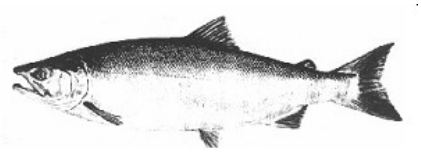
[d] No fishery conducted.

APPENDIX C: 2014 BRISTOL BAY SALMON OUTLOOK

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

Cora Campbell, Commissioner

Jeff Regnart, Director



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Date Issued: 03/27/2014

BRISTOL BAY
2014 OUTLOOK FOR COMMERCIAL SALMON FISHING

INTRODUCTION

This document is provided as a guide to fishermen, processors, and the public. The intent of this document is to provide the reader with general information regarding the 2014 Bristol Bay salmon season. Included is a short narrative regarding general framework for management of each of the five major districts and the 2014 salmon forecast.

During the season, Bristol Bay salmon fishing announcements are broadcast on marine VHF Channel 07A. Current fishing announcements are aired on local radio stations – KAKN and KDLG. 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. Information is also available via telephone; for east side fisheries (Naknek-Kvichak, Egegik, and Ugashik), dial **246-INFO (4636),** for west side fisheries (Nushagak and Togiak) dial **842-5226.** Fishermen are asked to note office hours at the Dillingham fish and game office will be 8:00 a.m.–5:00 p.m. Monday thru Friday from June 2–June 20, and again after July 19. From June 21–July 18 weekday office hours will be the same as above, but weekend office hours will be from 8:00 a.m. until 12:00 noon.

Regarding drift and set gillnet district registration cards. Drift gillnet permit holders that fish in the Ugashik, Egegik, and Naknek-Kvichak Districts may commercial fish without registering for one of those districts through June 24. However, they must fill out and return a district registration card prior to commercial fishing on June 25. Set gillnet permit holders in the Nushagak District and drift

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gillnet permit holders in the Nushagak and Togiak Districts must fill out and return the appropriate district registration cards prior to commercial fishing. District registration cards will be available at the Anchorage, King Salmon, and Dillingham offices beginning May 1. In addition, PDF files of district registration cards are posted on the Bristol Bay homepage and can be printed, completed, mailed to the address on the printout, or submitted to Anchorage, King Salmon, or Dillingham office personnel. During the 2014 season, catch, escapement, and announcements will be available at the same site (http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareabristolbay.salmon).

Fishermen 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."

2014 REGULATORY CHANGES

At the March 2014 Alaska Board of Fisheries meeting in Anchorage the Board adopted a proposal to allow permit holders in the Ugashik Village area (stat area 321-50) a maximum of 600 feet from the 18 foot east bank high tide mark to deploy set gillnet gear. This includes, buoys, running lines, anchors and all gear associated with a set gillnet operation and will apply to the Ugashik Village area only. The Ugashik Village area is defined in regulation as "in the Ugashik District in that portion of the east bank of the Ugashik River from a point at 57° 30.74' N. lat., 157° 24.10' W. long., to 57° 32.27' N. lat., 157° 24.36' W. long. ". Regulations for set gillnets in the rest of the Ugashik District remain the same.

Alaska Wildlife Troopers – Summer 2014 Outlook – Bristol Bay

Enforcement Priorities:

- Continued strong focus on fishing district lines and open period enforcement, particularly in the Naknek/Kvichak and Egegik districts using all available assets to include aircraft, rotorcraft, large and small enforcement vessels and undercover fishing vessels.
- Routine boardings of drift gillnet and processor vessels to verify licensing and permitting regulations are met. Fishermen and processors are reminded that at the time of delivery, a fish ticket must be generated and must include the signature of a company representative and the full name and signature of the CFEC permit holder. The permit holder must be present at the time of delivery in order to sign the fish ticket. Crew members cannot sign fish tickets for permit holders.
- Increased enforcement of state boating safety laws in cooperation with the US Coast Guard.
- Increased Alaska Wildlife Troopers (AWT) presence in the Ugashik and Togiak Districts.

SALMON OUTLOOKS

BAYWIDE

The forecasted Bristol Bay sockeye salmon run for 2014 is approximately 26.58 million fish. Based on the forecast, 16.86 million fish are potentially available for commercial harvest in

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Bristol Bay (Table 1). However, run timing will be the key factor as to when fishing will occur. Bering Sea ice and temperature maps can be found online at the following web address: http://pafc.arh.noaa.gov/ice.php?img=icehttp://pafc.arh.noaa.gov/ice.php?img=sst.

The department manages fisheries based on inseason information regarding abundance. The inseason management approach uses a suite of tools to provide abundance information in each district as each run develops and is used by the department to determine fishing opportunity.

The commercial salmon season in Bristol Bay opens June 1 by regulation. Fishing in eastside districts will be allowed using a weekly schedule that will vary by district. The schedules are in place to balance fishing opportunity with escapement in the early part of the season (particularly for Chinook salmon). As each run develops and sockeye salmon run characteristics become defined within individual districts, fishing time will be adjusted accordingly. In the Nushagak District, management of the Chinook salmon fishery will govern fishing time in the early part of the season, followed by directed sockeye salmon management as abundance dictates.

NAKNEK/KVICHAK DISTRICT

An inshore run of approximately 10.51 million sockeye salmon is expected for the Naknek/Kvichak District in 2014. Based on the forecast, the projected harvest in the Naknek/Kvichak District is approximately 5.48 million sockeye salmon; approximately 2.44 million from the Kvichak River, 800,000 from the Alagnak River and 2.25 million from the Naknek River. The 2014 Kvichak River escapement goal will be 2.65 million sockeye. If the run is greater or less than the forecast, the inseason point goal will be adjusted to reflect the actual inseason total run. The Naknek River escapement goal range is 800,000 to 1.4 million. Sockeye salmon returning to the Naknek/Kvichak District are predicted to be 36% age-1.3, 36% age-1.2, 17% age-2.2, and 11% age-2.3 fish.

At the beginning of the season, the Naknek Section only will be open to drift gillnet gear, and set gillnet gear in both the Naknek and Kvichak Sections will be open beginning June 2. Fishing time during the first 2 weeks of June will be 4 days a week from 9:00 a.m. Monday to 9:00 a.m. Friday, beginning 9:00 a.m. Monday, June 2 and ending 9:00 a.m. Friday, June 13.

During the week of June 16, set gillnet fishing will be open from 9:00 a.m. Monday until 9:00 a.m. Friday. Drift gillnet fishing in the Naknek Section will be open to the following schedule:

3:30 p.m. until 9:30 p.m. Monday June 16, a 6 hour period;

4:00 a.m. until 12:00 p.m. Tuesday June 17, a 8 hour period;

4:30 p.m. until 10:30 p.m. Tuesday June 17, a 6 hour period;

5:00 a.m. until 12:30 p.m. Wednesday June 18, a 7.5 hour period;

6:00 p.m. until 11:30 p.m. Wednesday June 18, a 5.5 hour period;

6:00 a.m. until 1:00 p.m. Thursday June 19, a 7 hour period;

7:00 p.m. Thursday June 19, until 1:00 a.m. Friday June 20, a 6 hour period.

There is the possibility of escapement falling behind schedule in the Kvichak River. In order to reduce the harvest of Kvichak stocks, the department may restrict fishing to the flood portion of the

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tide only, from the 7-foot level to high water slack.

With limited information and low abundance over the past 5 years, special attention will be given to Chinook salmon run strength and effort levels. A mesh size restriction of 5.5 inches or less will be in effect beginning 9:00 a.m. Monday, June 2 until 9:00 a.m. Friday, July 25, to help in the conservation of Chinook salmon.

During closures, there may be extensive use of district test fishing boats. Additional volunteer test boats may be needed due to increased test fishing. Permit holders interested in 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 4.65 million sockeye salmon is expected for the Egegik River in 2014. The escapement goal range is 800,000 to 1.4 million sockeye. Based on the forecast, the expected surplus potentially available for harvest is 3.36 million fish. Approximately 56% of the run is expected to be age-2.2 fish, followed by age-2.3 (25%), age-1.3 (14%) and age 1.2 (6%).

In 2014, separate gear openings and extensions will be used to adjust harvest in an attempt to achieve allocation percentages. Fishermen are reminded that regulation directs the department to avoid "to the extent practicable", continuous fishing with set gillnet gear in the Egegik District, and that Egegik set gillnet fishermen should expect breaks in fishing.

Based on the Kvichak River sockeye salmon forecast, fishing will begin in the full Egegik District. The season will start with a 3 day per week schedule that will be in effect through June 13. The primary reason for returning to the 3 day per week schedule is to provide for Chinook salmon escapement. By emergency order, commercial fishing will be allowed in the Egegik District from 9:00 a.m. Monday, until 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 9:00 a.m. Monday, June 2, and run through 9:00 a.m. Friday, June 13. After June 14, fishing will be scheduled according to sockeye salmon run strength. As in previous years, some openings could occur on short notice. Periods will be adjusted to allocate harvest between drift and set gillnet gear groups.

In addition, subsistence fishing will be permitted in the waters of the Egegik commercial district from 12:01 a.m., June 1, until 11:59 p.m. Friday, June 13. The department will consider additional directed subsistence openings but will wait until inseason to announce the timing of those openings.

ADF&G does not forecast Egegik River coho salmon. Escapement assessments are done with aerial surveys, however during the time coho salmon are inriver weather conditions frequently make aerial surveys difficult. In 2010, surveys were not flown due to bad weather and no assessment of the escapement for that year is available. In 2014, management of the fall coho fishery will be based on fishery performance and run strength indicators.

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 in King Salmon at (907) 246-3341.

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UGASHIK DISTRICT

The 2014 Ugashik River sockeye salmon forecast is 1.81 million fish. The escapement goal range is 500,000 to 1.2 million sockeye. Based on the forecast, 0.89 million fish are potentially available for harvest. Fishermen should note that this is a fairly small forecast and the department will be conservative in providing fishing opportunity. Approximately 35% of the run is expected to be age-1.2 fish, 34% age-1.3, 23% age-2.2, and 8% age-2.3 sockeye.

The Ugashik District allocation plan specifies 10% set gillnet and 90% for drift gillnet. As in previous years separate gear openings and adjusting length of commercial periods will be used to address allocation between gear groups during 2014. With limited information and low abundance over the past 5 years, special attention will be given to Chinook salmon run strength and effort levels. A mesh size restriction of 5.5 inches or less will be in effect beginning 12:01a.m., Sunday June 1 until 11:59 p.m. Tuesday, July 22, to help in the conservation of Chinook salmon.

Beginning 9:00 a.m. Monday June 2, commercial fishing in the Ugashik District will be allowed on a 9:00 a.m. Monday to 9:00 a.m. Friday schedule through 9:00 a.m. Friday, June 13. With an expected Kvichak River run that exceeds a 40% exploitation rate above the minimum escapement goal stipulated in regulation, fishing time after June 14 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 in 2014.

In addition, subsistence fishing will be permitted in the waters of the Ugashik commercial district from 12:01 a.m., June 1 until 11:59 p.m. Friday June 13. The department will consider additional directed subsistence openings but will wait until inseason to announce the timing of those openings.

ADF&G does not forecast Ugashik River coho salmon and all escapement assessments are done via aerial surveys. The parent year for the 2014 coho return is the 2010 escapement, however, because of weather conditions surveys were not flown and no assessment of the 2010 coho escapement is available. In 2014, management of the fall coho fishery will be based on fishery performance and run strength indicators.

At the March 2013 Alaska Board of Fisheries meeting, the board made changes to when Area T permit holders may fish in the inner portion of the Cinder River Section (river and lagoon) and Inner Port Heiden sections. The board adopted proposals that would allow Area T permit holders to fish within the inner portion of the Cinder River Section and Inner Port Heiden Section during all months when open by regulation. Permit holders are advised that regulations allow for fish caught in Cinder River and Inner Port Heiden sections to be transported to and delivered in Ugashik every month except July **(5 AAC 06.375 Landing requirements)**. Permit holders wishing to fish in those sections above are advised to be certain of their markets **BEFORE** fishing. For further information contact ADF&G in Port Moller at 907-375-2716.

District test fishing for inseason management may be conducted periodically depending on run characteristics. Permit holders interested in test fishing in the Ugashik District should contact Paul Salomone in King Salmon at (907) 246-3341.

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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 370,000 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 260,000 sockeye salmon is in effect when the ratio of Wood River to Nushagak River sockeye salmon is projected to exceed 3:1. During 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 Wood and Nushagak Rivers sockeye salmon forecasts for 2014 (6.89 million and 1.17 million respectively), is accurate, the likelihood of fishing in the WRSHA is increased.

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 95,000 Chinook salmon. In 2013, escapement was sufficient to warrant a short directed Chinook salmon opening on June 14. The department will closely monitor Chinook salmon escapement and have openings if escapement warrants beginning as early as June 12.

The 2014 Nushagak District sockeye salmon forecast is 8.8 million fish, 1.9 million for escapement and 6.6 million potentially available for harvest in the Nushagak commercial salmon fishery. The approximate total run by river system is: Wood River 6.89 million (escapement goal range 700,000 to 1.5 million); Igushik River 0.83 million (escapement goal range 150,000 to 300,000); and Nushagak River 1.17 million (escapement goal range of 370,000 to 840,000). Approximately 58% of the forecasted run is expected to be age-1.2 sockeye salmon, < 3% age-2.2, 38% age-1.3, and < 2% age-2.3 fish.

Management strategies for 2014 include: 1) directed Chinook salmon openings when warranted by escapement. 2) Igushik Section sockeye salmon openings are likely to begin in the third week of June and will likely be set gillnet only until escapement or strong harvests dictate otherwise, and 3) begin fishing in the regular district in late June with short openings. Openings will be scheduled based on sockeye salmon escapement levels in the Nushagak and Wood rivers. Mesh size will be limited to 5.5 inches or smaller unless Chinook salmon escapement is above expectations. If the Nushagak River sockeye salmon escapement decreases relative to expected escapements the department may first warn and then impose the 4.75 inch mesh restriction in the Nushagak District. Subsequently, if Nushagak River sockeye salmon escapement falls below the expected 370,000 fish curve, then the department may utilize the WRSHA to protect Nushagak River sockeye salmon. Commercial openings in the district may follow as allowed by escapement levels in the Nushagak River.

Permit holders are reminded that there were significant changes made to the WRSHA management plan at the December 2012 Board of Fish meeting. The changes require separate gear type openings with an allocation ratio of 3:1 for the different gear types. Other changes include restrictions regarding where and how set gillnets may be fished and the amount of gear allowed on board set or drift gillnet vessels. Please be sure to understand all regulations before participating in any fishing activities.

Igushik River sockeye salmon will be managed independently of the Nushagak/Wood River

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sockeye salmon stocks. Set gillnet fishing will begin in the Igushik Section when a market is available. Initial openings will be 8 hours per day and additional time will be added if large harvests or escapement information indicate more time is warranted. Drift gillnet openings in the Igushik Section will be added as needed to control sockeye salmon escapement. Igushik River sockeye salmon returns can be quite variable relative to forecasted run strength. Management will incorporate a readiness to respond with increasing early set gillnet openings, and an attempt to maintain the 6% sockeye harvest allocated to the Igushik Section set gillnet group by only adding drift gillnet openings as needed.

In 2014 no forecasts were produced for Nushagak River coho or pink salmon. The department will switch to pink and coho salmon management approximately July 23 when sockeye salmon harvest decreases. The department will use enumeration information from the Nushagak River sonar project to determine what amount of fishing time is warranted.

District test fishing for inseason management may be conducted periodically depending on run characteristics. Permit holders interested in test fishing in the Nushagak District should contact Tim Sands in Dillingham at (907) 842-5227.

TOGIAK DISTRICT

The 2014 total run of Togiak River sockeye salmon is forecast at 720,000 fish, an increase from the 2013 forecast of 590,000. The Togiak District Salmon Management Plan (TDSMP) calls for sockeye salmon escapement of 150,000 fish past the counting towers located at the outlet of Togiak Lake. Based on the forecast, approximately 520,000 sockeye salmon will potentially be available for commercial harvest. Approximately 22% of the run is expected to be 2-ocean fish and 78% is expected to be 3-ocean fish.

Commercial fisheries in the Togiak District are managed under the Togiak District Salmon Management Plan (TDSMP). The plan restricts permit holders from fishing in the Togiak District until July 27 if they have fished in any other district in Bristol Bay, and conversely, restricts permit holders from fishing in any other district until July 27 if they have fished in the Togiak District. The plan also increases the weekly fishing schedule in the Togiak River Section between July 1 and July 16, and restricts mesh size to 5.5 inches or smaller between June 15 and July 15 for the conservation of Chinook salmon.

Chinook salmon run strength in the Togiak River has been considered below average for several years. Adequate Chinook salmon escapement in most years can be attributed to mesh size restrictions in late June and early July, as well as to reductions in the weekly fishing schedule during late June. Anticipating another poor Chinook salmon run, reductions in the weekly fishing schedule are anticipated for the 2014 season. These reductions will likely limit commercial fishing to between 48 and 72 hours of fishing time during each of the last 2 weeks of June. Additionally, a mesh size restriction for Chinook salmon conservation may be in place throughout July. Fishermen are also reminded of Togiak regulation changes adopted at the 2012 Alaska Board of Fisheries meeting. These changes include: 1) prohibiting dual drift permit operation throughout the salmon season in Togiak District, 2) a boundary change for drift gillnet fishing near the Togiak River mouth for part of the season, and 3) a small change of the Togiak River Section northwest boundary.

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Coho, pink, and chum salmon returns are not formally forecast in the Togiak District due to a lack of sufficient age class information and accurate escapement data. If a market for coho salmon is present, a conservative harvest strategy will be utilized due to the lack of information about the returning coho salmon run.

Table 1.–Forecast of total run, escapement and harvest of sockeye salmon returning to Bristol Bay River systems in 2014.

Millions of Sockeye Salmon							
	Total Run Forecast by Age Class						
DISTRICT River	1.2	2.2	1.3	2.3	Total	Escapement	Total Harvest
NAKNEK-KVICHAK:							
Kvichak	2.37	1.21	1.31	0.41	5.30	2.65	2.44
Alagnak	0.26	0.04	1.30	0.13	1.72	.86	0.79
Naknek	1.20	0.49	1.21	0.59	3.49	1.10	2.25
Total	3.83	1.73	3.82	1.12	10.51	4.61	5.48
EGEGIK	0.26	2.59	.65	1.16	4.65	1.10	3.36
UGASHIK	.64	0.41	.61	0.15	1.81	0.85	.89
NUSHAGAK							
Wood	4.93	0.15	1.75	0.06	6.89	1.10	5.51
Igushik	0.15	0.02	0.64	0.02	0.83	0.23	0.57
Nushagak	0.06	0.01	.98	0.01	1.17	0.60	0.52
Total	5.13	0.18	3.37	0.09	8.88	1.93	6.60
TOGIAK	0.12	0.04	0.52	0.04	0.72	0.18	0.52
BRISTOL BAY	9.99	4.95	8.97	2.56	26.58	8.66	16.86

APPENDIX D: 2014 TOGIAK HERRING OUTLOOK

Appendix D1.–2014 Togiak herring fishery information.

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

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2014 TOGIAK HERRING OUTLOOK

This notice is intended to provide information to participants in the 2014 Togiak herring fishery. The 2014 herring biomass in Togiak District is forecast to be 157,448 tons, a 7% decrease from 2013 but 20% above the recent 10 year average. The 2014 forecast is based on an age-structured analysis (ASA) model that has been used since 1993. Age -6 herring are expected to comprise 11% of the projected biomass, ages -7 and -8 comprising 35%, ages 9-11 are expected to make up 48% while the remaining 6% will be age 12+ fish. Average weight for age-7 and older herring should exceed 300 grams. The forecasted individual average weight of herring in the harvested biomass is 372 grams.

The commercial fishery and spawn timing is related to water temperatures experienced by herring on the spawning grounds and also appears related to sea surface temperature and sea ice trends across the southeastern Bering Sea in the weeks prior to spawning. We track the average sea surface temperature in late February and early March, as we consider this time window a useful index of conditions encountered by maturing herring ultimately bound for spawning grounds in and around the Togiak District. Currently the Unalaska sea surface temperature is approximately 1.8 ^{o} C above the average for this date and at a level most similar to 2003 when the first harvest occurred on 25 April. Sea ice extent in the Bering Sea is currently 5% below recent years (2006-present) suggesting a slightly earlier harvest than that seen in recent years (e.g. earlier than 10 May; Follow current ice map information at http://nsidc.org/).

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The Bristol Bay Herring Management Plan (**5 AAC 27.865**) sets a maximum 20% exploitation rate for the Togiak District stock. Based on a forecasted run of 157,448 tons, up to 31,490 tons of herring will be available for harvest in 2014. Harvest allocation, in accordance with the management plan will be:

Fishery	Harvest Allocation
Spawn-on-Kelp	1,500 tons
Dutch Harbor Food and Bait	2,099 tons
Togiak Sac Roe	27,890 tons
Purse Seine (70%)	19,523 tons
Gillnet (30%)	8,367 tons

SAC ROE FISHERY

The management strategy for the Togiak herring fishery is designed to provide for maximum sustained yield while affording the greatest economic benefit to fishermen and processors.

In 2014, sac roe fisheries will again be managed to maximize product quality through long openings, allowing permit holders to make smaller sets and harvest the best fish available. Processors will also have more flexibility to control harvest volume so that holding time between harvest and processing is optimal. Available processing capacity is expected to be approximately 3,365 tons per day based on a preseason poll. This represents a significant increase from the 2013 daily capacity of 2,500 tons per day. The preseason poll also indicates there will be 7 processing companies participating in the Togiak sac roe herring fishery and fleet size is expected to be 38 gillnet and 29 purse seine vessels. For the last few seasons, the department has opened the herring fishery as soon as threshold biomass has been documented and anticipates using this strategy again in 2014 to maximize fishing time. The department believes this strategy allows individual companies to maximize their processing capacity and decide what quality is suitable for their individual market.

Purse Seine

For at least the last decade, the seine fishery has operated as individual processor controlled fleets. Indications are that this will be the case again in 2014 and therefore, fishing time and area will be very liberal. This should allow purse seine vessels to locate high quality herring and fill their company's daily processing capacity. This approach should result in fresher, higher quality roe, thereby maximizing product quality and value.

The department will not be coordinating any test fishing efforts. As always, the department will work with companies that want to make test sets prior to the threshold biomass being documented.

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Gillnet

Management of the gillnet fishery will be similar to past years. Ample fishing time and area will be allowed in an effort to take the entire harvest guideline of 8,367 tons, while maintaining the specified 70/30 purse seine/gillnet ratio. Product quality will be a priority throughout the gillnet fishery.

In 2014, 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 in the eastern section. As in 2013, the plan is to open the gillnet area to fishing when threshold biomass is present. Individual companies and fishermen can organize their own test fishing scheme once the area is open and make decisions on when to begin fishing for production. Until it is determined that commercial quality fish are present, participants should test cautiously with a small portion of gear.

ADF&G OPERATIONS 2014

Beginning in late April or early May, 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 in late April or early May, depending on weather conditions. The department will not relocate to a field office in Togiak for 2014. The department will monitor marine VHF channel 7 from Dillingham and be available at the phone number listed at the top of this document. Fishing announcements and regular fishery updates will be communicated directly to each processor, published on the web and distributed by fax and email.

Visit: http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main to subscribe to herring fax and/or email updates and announcements. Harvest and fishery opening information will also be available at the Commercial Fisheries website:
http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareabristolbay.herring_announcements.