# **Division of Commercial Fisheries Sam Rabung, Director**

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# **Advisory Announcement**

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#### 2022 BRISTOL BAY SALMON SEASON SUMMARY

The following is an overview of the 2022 Bristol Bay commercial salmon season. All data are preliminary. The 2022 inshore Bristol Bay sockeye salmon run of 79.0 million fish (Table 1) is the largest inshore run on record and was 81% above the 43.6 million average run for the latest 20-year period (2002–2021). Additionally, it was just the fourth time on record that the Bristol Bay inshore sockeye salmon run has exceeded 60.0 million fish.

The 2022 Bristol Bay sockeye salmon run was 8% above the preseason inshore forecast of 73.4 million fish (Table 2). Runs to every district, except Togiak, were larger than the preseason forecast. The commercial harvest of 60.1 million sockeye salmon was essentially the same as the 59.9 million preseason forecast (Table 1). This was the largest harvest on record, surpassing the previous record set in 1995 of 44.3 million sockeye salmon by 36%. All sockeye salmon escapement goals were met or exceeded, with a total bay-wide escapement of 18.9 million fish (Table 3). The preliminary harvest estimates for other species are 8,374 Chinook, 301,816 chum, 9,040 coho, and 95,724 pink salmon (Table 1).

### **EXVESSEL VALUE**

Exvessel value of salmon caught in Bristol Bay in 2022 was estimated using the fish ticket weight, and price paid for each species. The 2022 Bristol Bay preliminary exvessel value of \$351.7 million for all salmon species ranks first in the last 20 years and was 110% above the 20-year average of \$167.5 million (Table 4). The 60.5 million harvest of all salmon species was the largest harvest on record (Table 1). Prices are based on the major buyers' base price and do not include future price adjustments for icing, bleeding, floating, or production bonuses.

#### SPECIES PERFORMANCE

## Sockeye Salmon

The 2022 harvest of 60.1 million sockeye salmon was 104% higher than the recent 20-year average of 29.4 million for all districts (Table 5). Sockeye salmon escapement goals were exceeded on the Nushagak, Wood, and Ugashik rivers, all other systems were within their respective escapement goal ranges (Table 3). Overall, run timing was one day early, making it the earliest since 2014.

The 2022 Bristol Bay sockeye salmon run was dominated by the 1.2 and 1.3 age classes, or fish with one year of freshwater residence and two or three years of ocean growth. The 1.3 age class was the largest component of the 2022 run at roughly 53% and came in over the preseason forecast of 47%. Age 1.2 fish made up the next largest component of the run at 28% which was below the forecasted 41%. Fish with

two years of freshwater residence (2.2s and 2.3s) made up most of the remaining age classes seen in 2022. The 2.2 return was 15%, almost double the preseason forecast of 8% and the 2.3 age class returned as forecasted at 3% of the total run. Average weight for sockeye salmon in 2022 was 5.1 pounds which is slightly higher relative to recent years due to the high percentage of larger 1.3 age fish, but below the most recent 20-year average of 5.6 pounds (Table 4).

### Chinook Salmon

Chinook salmon harvested in Bristol Bay this season were incidentally caught during directed sockeye salmon fishing periods. The Nushagak District, which is the main contributor of Chinook salmon in Bristol Bay, was again actively managed to reduce Chinook salmon harvest in an effort to ensure achievement of the established escapement goal. Overall, the 2022 Chinook salmon harvests were below average in all districts of Bristol Bay (Table 6). A preliminary total of 8,374 Chinook salmon were harvested which is below the most recent 20-year average of 42,658 fish, and the second lowest in the last 20 years (Table 6). The Nushagak District Chinook salmon harvest was 5,325 fish, which is well below the 20-year average harvest of 34,260 fish (Table 6).

The Nushagak River Chinook salmon in-river run estimate at Portage Creek Sonar was 44,434 fish, which is below the escapement goal of 55,000–120,000 and the in-river goal of 95,000.

## Chum Salmon

The 2022 preliminary Bristol Bay chum salmon harvest was 301,816 fish (Table 1), was below the recent 20-year average of 1.1 million fish. The Nushagak District, the largest producer of chum salmon, harvest was 172,069 fish (Table 1). The Nushagak River chum salmon escapement of 116,692 fish was below the lower bound sustainable escapement goal of 200,000 fish.

### Pink Salmon

Although pink salmon were abundant in Bristol Bay in 2022, there was not a fishery directed at them. The harvest was incidental to the sockeye salmon fishery and totaled 95,724 fish, 19% of the average harvest for last ten even years. Pink salmon escapement was not enumerated anywhere in Bristol Bay in 2022.

## Coho Salmon

The preliminary coho salmon harvest in 2022 was 9,040 fish (Table 1), which was below the recent 20-year average of 97,139 fish. The Nushagak District is typically the largest producer of coho salmon, though in 2022 Egegik District produced the bulk of the coho salmon harvest at 5,138 fish. Coho salmon harvest in the Nushagak District was 1,789 fish (Table 1). Harvests of coho salmon can be variable from year to year depending on processor availability, market conditions, and overall fishing effort. In 2022, fishing ended early due in part to weather and processor interest.

#### **ALLOCATION**

Bristol Bay fisheries are managed for allocation (secondary to escapement) between drift and set gillnet gear groups in four of five districts. The Togiak District is excluded from the allocation plan. Strategies used to achieve allocation between gear groups included varying the amount of fishing time and providing separate gear group openings. The Ugashik District harvest percentages were relatively close to their established allocation goals, while the Egegik, Nushagak, and Naknek-Kvichak districts had differences from the harvest percentages found in regulation (Table 7). During seasons of large sockeye salmon returns, allocations can be difficult to achieve when the primary objective is managing to meet escapement goals.

#### Acknowledgements

The department would like to thank the Bristol Bay Fisheries Collaborative (BBFC) for their funding assistance over the last several years. Created in 2016, BBFC provided financial support to assist management of the salmon fishery. BBFC was an agreement between the department and the Bristol Bay Science and Research Institute (BBSRI) to work together and with stakeholders to restore a world class fisheries management system and raise funds for its support and maintenance. Additionally, the department would like to thank BBSRI and Bristol Bay Regional Seafood Development Association for their funding and efforts to operate the Port Moller Test Fishery. Included with these efforts was the deployment of a second vessel which provided a better index of the arrival timing, abundance, and stock composition of this year's return than was possible with a single vessel. Additionally, BBSRI installed an on-board genetics laboratory that provided real-time genetic stock composition of fish passing Port Moller Test Fishery.

Table 1.-Preliminary 2022 Bristol Bay salmon harvest and escapement by district and species.

District	Sockeye	Chinook	Chum	Pink	Coho	TOTAL
Naknek-Kvichak catch	14,172,393	1,129	33,962	18,823	1,003	14,227,310
Escapement-Kvichak twr.	4,224,882	ND	ND	ND	ND	4,224,882
Naknek twr.	1,921,296	ND	ND	ND	ND	1,921,296
Alagnak twr.	1,668,222	ND	ND	ND	ND	1,668,222
NK subtotal	21,986,793	1,129	33,962	18,823	1,003	22,041,710
Egegik catch	16,468,800	272	27,141	4,317	5,138	16,505,668
Escapement-Egegik twr.	1,786,152	ND	ND	ND	ND	1,786,152
Egegik subtotal	18,254,952	272	27,141	4,317	5,138	18,291,820
Ugashik catch	6,247,386	277	15,989	362	11	6,264,025
Escapement-Ugashik twr.	1,436,784	ND	ND	ND	ND	1,436,784
Ugashik subtotal	7,684,170	277	15,989	362	11	7,700,809
Nushagak catch	22,619,021	5,325	172,069	12,366	1,789	22,810,570
Escapement- Wood twr.	3,747,612	ND	ND	ND	ND	3,747,612
Igushik twr.	378,768	ND	ND	ND	ND	378,768
Nushagak sonar	3,455,272	44,434	116,692	ND	ND	3,616,308
Nushagak subtotal	30,200,673	49,759	288,761	12,366	1,789	30,553,258
Togiak catch	583,498	1,371	52,655	59,856	1,099	698,479
Escapement - Togiak twr.	242,412	ND	ND	ND	ND	242,412
Togiak subtotal	825,910	1,371	52,655	59,856	1,099	940,891
Bristol Bay catch	60,091,098	8,374	301,816	95,724	9,040	60,506,052
Bristol Bay escapement	18,861,400	44,434	116,692	0	0	19,022,436
Bristol Bay total run	78,952,498	52,808	418,508	95,724	9,040	79,528,488

Note: Nushagak sonar enumerated Chinook, sockeye, and chum salmon in 2022.

Table 2.–Difference between Bristol Bay sockeye salmon actual inshore run and preseason forecast by district, 2022.

District	Inshore forecast	Inshore run	% Above/below forecast
Naknek-Kvichak	20,680,000	21,986,793	6% Above
Egegik	15,990,000	18,254,952	14% Above
Ugashik	6,100,000	7,684,170	26% Above
Nushagak	29,480,000	30,200,673	2% Above
Togiak	1,150,000	825,910	28% Below
Totals	73,400,000	78,858,717	7% Above

Table 3.-Bristol Bay sockeye salmon escapement goals and actual escapements, 2022.

River system	Sustainable escapement goal range	Escapement
Kvichak River	2,000,000–10,000,000	4,224,882
Naknek River	800,000–2,000,000	1,921,296
Alagnak River	320,000 minimum	1,668,222
Egegik River	800,000–2,000,000	1,786,152
Ugashik River	500,000-1,400,000	1,436,784
Nushagak River	370,000–900,000	3,455,272
Wood River	700,000–1,800,000	3,747,612
Igushik River	150,000-400,000	378,768
Togiak River	120,000–270,000	242,412
Total		18,861,400

Table 4.-Average price, weight, harvest, and value of salmon harvest in Bristol Bay, 2022.

Species	Price/lb.	Avg. weight (lb.)	Number of fish	Total weight	Value
Sockeye	\$1.15	5.1	60,091,098	305,262,778	\$351,052,195
Chinook	\$0.74	8.6	8,374	71,933	\$53,230
Chum	\$0.32	5.5	301,816	1,669,042	\$534,094
Pink	\$0.14	3.3	95,724	317,804	\$44,493
Coho	\$0.73	5.8	9,040	51,980	\$37,945
Totals			60,506,052	307,373,537	\$351,721,956

Table 5.–2022 Preliminary commercial sockeye salmon harvests and 20-year averages by district.

District	2002–2021 Average sockeye harvest	2022 Sockeye salmon harvest
Naknek-Kvichak	9,110,892	14,172,393
Egegik	7,791,737	16,468,800
Ugashik	3,160,967	6,247,386
Nushagak	8,718,014	22,619,021
Togiak	599,210	583,498
Totals	29,380,820	60,091,098

Table 6.–2022 Chinook salmon preliminary harvest data and 20-year averages by district.

District	2002-2021 Average Chinook salmon harvest	2022 Chinook salmon harvest
Naknek-Kvichak	1,714	1,129
Egegik	760	272
Ugashik	968	277
Nushagak	34,260	5,325
Togiak	4,956	1,371
Totals	42,658	8,374

Table 7.-Allocation of Bristol Bay drift and set gillnet harvest, 2022.

	Drift gillnet	District set gillnet	Section set gillnet
	percent of harvest	percent of harvest	percent of harvest
District	allocated /caught	allocated /caught	allocated /caught
Naknek-Kvichak	84% / 75%	16% / 25%	Naknek: 8% / 14%
			Kvichak: 8% / 11%
Egegik	86% / 79%	14% / 21%	_
Ugashik	90% /89%	10% / 11%	_
Nushagak <sup>a</sup>	74% /82 %	26% / 18%	Nushagak: 20% / 13%
			Igushik: 6% / 2%
			Wood River 3%

<sup>&</sup>lt;sup>a</sup> Wood River Special Harvest Area harvest was entirely set gillnet and is included in the 20% listed above.