

Division of Commercial Fisheries
Sam Rabung, Director

Kodiak Office
351 Research Court
Kodiak, AK 99615



Alaska Department of Fish and Game
Doug Vincent-Lang, Commissioner

PO Box 115526
Juneau, AK 99811-5526
www.adfg.alaska.gov

Advisory Announcement
For Immediate Release: 12/15/2023

CONTACT: M. Birch Foster
Finfish Research Biologist
907-486-1857

2024 Kodiak Management Area Salmon Forecasts

The 2024 Kodiak Management Area (KMA) predicted pink salmon harvest is expected to be in the *Weak* category with a point estimate of 8.8 million fish combining the wild stock and Kitoi Bay Hatchery harvest estimates (Table 1).

Table 1.—Point estimate and ranges (80% prediction intervals) of the 2024 Kodiak pink salmon forecast.

Stock	Escapement goal (millions)	2024 run	Point estimate (millions)	Range (millions)
Kodiak Management Area	SEG: 3.25–8.0	Wild stock total run	10.4	5.0–15.9
	Odd-year, Mainland and Kodiak Archipelago combined	Wild stock escapement	5.0	
		Wild stock harvest	5.4	0–10.9
		Kitoi Bay hatchery harvest	3.4	2.4–4.4
		Total KMA harvest	8.8	2.4–15.2
		Harvest category	Weak	

Harvest categories were delimited from the 20th, 40th, 60th, and 80th percentiles of historical commercial harvest in the KMA from 1988 to 2023 (Table 2).

Table 2.—Categorical ranges of total KMA pink salmon harvest and this year’s forecast in bold.

Harvest Category	Range (millions)	Percentile
<i>Poor</i>	Less than 8.2	Less than 20 th
Weak	8.2 to 14.3	21st to 40th
<i>Average</i>	14.3 to 21.4	41 st to 60 th
<i>Strong</i>	21.4 to 27.7	61 st to 80 th
<i>Excellent</i>	Greater than 27.7	81 st to 100 th

The KMA wild stock pink salmon harvest forecast is derived from a total run forecast minus the estimated KMA escapement (5.0 million). The total run estimates were derived from a combination of weir counts, aerial survey index, and harvest estimates. The 2024 KMA wild stock pink salmon forecast was based on a generalized Ricker model using environmental, escapement, and sea surface temperature indices as well as previous year (lag-1) return fit to the even-year

KMA returns from 1988 to 2022. The hatchery pink salmon forecast is developed examining the average survival rates of hatchery releases and for this forecast was calculated using the last four 4-year cyclical returns (parent class 2006, 2010, 2014 and 2018). The mean absolute percent error since 2014 is 60% for the wild stock and 55% for the hatchery pink salmon forecast.

The 2024 Kodiak Management Area (KMA) predicted sockeye salmon harvest is expected to be in the **Strong** category with a point estimate of 2,981 thousand fish combining the formal and non-formal harvest estimates (Table 3).

Table 3.—Point estimate and ranges (80% prediction intervals) of the 2024 Kodiak sockeye salmon forecasts.

Stock	Escapement goal (thousands)	2024 run	Point estimate (thousands)	Range (thousands)
Spiridon Lake/ Telrod Cove	NA	Spiridon Run	99	16–182
		Telrod Run	85	10–160
		Harvest	184	26–342
Ayakulik	SEG (early and late runs combined): 200–400	Total run	1,050	704–1,438
		Escapement	400	200–400
		Harvest	650	
Early-run Karluk	BEG: 150–250	Early run	227	23–435
		Early-run escapement	200	150–250
		Early-run harvest	27	
Late-run Karluk	BEG: 200–450	Late run	1,195	660–1,768
		Late-run escapement	450	200–450
		Late-run harvest	745	
Total Karluk		Total run	1,422	683–2,204
		Total escapement	650	350–700
		Total Karluk harvest	772	
Early-run Upper Station	BEG: 43–93	Early run	71	31–164
		Early-run escapement	65	43–93
		Early-run harvest	6	
Late-run Upper Station	BEG: 120–265	Late run	267	136–466
		Late-run escapement	186	120–265
		Late-run harvest	81	
Frazer Lake	BEG: 75–170	Total run	247	77–506
		Escapement (Dog Salmon Crk)	143	95–190
		Harvest	104	
Total Alitak District		Alitak run	585	244–1,136
		Alitak escapement	394	258–548
		Alitak harvest estimate	191	
Total Kodiak Harvest Forecast		Formal forecast ^a	2,023	
		Non-formal forecast ^b	958	
		Total Kodiak	2,981	
		Harvest category	Strong	

-continued-

Table 3.—(continued)

- ^a The formal forecast includes summed forecasts for Karluk, Ayakulik, Upper Station, Frazer, and Spiridon runs anticipated to be harvested in the Northwest, Southwest, and Alitak Districts of the Kodiak Management Area. In addition, anticipated harvest of Chignik-bound sockeye salmon in the Cape Igvak section based on the Chignik forecast is included but is projected to be 0 during the regulatory timeframe in 2024.
- ^b Non-formal forecasts include harvest of formally forecasted runs outside the traditional run reconstruction areas, minor Kodiak local stocks (e.g., Uganik, Little River, Ocean Beach, Portage, Malina, Thorsheim, Pasagshak, Sallery, Pauls Bay, Kafliia, and Discoverer), minor local hatchery enhancement, and non-local stocks transiting Kodiak Management Area borders.

Harvest categories were delimited from the 20th, 40th, 60th, and 80th percentiles of historical commercial harvest in the KMA from 1988 to 2023 (Table 4).

Table 4.—Categorical ranges of total KMA sockeye salmon harvest and this year’s forecast in bold.

Harvest Category	Range (thousands)	Percentile
<i>Poor</i>	Less than 1,975	Less than 20 th
<i>Weak</i>	2,012 to 2,503	21 st to 40 th
<i>Average</i>	2,503 to 2,905	41 st to 60 th
<i>Strong</i>	2,905 to 4,166	61st to 80th
<i>Excellent</i>	Greater than 4,166	81 st to 100 th

The KMA sockeye salmon harvest forecast is derived from a combination of the formal forecasts for the major sockeye salmon systems and the non-formal forecasts. The formal forecast harvest estimates are calculated from the total run forecast minus the estimated escapement. The formal forecasts are primarily made by investigating simple linear regression models utilizing recent outmigration year age-class relationships and median returns. The non-formal forecast is calculated by applying the average proportion (2019–2023) of sockeye salmon harvested falling outside the traditional formal forecasted method and areas (0.32). The mean absolute percent error since 2007 is 25% for the wild stock sockeye salmon forecast.