



Advisory Announcement

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2021 Prince William Sound Salmon Season Summary

This report summarizes the 2021 commercial salmon season in the Prince William Sound (PWS) Area (Figure 1). *All data are preliminary and may change before final publication.* Numbers are rounded for simplicity, and 10-year averages are years 2011–2020.

The total harvest in 2021 was 69.86 million salmon, including both commercial and hatchery harvests. This harvest was 8,500 Chinook, 1.32 million sockeye, 253,300 coho, 65.61 million pink, and 2.67 million chum salmon. The commercial fishery harvested 89% (62.10 million) of the salmon; the remaining 11% of the harvest (7.76 million; Table 1), was from hatchery cost recovery fisheries and broodstock collection was.

The total value of the salmon harvest (commercial and hatchery cost recovery combined) was approximately \$121.49 million in 2021; this was 14% more than the 10-year average of \$106.76 million. In 2021, 477 drift gillnet, 24 set gillnet, and 212 purse seine commercial permit holders fished in at least one fishing period. Drift gillnet exvessel harvest value was \$25.12 million, which was 39% below the 10-year average. Average permit earnings were \$52,700, compared to a 10-year average of \$79,100. Set gillnet exvessel harvest value was \$964,800, which was 58% below the 10-year average. Average permit earnings were \$40,200, compared to a 10-year average of \$80,600. Purse seine exvessel harvest value was \$71.22 million, which was 47% above the 10-year average. Average permit earnings were \$335,900, compared to a 10-year average of \$220,900. Revenue generated for hatchery operations was \$20.42 million, which was 34% above the 10-year average.

GILLNET FISHERIES

COPPER RIVER DISTRICT

The preseason forecast for 2021 indicated average to below average runs and commercial harvests of Chinook and sockeye salmon; the actual runs and commercial harvests then came in even lower than forecast. The Copper River total run forecast was 37,000 Chinook salmon and 1.35 million sockeye salmon, including a forecast of 51,000 sockeye salmon to the Gulkana Hatchery. These resulted in preseason harvest forecasts of 13,000 Chinook salmon and 652,000 sockeye salmon for the commercial fishery in the Copper River District. The actual Copper River sockeye salmon run was well below average, with very little fishing opportunity during the first month of the fishery and the ninth smallest commercial harvest in the past 50 years. The sockeye salmon commercial harvest of 397,700 fish was 68% less than the 10-year average harvest of 1.25 million fish. The sockeye salmon season was open for 540 hours, compared to 648 hours fished in 2019 (the most recent near-average sockeye salmon run). Sockeye salmon were also small: the average weight of 5.3 pounds in 2021 was 0.6 pounds smaller than the 30-year average (1991–2020) of 5.9 pounds. Wild sockeye salmon accounted for 86% (342,700) of the commercial harvest in the Copper River District. Of the remainder, 12% (47,100 fish) were from the Gulkana Hatchery and 2% (7,900 fish) were from the Main Bay hatchery. The Gulkana Hatchery commercial harvest was the fourth lowest in the last 20 years.

Chinook and coho salmon harvests were also low. The commercial harvest of 7,000 Chinook salmon was the second smallest since statehood and 47% below the 10-year average harvest of 13,100 fish. The coho salmon

commercial harvest of 144,000 fish was 34% below the previous 10-year (2011–2020) average harvest of 218,000 coho salmon.

Three escapement goals and the inriver run goal appear to have all been met in 2021. It too early to know if the fourth escapement goal, Copper River Chinook salmon, was met because we do not yet have estimates of inriver Chinook salmon passage. The total 2021 Miles Lake sonar passage was 751,300 salmon, which was within the inriver run goal range of 605,000–995,000 total salmon. Considering preliminary projections of inriver harvest, the Copper River sockeye salmon escapement goal of 360,000–750,000 fish was likely achieved. Sockeye salmon escapement to the Copper River delta was 87,100 fish, within the sustainable escapement goal (SEG) range of 55,000–130,000 fish. Copper River Delta coho salmon spawning escapement was 45,500 fish and within the SEG range of 32,000–67,000 fish.

BERING RIVER DISTRICT

Bering River District sockeye salmon continued a downward trend of escapement and harvest in 2021. Run strength was low from the outset, so commercial fishing was closed throughout most of the District. The only openers were in the western portion of the District, to target fish bound for the Copper River District, but these openers had minimal participation. The total sockeye salmon harvest in 2021 was 190 fish; by comparison, the 10-year average commercial harvest for the District was 3,900 sockeye salmon. In 2021, the aerial escapement index of 13,800 sockeye salmon was below the SEG range of 15,000–33,000 fish.

Coho salmon run strength was below average in 2021, but still within the escapement goal. The coho salmon commercial harvest of 41,200 was 32% below the previous 10-year average of 61,000 fish. The aerial escapement index of 19,500 coho salmon was within the SEG range of 13,000–33,000 fish.

COGHILL DISTRICT

Run strength to the Coghill District in 2021 was high for chum, pink, and sockeye salmon, but low for coho salmon. Prince William Sound Aquaculture Corporation (PWSAC) forecast a 2021 run of 1.68 million chum and 89,000 coho salmon to Wally Noerenberg Hatchery (WNH). The total chum salmon harvest in PWS subsequently attributed to WNH was 1.89 million fish, or 12% above forecast. Of these, the commercial fishery harvested 1.23 million chum salmon (1.14 in the Coghill District and 0.09 million elsewhere in PWS) and PWSAC harvested another 655,700 chum salmon for cost recovery and broodstock.

The 2021 Coghill Lake sockeye salmon total run forecast was 282,000 fish with an anticipated harvest of 252,000 fish. The Coghill District sockeye salmon commercial harvest of 193,100 fish was 73% wild fish and was 5% above the recent 10-year average of 184,000 fish. Coghill River escapement was 101,200 sockeye salmon, 69% above the upper end of the SEG range of 20,000–60,000 fish.

The Coghill District commercial pink salmon harvest of 4.79 million fish was 75% above the recent 10-year average of 2.74 million fish. This harvest was 49% wild fish. Coho salmon harvest in the Coghill District is assumed to be predominately WNH origin fish. These WNH origin coho salmon were also harvested in other fishing districts in PWS, but the low coho salmon harvest in Coghill District, surrounding districts, and along potential migratory corridors indicate that the WNH coho salmon run was likely under forecast; the Coghill District drift gillnet coho salmon commercial harvest of 2,800 fish was 94% below the 10-year average of 49,300.

ESHAMY DISTRICT

PWSAC forecast a run of 1.08 million Main Bay Hatchery sockeye salmon in 2021. The total sockeye salmon harvest in PWS subsequently attributed to MBH was 690,000 fish, 36% below forecast. Of these, the commercial fishery harvested 425,000 MBH sockeye salmon (325,00 of these were within the Eshamy District) and PWSAC harvested another 265,000 MBH sockeye salmon for cost recovery. The commercial fishery harvested another 28,000 wild sockeye salmon in the Eshamy District.

Chum salmon commercial harvest was 143,000 fish, composed of 4% wild fish.

Pink salmon commercial harvest in the Eshamy District was 271,400 fish; wild stock composition is unavailable due to limited sampling events.

UNAKWIK DISTRICT

Unakwik District commercial harvest was 7,100 sockeye salmon, which was more than double the 10-year average (2011-2020) of 3,500 sockeye salmon.

PURSE SEINE FISHERIES

The 2021 PWS pink and chum salmon escapement estimates are not yet available. However, inseason aerial survey escapement estimates were above escapement objectives for pink salmon in all districts, and all escapement goals were likely met. Aerial surveys were flown from late-June through mid-September. Wild stock pink salmon escapement indices in 2021 supported openings outside of hatchery subdistricts starting in early-July and running through the remainder of the season. Chum salmon escapements were near or below average across PWS, with the Coghill and Eastern districts likely below the lower end of their escapement goals. Both VFDA and PWSAC achieved their respective pink salmon egg take goals; this was the first time since 2015 that PWSAC achieved their pink salmon egg take goals at all three of their hatcheries.

CHUM SALMON

The 2021 chum salmon total run forecast was 2.66 million fish, with a commercial harvest forecast of 1.66 million fish. Most of the total run forecast, 2.15 million (81%) fish, was from PWSAC hatchery production, with 150,000 fish returning to the Armin F. Koernig hatchery (AFK) and 320,000 fish returning to Port Chalmers Subdistrict purse seine fisheries. Based on the department's wild stock chum salmon forecast of 508,000 fish, there was a total commercial harvest forecast of 308,000 wild chum salmon. The department managed for each district's escapement goal, aiming for each district's long-term average, for a combined total of 200,000 chum salmon to all five districts.

Actual chum salmon commercial harvest in PWS in 2021 was 2.67 million fish, which was 1.01 million fish (61%) above the preseason harvest forecast of 1.66 million fish. The commercial purse seine fleet harvested 713,000 chum salmon in 2021. Approximately 379,000 AFK chum salmon were harvested in the PWS commercial fishery, 153% above the preseason forecast of 150,000 fish. A total of 33,100 sockeye salmon were also harvested in the AFK chum salmon commercial fishery. Approximately 264,000 Port Chalmers chum salmon were harvested in the PWS commercial fishery, 18% below the preseason forecast of 320,000 fish.

PINK SALMON

The pink salmon run was above average in 2021, encouraging given that wild fish were from the parent year in 2019 when spawners returned to dewatered streams amid a record-setting drought. The 2021 pink salmon total run forecast for PWS was 57.38 million fish, comprised of 20.59 million VFDA hatchery fish, 17.60 million PWSAC hatchery fish, and 19.19 million wild fish (the 2019 drought was not factored into wild fish forecasts). Subsequent actual runs came in at or well above forecast: the VFDA pink salmon run was 20.42 million fish (1% below the preseason run forecast); the PWSAC pink salmon run was 22.44 million fish (28% above the preseason run forecast).

Assuming cost recovery and broodstock needs for VFDA (3.49 million; 17%) and PWSAC (4.49 million; 26%) and a median escapement of 1.84 wild pink salmon, the commercial harvest forecast was 47.55 million pink salmon. The actual 2021 commercial harvest of 58.77 million pink salmon was 24% above this, primarily due to strong wild runs to all districts. Initial otolith results show the harvest was 60% hatchery fish and 40% wild fish. An additional 6.84 million pink salmon were harvested for hatchery cost recovery and broodstock (4.88 million for PWSAC and 1.96 million for VFDA).

COHO SALMON

Purse seine commercial harvest of coho salmon in PWS is historically negligible compared to the other salmon species. The department does not forecast wild coho salmon run size or harvest and relies on preseason forecast provided by hatchery operators. In 2021, VFDA forecasted a total run of 87,700 hatchery coho salmon, and a total commercial harvest of 32,000 hatchery coho salmon throughout Prince William Sound. A total of 34,000 coho salmon were subsequently harvested in the Eastern District in 2021; it is likely these fish were predominantly enhanced coho salmon from VFDA (i.e., the SGH hatchery), and to a lesser extent wild fish. An additional 31,100 coho salmon were harvested elsewhere in PWS; these fish were likely a combination of wild stocks and hatchery coho salmon from either SGH or WNH.

Table 1.—Preliminary Prince William Sound area salmon harvest, 2021.

District	Chinook	Sockeye	Coho	Pink	Chum	Total
Bering River	12	190	41,204	0	522	41,928
Copper River	6,995	397,747	144,004	33,531	8,759	591,036
Eastern	191	22,069	33,601	22,611,810	97,827	22,765,498
Northern	52	18,662	6,282	10,375,583	12,579	10,413,158
Coghill	487	193,139	2,768	4,793,224	1,149,784	6,139,402
Northwestern	15	3,505	323	737,584	2,987	744,414
Eshamy	257	352,958	1,742	271,379	143,000	769,336
Southwestern	73	49,549	16,436	12,341,780	295,874	12,703,712
Montague	382	6,636	6,428	6,819,280	296,426	7,129,152
Southeastern	4	648	486	785,607	9,209	795,954
Unakwik	4	7,102	0	538	152	7,796
Commercial Total	8,472	1,052,205	253,274	58,770,316	2,017,119	62,101,386
Hatchery						
Solomon Gulch	0	0		1,961,675	0	1,961,675
Cannery Creek	0	0	0	1,217,346	0	1,217,346
Wally Noerenberg	0	0	0	1,465,142	655,683	2,120,825
Main Bay	0	265,291	0	0	81	265,372
Armin F. Koernig	0	0	0	2,194,688	0	2,194,688
Hatchery Total ^a	0	265,291	0	6,838,851	655,764	7,759,906
PWS Total Harvest	8,472	1,317,496	253,274	65,609,167	2,672,883	69,861,292

^a Hatchery harvest to meet cost recovery and broodstock needs.

Figure 1.-Prince William Sound Area showing commercial fishing districts, salmon hatcheries, weir locations, and Miles Lake sonar camp.

