



ALASKA DEPARTMENT OF FISH AND GAME

*DIVISION OF COMMERCIAL FISHERIES*

MEMORANDUM

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DATE: October 24, 2011

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SUBJECT: 2011 Kodiak Management  
Area Salmon Season Summary

cc:  
Campbell  
Regnart  
Bruce  
Aspelund  
Murphy  
Wilburn  
Poetter  
Wilson  
Keyse  
Anderson  
Witteveen  
Foster  
Schrof  
Baer  
Thomsen  
Finkle  
Linderman  
Miller  
Nichols  
Tiernan

Tracy  
Polum  
Bergstrom  
Lingnau  
Morstad  
Salomone  
Moreland  
Hart  
Fall  
Woodby  
Gardner  
KRAA, Brennan  
KRAA, Aro  
Hendrickson  
Fair  
Shields  
Sands  
Fisher  
Shaker  
Fleener  
Kelley

Volk  
Spalinger  
Dinnocenzo  
Gann  
Ocean Beauty Seafoods  
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Icicle Seafoods  
True World Seafoods  
Trident Seafoods  
Island Seafoods  
Alaska Fresh Seafoods  
USFWS – OSM, Fried  
USFWS – Kodiak, Wheeler  
City of Kodiak  
Sand Point Advisory Committee  
Chignik Advisory Committee  
Kodiak Advisory Committee  
Kodiak Island Borough  
United Salmon Association  
UFMA - Stephens

### Kodiak Management Area 2011 Commercial Salmon Fishery Summary

The following is an overview of the 2011 Kodiak Management Area (KMA) commercial salmon season and stock status summary (Figure 1). The 2011 KMA commercial salmon fishery began on June 9 and the last commercial landing occurred on September 16.

Salmon escapement and harvest estimates reported in this document were summarized from the ADF&G escapement and fish ticket databases on October 6, 2011. Data provided in this report are preliminary and supersede any data previously published.

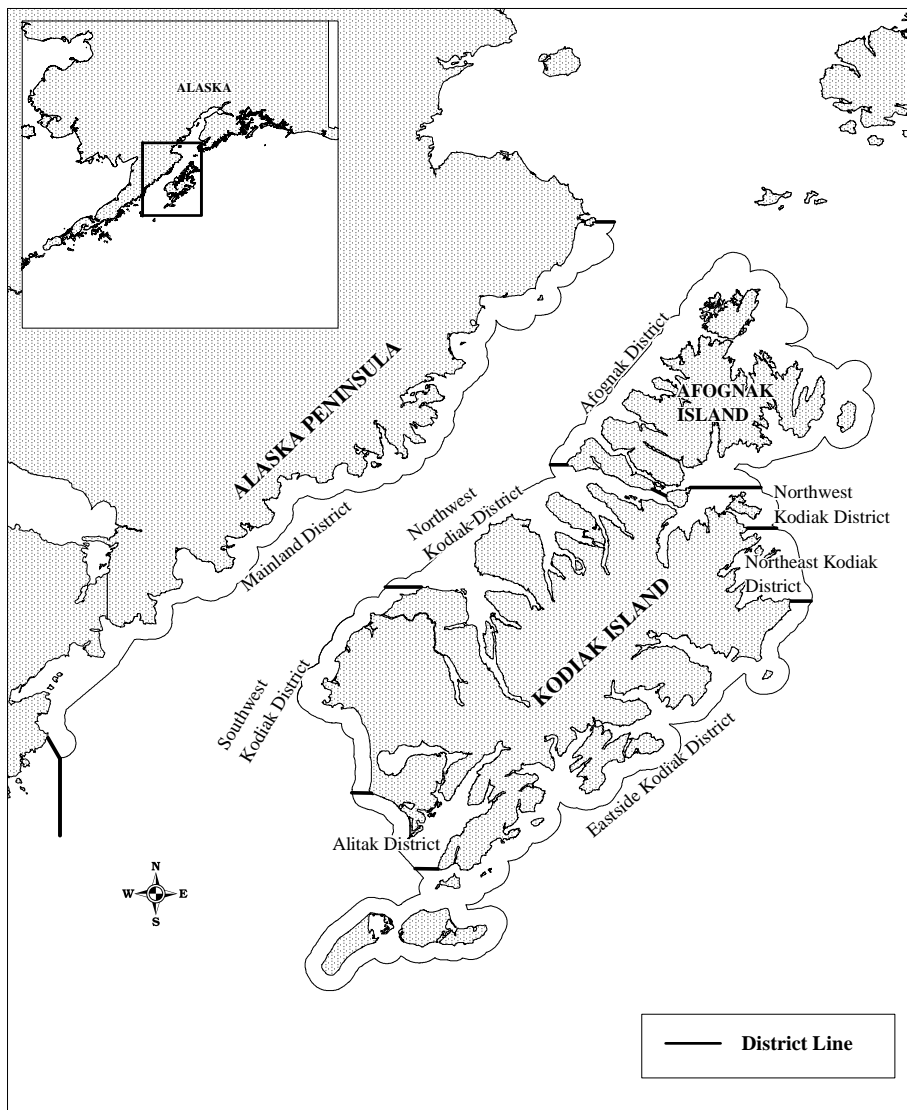


Figure 1. Map of the commercial salmon fishing districts in the Kodiak Management Area, 2011.

Commercial fishing effort increased again during the 2011 commercial salmon season and was the highest it has been since 2000. Of the 593 eligible commercial salmon permits, 339 (57%) made commercial landings (Table 1).

By gear type, a total of 157 set gillnet, 175 purse seine and 7 beach seine permit holders fished in 2011 (Table 1). All types of permit holder participation was above the previous 10-year average. During 2011, both beach seine and purse seine permit holder participation was higher than in 2010. The number of permits actually fished at any given time varied throughout the season.

Table 1. Commercial salmon fishery 2011 limited entry permit activity and 10 yr. averages, by gear type, in the Kodiak Management Area, 2011.

Gear Type	2011 Permits			2001-2010 Average Permits		
	Available	Fished	% of permits fished	Available	Fished	% of permits fished
Purse Seine	374	175	47%	377	146	39%
Beach Seine	31	7	23%	32	1	3%
Set Gillnet	188	157	84%	188	150	80%
Total	593	339	57%	597	297	50%

The 2011 commercial harvest in the KMA was 18,454 Chinook salmon, 2,266,712 sockeye salmon, 188,014 coho salmon, 16,642,437 pink salmon and 823,249 chum salmon (Table 2) for a total of approximately 19.9 million salmon, which is below the previous 10-year (2001-2010) average of 24.3 million salmon.

Table 2. 2011 commercial salmon harvest for KMA compared to the previous 10-year average and the 2011 harvest forecast.

	Chinook	Sockeye	Coho	Pink	Chum	Total
2011 Harvest	18,454	2,266,712	188,014	16,642,437	823,249	19,938,866
2001-2010 Avg.	18,138	2,431,652	389,496	20,534,551	886,441	24,260,279
2011 Forecast	20,000	2,053,228	373,048	29,300,000	1,139,578	32,885,854

Note: harvest numbers do not include harvest from the ADF&G test fisheries or personal use but include cost recovery.

The estimated total exvessel value of the 2011 fishery was approximately \$44.2 million, which is higher than any year since 1990, and well above the ten-year average exvessel value of \$22.6 million (Table 3).

Purse seine fishermen accounted for 95% of the total number of salmon harvested and averaged \$224,349 per fished permit (Table 3). The exvessel value increased from the 2010 season, and was higher than the previous 10-year average (\$120,161) for purse seine permit holders (Table 3).

Set gillnet fishermen accounted for 5% of the total number of salmon harvested. Earnings averaged approximately \$31,137 per fished permit, which was also an increase from 2010, but below the previous 10-year average permit holder earnings of \$34,650 (Table 3).

Beach seine participation was the highest it's been since 1995. Earnings averaged approximately \$13,572 per fished permit.

Table 3. Estimated commercial salmon harvest and value, by gear type, in the Kodiak Management Area, 2001 - 2011.

Year	Total Catch <sup>a</sup>	Total Value	Average Exvessel Value		
			Purse Seine	Set Gillnet	Beach Seine
2001	23,710,148	\$18,898,115	\$78,114	\$27,218	\$0
2002	21,314,421	\$12,651,332	\$68,552	\$26,206	\$0
2003	18,030,034	\$16,307,461	\$79,869	\$30,349	\$0
2004	25,359,691	\$19,260,231	\$93,942	\$37,246	\$0
2005	31,434,179	\$24,067,755	\$129,181	\$40,172	\$0
2006	32,595,862	\$23,788,440	\$150,318	\$27,740	Confidential
2007	26,238,930	\$27,224,796	\$148,355	\$41,058	\$3,484
2008	10,127,638	\$25,415,333	\$148,605	\$43,202	\$0
2009	28,338,462	\$33,713,563	\$174,661	\$47,593	Confidential
2010	10,291,449	\$24,267,934	\$130,009	\$25,720	Confidential
2011	18,228,605	\$44,244,528	\$224,349	\$31,137	\$13,572
Average - Previous 10 Years: 2001-2010	22,744,081	\$22,559,496	\$120,161	\$34,650	\$498

<sup>a</sup> Number of fish: Does not include test fisheries and Kitoi Bay Hatchery and Telrod Cove cost recovery or personal use harvests.

## 2011 Commercial Harvest Summary

### Chinook Salmon

There are no directed Chinook salmon commercial fisheries in the KMA but incidental commercial harvest occurs during targeted sockeye salmon fisheries. The Ayakulik and Karluk river systems support the largest Chinook salmon populations in the KMA. No commercial openings were allowed in the Inner Karluk and Outer Karluk sections in June or July. Non-retention of Chinook salmon was implemented during the fishing periods allowed prior to noon on July 13 in that portion of the Central Section south of the latitude of Cape Kuliuk, and in the Inner Ayakulik and Outer Ayakulik sections. After July 13, it became apparent that both Karluk and Ayakulik rivers would have adequate Chinook salmon escapement. The 2011 commercial harvest of Chinook salmon in the KMA totaled 18,454 fish which was very near the previous 10-year average (18,138 fish) and below the 2011 forecast (20,000 fish; Table 2).

## **Sockeye Salmon**

The 2011 commercial harvest of sockeye salmon in the KMA totaled 2,266,712 fish. The harvest was below the recent 10-year average (2,431,652 fish) but above the forecast (2,053,228 fish; Table 2).

By regulation, management for much of the west side fisheries of Kodiak Island through July 5 is based on the run strength of Karluk early-run sockeye salmon. Due to poor returns, only two short fishing periods were allowed targeting Karluk early-run sockeye salmon. Approximately 191,652 sockeye salmon were harvested in early-season (through July 15) westside fisheries, which was above the Karluk early-run sockeye salmon projected harvest of 99,926 fish although this harvest includes a (yet to be estimated) contribution from the enhanced Spiridon Lake sockeye salmon run. Approximately 118,649 sockeye salmon were harvested in the late-season westside fishery which was below the Karluk late-run sockeye salmon point forecast of 139,845 fish.

The Ayakulik River was forecasted to have a surplus of sockeye salmon (412,662 fish) available to commercial fishing in 2011. A short sockeye salmon fishery was allowed in the Inner Ayakulik and Outer Ayakulik sections in June and starting in mid-July, a more liberal fishing schedule was allowed on the late run. Approximately 148,401 sockeye salmon were harvested in the Inner Ayakulik and Outer Ayakulik sections during the 2011 season.

Generally, the early-run sockeye salmon appear in Upper Station earlier than they do in the Frazer system. The intent of the early opening was to allow an opportunity to harvest Upper Station early-run sockeye salmon prior to the Frazer Lake sockeye salmon peak run timing. Initially, the Upper Station early-run sockeye salmon came in as expected and a commercial salmon fishery was prosecuted on June 9 as a 33-hour test fishery. The resulting sockeye salmon harvest was lower than anticipated. As the season progressed, it became evident that the early-run sockeye salmon to Upper Station was weak. The 2011 forecast for Frazer Lake was estimated at 329,000 sockeye salmon with a harvestable surplus of approximately 181,000 sockeye salmon. The Frazer Lake sockeye salmon run came in about as expected. By July 5, the lower sockeye salmon goal was achieved through the Dog Salmon weir. The Alitak District early-run sockeye salmon commercial harvest was 68,203 fish, well below the projected harvest of 140,424 fish.

The late-run sockeye salmon forecast for Upper Station predicted a total return of 348,000 fish with 162,000 fish available for harvest. The actual run was much weaker than expected and only one commercial fishing opening was allowed after August 9 in the Alitak District sockeye salmon fishery. The total late-run sockeye salmon harvest (150,005 fish) was well below forecast (216,400 fish).

***Cape Igvak Salmon Management Plan:*** This regulatory management plan (5 AAC 18.360) allocates up to 15% of the total Chignik-bound sockeye salmon harvest to KMA fishermen in the Cape Igvak Section. Based on regulations, ninety percent (90%) of all sockeye salmon caught prior to July 25 in the Cape Igvak Section are considered to be Chignik-bound.

In 2011, the early Chignik sockeye salmon run was stronger than it has been in many years and the allocative and biological criteria were met to allow fishing in the Cape Igvak Section beginning June 9. Eleven days of fishing was allowed in June during the early run to Chignik. The Chignik late-run sockeye salmon run was weaker than expected and no fishing was allowed after the overlap period through July 25.

Through July 25, the Cape Igvak harvest of sockeye salmon considered to be Chignik-bound (90%) was approximately 494,538 fish. This Cape Igvak sockeye salmon harvest represented 16.9% of the total Chignik sockeye salmon harvest (15% allocation). Overall, the total sockeye salmon harvest in the Cape Igvak Section through July 25 was 549,487 fish, which was above the forecast (229,379 fish).

***North Shelikof Sockeye Salmon Management Plan:*** From July 6 to 25, this regulatory management plan (5 AAC 18.363) places harvest limits on two areas of the KMA bordering northern Shelikof Strait to limit interception of sockeye salmon that are considered Cook Inlet-bound. During the period that this management plan is in effect, KMA fisheries are targeting local pink salmon runs and the fishing periods are based on the projected pink salmon run strength. If it appears that the sockeye salmon harvest will meet or exceed limits set by the Board of Fisheries, then fisheries are to be restricted to inshore “Shoreward Zones” only, and offshore “Seaward Zones” are closed (Figure 2). In 2011, a department biologist was present on the grounds to determine the sockeye salmon catch and facilitate orderly, short notice closures if the harvest limits were met.

A Seaward Zone closure was implemented in the North Shelikof Unit at 1:00 p.m. July 22 when it was estimated that the cumulative sockeye salmon had approached the 15,000 fish limit. The total July 6 to 25 harvests in the North Shelikof Unit was 26,821 sockeye salmon, which includes both the Shoreward Zone and Seaward Zone harvests. A Seaward Zone closure was not required in the Southwest Afognak Section as the harvest cap of 50,000 sockeye salmon was not met. The July 6 to 25 harvest in the Southwest Afognak Section was 14,672 sockeye salmon.

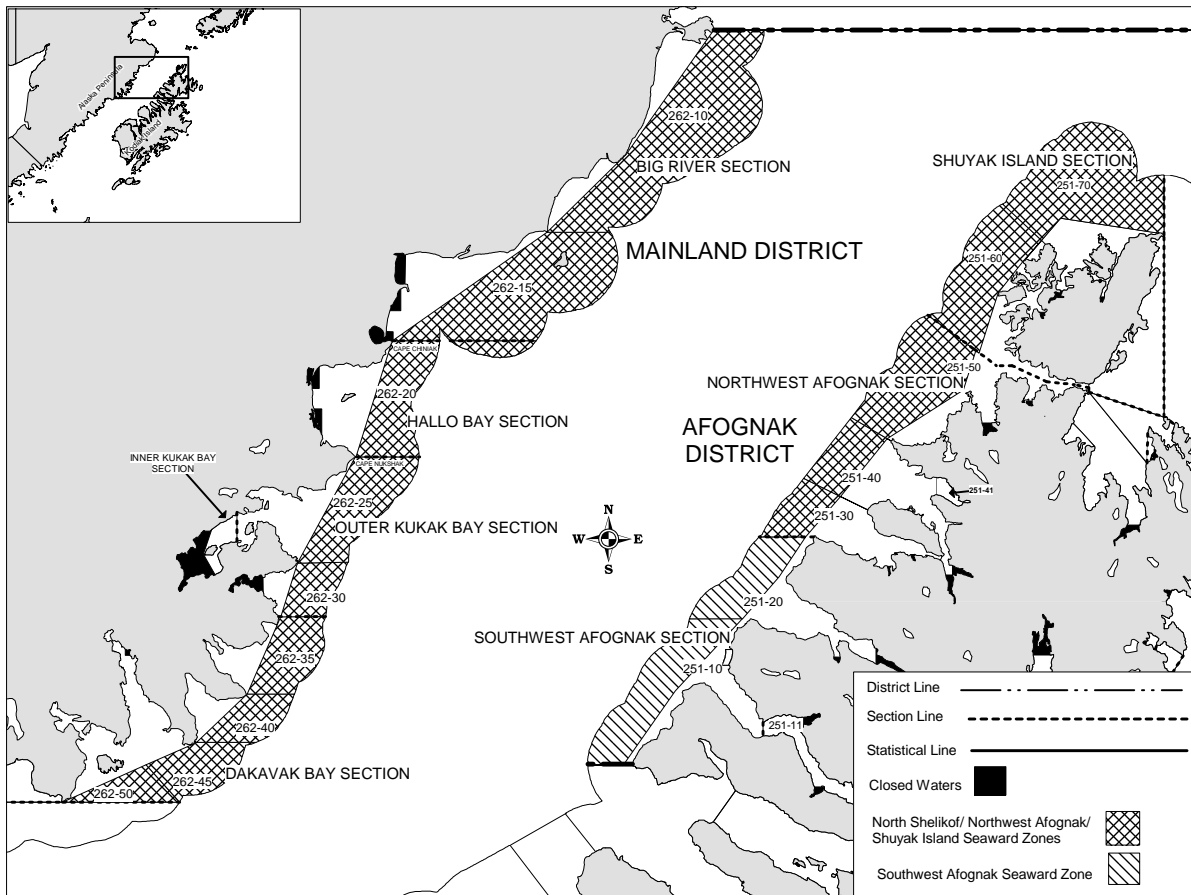


Figure 2. Map North Shelikof management area as described in the North Shelikof Management Plan.

**Terminal and Special Harvest Areas:** Some fisheries occur in areas where salmon enhancement projects create surplus production. Sockeye salmon harvests occurred as follows:

There was above average effort and harvest in the both Waterfall and Foul Bay Special Harvest Areas (SHAs) with a total of 81,205 sockeye salmon harvested in both SHAs.

In the Spiridon SHA (Telrod Cove), 111,459 sockeye salmon were harvested. This includes a cost recovery of 20,241 by Kodiak Regional Aquaculture Association. The harvest in the Spiridon SHA represents only a portion of the total harvest of Spiridon enhancement fish; the remainder is harvested in traditional net fisheries along the westside of the KMA. The total Spiridon sockeye salmon commercial harvest has not been estimated at this time.

The Kitoi Bay Hatchery harvest was an estimated 238,593 sockeye salmon, and was above the point forecast of 67,000 fish. This includes the commercial harvest of both enhanced and wild salmon from the Inner Kitoi Bay, Outer Kitoi Bay, Duck Bay, and Izhut Bay sections. Additional enhanced sockeye salmon may have been harvested in adjacent sections, but stock separation data are not available.

### **Coho Salmon**

The commercial coho salmon harvest of 188,014 fish was below forecast (373,048 fish) and below the 2001-2010 average (389,496 fish; Table 2).

The largest portion of the coho salmon commercial harvest occurred in those sections associated with Kitoi Bay Hatchery (Inner Kitoi Bay, Outer Kitoi Bay, Duck Bay, and Izhut Bay sections), with a total harvest of 68,575 coho salmon which was below the projected harvest of 156,000 fish.

### **Pink Salmon**

Overall, the 2011 pink salmon harvest of 16,642,437 fish was well below the forecast (29.3 million fish), and well below the past five odd-year (2001 to 2009) average harvest of 23,246,051 fish, and also the previous 10-year average harvest of 20,534,551 fish (Table 2).

Wild stock pink salmon harvests were below forecast (21,900,000 fish) with 14,471,149 pink salmon harvested in the KMA. Westside fisheries (Southwest Afognak to Ayakulik) accounted for 832,530 pink salmon, the Alitak District had a harvest of 4,896,501 pink salmon, and the eastside and the north end of Kodiak Island had a harvest of 8,275,432 pink salmon.

The Kitoi Bay Hatchery pink salmon return was weaker than expected. In those sections near the hatchery 2,171,288 pink salmon were harvested compared to a projected harvest of 7,400,000 fish. Additional Kitoi-bound pink salmon were likely harvested along the west side and east side of Kodiak and Afognak islands. However, the department does not have a stock separation program for pink salmon and is unable to differentiate stocks. There was a cost recovery fishery near the hatchery, with Kitoi pink, coho, chum and sockeye salmon harvested and sold by the Kodiak Regional Aquaculture Association.

### **Chum Salmon**

The chum salmon harvest of 823,249 fish was well below the forecast (1,139,578 fish) and slightly below the 2001-2010 average (886,441 fish; Table 2). The eastside and the north end of Kodiak Island accounted for 187,862 chum salmon, the Mainland District had a harvest of 112,168 chum salmon and the west side fisheries (Southwest Afognak to Ayakulik) had a harvest of 79,526 chum salmon. Kitoi Bay Hatchery chum salmon production was weaker than expected, with 320,579 chum salmon harvested, below the 2011 forecast (411,000 fish).

### **2011 Escapement Summary**

During the 2011, KMA commercial salmon season fish counting weirs were operated on nine systems, including the Karluk, Ayakulik, Litnik, Upper Station, Frazer, Buskin, Saltery, Pasagshak, and Big Bay systems. In addition, four observers flew over 37 aerial surveys, and



several observers conducted foot and skiff survey escapement estimates. Foot surveys are still being conducted on road system streams, primarily by the Division of Sport Fish.

### **Chinook Salmon**

The total Chinook salmon escapement (7,820 fish) was below the previous 10-year average (14,329 fish; Table 4). Escapement goals for Chinook salmon have been developed for the Karluk and Ayakulik rivers and the escapements are estimated using fish counting weirs (Table 5).

The Chinook salmon escapement through the Karluk weir (3,420 fish; Table 5) was within the range of the established escapement goal range of 3,000 to 6,000 fish. Chinook salmon escapement through the Ayakulik weir (4,316 fish; Table 5) was within the established escapement goal range of 4,000 to 7,000 fish.

### **Sockeye Salmon**

The 2011 sockeye salmon returns to systems in the KMA were varied. The Karluk early-run sockeye salmon and Upper Station early- and late-run sockeye salmon escapements did not meet established minimum escapement goals (Table 5). Pasagshak, Buskin, Little River, Malina, Frazer, Afognak, Uganik, Saltery, Ayakulik (both early- and late-run sockeye salmon), and the Karluk late-run sockeye salmon escapements were within established escapement goal ranges (Table 5). The entire KMA estimated sockeye salmon escapement (1,014,090) was below the previous 10-year average of 1,381,712 fish (Table 4)

### **Coho Salmon**

The only established coho salmon escapement goals occur in the Northeast Kodiak and Eastside Kodiak districts in the following rivers; American (400 fish), Olds (1,000 fish), Buskin (3,200 to 7,200 fish) and the Pasagshak rivers (1,200 fish). The Buskin River weir was removed early due to high water and surveys in the other streams are not yet concluded.

For the entire KMA, the estimated coho salmon escapement is incomplete and it is expected that more coho salmon enter KMA systems throughout the fall after the conclusion of foot surveys and removal of weirs. At this time the KMA has very little coho salmon monitoring, (the last aerial surveys were conducted in mid-October) and the lack of stock status information will further hamper the management of coho salmon in the KMA.

### **Pink Salmon**

Overall KMA pink salmon escapement (2,780,208 fish) was well below the previous five odd-year average of 4,043,350 fish and below the previous 10-year average (5,006,407 fish; Table 4). Pink salmon escapement goals have been established as an aggregate goal for the entire Kodiak Archipelago and the Mainland District. The escapement goal range (2.0 to 5.0 million fish) was met for the Kodiak Archipelago (2,506,708 fish; Table 5). The Mainland District pink salmon

escapement of 273,500 fish was within the established escapement goal range (250,000 to 750,000 fish; Table 5).

### **Chum Salmon**

Overall chum salmon escapement (422,130 fish) was slightly above the recent 10-year average (414,561 fish; Table 4). Escapement goals have been established in Kodiak Archipelago and the Mainland District. The escapement in the Kodiak Archipelago was above the escapement goal of 151,000 fish with an estimate of 283,530 fish and the Mainland District escapement of 138,600 fish also above the escapement goal of 104,000 fish (Table 5).

Table 4. Total salmon escapements in the KMA for all species in 2011, compared to average escapement from 2001 to 2010.

Species	2011 KMA Escapement <sup>a</sup>	2001-2010 Average KMA Escapement
Chinook	7,820	14,329
Sockeye	1,014,840	1,381,792
Coho	69,223	112,094
Pink	2,780,208	5,006,407
Chum	422,130	414,561

<sup>a</sup>2011 escapement estimates are the sum of all weir, aerial survey, and foot survey estimates. These are minimum estimates, and are incomplete due to limited dates of weir operation, and poor survey conditions. This includes escapement from all streams surveyed including many non-index streams that are not measured against established escapement goals.

Table 5. Salmon peak escapements and escapement goals by species, in the Kodiak Management Area, 2011.

Species	Stream District/System (stock)	Stream Number	Escapement Goal		2011 Peak Escapement <sup>a</sup>
			Lower	Upper	
Chinook					
	Karluk	255-101	3,000	6,000	3,420
	Ayakulik	256-201	4,000	7,000	4,316
	Total		7,000	13,000	7,736
Sockeye					
	Malina	251-105	1,000	10,000	3,800
	Afognak	252-342	20,000	50,000	48,993
	Little River	253-115	3,000		3,900
	Uganik	253-122	24,000		37,900
	Karluk	255-101			
	Early run		110,000	250,000	86,642
	Late run		170,000	380,000	230,690
	Ayakulik	256-201			
	Early run		140,000	280,000	177,480
	Late run		60,000	120,000	83,661
	Upper Station	257-304			
	Early run		43,000	93,000	28,759
	Late run		120,000	265,000	101,893
	Frazer	257-403	70,000	150,000	134,565
	Buskin	259-211	5,000	8,000	11,982
	Pasagshak	259-411	3,000		13,402
	Saltery	259-415	15,000	35,000	30,768
	Total		784,000		994,435
Coho					
	Buskin	259-211	3,200	7,200	3,389
	American	259-231	400		<sup>b</sup>
	Olds (Sid Olds)	259-242	1,000		<sup>b</sup>
	Pasagshak	259-411	1,200		<sup>b</sup>
	Total		5,800		<sup>b</sup>
Pink					
	Mainland District		250,000	750,000	273,500
	Kodiak Archipelago		2,000,000	5,000,000	2,506,708
	Total		2,250,000	5,750,000	2,780,208
Chum					
	Mainland District		104,000		138,600
	Kodiak Archipelago		151,000		283,530
	Total		204,000		422,130

<sup>a</sup> 2011 escapement estimates are the sum of all weir, aerial survey, and foot survey estimates. These may be minimum estimates only, and are incomplete due to limited dates of weir operation, and poor survey conditions.

<sup>b</sup> Estimates not yet complete.