

**Department of  
Fish and Game**

DIVISION OF COMMERCIAL FISHERIES  
Westward Region Office

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THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

**MEMORANDUM**

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DATE: October 19, 2016

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Region IV – Kodiak

FROM: Dawn Wilburn  
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SUBJECT: 2016 Chignik Salmon  
Season Summary

cc:

Cotten  
Kelley  
Bowers  
Sagalkin  
Wadle  
Jackson  
Fox  
Murphy  
Hutter  
Habicht  
Johnson, R.  
Foster  
Anderson  
Polum  
Schaberg  
Fuerst  
Shriver  
Witteveen  
Hutchinson-Scarborough

Linderman  
Miller  
Dorner, A.  
Lipka  
Fitch  
Bergstrom  
Wattum  
Stumpf  
Shedd  
Lechner  
Fair  
Dann  
Schrof  
Fox  
Fall  
Sands  
Spalinger, G.  
Loewen  
City of Chignik Lake

City of Chignik Lagoon  
City of Chignik Bay  
Native Village of Perryville  
Lake and Peninsula Borough  
Chignik Advisory Committee  
Sand Point Advisory Committee  
Kodiak Advisory Committee  
USFWS-ANC-Gerken  
Chignik Regional Aquaculture  
Association  
USFWS-OSM-Pappas  
Trident Seafoods  
International Seafoods of Alaska  
United Chignik Salmon  
Fishermen  
Alaska Peninsula Fisherman  
Cooperative  
Fisheries Research Institute-UW  
Concerned Area M Fisherman  
United Fisherman of Alaska

The following is a brief overview of the 2016 Chignik Management Area (CMA; Figure 1) commercial salmon season.

The Chignik River watershed supports two genetically distinct sockeye salmon runs which traditionally provide the majority of directed harvest opportunities within the CMA. In 2016, the combined early- and late-run Chignik River sockeye salmon escapement and harvest in the CMA was similar to the recent 10-year averages. The first commercial fishing period in the CMA began on June 4 and the final fishing period closed on August 31. A total of 70 permits made deliveries in 2016 (including the department's test fishery permit).

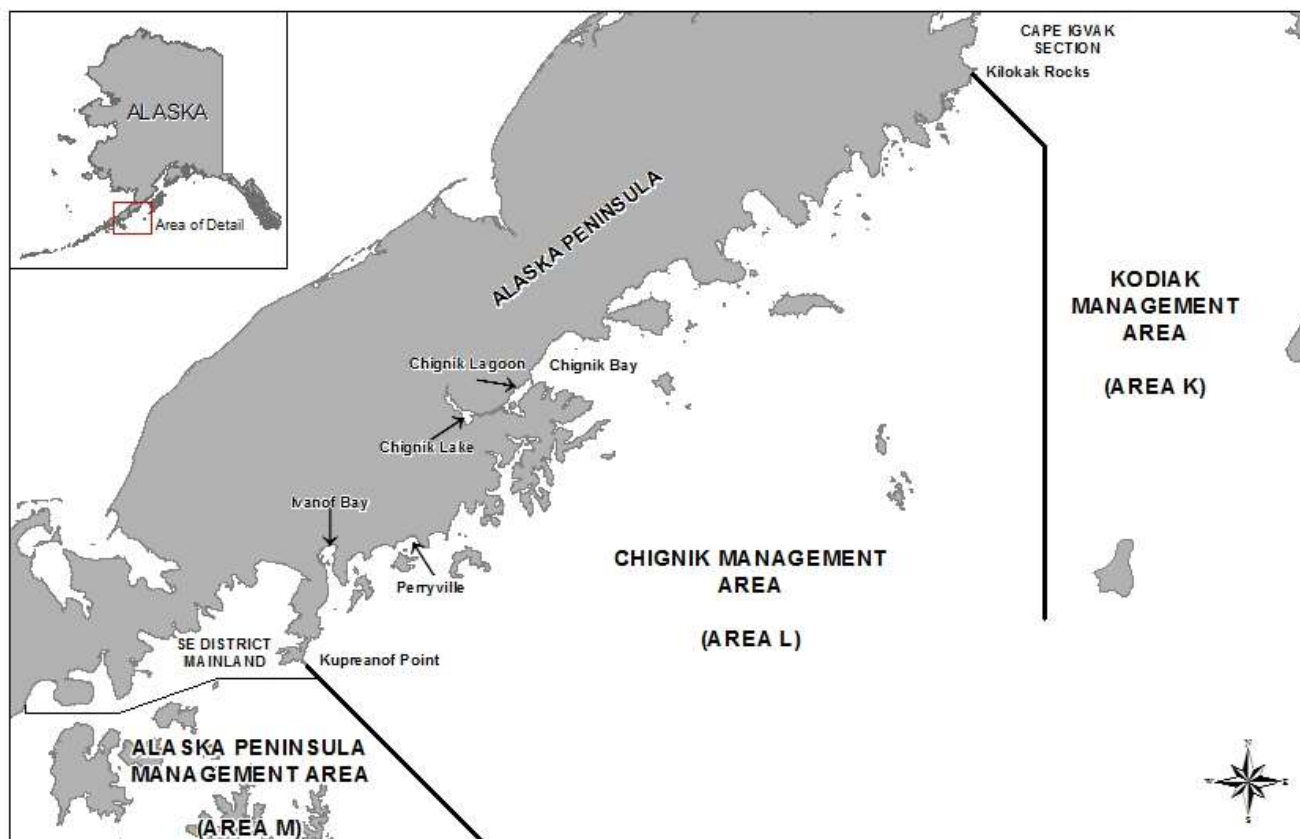


Figure 1.- Map of the Alaska Peninsula illustrating the relative locations of the Chignik, Kodiak, and Alaska Peninsula Management Area.

## ESCAPEMENT

Escapement through the Chignik River weir was monitored using underwater digital video equipment from May 23 through September 12. Two underwater gates in the weir were open to provide uninterrupted escapement. Fish passing the weir were counted, by species, for the first 10 minutes of each hour. The counts were expanded to obtain hourly escapement estimates, and then summed to provide an estimate of daily fish passage. A digital video archive was kept of each 10-minute counting period in the 2016 season.

On August 20, two DIDSON (Dual Identification Sonar) acoustic units were installed in the Chignik River to monitor escapement. The numbers of fish passing upstream of the DIDSONs were counted for the first 10 minutes of each hour. The counts were then expanded to obtain hourly escapement estimates. Species apportionment was determined by fishing with a gill net at least every other day. The results of the fishing samples were then applied to the escapement numbers. Daily post-weir escapement estimates were produced from the DIDSONs beginning September 13 (when the weir was removed) through September 23.

Aerial surveys were flown throughout the season to monitor escapement into other CMA streams. Peak aerial survey counts, by index stream and species, were summed and compared to available escapement goals established by Schaberg et al. (2015). Pink and chum salmon escapements were measured against established area-wide sustainable escapement goals (SEG).

### **Chinook Salmon**

The Chignik River is the only major Chinook salmon-producing stream within the CMA and one of the largest Chinook salmon streams on the South Alaska Peninsula. The biological escapement goal (BEG) for Chinook salmon into the Chignik River watershed is 1,300 to 2,700 fish (Schaberg et al. 2015). The 2016 Chignik River Chinook salmon escapement, above the weir, of 1,843 fish (Table 1) was below the most recent 5-year and 10-year averages. Subsistence and sport fishery harvest of Chinook salmon will not be known until permits and questionnaires are returned and tabulated by the spring of 2017.

### **Sockeye Salmon**

Sockeye salmon escapement to the Chignik River is managed based on separate escapement objectives for both early- and late-run sockeye salmon. The early-run SEG of 350,000 to 450,000 sockeye salmon was met with an estimated escapement of 418,290 fish (Table 1). The early-run sockeye salmon escapement was similar to both the 5-year and 10-year average escapements.

The Chignik River also has an inriver run goal (IRRG) of 75,000 sockeye salmon (25,000 in August and 50,000 in September) to provide for additional freshwater subsistence fishing opportunity. The IRRG is incorporated into the late-run SEG of 275,000 to 400,000 sockeye salmon. In 2016, the late-run SEG was met with an estimated total escapement of 351,420 sockeye salmon (Table 1). Of these fish, an estimated 334,128 late-run sockeye salmon passed through the weir and 17,292 sockeye salmon were estimated by post-weir DIDSON counts. Sockeye salmon escapement in August was estimated at 103,886 fish, meeting the minimum escapement requirements for the month (50,000 fish), as well as the August IRRG component of 25,000 fish. Approximately 48,921 sockeye salmon escaped during September 1–23 and were included in the total late-run escapement estimate. September escapement was slightly less than the September IRRG component of 50,000 fish. The total late-run estimated escapement was similar to the 10-year average escapement and below the 5-year average escapement (Table 1).

### **Coho Salmon**

Coho salmon begin to enter CMA drainages in mid-August and continue through November. The coho salmon run is generally building when the weir is removed. The 2016 Chignik River coho salmon

escapement through the weir plus post-weir DIDSON estimates through September 23 was 30,291 fish which was below the most recent 5- and 10-year average escapement estimates (Table 1).

### Pink Salmon

An estimated 486 pink salmon passed the Chignik River weir in 2016, which was well below the previous 5- and 10-year average pink salmon escapements (Table 1). Pink salmon escapements into other CMA streams were estimated via aerial surveys. A new even-year pink salmon SEG was adopted at the 2016 BOF meeting of 170,000–280,000 pink salmon for all districts combined and is based on 8 index streams within the districts. In 2016, pink salmon peak estimated escapement was very poor in the CMA and the minimum goal was not met. Pink salmon estimated total peak escapement was 61,920 fish for all index streams and made up approximately 36% of the minimum escapement goal.

### Chum Salmon

The 2016 Chignik River chum salmon escapement was 114 fish, which was above average for the Chignik River (Table 1). Chum salmon escapements to other CMA streams were estimated via aerial surveys. A new chum salmon SEG was adopted at the 2016 BOF meeting of 45,000–180,000 fish based on escapement into 6 index streams within the districts (Schaberg et al. 2015). The 2016 estimated total peak chum salmon escapement for all index streams of 69,900 fish, was within the escapement goal range.

Table 1.- Estimated Chinook, sockeye, coho, pink, and chum salmon, and Dolly Varden escapement to the Chignik River, 2006 to 2016.

Year	Escapement						
	Chinook <sup>a</sup>	Sockeye		Coho <sup>b</sup>	Pink	Chum	Dolly Varden
		Early-Run	Late-Run <sup>b</sup>				
2006	3,535	366,497	368,996	37,113	18,401	99	2,031
2007	2,000	361,091	293,883	10,299	20,464	118	6,993
2008	1,730	377,579	328,479	13,958	22,341	124	14,776
2009	1,680	391,476	328,586	7,670	12,873	109	8,618
2010	3,679	432,535	310,634	5,152	3,670	95	17,578
2011	2,728	488,930	264,887	5,293	16,298	145	19,225
2012	1,449	353,441	358,948	2,663	2,849	73	18,032
2013	1,253	386,782	369,319	16,783	7,231	72	17,230
2014	2,895	360,381	291,228	108,955	3,171	58	44,899
2015	2,054	534,088	589,810	60,209	4,269	54	16,346
2016	1,843	418,290	351,420	30,291	486	114	24,625
Averages							
2006-15	2,300	405,280	350,477	26,810	11,157	95	16,573
2011-15	2,076	424,724	374,838	38,781	6,764	80	23,146

<sup>a</sup> No escapement adjustments were made for Chinook salmon that spawn below the weir, or those removed by the sport and subsistence fisheries above the weir.

<sup>b</sup> Late-run sockeye salmon and coho salmon totals include a post-weir DIDSON escapement estimate.

## COMMERCIAL FISHERY

The first commercial fishing period occurred in the CMA on June 4. Throughout the months of June and July fishing periods were interspersed by short closures, typically 1 to 3 days in length. After a weeklong closure in late July, commercial fishing reopened in the Chignik Bay and Central districts on August 3 and remained opened until the end of the month except for one short closure. The Eastern District closed to commercial salmon fishing on July 5 and remained closed due to poor pink salmon escapement. The Western and Perryville districts were closed throughout August due to poor pink salmon escapement. In September, sockeye salmon escapement lagged behind the necessary number of fish required to meet the month's IRRG component for the Chignik River and therefore, the fishery remained closed. In 2016, 70 permit holders (including the department's test fishery permit) made a total of 2,554 landings (Table 2).

Table 2.- Total commercial salmon harvests, including home pack, and department test fishery from the Chignik Management Area by species and year, 2006 through 2016.

Year	Permits Making		Chignik Management Area Harvest					
	Deliveries <sup>a</sup>	Landings	Chinook	Sockeye	Coho	Pink	Chum	Total
2006	49	2,066	2,256	902,709	39,221	383,547	61,630	1,389,363
2007	56	2,101	1,773	834,547	73,277	2,019,748	78,553	3,007,898
2008	55	2,217	970	687,270	161,536	2,389,958	209,325	3,449,059
2009	56	2,172	3,319	1,198,105	110,373	1,408,339	256,425	2,976,561
2010	66	2,532	10,380	1,379,785	159,198	489,781	581,329	2,620,473
2011	65	2,617	6,586	2,497,004	76,792	905,166	269,503	3,755,051
2012	70	2,915	3,687	1,800,121	33,316	137,706	171,112	2,145,942
2013	77	3,142	2,959	2,396,645	32,258	871,503	154,425	3,457,790
2014	71	1,521	8,846	620,339	132,459	352,115	55,152	1,168,911
2015	72	2,276	9,204	1,552,495	82,054	1,978,211	101,017	3,722,981
2016	70	2,554	20,719	1,394,091	94,397	140,913	118,435	1,768,555
Averages <sup>b</sup>								
2006-15	65	2,388	5,303	1,440,701	95,696	750,621	208,538	2,922,741
2011-15	71	2,494	6,256	1,773,321	71,376	244,911	150,242	2,850,135

<sup>a</sup> Includes ADF&G's test fishery permit.

<sup>b</sup> Pink salmon averages include even years only.

## Harvest

### Chinook Salmon

A total of 20,719 Chinook salmon were commercially harvested in 2016, which was well above recent average harvests (Table 2). The majority of the 2016 CMA Chinook salmon harvest occurred in the Central District (Table 3).

### Sockeye Salmon

A total of 1,394,091 sockeye salmon were commercially harvested in the CMA during 2016, which was below the most recent 5-year and 10-year average harvest (Table 2). The majority of the 2016 CMA sockeye salmon harvest came from the Chignik Bay and Central districts (Table 3).

In 2016, the Cape Igvak Section in the Kodiak Management Area (Area K) opened to commercial salmon fishing on June 8 and the Southeastern District Mainland (SEDM) in the Alaska Peninsula Management Area (Area M) opened on June 7. Cape Igvak fisherman harvested 331,633 sockeye salmon (298,469 considered Chignik-bound) during the allocation period through July 25. A total of 118,488 sockeye salmon (94,790 considered Chignik-bound) were harvested in SEDM during the allocation period.

### Coho Salmon

A total of 94,397 coho salmon were commercially harvested in 2016, which was similar to the recent 10-year average harvests (Table 2). The majority of the coho salmon harvest in 2016 took place in the Central, Western and Perryville districts (Table 3).

### Pink Salmon

A total of 140,913 pink salmon were commercially harvested in the CMA in 2016 (Table 2), which was well below recent even-year average harvests (Table 2). The majority of the pink salmon harvest occurred in the Central District during late-June and July (Table 3). Commercial salmon fishing was closed in the Eastern District throughout July and August while the Western and Perryville districts were closed throughout August due to poor pink salmon returns.

### Chum Salmon

A total of 118,435 chum salmon were commercially harvested in 2016, which was below the 5-year and 10-year average chum salmon harvests (Table 2). The majority of the chum salmon harvest in 2016 took place in the Eastern, Central, and Western districts in late-June and July (Table 3).

Table 3.- Chignik Management Area commercial salmon harvest, excluding home pack, and department test fishery, by district, 2016.

District	Chinook		Sockeye		Coho		Pink		Chum	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Chignik Bay	664	9,054	733,818	4,325,473	4,604	33,945	3,092	13,670	5,124	34,068
Central	15,859	114,231	328,505	1,955,862	41,491	291,155	85,346	352,707	57,563	397,124
Eastern	413	3,448	38,629	218,926	55	275	10,142	33,958	21,654	134,364
Western	2,446	19,761	203,998	1,235,129	26,940	183,861	25,000	99,938	26,992	190,550
Perryville	1,302	8,594	80,723	473,101	21,283	149,141	17,315	63,118	7,085	49,035
Total	20,684	155,088	1,385,673	8,208,491	94,373	658,377	140,895	563,391	118,418	805,141

### Economic Value

The exvessel value of the 2016 CMA commercial salmon fishery was about \$8.6 million, or approximately \$125,000 per active permit holder. A majority of the value was from the sale of sockeye salmon (93%), with a total of approximately \$117,000 per active permit holder. The harvest of Chinook, coho, pink, and chum salmon provided approximately \$2,500, \$2,300, \$1,400 and \$2,300 respectively, per active permit holder (Table 4).

Table 4.- Value, by species, and average value per active permit, in dollars, in the Chignik Management Area, 2006 to 2016.

Year	Chinook		Sockeye		Coho		Pink		Chum		(\$) Total Value	Number of Permits <sup>c</sup>	(\$) Value Per Permit
	Total <sup>a</sup>	Average <sup>b</sup>	Total <sup>a</sup>	Average <sup>b</sup>	Total <sup>a</sup>	Average <sup>b</sup>	Total <sup>a</sup>	Average <sup>b</sup>	Total <sup>a</sup>	Average <sup>b</sup>			
2006	26,895	560	4,703,317	97,986	105,132	2,190	126,309	2,631	81,123	1,690	5,042,776	48	105,058
2007	26,176	476	4,154,210	75,531	195,754	3,559	1,034,322	18,806	162,089	2,947	5,572,550	55	101,319
2008	15,249	282	4,121,611	76,326	778,282	14,412	1,810,965	33,536	533,358	9,877	7,259,465	54	134,435
2009	30,714	558	7,058,058	128,328	220,823	4,015	800,523	14,555	520,791	9,469	8,630,909	55	156,926
2010	160,076	2,463	9,549,370	146,913	566,191	8,711	565,941	8,707	1,774,763	27,304	12,616,341	65	194,098
2011	57,524	899	21,469,153	335,456	278,391	4,350	1,040,264	16,254	919,586	14,369	23,764,918	64	371,327
2012	47,612	690	12,803,505	185,558	97,430	1,412	146,011	2,116	634,705	9,199	13,729,263	69	198,975
2013	37,620	495	21,946,587	288,771	86,892	1,143	867,978	11,421	384,458	5,059	23,323,535	76	306,889
2014	66,875	955	6,040,512	86,293	434,394	6,206	286,942	4,099	185,016	2,643	7,013,739	70	100,196
2015	74,403	1,048	6,600,110	92,959	101,967	1,436	940,236	13,243	164,225	2,313	7,880,941	71	110,999
2016 <sup>d</sup>	176,800	2,526	8,044,321	116,584	158,010	2,290	95,776	1,388	161,028	2,334	8,635,937	69	125,159
Averages													
2006-15	54,314	843	9,844,643	151,412	286,526	4,743	761,949	12,537	536,011	8,487	11,483,444	63	178,022
2011-15	56,807	817	13,771,973	197,807	199,815	2,909	656,286	9,427	457,598	6,716	15,142,479	70	217,677

<sup>a</sup> Total value of commercial catch in dollars, by species. Value does not include home pack or department test fishery.

<sup>b</sup> Average value of commercial catch per permit in dollars, by species. Average value does not include home pack or department test fishery.

<sup>c</sup> Includes the number of commercial permits that received income from the harvest. These figures do not include department test fishery harvests.

<sup>d</sup> Values represent the initial price paid, and do not include any postseason adjustments by any processor. The average 2016 exvessel prices per pound were: Chinook - \$1.14, sockeye - \$0.98, coho - \$0.24, pink - \$0.17, chum - \$0.20.

## Department Test Fishery

The department conducted one cost recovery test fishery and two run assessment test fisheries in Chignik Lagoon in 2016. An estimated 7,087 sockeye salmon were harvested, which provided approximately \$44,000 that was used to offset the cost of vessel charters and operations at the Chignik River weir.

## SUBSISTENCE

As of this writing subsistence harvest numbers for 2016 have not been finalized.

## LITERATURE CITED

Schaberg, K. L., D. A. Tracy, M. B. Foster and M. Loewen. 2015. Review of salmon escapement goals in the Chignik Management Area, 2015. Alaska Department of Fish and Game, Fishery Manuscript Series No. 15-02, Anchorage.