

MEMORANDUM

TO: Council and AP Members
FROM: Chris Oliver *CO*
Executive Director *for*
DATE: September 12, 2011
SUBJECT: Gulf of Alaska Pollock D-season TAC Redistribution

ESTIMATED TIME 8 HOURS All D-1 Items
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ACTION REQUIRED

Review discussion paper, action as necessary.

BACKGROUND

In June 2011, the Council took final action to establish a 25,000 chinook salmon PSC limit in the Western and Central GOA pollock fisheries. The Central GOA will be capped at 18,316 chinook salmon and the Western GOA at 6,684 Chinook salmon.

The Council also requested a discussion paper (attached as **Item D-1(d)(1)**) on the potential to redistribute GOA D-season pollock TAC to the A-, B-, and C-seasons to reduce fleet exposure to chinook PSC closures. Steller sea lion protection measures in the GOA disperse fishing effort temporally into four seasons with 25% of the pollock TAC allocated to each season. Based on the most recent completed biological opinion, these harvest restrictions decrease the likelihood of disturbance, incidental take, and competition for prey to ensure the groundfish fisheries do not jeopardize the continued existence or modify the designated critical habitat of the western Distinct Population Segment of Steller sea lions. The discussion paper notes that while the D-season re-apportionment may reduce bycatch rates of chinook salmon, the D-season bycatch rates are highly variable from year to year. Further, such a change would likely require re-initiation of a formal Section 7 consultation (i.e., preparation of a new Biological Opinion). At this meeting the Council will review the discussion paper, and consider whether they wish to take further action to reallocate GOA D-season pollock TAC.

**Gulf of Alaska Pollock D-Season Redistribution
North Pacific Fishery Management Council
October 2011**

Abstract

In June, 2011 the North Pacific Fishery Management Council (NPFMC) limited Chinook salmon prohibited species catch (PSC) in the Gulf of Alaska (GOA) pollock fisheries to 25,000 Chinook for the western and central GOA. The Council also requested a discussion on the potential to redistribute GOA D-season pollock quota to the A-, B-, and C-seasons to reduce fleet exposure to Chinook PSC. Steller sea lion protection measures in the GOA disperse fishing effort temporally into four seasons with 25% of the Total Allowable Catch allocated to each season. Based on the most recent completed biological opinion, these harvest restrictions decrease the likelihood of disturbance, incidental take, and competition for prey to ensure the groundfish fisheries do not jeopardize the continued existence or modify the designated critical habitat of the western Distinct Population Segment of Steller sea lions. Any changes to these restrictions on the GOA pollock fishery are likely to require re-initiation of ESA Section 7 consultations.

Introduction

As a part of its program to reduce Chinook salmon bycatch in the Gulf of Alaska (GOA) groundfish fisheries, at the June 2011 meeting the Council took action on management measures to limit Chinook salmon bycatch in the Western and Central GOA pollock fisheries. The Council adopted a prohibited species catch (PSC) limit of 25,000 Chinook salmon for the western and Central GOA, with regional caps of 18,316 Chinook salmon in the Central GOA and 6,684 Chinook salmon in the Western GOA. The pollock fishery will close in each area once the PSC limit is reached.

In order to monitor bycatch toward these caps, vessels less than 60 feet that are directed fishing for pollock will be required to have observer coverage no later than January 1, 2013. If the restructured observer program already approved by the Council is implemented beginning in 2013, observers will be deployed on those smaller vessels under that program. Otherwise, vessels under 60 feet will be required to comply with the 30% observer coverage requirement until the restructured observer program comes online.

Full retention of all salmon species by all vessels fishing in the pollock trawl fisheries will be required to develop a program to collect scientific data and biological samples to determine the representative composition, by stock of origin, of Chinook salmon caught as bycatch in the GOA pollock fishery. No PSC Chinook salmon will be allowed to be retained for human consumption unless they are donated to an authorized prohibited species donation program. At the June meeting the Council heard testimony that all processors of GOA pollock will participate in SeaShare, an organization participating in the Alaska food bank donation program.

During staff tasking, the Council asked staff to prepare a discussion paper on the potential to redistribute the GOA pollock D-season quota into the A-, B-, and C-seasons to reduce the exposure to Chinook salmon prohibited species catch. It was recognized at the Council meeting that such an action may be prohibited by Steller sea lion protection measures currently in place in the GOA. This paper is the staff's response to the Council's request.

Description of GOA Commercial Pollock Fishery

The GOA commercial pollock fishery is described in detail in the May, 2011 Chinook salmon EA/RIR/IRFA, and summarized here. The GOA pollock fishery is entirely shore-based¹, and approximately 90% of the catch is taken with pelagic trawls. Fishing in winter primarily targets pre-spawning aggregations in Shelikof Strait and near the Shumigan Islands, while summer fishing is less predictable, but primarily occurs near Kodiak Island and in nearshore waters along the Alaska Peninsula.

Since 1992 the GOA pollock Total Allowable Catch (TAC) has been apportioned spatially and temporally to reduce potential impacts to Steller sea lions. The objective of the apportionment scheme has been to allocate TAC to management areas based on the distribution of surveyed biomass, and to establish three or four seasons between mid-January and autumn. In 2001, four seasons were implemented in the Central and Western GOA, and 25% of the TAC was allocated to each season. The GOA pollock trawling seasons are:

- A season : January 20 – February 25
- B season : March 10 – May 31
- C season : August 25 – September 15
- D season : October 1 – November 21.

Harvesting Vessels

The Central and Western GOA fisheries are generally characterized by vessels of different lengths. From 2003 to 2010, the majority of vessels participating in the Central GOA fishery were ≥ 60 ft length overall (LOA), while the Western GOA fishery was dominated by vessels < 60 ft LOA (see Table 5 in GOA Chinook Salmon EIS/RIR/IRFA). Only vessels ≥ 60 ft LOA carried observers in the GOA pollock fishery, and not all trawls were observed. Therefore, salmon bycatch numbers and rates reported here are estimates based on extrapolation from observed vessels and trawls. There are currently no data to assess the validity of extrapolated bycatch estimates for the GOA pollock fishery. Beginning in 2013, vessels < 60 ft LOA will be required to carry observers for at least part of their pollock fishing.

Prohibited species catch of Chinook salmon in the GOA pollock fisheries

The 20-year (1991-2010) average of Chinook salmon PSC in the GOA groundfish trawl fisheries is 20,185, and has ranged from fewer than 10,000 in 2009, to more than 50,000 in 2010 (Fig. 1). The pollock target fishery accounts for approximately 75% of the Chinook salmon PSC in the GOA. It is assumed that all salmon caught in the groundfish fisheries have a 100% mortality rate. Recent action by the Council established a hard cap of 25,000 PSC Chinook for the central and western GOA pollock fishery, apportioned by area. The central GOA cap is 18,316 Chinook, the western GOA cap is 6,684 Chinook.

¹ Shore-based refers to deliveries to processing plants that are located in coastal communities or to floating processors that operate within State waters in a single geographic location.

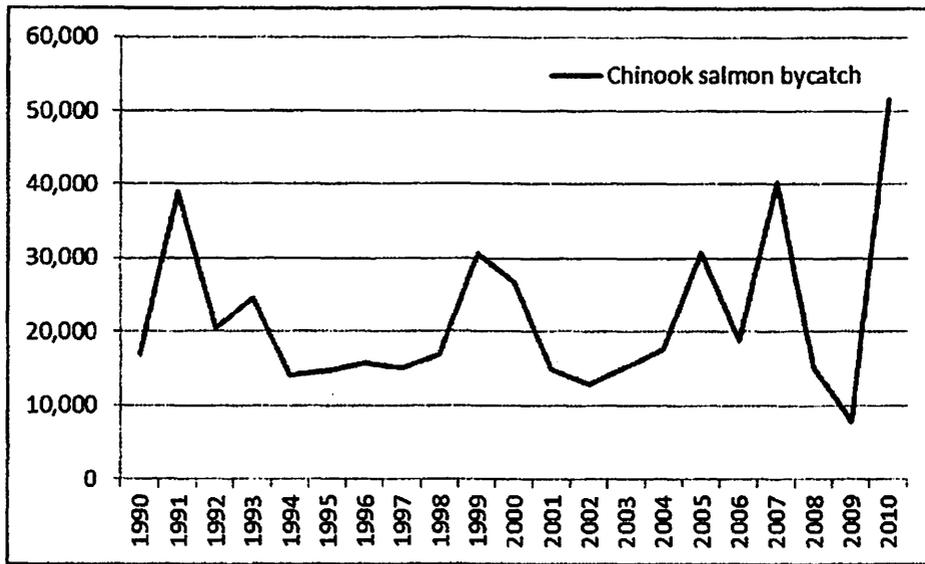


Figure 1. Prohibited Species Catch of Chinook salmon in Gulf of Alaska groundfish trawl fisheries, 1990-2010.

Source: NMFS catch reports (<http://fakr.noaa.gov/sustainablefisheries/catchstats.htm>) for 1990-2002; NMFS PSC database for 2003-2010.

The number of Chinook salmon caught in the Central and Western GOA pollock fishery and the rate at which they are caught varies annually (Fig. 1, Table 1). In the Central GOA, the year of highest bycatch was 2007 (32,205 Chinook), which was also the year of highest bycatch rate (0.98 Chinook/ mt pollock). However, while 2009 was the lowest year of overall Chinook bycatch (2,123 Chinook), 1994, 1995, and 2002 all had lower bycatch rates (0.08 vs. 0.09 Chinook / mt pollock). Overall Chinook bycatch was higher for those years because of the higher pollock catch. In the Western GOA, the year of highest overall bycatch and bycatch rate was 2010 (31,581 Chinook, 1.23 Chinook / mt pollock). Lowest bycatch occurred in 1997 (524 Chinook), and 1996 and 1997 shared the lowest bycatch rate (0.02 Chinook / mt pollock).

Table 1. Chinook salmon prohibited species catch (PSC) and pollock catch in the Central and Western Gulf of Alaska pollock fishery, 1994-2010. From Chinook salmon Bycatch in GOA Pollock Fishery, May 2011.

Area	Year	Chinook PSC	Pollock Harvest (mt)	Chinook/ mt pollock	mt pollock/ Chinook	% of CG/WG Chinook PSC	% of CG/WG pollock harvest
Central Gulf	1994	6,589	84,130	0.08	12.77	92%	81%
	1995	3,051	38,897	0.08	12.75	67%	56%
	1996	10,598	26,450	0.40	2.50	95%	52%
	1997	8,800	57,862	0.15	6.58	94%	69%
	1998	10,464	88,136	0.12	8.42	75%	75%
	1999	23,758	68,275	0.35	2.87	91%	74%
	2000	15,907	47,691	0.33	3.00	87%	68%
	2001	8,234	37,663	0.22	4.57	87%	55%
	2002	2,487	31,437	0.08	12.64	49%	64%
	2003	3,557	31,290	0.11	8.80	83%	66%
	2004	10,655	38,311	0.28	3.60	82%	62%
	2005	21,429	46,802	0.46	2.18	78%	60%
	2006	11,138	42,299	0.26	3.80	71%	63%
2007	31,647	32,205	0.98	1.02	90%	65%	
2008	7,971	30,769	0.26	3.86	79%	67%	
2009	2,123	22,700	0.09	10.69	83%	62%	
2010	12,334	44,033	0.28	3.57	28%	63%	
1994-2010 CG Average		11,220	45,232	0.27	6.09	78%	65%
2003-2010 CG Average		12,607	36,051	0.35	2.86	66%	63%
Western Gulf	1994	591	19,894	0.03	33.66	8%	19%
	1995	1,506	30,958	0.05	20.56	33%	44%
	1996	665	24,200	0.02	42.83	5%	48%
	1997	524	26,141	0.02	49.89	6%	31%
	1998	3,448	29,301	0.12	8.50	25%	25%
	1999	2,307	23,384	0.10	10.14	9%	26%
	2000	2,472	22,074	0.11	8.93	13%	32%
	2001	1,237	30,471	0.04	24.63	13%	45%
	2002	2,548	17,455	0.15	6.85	51%	36%
	2003	738	15,970	0.05	21.64	17%	34%
	2004	2,327	23,124	0.10	9.94	18%	38%
	2005	5,951	30,756	0.19	5.17	22%	40%
	2006	4,529	24,427	0.19	5.39	29%	37%
2007	3,359	17,303	0.19	5.15	10%	35%	
2008	2,116	14,828	0.14	7.01	21%	33%	
2009	441	14,010	0.03	31.77	17%	38%	
2010	31,581	25,766	1.23	0.82	72%	37%	
1994-2010 WG Average		3,896	22,945	0.16	17.23	22%	35%
2003-2010 WG Average		6,380	20,773	0.31	3.26	34%	37%

Source: NOAA Catch Accounting System.

The number and rate of Chinook salmon bycatch also varies within years. The GOA pollock fishery is divided into four seasons, with 25% of the total pollock TAC allocated to each season. Despite these nearly equal seasons, there are substantial differences in the amount of pollock and number of Chinook salmon that are caught incidental to pollock fishing (Table 2). Fishery management provisions that allow rollover of TAC between seasons allows for differences in catch. Since 2003 pollock and Chinook salmon catch have been recorded for each week, making comparisons between seasons possible. Table 2 shows the variation in estimated number and rate at which Chinook salmon are caught in the pollock fishery by season. In both the Central and Western GOA, the bycatch rate (Chinook/mt pollock) is highest in the D season, although the difference is most pronounced in the Western GOA.

Table 2. Metric tons of pollock, and number of Chinook salmon caught in the pollock fishery in the Central and Western GOA from 2003 to 2010.

Central Gulf								
Season	Pollock (mt)				Chinook (no.)			
	A	B	C	D	A	B	C	D
2003	7,287	12,348	5,770	5,885	688	254	397	2,218
2004	7,992	16,820	7,367	6,131	3,366	1,586	2,422	3,581
2005	17,770	17,587	3,760	7,685	10,955	3,781	680	6,004
2006	11,204	17,374	7,813	5,908	501	3,315	409	1,917
2007	4,118	18,492	4,854	5,110	421	27,647	121	2,455
2008	5,929	14,176	3,517	7,547	606	5,853	92	1,420
2009	1,057	13,689	1,119	7,934	226	1,146	70	751
2010	11,499	14,269	8,504	9,761	3,949	806	2,824	4,755
03-10	66,457	124,755	41,234	55,963	21,740	44,388	11,655	32,101
Western Gulf								
2003	4,174	1,247	5,903	4,645	72	35	55	80
2004	3,938	3,868	7,561	7,758	237	449	85	1,556
2005	7,311	2,204	9,111	12,130	329	613	385	4,624
2006	4,206	7,812	6,245	6,164	1,818	300	453	1,958
2007	3,327	5,344	1,946	6,686	212	459	169	1,518
2008	73	3,995	4,944	5,816	72	1,182	297	625
2009	123	5,899	3,098	4,891	15	201	47	177
2010	4,881	4,859	8,816	7,210	950	810	1,799	28,022
03-10	28,033	35,227	47,625	55,299	4,644	4,050	3,786	38,561

It appears from Table 2 that the bycatch rate in the Western GOA is drastically higher in the D-season than the A-, B-, or C-seasons. However, bycatch in the Western GOA D-season was dominated by a single week in 2010 when an estimated 21,064 Chinook were caught. Without that bycatch event (i.e., data from 2003 – 2009) the differences in bycatch rate are not as great, although the majority of Chinook salmon PSC still occurred in the D-season (Table 3).

Table 3. Metric tons of pollock, number of Chinook salmon caught, and rate of Chinook salmon bycatch in the pollock fishery in the Western GOA from 2003 to 2009.

Season	A	B	C	D
Pollock	23,151	30,368	38,809	48,098
Chinook	3,694	3,240	1,988	10,539
Chinook/mt pollock	0.160	0.107	0.051	0.219

The pollock fishery in the Gulf of Alaska is episodic throughout the seasons, and the number of weeks in the year that fishing occurs is unpredictable. For example, in 2007 dedicated pollock fishing occurred in the Western GOA on 17 weeks. However in 2003 and 2009, fishing only occurred on 7 weeks. Because of the unpredictability and high variability in the number of weeks fished, the timing of the fishing throughout the year, and the Chinook PSC rate it is difficult to predict whether shifting quota from one season to others would significantly affect the rate at which Chinook salmon are caught incidental to fishing, or the total number of Chinook salmon that are caught.

Marine Mammals in the GOA

The GOA supports one of the richest assemblages of marine mammals in the world. Twenty-two species are present from the orders Pinnipedia (seals and sea lions), Carnivora (sea otters), and Cetacea (whales, dolphins, and porpoises). Some marine mammal species are resident throughout the year, while others migrate into or out of Alaska fisheries management areas. Marine mammals occur in diverse habitats, including deep oceanic waters, the continental slope, and the continental shelf (Lowry et al. 1982).

A number of concerns about the potential impacts of commercial fisheries to marine mammals have been raised. For individual species, these concerns include:

- direct mortality incidental to fisheries
- intentional mortality or harassment
- direct competition for resources
- indirect effects of fisheries competition.

Marine mammals have been given various levels of protection under the current Fishery Management Plans (FMPs) of the Council. Research and monitoring continue to better understanding of the nature and extent of fisheries impacts on marine mammals. The Alaska groundfish harvest specification environmental impact statement (NMFS 2007) provides the most recent information regarding fisheries interactions with marine mammals. The most recent marine mammal stock status information is available in the 2010 Marine Mammal Stock Assessment Reports (Allen and Angliss 2011).

In 2000, a Biological Opinion (BiOp) concluded that the FMPs for the Bering Sea and Aleutian Islands and Gulf of Alaska groundfish were likely to jeopardize the continued existence, or adversely modify the designated critical habitat of the Western Distinct Population Segment (DPS) of Steller sea lions, but were not likely to cause Jeopardy or Adverse Modification (JAM) to any other listed species. In 2001, a BiOp was released that provided protection measures for Steller sea lions that prevented JAM for the Western DPS; that BiOp was supplemented in 2003.

In 2006, the NMFS reinitiated a FMP-level Section 7 consultation on the impacts of groundfish fisheries on Steller sea lions, humpback whales, and sperm whales to consider new information on those species, and their interactions with federally authorized fisheries (NMFS 2006a). A draft BiOp was released in July 2010 (NMFS 2010a), concluding that the federally authorized groundfish fisheries did cause JAM to the western DPS of Steller sea lions, but did not cause JAM for humpback whales or sperm whales. Because the BiOp determined that the current FMP resulted in JAM for Steller sea lions, a reasonable and prudent alternative (RPA) was developed to mitigate those impacts on the western Aleutian portion of the Western DPS. The final BiOp that included some revisions to the RPA to address concerns from the Council and others was released in November, 2010 (NMFS 2010b), and NMFS implemented the Steller sea lion protection measures by interim final rule. No changes were made to the Steller sea lion protection measures in the GOA.

Steller sea lion

The Steller sea lion inhabits many of the shoreline areas of the GOA, using these habitats as seasonal rookeries and year-round haulouts. The Steller sea lion has been listed as threatened under the ESA since 1990. In 1997, the population was split into two stocks or DPSs based on genetic and demographic dissimilarities, the Eastern (California – Cape Suckling [144° W longitude]) and Western (Cape Suckling – Russia) stocks. Because of a pattern of continued decline in the Western DPS, it was listed as endangered on May 5, 1997 (62 FR 30772), while the eastern DPS remains listed as threatened. The NMFS is currently considering delisting the Eastern DPS (75 FR 77602, December 13, 2010).

A detailed discussion of Steller sea lion population trends in the GOA is included in the most recent Biological Opinion (NMFS 2010b) and is summarized here. Based on non-pup counts of Steller sea lions on trend sites through the range of the Western DPS in the GIA and Aleutian Islands, the overall population for the western DPS is stable. The number of non-pups counted increased 12% between 2000 and 2008, but only increased 1% between 2004 and 2008 (DeMaster 2009). Population trends differ across the range of the Western DPS. There is a gradual increase in population trend from a steeply declining population in the western Aleutians (Area 543) to a stable population in Area 541. The population was slightly increasing or stable from the eastern Aleutians through the central GOA, and the eastern GOA was estimated to be increasing at approximately 5% per year (NMFS 2010b).

Pups have been counted less frequently than non-pups, but the overall trends since the late 1970s are similar to counts of non-pups. Between 2001-2002 and 2009, pup production in the western DPS declined 43% in the western and 7% in the central Aleutian Islands, but increased 47% in the eastern Aleutian Islands and increased 23%, 6%, and 57% in the western, central, and eastern GOA, respectively.

Generally, the Western DPS continues to show significant improvement in pup production, and either stable or slowly increasing non-pup counts in the core of its range, the eastern Aleutians and western Gulf of Alaska (Kenai to Kiska).

Seasonal SSL Diet

In the Western GOA, salmon and pollock both make up important parts of the Steller sea lion diets (NMFS 2010b). Sinclair and Zeppelin (2002) summarized the diet of Western DPS Steller sea lions from scats collected from 1990 – 1998. In the summer, salmon were among the three most commonly occurring prey items for all sites sampled between Flat and Clubbing Rocks, and pollock were among the three most common food items for seven of eight sites. In winter, pollock were among the three most common food items for all sites sampled, and salmon were among the top three food items for four of the 14 sampled sites (Sinclair and Zeppelin, 2002). Other species were present in Steller sea lion diets and varied by season and site.

Protection Measures for Steller sea lions in the GOA

Throughout the 1990s, particularly after critical habitat was designated, various closures of areas around SSL rookeries, haulouts, and some offshore foraging areas were designated. These closures affect commercial harvests of pollock, Pacific cod, and Atka mackerel, which are important components of the western DPS diet. In the GOA, extensive closures are in place for Steller sea lions including no transit zones and closures of critical habitat around rookeries and haulouts (NMFS 2001).

Pollock is an important prey species for Steller sea lions (NMFS 2010b). The harvest of pollock in the GOA is temporally dispersed into 4 seasons, with 25% of the Total Allowable Catch allocated to each season (NMFS 2001). The GOA pollock trawling seasons are:

A season : January 20 – February 25

B season : March 10 – May 31

C season : August 25 – September 15

D season : October 1 – November 21

In 2009, the D-season occurred over two weeks. A maximum of 15 vessels each took one or two trips, lasting from two to five days, during the first two weeks of October. No dedicated pollock fishing occurred after October 10.

Based on the most recent completed biological opinion, these harvest restrictions on the pollock fishery decrease the likelihood of disturbance, incidental take, and competition for prey to ensure the groundfish fisheries do not jeopardize the continued existence or adversely modify the designated critical habitat of Steller sea lions (NMFS 2000, NMFS 2001, NMFS 2010b). Because the numbers of Steller sea lions in the eastern Aleutian Islands and GOA appear to be increasing, the protection measures in place for these areas were not changed in the last BiOp (NMFS 2010). It has been suggested that any changes to these restrictions in the GOA are likely to require re-initiation of ESA Section 7 consultation (D. Seagars, Pers. Comm. 2011).

Impacts of TAC Reallocation

Impacts to Chinook salmon bycatch

Although intra-annual and inter-annual variability in Chinook salmon bycatch rates in the GOA pollock fishery preclude bycatch predictions, it is possible that reallocating pollock TAC from the D-season to the other seasons may reduce overall Chinook bycatch over a long time span. The combined A-, B-, and C-season western GOA pollock catch was 92,329 mt from 2002 to 2009, total Chinook bycatch during that time was 8,922 for a bycatch rate of 0.097 Chinook/mt pollock. If the 48,098 mt pollock caught in the D-season from 2002 – 2009 were caught with the 0.097 Chinook/mt pollock bycatch rate, then total Chinook bycatch would have been 4,647, a savings of 5,892 Chinook salmon compared with the 10,539 Chinook estimated to have been caught in the fishery during the D-season (Table 3). However, high bycatch periods also occurred during the A-, B-, and C- seasons so it is also entirely possible that any “bycatch savings” that may have been accrued as a result of shifting TAC from the D- season would have been negated by a large bycatch event in the A-, B-, or C-seasons.

Impacts to GOA Pollock fishery

Reallocating TAC from the D- to the A-, B-, and C-seasons may lengthen the other seasons. Without knowing in which season the reallocated D-season TAC would be fished, it is safest to assume that the TAC would be spread relatively equally throughout the remaining seasons, although this is not certain. Because catcher-vessels must return to shore-based processors, it is unlikely that the vessels would be able to increase the volume of fish they capture during each trip, but would instead take additional trips during the season. Extending the length of the pollock seasons may have impacts to vessels and processors that would normally switch operations to other species, although again these impacts are difficult to predict.

Impacts to Steller Sea Lions

The impacts of reallocating pollock catch from the D-season to the A-, B-, and C-seasons are difficult to predict. Pollock were among the top three identified prey items for all sampled sites in the western GOA from 1990 – 1998 (Sinclair and Zeppelin 2002). Reduced fishing pressure on pollock may result in increased prey availability to Steller sea lions, although data regarding local prey availability are lacking, especially in winter. Additionally, some researchers have suggested that juvenile Steller sea lions may not be able to maintain body condition on a diet of pollock (Rosen and Trites 2004), although in recent feeding trials, temporarily captive free-ranging juvenile (1 to 2 years) Steller sea lions gained both mass and body fat percentage when fed a diet consisting only of pollock (Calkins et al. 2005). Cessation of pollock fishing in the D-season may also increase the availability of Chinook salmon to Steller sea lions, although again data regarding local distribution of Chinook salmon are lacking in winter.

If vessels that would normally be fishing pollock in the D-season instead target other species, it is possible that the redirected fishing effort could affect prey abundance for Steller sea lions. Again, it is difficult to predict the impacts to Steller sea lions from any such change.

Conclusions

At the June, 2011 North Pacific Fishery Management Council meeting, the Council asked staff to prepare a discussion paper investigating the possibility of shifting pollock TAC from the D-season to the A-, B-, and C-seasons, and specifically tasked staff with investigating whether such a shift would require consultation under Section 7 of the U.S. Endangered Species Act. The purpose of the TAC reallocation would be to reduce the exposure of the GOA directed pollock fishery to Chinook salmon PSC. The overall Chinook salmon PSC rate for the western GOA is higher late in the C-season and early in the D-season, compared to the A- and B-seasons, so it may be that shifting pollock TAC from the D-season to

the A-, B-, and C-seasons would result in lower Chinook salmon PSC, but that is far from a certain outcome.

In addition to extensive closures that were established in critical habitat around Steller sea lion rookeries and haulouts in the GOA, the Steller sea lion protection measures enacted in 2001 established four seasons for pollock trawling, and allocated 25% of the total TAC to each season in order to temporally disperse fishing effort.

Since the closures and seasons were established, the Western DPS of Steller sea lions appears to have stabilized, although some areas are still declining (NMFS 2010). The population growth seen in the Western DPS from 2004 to 2008 was entirely due to the increase in SSL numbers in the GOA (NMFS 2010b), and more recent counts suggest that SSL numbers in the GOA are stable or increasing. Any proposed changes to an FMP would likely be scrutinized to ensure that they do not negatively affect the population growth of SSLs in the GOA (D. Seagers, Pers. Comm. 2011).

It is, therefore, likely that any proposal to reallocate D-season pollock TAC to the A-, B-, and C-seasons would require reconsultation under Section 7 of the U.S. Endangered Species Act.

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Table 2. Metric tons of pollock, and number of Chinook salmon caught in the pollock fishery in the Central and Western GOA from 2003 to 2010.

Central Gulf												
Season	Pollock (mt)				Chinook (no.)				Bycatch rate (Chinook / pollock mt)			
	A	B	C	D	A	B	C	D	A	B	C	D
2003	7,287	12,348	5,770	5,885	688	254	397	2,218	0.094	0.021	0.069	0.377
2004	7,992	16,820	7,367	6,131	3,366	1,586	2,122	3,581	0.421	0.094	0.288	0.584
2005	17,770	17,587	3,760	7,685	10,955	3,781	690	6,004	0.616	0.215	0.184	0.781
2006	11,204	17,374	7,813	5,908	1,501	3,315	4,406	1,917	0.134	0.191	0.564	0.324
2007	4,118	18,492	4,484	5,110	421	27,647	1,124	2,455	0.102	1.495	0.251	0.480
2008	5,529	14,176	3,517	7,547	606	5,853	92	1,420	0.110	0.413	0.026	0.188
2009	1,057	13,689	19	7,934	226	1,146	0	751	0.213	0.084	0.000	0.095
2010	11,499	14,269	8,504	9,761	3,949	806	2,824	4,755	0.343	0.056	0.332	0.487
03-10	66,457	124,755	41,234	55,963	21,710	44,388	11,655	32,101	0.327	0.356	0.283	0.413
Western Gulf												
2003	4,174	1,247	5,903	4,645	72	35	551	80	0.017	0.028	0.093	0.017
2004	3,938	3,868	7,561	7,758	237	449	85	1,556	0.060	0.116	0.011	0.201
2005	7,311	2,204	9,111	12,130	329	613	385	4,624	0.045	0.278	0.042	0.381
2006	4,206	7,812	6,245	6,164	1,818	300	453	1,958	0.432	0.038	0.073	0.318
2007	3,327	5,344	1,946	6,686	1,212	459	169	1,518	0.364	0.086	0.087	0.227
2008	73	3,995	4,944	5,816	12	1,182	297	625	0.161	0.296	0.060	0.107
2009	123	5,899	3,098	4,891	15	201	47	177	0.126	0.034	0.015	0.036
2010	4,881	4,859	8,816	7,210	950	810	1,799	28,022	0.195	0.167	0.204	3.887
03-10	28,033	35,227	47,625	55,299	4,644	4,050	3,786	38,561	0.166	0.115	0.080	0.697