

Discussion Paper
Gulf of Alaska Pacific Cod Pot Sector
Preliminary Data Review
 February 2014

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In October 2013, the Council requested that staff prepare a summary of information on participation, permit use, and harvest in the Gulf of Alaska (GOA) Pacific cod pot fishery. The Council’s request was made in light of stakeholder testimony expressing concern about potential increased participation in the limited access GOA pot cod fishery. The commenter suggested that the development of a GOA Trawl Bycatch Management program that might include quota (“catch shares”) would leave the pot fishery as one of only a few limited access fishing opportunities in the Gulf. Potential concerns for the pot cod fishery could include: increased pot fishery participation to establish catch history in case the Council later issued quota for non-trawl gear, and competitive advantages during times that the fishery is less profitable (e.g. low ex-vessel prices, high fishing costs) for harvesters that bring in revenue from other fisheries that are rationalized. This paper is meant to serve mainly as a snapshot of baseline information on the GOA limited access Pacific cod pot fishery, should the Council decide to further examine these or other issues in the future.

1 Description of the fishery

Since 2000, participation in the GOA Pacific cod pot fishery has been limited to vessels with endorsed fixed gear LLPs. The GOA Pacific cod fishery was managed as an Inshore/Offshore fishery until 2012, and the majority of harvest has been allocated to the Inshore sector. Total allowable catch (TAC) in the federal fishery was first allocated by gear type in 2012. The pot sector year is divided into A and B seasons, with the former running from January 1 to June 10 and the latter from September 1 to December 31. From 2004 to 2011, the Central GOA Inshore sector A season was open for an average of 38 days; TAC closures ranged between January 26 and February 28. During the same period, the Central GOA Inshore sector B season closed in only five of the years; closures occurred as early as September 13 and as late as November 17. The Western GOA Inshore sector A season was open for an average of 55 days; closures ranged between February 16 and March 8. The Western GOA Inshore sector B season closed in only 2 of the years prior to 2012, once in mid-October and once in late October. During this period before gear sector splits, the Central GOA pot cod fishery was prosecuted by two to three times as many vessels during the A season (36 to 57 vessels) compared to the B season (16 to 30 vessels). Participating in the Western GOA was even more heavily tilted towards the A season, where pot participation ranged from 43 to 72 vessels compared to only 9 to 31 vessels in the B season.¹

Since 2012, the Central GOA pot sector² A season has closed on February 10. The Western GOA pot sector A season closed on February 6 and January 28. The B season remained open through December 31 in both areas. In 2012, the Central GOA pot sector harvested 13,336 mt, or 95% of the available TAC. The Western GOA pot sector harvested 7,873 mt, or 80% of the TAC. In 2013, the Central GOA pot

¹ All of the above data is available at: <http://alaskafisheries.noaa.gov/sustainablefisheries/inseason/goapcod.pdf>.

² Catcher vessels and catcher/processors are now managed under the same TAC.

sector harvested 7,459 mt, or 74% of the TAC, while the Western GOA sector harvested 9,400 mt, or 95% of the TAC. The A season pot gear TAC was fully harvested in both areas during both years.

Under current regulations, 60% of the annual GOA Pacific cod TAC for all gear types is allocated to the A season. The Central GOA pot sector receives 17.83% of the total non-jig Central GOA Pacific cod A season TAC, and the Western GOA pot sector receives 19.80% of the total non-jig Western GOA Pacific cod A season TAC. For the B season, the Central GOA receives 9.97% of the non-jig TAC, and the Western GOA receives 18.2% of the non-jig TAC.

2 Participation

This section provides information on the number of vessels that participated in the GOA Pacific cod pot fishery, both in the federal limited access fishery and in state waters. Reported data covers the average annual amount of groundfish that was harvested, on a per vessel level. The section also summarizes some high-level observations about which other fisheries are prosecuted by GOA pot cod vessels, and the proportion of gross annual revenues that these vessels derived from activity in the pot cod fishery. Where possible, any notable changes in harvest or revenue patterns that have occurred since 2011 are highlighted, though complete revenue “diversification” data is only available through 2012.

The analyzed period dates back to 2004, so changes in participation, if any, following the GOA fixed gear recency action should be apparent. The recency action – GOA FMP Amendment 86 – was implemented on April 21, 2011; it removed a number of latent (inactive over a defined period of time) LLPs from the fishery, limiting future access to those that had participated in the fishery during a qualifying period.

Since 2004, only three catcher/processor (CP) vessels have harvested Pacific cod with pot gear in the GOA. One CP operated as a catcher vessel (CV) some of the time, fishing both in state and federal waters. Within the Gulf, this vessel operated as a CP in the Western GOA A season in multiple years, and fished in the Western and Central GOA B season pot fisheries in one year each. The other two CPs participated only in the Western GOA pot cod A season; one of those vessels participated in only one year. Aggregated over the analyzed period, these vessels retained 1,450 mt of groundfish with an estimated gross first wholesale value of around \$2.4 million. For the years in which these vessels were active in the fishery, GOA pot cod accounted for either 1% of their total gross revenues (two vessels), or around 15% of total gross revenues (one vessel). There was no CP activity in the Pacific cod pot sector in 2006, 2010, or 2013.

Pot fishing for Pacific cod and other groundfish is primarily a CV activity. Table 2-1 summarizes the number of CVs that retained pot-caught groundfish in the GOA from 2004 to 2013. Because the table displays only active vessels, the effect of the 2011 recency action is not apparent. The first column shows the total number of CVs with pot landings, including both vessels with limited access LLPs for the federal fishery and non-LLP vessels that participate in the state-managed or parallel fisheries. The parallel fishery describes fishing activity that occurs in state waters while the federal fishery is open; landings in the parallel fishery accrue towards the federal TAC. It is important to understand that a vessel is *not* required to have an LLP that is endorsed for pot cod fishing in order to fish in the parallel fishery. This is the reason that the number of active CVs listed in the third column of Table 2-1 (“Federal”) is greater than the number of active endorsed LLP vessels listed in the second column. Finally, the three columns on the right-hand side of Table 2-1 sum to the total number of active vessels; together, they illustrate that most active pot vessels harvested off of the federal TAC and also participated in the state-managed pot fishery.

Table 2-1 Catcher vessels that made pot gear groundfish landings in the GOA, 2004 to 2013

Year	Total Vessels	LLP Vessels	Federal	State	State & Federal	Federal only	State only
2004	146	94	115	116	85	30	31
2005	148	93	115	114	81	34	33
2006	140	96	122	96	78	44	18
2007	137	99	124	103	90	34	13
2008	149	102	127	121	99	28	22
2009	126	90	114	109	97	17	12
2010	115	85	101	98	84	17	14
2011	145	93	122	128	105	17	23
2012	145	97	116	133	104	12	29
2013	124	86	100	103	79	21	24

Source: NMFS Alaska Region Catch Accounting System and Alaska Region RAM (Restricted Access Management) data compiled by AKFIN

That data encompassed in Table 2-1 picked up all GOA records where pot-caught groundfish was retained, with the vast majority of the catch being Pacific cod. From over 12,000 weekly LLP-level records, around 16% showed retained groundfish of less than one metric ton; more than half of those were for a weekly harvest of less than 500 pounds. It is not likely that these records are indicative of harvesters who are targeting groundfish with pot gear. Given that most of these small catch records occur in February and March, the analysts think it more likely that this groundfish pot harvest entered the Catch Accounting System through the GOA tanner crab fishery, which runs from January 15 to March 31. In order to get a slightly more accurate picture of activity in the groundfish pot fishery, any annual record of fewer than 10 mt has been dropped from Table 2-2.³ Table 2-2 shows the number of CVs meeting the aforementioned threshold that fished off the federal TAC (including but not limited to LLP holders), and in the state-managed pot fishery. For each fishery (federal and state), Table 2-2 shows the average annual amount of retained pot-caught groundfish, on a per vessel level.

Table 2-2 Count of catcher vessels that landed more than 10 mt of GOA groundfish with pot gear, and average retained groundfish per vessel (mt), 2004 to 2013

Year	Federal TAC		State Fishery		GOA Total	
	# Vessels	Avg Harvest per Vessel (mt)	# Vessels	Avg Harvest per Vessel (mt)	# Vessels	Avg Harvest per Vessel (mt)
2004	101	145	110	95	141	178
2005	91	158	100	95	131	183
2006	91	160	82	108	122	191
2007	98	132	94	115	124	192
2008	97	117	112	120	137	181
2009	77	150	100	102	115	190
2010	90	226	92	159	110	318
2011	102	287	124	134	141	326
2012	92	233	122	130	134	278
2013	77	173	97	147	119	232

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

³ 10 mt is an imprecisely chosen figure, but is based on conversations with fishery participants about what minimum weekly or monthly harvest level would be within the realm of an economically viable fishing operation.

Thirty six vessels either entered the federal GOA Pacific cod pot fishery since 2010, or renewed their participation after having not recorded GOA pot landings since 2006 or earlier. The proportion of the total gross revenue that each of these vessels derived from GOA pot cod fishing in a given year varied widely, but had a median value of 10%. Pot cod fishing accounted for more than 20% of annual gross revenue in only one-third of the yearly records for these relatively recent entrants. When these vessels were active in the state-managed pot fishery, they derived around 12% of their total gross revenue from that fishery. When these vessels landed GOA non-cod groundfish with pot gear, those revenues accounted for around 16% of the annual total. Vessels varied in the other fisheries in which they participated, but recent entrants to the pot cod fishery tended to depend on these other fisheries for a greater percentage of revenue. For recent entrants that fished in the IFQ hook-and-line fishery, those revenues accounted for over 40% of gross receipts. Newer pot cod entrants that also trawled, of which there were six, derived around 30% of revenues from trawling.

Including both active and inactive licenses, 78 CV LLPs have fixed gear Pacific cod endorsements for the Central GOA and 82 CV LLPs have fixed gear Pacific cod endorsements for the Western GOA. Table 2-3 shows the various endorsements that are found on the active LLPs that are endorsed for pot fishing in the GOA. The diagonal line of cells that are outlined in bold show how many GOA pot endorsed vessels have a certain type of endorsement. For example, in *Row A*, the first cell indicates that one GOA pot endorsed vessel can also trawl in the Aleutian Islands management area. The table indicates that 55 of the 78 Central GOA pot cod endorsements are active, and 70 of the 82 Western GOA pot cod endorsements are active. Of note, 14 LLPs that are endorsed for pot cod fishing in the GOA are also endorsed to trawl in the Central GOA; likewise, 24 LLPs that are endorsed for GOA pot cod are also endorsed to trawl in the Western GOA. The other cells in each row show how many of the LLPs endorsed for a certain activity are also endorsed for the activity shown in the corresponding column. For example, *Row P* shows that there are 55 LLPs endorsed to fish for Pacific cod with pot gear in the Central GOA with a CV; one of those licenses is also endorsed for trawling in the Bering Sea, five of those licenses are also endorsed for trawling in the Central GOA, three are endorsed for trawling in the Western GOA, six are endorsed to fish for Pacific cod with pot gear in the Western GOA on a CV, and so on. Of note, Western GOA CVs that are endorsed for pot cod fishing are more likely to also have trawl endorsements for the GOA, in comparison to pot cod endorsed LLPs for the Central GOA. They are also more likely to be endorsed for fixed gear Pacific cod fishing in the Bering Sea.

One item that is not displayed in Table 2-3 is the number of GOA pot gear CVs with a Pacific cod endorsement that also participated in the GOA halibut and sablefish IFQ program. Using diversification data, which shows each vessel's sources of revenue, this crossover in participation can be tracked up to 2012. In 2012, 55 pot vessels also derived revenue from the IFQ program. Dating back to 2003, this number has varied between 55 and 71 vessels.

Table 2-3 LLP endorsements for active licenses in 2013

	AI_TRW	BS_TRW	CG_TRW	WG_TRW	AI_CP_PCOD_HAL	AI_CP_PCOD_POT	AI_CV_PCOD_HAL	AI_CV_PCOD_POT	BS_CP_PCOD_HAL	BS_CP_PCOD_POT	BS_CV_PCOD_HAL	BS_CV_PCOD_POT	CG_CP_PCOD_HAL	CG_CP_PCOD_POT	CG_CV_PCOD_HAL	CG_CV_PCOD_POT	CG_CV_PCOD_JIG	WG_CP_PCOD_HAL	WG_CP_PCOD_POT	WG_CV_PCOD_HAL	WG_CV_PCOD_POT	WG_CV_PCOD_JIG
A	AI_TRW	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
B	BS_TRW	1	3	3	2	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0
C	CG_TRW	1	3	14	10	0	0	0	0	0	0	0	0	0	5	0	0	1	0	8	0	
D	WG_TRW	0	2	10	24	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	22	2
E	AI_CP_PCOD_HAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F	AI_CP_PCOD_POT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G	AI_CV_PCOD_HAL	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0
H	AI_CV_PCOD_POT	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	2	0
I	BS_CP_PCOD_HAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J	BS_CP_PCOD_POT	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
K	BS_CV_PCOD_HAL	0	0	0	0	0	2	0	0	0	3	1	0	0	0	1	0	0	0	0	2	0
L	BS_CV_PCOD_POT	0	0	0	0	0	0	2	0	0	1	15	0	0	0	4	0	0	0	0	12	0
M	CG_CP_PCOD_HAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N	CG_CP_PCOD_POT	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	1	1	0	0	0
O	CG_CV_PCOD_HAL	0	0	0	3	0	0	0	0	0	0	0	0	0	8	5	0	0	0	0	3	0
P	CG_CV_PCOD_POT	0	1	5	3	0	0	0	0	0	1	4	0	0	5	55	1	0	0	0	6	0
Q	CG_CV_PCOD_JIG	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
R	WG_CP_PCOD_HAL	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0
S	WG_CP_PCOD_POT	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0
T	WG_CV_PCOD_HAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0
U	WG_CV_PCOD_POT	0	1	8	22	0	0	2	2	0	0	2	12	0	0	3	6	0	0	2	70	7
V	WG_CV_PCOD_JIG	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7

Source: NMFS Alaska Region RAM (Restricted Access Management) data compiled by AKFIN

The Council may be interested in the number of vessels that hold GOA Pacific cod pot endorsements on their LLPs that also recently participated in GOA groundfish trawl fisheries. Twenty unique vessels that made pot cod landings during the analyzed period also trawled in the GOA since 2010. Some of these vessels entered or re-entered the GOA Pacific cod pot fishery in recent years. One trawl vessel entered the pot cod fishery in 2010, and has been active since then. Two trawl vessels entered the pot fishery in 2012 and remain active. One trawl vessel that had fished pot gear in 2004 returned to the fishery in 2011 and 2012. Finally, three trawl vessels that had participated in the pot fishery returned in either 2010 or 2011, but did not remain active in 2012.

In general, vessels that made GOA Pacific cod landings with pot gear derived between 12% and 19% of their total annual gross revenue from that fishery in those years. The level of dependency on pot cod fishing was on the higher end of that spectrum during 2011 and 2012, but those years were not out of line with dependency levels from 2003 to 2007. The lowest level of pot cod dependency for active pot cod fishermen occurred from 2008 to 2010, when around 12% to 15% of revenues came from the fishery.

Twelve different vessels that were active in the GOA Pacific cod pot fishery during the analyzed period had more than one LLP on the vessel. Eight vessels with stacked LLPs have participated in the Central GOA pot cod fishery, including six in the most recent year. Five vessels with stacked LLPs have

participated in the Western GOA pot cod fishery, including one in the most recent year. Only one vessel had multiple LLPs for each area.

Table 2-4 Catcher vessels with multiple LLPs on board, by area, 2004 to 2013

	CG	WG
2004	1	2
2005	2	3
2006	3	1
2007	7	5
2008	7	4
2009	7	2
2010	6	2
2011	7	2
2012	8	2
2013	6	1

Source: NMFS Alaska Region Catch Accounting System and Alaska Region RAM (Restricted Access Management) data compiled by AKFIN

Data on LLP transfers is available, but does not distinguish between sale and lease. Table 2-5 shows the number of sale or lease LLP transfers from 2002 to 2013. These data do not count transfers where the LLP remained in use on the same vessel, where presumably the permit changed ownership but its use in the fishery remained the same.

Table 2-5 Sale or lease LLP transfers between vessels, by area and operational type, 2002 to 2013

	CG CV	WG CV	CG CP	WG CP
2002		1	1	1
2003	1	1		
2004		1		
2005	2	1		
2006	4	1		
2007	4	3		
2008	4	4		
2009	2	1		2
2010	3	4		
2011	6	11		
2012	4	6		
2013	3	4		

Source: NMFS Alaska Region RAM (Restricted Access Management) data compiled by AKFIN

While the GOA fixed gear recency action (GOA FMP Amendment 86) eliminated some LLPs from the fishery, it also included a provision that could allow new Pacific cod endorsements to be added to a special set of fixed gear licenses. Eligible Community Quota Entities (CQEs)⁴ may request a number of endorsements that is equal to the number of LLPs the community lost due to the recency action. The Council made this provision in attempting to balance the desire to prevent future entry from latent fixed gear licenses (i.e. recency) with the goal of retaining fishing opportunities for small remote communities that depend upon access to a range of fishery resources. The maximum number of cod endorsements that

⁴ The CQE program, implemented in 2004, was established to allow a distinct set of small, remote coastal communities located in the GOA to purchase quota share under the existing halibut and sablefish IFQ program. Eligible communities may form non-profit entities that are called CQEs.

a single CQE could request is limited to a 10 mt landing threshold or two licenses, whichever is greater. These special fixed gear cod endorsements are non-severable and non-transferable; they must also be utilized on a vessel that is less than 60 feet in length. The endorsements must be requested from NMFS in each year, with the vessel on which they will be used specified in the request. The limits placed on this provision are meant to impose minimal impact on the historical fishing opportunities of the recent fishery participants who were not removed via recency.

Pacific cod endorsed licenses that are issued to Western GOA CQEs can only be for pot gear. Endorsements issued to Central GOA CQEs could be issued for either pot or hook-and-line gear. Up to 29 cod endorsements, total, could be requested by four Western GOA CQEs (covering five eligible communities, two of which combined to form a single CQE). Up to 58 cod endorsements, total, could be requested by 17 Central GOA CQEs. The maximum number that is available to any given community is set in regulation at Table 21 to Part 679.⁵ So far, though, only 22 cod endorsements have been requested and only five have been issued by Restricted Access Management (RAM). In each case, endorsements were not issued because no vessel was specified in the request. All 22 requests have emanated from four particular CQEs. Two Western GOA CV endorsements were issued in 2012; one of those was issued to a vessel that has also trawled in each analyzed historical year. One Central GOA endorsement was issued in 2013, but it was placed on a vessel that has no groundfish landing history in available Catch Accounting data. Two Western GOA endorsements have been issued for 2014 (one to a vessel with trawl landings in each year). So far, a fixed gear cod endorsement has not been issued to the same LLP in multiple years.

3 Harvest and value

Table 3-1 summarizes the groundfish landings taken with pot gear in the federal fishery since 2004. These records include all groundfish pot landings, including retained species that are not Pacific cod; however, cod landings make up the vast majority. The federal fishery includes all landings that accrue towards the annual TAC limit. The first panel show retained groundfish taken by LLP license holders. The middle panel shows landings by non-LLP holders who fished in the parallel fishery, which includes harvest taken in state waters while the federal fishery is open. Parallel fishery landings also accrue to the federal TAC, and, importantly, could be credited as catch history in the federal fishery. The third panel gives the sum of the first two, and captures all federal TAC landings. Retained groundfish in the pot sector has increased since 2011, but 2013 shows a regression in both landings and the number of active vessels (Table 3-2). These data alone are not sufficient to determine whether the reduction in retained groundfish during 2013 is attributable to lower ex-vessel prices, higher harvest costs (e.g. fuel, bait), or environmental or other factors.

Table 3-3 shows the total annual harvest by LLP holders, including both landings that accrued toward the federal TAC and landings in the state-managed fishery. Comparing all LLP landings to the first panel in Table 3-1 (landings by LLP vessels in the federal fishery) indicates that LLP landings in state waters make up a minority of the vessels' pot activity, but the level of catch is not insignificant.

⁵ Available at: <http://alaskafisheries.noaa.gov/rr/tables/tab121.pdf>.

Table 3-1 GOA groundfish pot gear harvest (mt) in the federal fishery by area, 2004 to 2013

Year	LLP Holders in Fed. Fishery			Non-LLP Holders in Fed Fishery			All Pot Landings in Fed Fishery		
	CG	WG	LLP Total	CG	WG	Non-LLP Total	CG	WG	TAC Landings
2004	4,679	8,483	13,162	283	1,552	1,836	4,963	10,035	14,998
2005	7,835	5,280	13,115	282	1,329	1,610	8,117	6,609	14,726
2006	7,753	4,490	12,243	1,007	1,430	2,436	8,759	5,920	14,679
2007	8,219	3,751	11,971	501	1,237	1,737	8,720	4,988	13,708
2008	5,025	5,411	10,435	362	642	1,004	5,386	6,052	11,439
2009	4,845	5,179	10,024	675	988	1,663	5,520	6,167	11,687
2010	8,415	9,708	18,123	1,300	931	2,231	9,715	10,639	20,354
2011	15,154	11,459	26,612	1,322	1,483	2,805	16,475	12,942	29,417
2012	12,491	7,551	20,043	1,036	373	1,409	13,528	7,924	21,452
2013	7,074	9,208	16,281	426	228	654	7,500	9,436	16,936
Average	8,149	7,052	15,201	719	1,019	1,739	8,868	8,071	16,940

Note: A small, confidential amount of groundfish pot harvest was attributed to the West Yakutat management area in 2009, 2010, and 2012; only the 2012 record was attributed to a vessel fishing with an LLP. These landings are folded into the Central GOA data shown in the table.

Source: NMFS Alaska Region Catch Accounting System and Alaska Region RAM (Restricted Access Management) data compiled by AKFIN

Table 3-2 Number of vessels making GOA groundfish pot gear landings that accrue toward the federal TAC, 2004 to 2013

Year	LLP Holder	Non-LLP Holder	Total Vessels
2004	80	22	102
2005	74	18	92
2006	75	16	91
2007	83	16	99
2008	85	13	98
2009	64	15	79
2010	74	16	90
2011	86	17	103
2012	78	15	93
2013	72	9	81

Source: NMFS Alaska Region Catch Accounting System and Alaska Region RAM (Restricted Access Management) data compiled by AKFIN

Table 3-3 Annual GOA groundfish pot gear harvest by LLP holders (mt) in either the federal or state-managed fishery, 2004 to 2013

Year	CG	WG
2004	7,850	13,126
2005	10,380	9,686
2006	10,066	9,263
2007	12,268	8,903
2008	10,698	10,296
2009	8,690	9,394
2010	14,677	14,963
2011	21,675	16,602
2012	19,439	12,265
2013	12,918	13,828
Average	12,866	11,833

Source: NMFS Alaska Region Catch Accounting System and Alaska Region RAM (Restricted Access Management) data compiled by AKFIN

Table 3-4 illustrates how GOA CV groundfish pot harvest by LLP holders is distributed throughout the year. The 2004 to 2013 period is broken out into pre- and post-2012. The two inflection points of interest are around the implementation of the GOA fixed gear recency action (April 2011) and the Council's first motion to initiate discussion papers on GOA Trawl Bycatch Management (June 2012), which is a program that might include establishing trawl sector catch shares in the GOA. It is not possible to know when, if at all, GOA stakeholders might have begun to alter fishing behavior in response to foreseeable Council action. Nevertheless, Table 3-4 does suggest that Central GOA activity by LLP holders has shifted more heavily towards the beginning of the year since 2012.

Table 3-4 Percent of annual GOA CV groundfish harvest with pot gear by LLP holders, by month, 2004 to 2011 and 2012 to 2013

Month	Central GOA			Western GOA		
	2004-11	2012-13	All Yrs	2004-11	2012-13	All Yrs
JAN	36%	28%	34%	13%	29%	17%
FEB	20%	23%	21%	26%	6%	22%
MAR	16%	30%	19%	36%	40%	37%
APR	5%	< 1%	4%	7%	0%	5%
MAY	1%	0%	1%	< 1%	0%	< 1%
JUN	< 1%	< 1%	< 1%	0%	0%	0%
JUL	0%	0%	0%	0%	0%	0%
AUG	< 1%	< 1%	< 1%	0%	0%	0%
SEP	10%	10%	10%	10%	15%	11%
OCT	6%	3%	5%	6%	8%	6%
NOV	3%	3%	3%	1%	1%	1%
DEC	4%	3%	4%	< 1%	0%	< 1%

Source: NMFS Alaska Region Catch Accounting System and Alaska Region RAM (Restricted Access Management) data compiled by AKFIN

Table 3-5 provides the annual ex-vessel prices paid for Pacific cod in the GOA for the most recent available years of complete data, broken out by harvest gear type. Relative to other gear types, pot cod is consistently valued around 3 cents per pound more than trawl-caught cod, but is less valuable than cod delivered by hook-and-line or jig vessels. Prices paid to CVs fishing with pot gear clearly declined in recent years from their peak in 2007 and 2008. To gauge more recent price levels, the analysts communicated with industry stakeholders.⁶ 2013 was generally considered to be a poor price year for Pacific cod, with ex-vessel prices during the A season typically below 30 cents per pound. Prices remained low through most of the 2013 B season, but were reported to have climbed above 30 cents per pound at the end of the year. The late-year price rise could have been attributed to a slow flow of cod delivery to shore-based processors, which allowed those processors to make higher value products with the fish. Early reports on the 2014 market indicate another slight increase to a high of 35 cents per pound, though that may regress slightly as product delivery picks up with the start of the trawl A season.

Table 3-5 Average annual ex-vessel value per pound (\$) for GOA Pacific cod, by gear type and by year, 2004 to 2012

	POT	TRAWL	HOOK & LINE	JIG
2004	0.25	0.25	0.30	0.30
2005	0.29	0.27	0.31	0.31
2006	0.39	0.36	0.41	0.42
2007	0.49	0.46	0.51	0.51
2008	0.57	0.52	0.60	0.59
2009	0.29	0.26	0.31	0.30
2010	0.26	0.23	0.27	0.29
2011	0.33	0.31	0.36	0.35
2012	0.35	0.32	0.38	0.37

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT

CPs retained pot-caught groundfish in all analyzed years except for 2006, 2010, and 2013. Due to confidentiality, CP harvest is reportable only in aggregate. During the period, the CP pot sector landings that were attributed to an LLP were around 200 mt per year. All CP pot landings that accrued to the federal TAC, including those in the parallel fishery, averaged around 250 mt per year. The estimated total wholesale value of CP landings was around \$400,000 per year.

Available baseline information on costs associated with bait and fuel is also considered here, as they may also affect the value of the fishery, and consequently pot fishermen’s willingness or ability to fish and the margin they receive for their effort.

Staff does not have access to published reports on prices paid for pot bait, as there is no economic data collection (EDR) in place for the GOA pot fishery. Anecdotal information suggests that prices paid for sardines and herring are prone to fluctuation, but have trended upwards in recent years as energy costs (fuel) have increased. One unverified stakeholder report estimated that the price for sardines has been around 65 cents per pound since 2012, and that the price for herring has increased from 60 cents to 65 cents per pound over the same period. To the extent that they impact pot fishermen’s marginal revenues, increased bait costs could make it more difficult for individuals who rely solely or predominantly on pot fishing to compete in a fishery where other harvesters supplement pot revenues with activity in other

⁶ The comments received from people familiar with recent markets are specific only to processors in Kodiak, AK, and are not necessarily representative of all processors in all GOA ports.

fisheries. It was reported to analysts that shore-based processors will sometimes subsidize bait costs as a means to attract deliveries. Presumably, however, this behavior is unreliable and may not continue if the fishery is prosecuted by a sufficient proportion of harvesters who can go fishing without the subsidy.

The upward trend in marine diesel fuel prices is well documented. Pacific States Marine Fisheries Commission publishes annual reports on recent before-tax cash prices for 600 gallons of #2 marine diesel. Prices paid in Alaska are broken out by Southeast Alaska and the rest of the Alaska, which includes vendors from Cordova to Adak (also including non-GOA ports such as Dillingham and Naknek). Fuel prices per gallon in the non-Southeast category have increased from an annual average of \$3.13 in 2010 to \$4.10 in 2013 (PSMFC 2012, 2013). Similar to bait costs, fuel prices may affect the comparative advantage of individual pot fishermen who rely primarily on pot fishing.

4 References

Pacific States Marine Fisheries Commission, Economic Fisheries Information Network, 2012. *West Coast and Alaska Marine Fuel Prices, 2011-2012 Annual Report*. January 2013. Available at: <http://www.psmfc.org/efin/docs/2012FuelPriceReport.pdf>.

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