Second Annual Surveillance Report
Bering Sea / Aleutian Islands Pacific Cod Fishery:
Jig, Longline, Pot and Trawl

Certificate Nos.:
Jig MML-F-074
Longline MML-F-075
Pot MML-F-076
Trawl MML-F-077

Intertek Moody Marine

June 2012

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1.0 GENERAL INFORMATION

Scope against which the surveillance is undertaken: MSC Principles and Criteria for Sustainable Fishing as applied to the Gulf of Alaska Pacific cod jig, longline, pot and trawl fishery.

Species: Pacific cod (*Gadus macrocephalus*)

Area: Bering Sea / Aleutian Islands (BSAI)

Method of capture: Jig, longline, pot and trawl.

Date of Surveillance Visit:	**28th May – 1st June 2012**			
Date of Initial Certification	**22nd January 2010**	**Certificate Ref:** Jig MML-F-074 Longline MML-F-075 Pot MML-F-076 Trawl MML-F-077		
Surveillance stage	**1st**	**2nd**	**3rd**	**4th**
Surveillance team:	**Lead Assessor: Dr. Rob Blyth-Skyrme** **Assessors: Dr. Jake Rice, Dr. Don Bowen, Dr. Susan Hanna**			
Company Name: **Address:**	**Alaska Fisheries Development Foundation Inc** 431 W Seventh Avenue Suite 106 Anchorage Alaska AK 99501 United States of America			
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2.0 RESULTS, CONCLUSIONS AND RECOMMENDATIONS

This report contains the findings of the second surveillance cycle in relation to this fishery.

The client's response to the Conditions of Certification was set out in an Action Plan, which was appended to the final certification report. Progress in taking action was examined as a part of this second surveillance. For each condition, the report sets out progress to date. This progress has now been evaluated by the Intertek Moody Marine audit team ('Observations' and 'Conclusion') against the commitments made in the Action Plan. This assessment includes a re-evaluation of the scoring allocated to the relevant Performance Indicators in the original MSC assessment. Where the requirements of a condition are met, the Performance Indicators are re-scored and if the score is 80 or more, then the condition is closed.

It should be noted that since the last surveillance audit the MSC has introduced the Certification Requirements and Guidance to Certification requirements which now outline the certification methodology, including the surveillance process and criteria for determining the level of surveillance audit that the fishery requires. This is set out in Annex 2 of this report.

Information Sources:

Meetings attended:

NB 1: All stakeholders from the full assessment were contacted prior to the surveillance audit taking place, but no stakeholders contacted IMM to request a meeting or teleconference with the assessment team.

NB 2: The site visit combined the flatfish, pollock and Pacific cod fisheries, in the BSAI and GOA. Hence, the meetings included specialists that cover all three fisheries and their associated species as well as other components of the BSAI and GOA ecosystem.

Date and Place	Name	Affiliation
29th May, 2012, AFSC, Seattle	Rob Blyth-Skyrme	Intertek Moody Marine (IMM)
	Jake Rice	IMM
	Don Bowen	IMM
	Susan Hanna	IMM
	Jason Anderson	Alaska Seafood Cooperative (AKSC)
	James Browning	Alaska Fisheries Development Foundation (AFDF)
	Dave Gaudet	AFDF
	Edward Richardson	At-Sea Processors Association (APA)
	Paul MacGregor	APA
	Jim Humphreys	Marine Stewardship Council (MSC) (observer)
	Sandra Lowe	Alaska Fisheries Science Center (AFSC)
	Steve Barbeaux	AFSC
	Dan Nichol	AFSC
	William Stockhausen	AFSC
	Thomas Wildebuer	AFSC
	Ingrid Spies	AFSC
	Wayne Palsson	AFSC
	Steve Ignell	AFSC
	Jim Ianelli	AFSC
	Teresa A'mar	AFSC
	Olav Ormseth	AFSC
	Stephanie Zador	AFSC
30th May, 2012, AFSC, Seattle	Rob Blyth-Skyrme	IMM
	Jake Rice	IMM
	Don Bowen	IMM
	Susan Hanna	IMM

	Jason Anderson	AKSC
	James Browning	AFDF
	Dave Gaudet	AFDF
	Edward Richardson	APA
	Paul MacGregor	APA
	Jim Humphreys	MSC (observer)
	Sandra Lowe	AFSC
	Shannon Fitzgerald	AFSC
	Thomas Wildebuer	AFSC
	Ingrid Spies	AFSC
	Jim Ianelli	AFSC
	Stephanie Zador	AFSC
	Martin Loefflad	AFSC
	Andrew Trites	University of British Columbia
31st May, 2012, AFSC, Seattle	Rob Blyth-Skyrme	IMM
	Jake Rice	IMM
	Don Bowen	IMM
	Susan Hanna	IMM
	Jason Anderson	AKSC
	James Browning	AFDF
	Dave Gaudet	AFDF
	Edward Richardson	APA
	Paul MacGregor	APA
	Jim Humphreys	MSC (observer)
	Sandra Lowe	AFSC
	Stephanie Zador	AFSC
	Tom Gelatt	AFSC

Reports and other Documents

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Standards and Guidelines used:

1. MSC Principles and Criteria
2. MSC Certification Requirements v1.1

Stock status and Catch Data	
Update on Stock Status	**Stock Status for the BSAI.** Moody Marine asked AFDF to prepare an update on the BSAI Pacific cod stock status for 2011. The intent of this section is to bring background information up to date and so to allow subsequent condition information to be evaluated in light of the current situation. The principle results from the 2011 stock assessment are presented in Table 1, below. The BSAI stock was assessed as "not overfished" nor approaching "overfished".

Table 1: Stock Status Parameters for Pacific Cod in the BSAI (NMFS 2011).

Quantity/Status	Last Year		This Year	
	2011	2012	2012	2013
M (Natural Mortality	0.34	0.34	0.34	0.34
Specified /Recommended Tier	3b	3b	3b	3b
Projected biomass (ages 0 +)	1,560,000	1,750,000	1,690,000	1,720,000
Female Spawning biomass (t) Projected	358,000	389,000	410,000	437,000
$B_{100\%}$	961,000	961,000	889,000	889,000
$B_{40\%}$	384,000	384,000	355,000	355,000
$B_{35\%}$	336,000	336,000	311,000	311,000
F_{OFL}	0.29	0.31	0.36	0.36
$maxF_{ABC}$	0.25	0.26	0.30	0.30
Specified/Recommended OFL(t)	272,000	329,000	369,000	374,000
Specified/Recommended ABC (t)	235,000	281,000	314,000	319,000
Is the stock being subjected to overfishing?	No	n/a	No	n/a
Is the stock currently overfished?	n/a	No	n/a	No
Is the stock approaching a condition of being overfished?	n/a	No	n/a	No

Total TAC in most recent fishing year

Management Guidance Metrics for the BSAI

The final 2011 NMFS management guidance metrics for Pacific cod in the BSAI are shown in Table 2.

Table 2: Final 2011 Overfishing Level (OFL), Acceptable Biological Catch (ABC), Total Allowable Catch (TAC), Initial TAC (ITAC), Guideline Harvest Level (GHL) and Community Development Quota (CDQ) Reserve Allocation for Pacific Cod in the BSAI (in metric tons) (AFSC 2012).

	OFL	ABC	TAC	ITAC	GHL	CDQ
Amount	272,000	235,000	227,950	203,559	Not given	24,391

UoC share of TAC

Other (includes jig): 1.4%

Longline: 49.9%

Pot: 10.8%

Trawl: 37.8%

Client share of TAC

Other (includes jig): 1.4%

Longline: 49.9%

Pot: 10.8%

Trawl: 37.8%

Green Weight[1] of

Table 3: Summary of the Pacific cod catches in the Eastern Bering Sea by fleet

[1] The weight of a catch prior to processing

catch taken by client group

sector and gear type. All catches include discards. 2011 catches are through October 3.

Year	Trawl	Longline	Pot	Other	Total
2010	41,152	81,663	19,655	388	142,858
2011	56,900	87,918	25,376	505	170,700

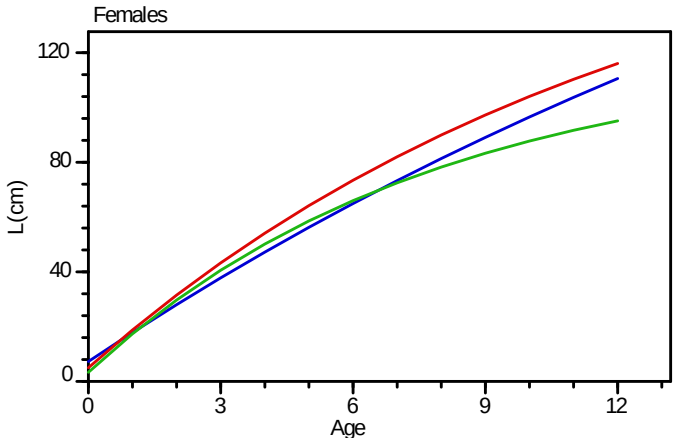
Table 4: Summary of the Pacific cod catches in the Aleutian Islands by fleet sector and gear type. All catches include discards. 2011 catches are through October 3.

Federal					
Year	**Trawl**	**Longline**	**Pot**	**Other**	**Total**
2010	**16,757**	**7,638**	**777**	**0**	**25,122**
2011	**9,250**	**1,194**	**1**	**0**	**10,444**
State					
2010	**2,113**	**77**	**1,688**	**0**	**3,878**
2011	**4**	**14**	**30**	**0**	**48**

Table 5: Summary of the Pacific cod catches in the Eastern Bering Sea and Aleutian Islands by fleet sector and gear type. All catches include discards. Catches for 2011 are through October 3.

Federal					
Year	**Trawl**	**Longline**	**Pot**	**Other**	**Total**
2010	57,909	89,301	20,381	388	167,979
2011	66,150	89,112	25,377	505	181,144
State					
2010	2,113	77	1,688	0	3,878
2011	4	14	30	0	48

Condition 1	**For the BSAI longline, pot and trawl fisheries**
PI	**1.3.1.2:** Does information indicate any changes in structure that would alter reproductive capacity?
SG 60	Changes in stock structure have been detected but there is no evidence of negative effect on recruitment of the stock. Or potentially adverse changes in structure are identified and remedial measures are in the process of implementation over defined timeframes.
SG 80	Evidence exists that the fishery has not caused changes in stock structure that would affect recruitment. Or potentially adverse changes in structure are clearly identified and effective remedial measures are in place.
SG 100	Data strongly indicate a robust age, sex and genetic structure in the stock, such as would maintain reproductive capacity.
Score	75
Rationale	**For the longline, pot and trawl fisheries:**

	There are some differences in the patterns of growth between BS and AI cod (Ormseth et al. 2007), but they are not large. The following figure compares female growth between these two areas and a separate study of growth from Stark et al. (2007). Thus, a shift in the relative proportions of the distribution of the stock may affect productivity. Moreover, changes in growth in either area may also affect reproductive capacity however, no temporal change in growth has been reported to date. Moreover, the proportion of the cod in the Bering Sea and the Aleutians has been fairly stable over recent years (The most recent estimate 84 % in the Bering Sea has changed only slightly from the previous estimate of 85%)  Size at age for Aleutian Islands (red line) and Bering Sea (blue) from Ormseth et al MS2007) and a separate study (green) for the Bering Sea from Stark et al. 2007. The score would have been higher if there was an evaluation to show that the fishery had no harmful effects on stock structure in relation to reproductive capacity. **NB.** This PI was scored at 85 in the Bering Select Freezer Longline assessment. The assessment report notes that maturity at age was estimated from samples in the early 1990s. The Moody assessment team considered that more recent samples were needed to confirm that reproductive capacity had not been altered. **Condition 1 (for the longline, pot and trawl fisheries):** The client is required to provide evidence of the effect of the fishery on stock structure and whether this has had an adverse affect on recruitment. If the evidence suggests recruitment has been adversely affected remedial measures must be implemented. <u>It is required that this Condition is met by the second annual surveillance audit.</u> In order to achieve this outcome it is recommended that the client: a) Evaluates the evidence of change in the stock structure in relation to reproductive capacity and relate this to the activities of the fishery. b) If there is evidence of a potentially damaging change in stock structure caused or assumed to be caused by the fishery, appropriate remedial measures should be defined and implemented by year four of the certification.
Client Action Plan	It is AFDF's and the industry working group's belief that the BSAI Pacific cod longline fishery already meets Condition 1 as set forth above for a directed fishery in 2010, depending on clarification of some terminology by the assessment team members. It is thought that the current gonadal maturity sampling program on the catch of Pacific cod

	conducted by NMFS provides data directed at effects of the fishery on reproductive capacity, however, the sample size and the length of time series may not provide the statistical power to discern fishery effects to the desired level. AFDF will provide to the certification body information from AFSC staff pertaining to part (a) of the recommended approach to this Condition by the second year of the certification. Any outstanding issues raised in the consultation with the certifier, will be resolved in the following annual audit. AFDF fully expects that these activities will provide the necessary information to meet the Condition. If the certification body deems it necessary to require additional work, AFDF will work closely with working group sector members and AFSC staff to see if additional sampling would ensure meeting the Condition, and act to acquire funding for the additional sampling in as quick and efficient a manner as practical.
Conclusion from 1st audit	The material presented to the surveillance and audit team goes a long way towards meeting this Condition. The changes in numbers at age are consistent with the expected effects of a sustainable fishery. Total mortality does increase such that numbers at age of older age groups decline in abundance over time. However, the spawning biomass comprises a number of age classes, and the greatest declines are in the oldest ages, which have always comprised only a minority of the reproductive individuals in this stock. The types of modelling provided by Drs. Thompson and A'mar support the conclusion that there are certainly sufficient numbers of spawners to maintain the reproductive potential of GOA Pacific cod. However, this work should be augmented by at least some opportunistic gonadal sampling and histological analysis of spawning Pacific cod of various ages, to document that fecundity per unit of spawning biomass is high enough in the younger mature ages to ensure spawning potential is being maintained. With that additional information this Condition could be considered to be fully met. The Condition is considered to be on target for completion within the two-year timeline.
Client Progress	Subsequent to the 1st ASA site visit, further communication with Dr. Grant Thompson about additional available information on stock structure took place. Dr. Thompson provided a table and graphs from a doctoral dissertation by Dr. Olav Ormseth with Pacific cod fecundity per kilogram data from 2007 for both BSAI and GoA. See Table 6, below: **Table 6**: Fecundity data from Appendix 1.B of Ormseth, O. A. (2007), "Reproductive potential of Pacific cod (Gadus macrocephalus) in Alaska" Ph.D. dissertation, University of Alaska Fairbanks. Weight data are from 2010 SAFE reports.

	Fecundity (millions of eggs)		Weight (kg)		Fecundity/kg	
Age	**BSAI**	**GOA**	**BSAI**	**GOA**	**BSAI**	**GOA**
6	1.6	1.1	4.03	3.42	0.40	0.32
7	2.4	1.7	5.04	4.40	0.48	0.39
8	3.2	2.4	5.97	5.35	0.54	0.45
9	4.1	3.1	6.79	6.26	0.60	0.50
10	5.0	3.9	7.49	7.10	0.67	0.55
11	5.9	4.6	8.09	7.86	0.73	0.59
12	6.7	5.3	8.59	8.54	0.78	0.62
13	7.4	6.0	9.00	9.15	0.82	0.66
14	8.1	6.7	9.34	9.68	0.87	0.69
15	8.7	7.3	9.61	10.14	0.91	0.72

16	9.2	7.9	9.83	10.54	0.94	0.75
17	9.7	8.4	10.02	10.88	0.97	0.77

Figure 1. Fecundity at age for Pacific cod.

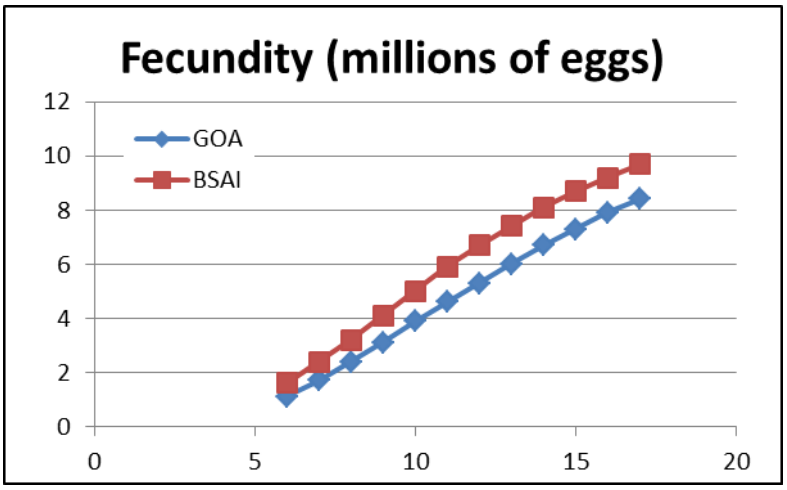


Figure 2: Weight at age for Pacific cod.

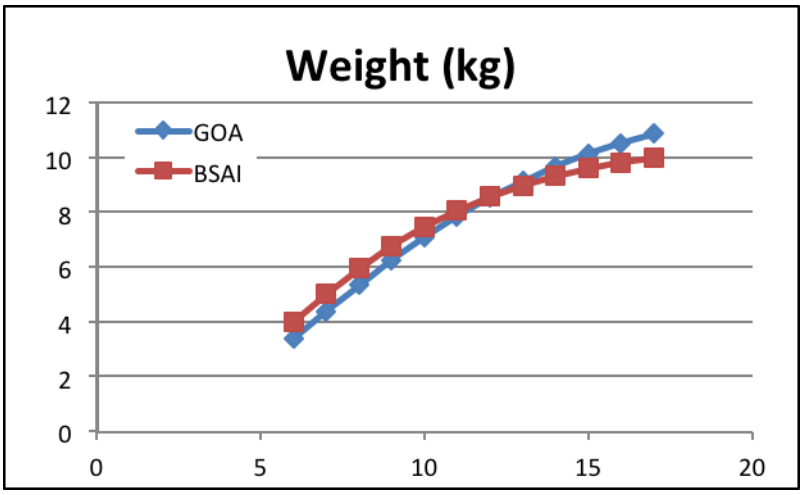
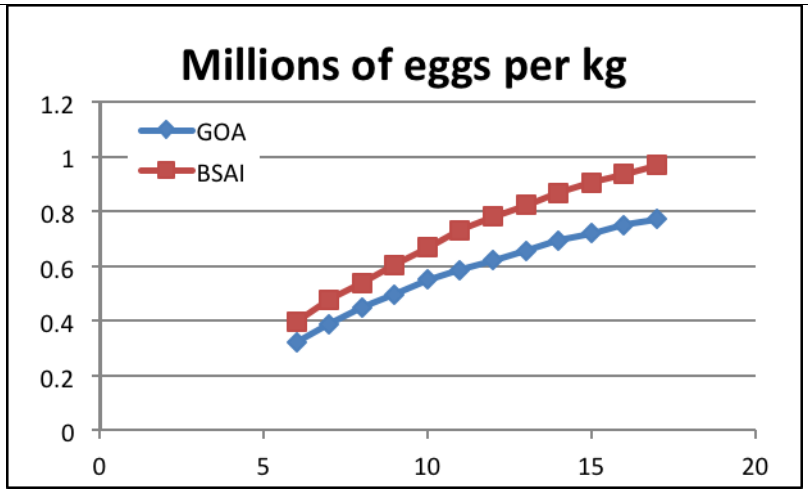


Figure 3: Fecundity at age for Pacific cod.



Fecundity data used in the graphs is from Ormseth (2007) while the weight data is from the SAFE report (AFSC, 2010). The fecundity data used in the graphs was from a review of the literature. New fecundity data is provided by Ormseth (personal communication, Table 7). The data is from samples collected during his dissertation research.

Table 7: Fecundity at age for Pacific cod.

Age	Fecundity			Relative Fecundity (eggs/g)	
	Mean	N	Se	Mean	N
3	2.E+06	1	NA	710.7	1
4	1.E+06	1	NA	782.1	1
5	2.E+06	6	229,320	726.0	6
6	3.E+06	13	283,621	794.6	13
7	4.E+06	10	322,996	774.8	10
8	6.E+06	11	243,754	905.2	11
9	6.E+06	8	796,753	934.6	8
10	5.E+06	4	494,880	825.1	4

Neidetcher (personal communication, 2011) examined samples collected by the Fisheries Interaction Team since 2002. Over 40,000 gross ovarian scans were used to identify spatial and temporal patterns in spawning of Pacific cod. The data identified the outer Bering Sea shelf and specific areas along the Aleutian Islands as spawning locations. Peak spawning was determined to occur in mid-March though the timing and duration is variable.

Observations

It was established in both the original certification assessment and the first audit that there no evidence that fishing has led to fragmentation of the population structure of BSIA Pacific cod, nor to loss of spawning components. Hence the changes to stock structure that might affect recruitment are changes to the age composition of the spawning population. (Changes to the actual size of the spawning population would be addressed under the Scoring criteria to do with status of the stock relative to its reference points, and are not part of this Condition.).

The additional analyses of fecundity at age summarized in the Client Progress section provide sufficient information to fully address this Condition. The data in the tables and

	figures document that fecundity per individual and per kg does increase with age, but at a rate that is slightly non-linear, with the greatest increases in the younger ages. Even for the youngest spawners, eggs per female average nearly two million per individual (Figure 1 above). Considering the numbers at age from the recent stock assessments of BSIA Pacific cod, it is true that fishing has altered the age composition of the stock over time, so the oldest age groups in the population are less numerous, but younger ages are disproportionately more numerous. Combined with the fecundity at age information, it is possible to conclude that the changes to the age composition of the stock have not reduced egg production to levels where recruitment would be limited by stock structure considerations. Environmental conditions will affect egg and larval survival, whatever the stock structure, and actual depletion of the spawning biomass, were it to occur, could also affect recruitment. However, at current stock sizes and structures there is no evidence that changes to stock structure have detrimentally altered recruitment.
Conclusion	SG60: Changes in stock structure have been detected but there is no evidence of negative effect on recruitment of the stock. Or potentially adverse changes in structure are identified and remedial measures are in the process of implementation over defined timeframes. SG80: Evidence exists that the fishery has not caused changes in stock structure that would affect recruitment. Or potentially adverse changes in structure are clearly identified and effective remedial measures are in place. SG100: Data strongly indicate a robust age, sex and genetic structure in the stock, such as would maintain reproductive capacity. This Criterion can now be scored at 85, and the Condition closed. If the age structure of the population were to return to historical proportions of older spawners, a higher score would be warranted.

Condition 2	**For the BSAI longline fishery**
PI	**2.1.2.1:** Is information available on the nature and extent of the by-catch (capture of non-target species)?
SG 60	The main non-target species affected have been identified and qualitative information is available on significant by-catch.
SG 80	Information is available on non-target species directly affected by the fishery including their distribution and/or ecology. Quantitative information is available on significant by-catch. If obtained by sampling, this is considered sufficient to provide adequate information.
SG 100	Information is available on all non-target species directly affected by the fishery including the distribution and ecology. Accurate records are kept on the nature and extent of all by-catch species including species size and sex composition.
Score	75
Rationale	**For the longline fishery:** Weight or numbers of target and non-target bycatch species (invertebrates, fish, marine mammals, reptiles, and birds) caught in the longline fishery are recorded in the Daily Catch Production Logbook maintained by the vessel operator and reported to NOAA Fisheries

	Regulation (50 CFR part 679.5). The Observer Program routinely collects quantitative information (numbers and weights) on non-target species directly affected by the fishery. For the more frequently affected non-target species, data from sampling is considered sufficent to estimate by-catch rate with reasonable presicion. The species or taxa most frequently bycaught include sculpins, skates, sleeper sharks, starfish, anemone, grenadier and seabirds. While the overall level of observer coverage in the Pacific cod fishery is considered to be good there are deficiencies and recognised concerns with the level of observer coverage for vessels <60' and in the 60'-125' sector. These are being addressed by the Council. Impacts and acceptable limits have been estimated for protected species. The current ESA Biological Opinion allows for four short-tailed albatross mortalities over a two-year period in the groundfish longline fleet. Limits have not been determined for other impacted birds such as the Northern fulmar, but the bycatch of this species represents a small source of mortality relative to the size of the population. The score would have been higher if the observer program recorded bird by-catch to the species level. **NB.** This Performance Indicator (PI) and Scoring Guideposts (SGs) is the equivalent to that used in the BSAI Pacific Cod Freezer Longline Fishery that was certified in February 2006. The 80 SG used in that assessment is broader in its information requirements. The Moody Marine assessment team considered that the level of information on non-target species bycatch is an important factor, e.g. recording of bird bycatch should, where possible, be undertaken at the species level. Hence, this PI was scored lower than in the BSAI Pacific Cod Freezer Longline Fishery and has resulted in a Condition. **Condition 2 (for the longline fishery):** The client is required to provide quantitative information on the accidental bycatch of seabirds to the species level. It is required that this Condition is met by the second annual surveillance audit. It is recommended that in order to achieve this Condition the client reviews and provides a report on the current state of knowledge on impacted seabirds to the species level.
Client Action Plan	Based on information from the NPFMC website and discussions with Ed Melvin of Washington Sea Grant, a leading researcher on both longline and trawl fisheries seabird impact, AFDF and the working group sector members believe that the current Pacific cod longline fishery already meets this Condition. Data on seabird bycatch has been collected to the species level or species group level in the Alaska longline fisheries since 1993. Gulls, alcids and some other species are lumped, because in the case of gulls, particularly juveniles, specific species ID's are difficult even for experts. It is our understanding that shearwaters are collected by species, but are not broken out by species in the SAFE reports - this is also true of alcids - few are caught so they are lumped. The "unidentified" category results largely from sampling at night when a dark bird comes over the roller in less than prime condition - difficult to tell a fulmar from a shearwater but should always be able to tell an albatross from either of these. It is important is to get the albatross ID's correct, since they are the species most vulnerable in these fisheries. AFDF and the working group will provide the review of current information within the first 12 months of the certification, and if the certifier decides that there are gaps or insufficient information on impacts to specific species, AFDF will work with the National Marine Fisheries Service (NMFS) to see if additional information can be gathered.
Conclusion	The team considers that progress in obtaining current estimates of seabird bycatch is

from 1st audit	satisfactory and, given that more recent data than 2006 will shortly be available, were content to keep this Condition open until they received these new data and the client's analysis of these data with respect to their estimated impact on the bycatch species.
Client Progress	**Preliminary Seabird bycatch Estimates for Alaskan Groundfish Fisheries, 2007-2010.** A preliminary report prepared by S.M. Fitzgerald (2011) provides estimates of seabirds caught as bycatch in commercial groundfish fisheries operating in the U.S. Exclusive Economic Zone for the years 2007 through 2010. Bycatch estimates for 1993 through 2006 have been previously reported in the Ecosystem Chapter of the annual Stock Assessment and Fishery Evaluation (SAFE) reports (Fitzgerald et. al, 2008). The groundfish fishery includes the gear types demersal longline, pot, pelagic trawl, and non-pelagic trawl. The estimates provided here do not apply to gillnet, seine, troll, jig, or halibut longline fisheries. **Table 8:** Species and species group categories used in this report[1] and the individual species included in the grouping.

Species/species Group	Includes	Scientific Name
Short-tailed Albatross	n/a	*Phoebastria albatrus*
Laysan Albatross	n/a	*Phoebastria immutabilis*
Black-footed Albatross	n/a	*Phoebastria nigripes*
Unidentified Albatross	Short-tailed, Laysan, or black-footed.	n/a
Northern Fulmar	n/a	*Fulmarus glacialis*
Shearwaters	Unidentified Shearwater	*Puffinus* spp
	Sooty Shearwater	*Puffinus griseus*
	Short-tailed shearwater	*Puffinus tenuirostris*
	Unidentified dark Shearwater	*P. griseus or tenuirostris*
	Unidentified procellarid	Procellariiformes
Storm Petrel	Unidentified Storm Petrel	*Oceanodroma spp.*
	Fork-tailed Storm Petrel	*O. furcata*
	Leach's Storm Petrel	*O. leucorhoa*
Gull	Unidentified gull	*Laridae*
	Herring gull	*Larus argentatus*
	Glaucous gull	*Larus hyperboreus*
	Glaucous-winged gull	*Larus glaucescens*
	Slaty-backed Gull	*Larus schisti*
	Gull hybrids	*Laridae*
Kittiwake	Black-footed Kittiwake	*Rissa tridactyla,*
	Red-legged Kittiwake	*Rissa brevirostris*
Murre	Unidentified Murre	*Uria* spp.
	Thick-billed Murre	*Uria lomvia*
	Common Murre	*Uria aalge*
Puffin	Unidentified Puffin	*Fraturcula* spp.
	Horned Puffin	*F. corniculata*
	Tufted Puffin	*F. cirrhata*
	Rhinocerous Auklet	*Cerorhinca moncerata*
Auklet	Unidentifeid Murrelet or auklet	Several genera
	Murrelets	*Brachyramphus* spp and others
	Auklets	*Aethia* spp and others
Other Alcid	Unidentified alcid,	*Alcidae*
	Guillemot, unidentified	*Cepphus* spp.
Other Bird	Miscellaneous birds – could include:	
	Loons	*Gaviidae*
	Grebe	*Podicipededae*
	Cormorant	*Phalocrocoracidae*
	Seaduck	*Anatidae*
	Jaeger/skua	*Stercorariidae*
	Terns	*Sternidae*
Unidentifid Seabird	All of the above	

[1] A complete list of the species and species group categories used by North Pacific Groundfish Observers is available in the Groundfish Observer Manual (AFSC 2010).

Estimates are based on two sources of information. The first is data provided by NMFS-

certified Fishery Observers deployed to vessels and floating or shoreside processing plants. Observers provide a suite of information on many parameters of the catch (Alaska Fisheries Science Center (AFSC) 2010). These data are expanded from the sample up to the fleet using weekly processing reports of total landings. The numbers provided here are produced from the NMFS Alaska Regional Office Catch Accounting System (Cahalan et. al 2010). This is the third approach since 1993 used to generate estimates of seabird bycatch in these fisheries (Figure 4). The first approach was carried out by the USFWS and covered the years 1993 through 1997 (Stehn et. al 2001). The second analytical approach was completed within the AFSC, in the National Marine Mammal Laboratory and covered the years 1993 through 2006 (Fitzgerald et. al, 2008). These estimates were provided annually beginning in 1998. Given staffing and database changes that occurred in 2007 and 2008, the AFSC has been revising the approach to developing these annual estimates. While all three approaches used the same two primary data sources, each approach is slightly different and produces slightly different results, although the results shown in years of overlap for the demersal longline fleet (Figure 4) show good agreement. The current analytical method being employed (Catch Accounting System) results in estimates that are about 8% higher in the demersal longline fleet than the previous method used. This is due to an improved ability to extrapolate to portions of the fishery that are not directly observed.

While numbers here are summarized into broad species groups in some cases, observers identify each bird from their sample to the most accurate species or species group that they can. For the analysis and reporting of bycatch, many of these are consolidated to a larger grouping (Table 8). For example, the species group "Gull" includes all Laridae except Kittiwakes. Most gulls that are identified to species within this group are Glaucus, Glaucus-winged, Herring, and unidentified (typically juvenile) or hybrid gulls.

Estimated bycatch for the years 2007 through 2010 (Tables 9 through 13) are based on observer sample data. Biases do exist, however, with sampling on commercial fishing vessels. On demersal longline vessels, seabirds may drop off the hook while the gear is fishing or being retrieved. Drop-offs that occur alongside the vessel are seen by observers and included in their sample data. Only those seabirds that drop off underwater and out of sight are not recorded. On trawl vessels, seabird mortality can occur due to interactions with gear such as net-monitoring equipment (paravanes or third wires) or be caught in the net wings and not be landed with the fish catch. These mortalities would not be included in the estimates reported below. The AFSC is working on an evaluation of these additional sources of mortality on trawl vessels and how best to monitor and include them in annual estimates (Fitzgerald et al., in prep.).

This preliminary report addresses only the point-count estimates for seabird mortality associated with groundfish. Estimates are provided for all gear types (pot, longline and trawl) across all Fishery Management Plan areas (Bering Sea and Aleutian Islands, Gulf of Alaska) for each year (Table 9). Estimates for demersal longline across all Alaskan waters (Table 10) are provided followed by demersal longline bycatch in the Bering Sea Area (Table 11) and the Aleutian Islands Area (Table 12). The pot fishery bycatch is also noted (Table 13). A comprehensive report is being prepared that will also provide information on the actual number of birds observed, measure of units of effort for each fishery, bycatch rates, and other features.

Of special note is the incidental takes of two short-tailed albatross (*Phoebastria albatrus*) observed in August and September of 2010 that leads to an estimated take of 15 birds (Tables 9 and 10). These two individual birds were taken in the demersal longline cod fishery in the Bering Sea. The Biological Opinion for the short-tailed albatross (USFWS 2003) allows for an expected incidental take of 4 birds in each two-year period for the demersal longline fishery. Note that this take is based on numbers of birds observed rather than the estimate of total take derived from the observed take. The takes recorded in 2010 were the first ones observed since 1998.

Table 9: Total estimated seabird bycatch in Alaskan Federal groundfish fisheries, all gear types and Fishery Management Plan Areas combined, 2007 through 2010.

Species/ Species Group	Year			
	2007	2008	2009	2010
Unidentified Albatross	16	0	0	0
Short-tailed Albatross	0	0	0	15
Laysan Albatross	17	420	114	267
Black-footed Albatross	176	290	52	44
Northern Fulmar	4,581	3,426	7,921	2,357
Shearwater	3,602	1,214	622	647
Storm Petrel	1	44	0	0
Gull	1,309	1,472	1,296	1,141
Kittiwake	10	0	16	0
Murre	7	5	13	102
Puffin	0	0	0	5
Auklet	0	3	0	0
Other Alcid	0	0	105	0
Other Bird	0	0	136	0
Unidentified	509	40	166	18
Total	10,228	6,914	10,441	4,596

Table 10: Summary of estimated seabird bycatch in the Alaskan demersal longline groundfish fishery, all Fishery Management Plan Areas combined.

Species/ Species Group	Year			
	2007	2008	2009	2010
Unidentified Albatross	16	0	0	0
Short-tailed Albatross	0	0	0	15
Laysan Albatross	17	420	105	267
Black-footed Albatross	176	290	52	44
Northern Fulmar	3,556	2,860	7,161	1,782
Shearwater	2,876	1,201	576	492
Storm Petrel	0	0	0	0
Gull	1,006	1,403	1,214	1,084
Kittiwake	10	0	10	0
Murre	5	5	13	0
Puffin	0	0	0	5
Auklet	0	0	0	0
Other Alcid	0	0	0	0
Other Bird	0	0	0	0
Unidentified	493	40	122	15
Total	8,155	6,219	9,253	3,704

Table 11: Estimated seabird bycatch in the Bering Sea Area demersal longline groundfish fishery.

Species/ Species Group	Year			
	2007	2008	2009	2010
Unidentified Albatross	0	0	0	0
Short-tailed Albatross	0	0	0	15
Laysan Albatross	4	130	13	40
Black-footed Albatross	18	7	5	9
Northern Fulmar	2,526	1,791	6,582	1,647
Shearwater	2,795	1,162	566	480
Storm Petrel	0	0	0	0
Gull	421	1,279	808	640
Kittiwake	10	0	10	0
Murre	5	5	13	0
Puffin	0	0	0	5
Auklet	0	0	0	0
Other Alcid	0	0	0	0
Other Bird	0	0	0	0
Unidentified	445	31	122	15
Total	6,224	4,405	8,119	2,851

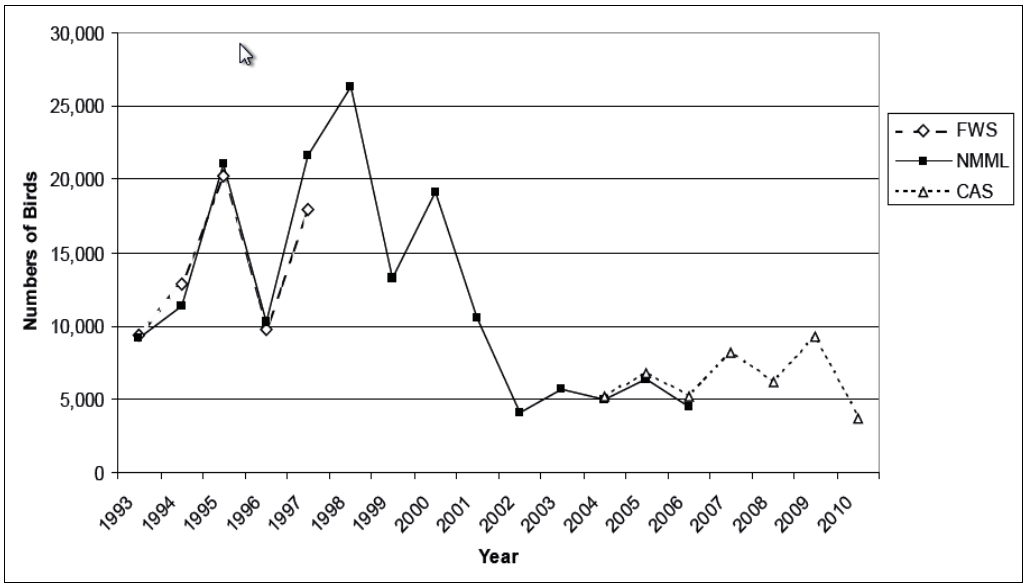
Table 12. Estimated seabird bycatch in the Aleutian Islands Area demersal longline groundfish fishery.

Species/ Species Group	Year			
	2007	2008	2009	2010
Unidentified Albatross	0	0	0	0
Short-tailed Albatross	0	0	0	0
Laysan Albatross	13	127	25	147
Black-footed Albatross	0	0	0	0
Northern Fulmar	62	97	117	101
Shearwater	53	39	10	12
Storm Petrel	0	0	0	0
Gull	31	19	41	183
Kittiwake	0	0	0	0
Murre	0	0	0	0
Puffin	0	0	0	0
Auklet	0	0	0	0
Other Alcid	0	0	0	0
Other Bird	0	0	0	0
Unidentified	5	0	0	0
Total	164	282	193	443

Table 13: Estimated seabird bycatch for pot vessels fishing groundfish in Alaskan Federal waters, all Fishery Management Plan Areas combined.

Species/ Species Group	Year			
	2007	2008	2009	2010
Unidentified Albatross	0	0	0	0
Short-tailed Albatross	0	0	0	0
Laysan Albatross	0	0	0	0
Black-footed Albatross	0	0	0	0
Northern Fulmar	372	29	125	69
Shearwater	0	0	5	0
Storm Petrel	0	0	0	0
Gull	0	60	0	0
Kittiwake	0	0	0	0
Murre	0	0	0	0
Puffin	0	0	0	0
Auklet	0	0	0	0
Other Alcid	0	0	0	0
Other Bird	0	0	0	0
Unidentified	0	0	0	0
Total	372	89	130	69

Figure 4: Total estimated seabird bycatch by year in the Alaskan demersal longline fishery derived by employing three methods: the Fish and Wildlife Service (Stehn et al., 2001), the National Marine Mammal Laboratory (Fitzgerald et al., 2008), and this preliminary report using the Alaska Regional Office Catch Accounting System (Cahalan *et al*. 2010).



Additional data were also provided by the client following a request for information to place the

bycatch mortality rates in the context of the population estimates for Alaska seabird species.

Species	Approximate No. of Breeders in Alaska	Approximate % of N. American Breeders
Northern Fulmar *(Fulmarus glacialis)*	1,400,000	70
Fork-tailed Storm-Petrel *(Oceanodroma furcata)*	3,200,000	55–65
Leach's Storm-Petrel *(Oceanodroma leucorhoa)*	3,500,000	20
Double-crested Cormorant (*Phalacrocorax auritus)*	6,100	<1
Brandt's Cormorant *(Phalacrocorax penicillatus)*	<100	<1
Pelagic Cormorant *(Phalacrocorax pelagicus)*	44,000	60
Red-faced Cormorant *(Phalacrocorax urile)*	20,000	100
Pomarine Jaeger *(Stercorarius pomarinus)*	Uncommon[2] ?	
Parasitic Jaeger *(Stercorarius parasiticus)*	Common[2] ?	
Long-tailed Jaeger *(Stercorarius longicaudus)*	Common[2] ?	
Bonaparte's Gull *(Larus philadelphia)*	Uncommon[2] ?	
Mew Gull *(Larus canus)*	14,400 (coast only) [2]	5–10
Herring Gull *(Larus argentatus)*	1,600 (coast only) [2]	<1
Slaty-backed Gull *(Larus schistasagus)*	<100	100
Glaucous-winged Gull *(Larus glaucescens)*	250,000	65
Glaucous Gull *(Larus hyperboreus)*	100,000	60
Sabine's Gull *(Xema sabini)*	Uncommon[2] ?	
Black-legged Kittiwake *(Rissa tridactyla)*	1,300,000	100
Red-legged Kittiwake *(Rissa brevirostris)*	210,000	100
Caspian Tern *(Hydroprogne caspia)*	Uncommon[2] ?	
Arctic Tern *(Sterna paradisaea)*	11,000 (coast only) [2]	
Aleutian Tern *(Onychoprion aleutica)*	9,500	100
Dovekie *(Alle alle)*	<100	5
Common Murre *(Uria aalge)*	2,800,000 ?	
Thick-billed Murre *(Uria lomvia)*	2,200,000	30
Black Guillemot *(Cepphus grylle)*	700	<1
Pigeon Guillemot *(Cepphus columba)*	49,000	70
Marbled Murrelet *(Brachyramphus marmoratus)*	859,000*[3]	90
Kittlitz's Murrelet *(Brachyramphus brevirostris)*	9,000– 25,000*[3]	100
Ancient Murrelet *(Synthliboramphus antiquus*	300,000	15–30
Cassin's Auklet *(Ptychoramphus aleuticus)*	473,000	13–15
Parakeet Auklet *(Aethia psittacula)*	1,000,000*[3]	100
Least Auklet *(Aethia pusilla)*	5.5–9,000,000*[3]	100
Whiskered Auklet *(Aethia pygmaea)*	116,000*[3]	100
Crested Auklet *(Aethia cristatella)*	3,000,000	100
Rhinoceros Auklet *(Cerorhinca monocerata)*	180,000	20
Horned Puffin *(Fratercula corniculata)*	900,000	100
Tufted Puffin *(Fratercula cirrhata)*	2,300,000	95

	Laysan Albatross *(Phoebastria immutabilis)*[4]	630,000 pairs	n/a
	Black-footed Albatross *(Phoebastria nigripes)*[4]	58,000 pairs	n/a
	Short-tailed Albatross *(Phoebastria albatras)*[4]	1800 pairs*	n/a

[2] Population numbers taken from SeaBirds of N. America Species Accounts; Kushlan *et al.* 2002; USFWS 2006a,2006b

[3] Populations are given for colonial breeders in Alaska on the coast; "coast only" means additional birds nest inland. For species without a numerical estimate, potential numbers include: "abundant" – one million or more individuals; "common" – hundreds of thousands; "uncommon" – one hundred to tens of thousands; "rare" – less than one hundred.

* Populations marked with asterisk are based on total individuals not total breeders.

Observations

The updated seabird bycatch data presented to the audit team satisfies the requirements of this Condition. The team commends NMFS for their continued efforts to monitor the bycatch of seabirds in flatfish and other groundfish trawl fisheries in the BSAI and for updating the annual species-specific estimates of the bycatch for the period 2007-2010. These new data, derived using the Catch Accounting System, compare well with the previous method of estimating seabird bycatch thus providing a consistent time series of estimates. The new system will allow more timely analysis and reporting of annual bycatch levels. Overall, these data indicate that the level of bycatch has continued to fluctuate without trend about a level considerable lower than the period prior to 2002. Although the team will review the fishery-specific estimates of bycatch, when these become available, estimates for the combined trawl fisheries compared to the population estimates of the seabird species bycatch indicate that there is no conservation concern for any of the species taken.

This conclusion is strengthened by the results of an "additional sampling" study by observers to estimate the bycatch rate of seabirds taken by gear that do not end up in the net. This all-sampling study showed that estimates from nets only may under-estimate bycatch by 3.5 times. However, even using the all-sampling estimates, the data indicate that bycatch mortality represents a small fraction of estimated population size for all species taken. Nevertheless, continued efforts to further reduce the seabird bycatch is encouraged.

Conclusion

SG60: The main non-target species affected have been identified and qualitative information is available on significant by-catch.

SG80: Information is available on non-target species directly affected by the fishery including their distribution and/or ecology. Quantitative information is available on significant by-catch. If obtained by sampling, this is considered sufficient to provide adequate information.

SG100: Information is available on all non-target species directly affected by the fishery including the distribution and ecology. Accurate records are kept on the nature and extent of all by-catch species including species size and sex composition.

The updated data on seabird bycatch confirm that reliable quantitative estimates are made of the interactions of all populations directly related to the fishery and incidental mortalities are recorded and reported. With this updated information, this performance indicator is re-scored at the SG 90 level, and this condition has been closed.

The planned enhancement of observer coverage of the smaller boats in these fisheries and the more detailed information collected by the Observer Program (e.g., sex, necropsy and diet of seabirds taken) could improve the score.

Condition 3	**For the BSAI longline and pot fisheries**
PI	**2.1.2.4:** Are the effects of supply and use of bait known?
SG 60	Types of bait, extent of use and sources of supply are known. Although little information is known on the amounts used, their collection is unlikely to cause significant conservation problems.
SG 80	There is adequate knowledge of the use of bait including sources and amounts and there is sufficient information to indicate that collection of bait does not cause significant conservation problems.
SG 100	All significant impacts of the supply and use of bait are known, and are negligible.
Score	75
Rationale	**For the BSAI longline fishery:** The main bait species used in the longline fishery are sardines, herring, and squid (J. Browning pers. comm.) Some of the herring is obtained from local stocks, but most is from the US east coast. Some long liners use Alaskan by-caught squid, but most squid comes from Argentina or the US east coast. Sardines are purchased from Washington. Information on the quantities used was not available. The score would have been higher if information was available on the quantities of bait species and it had been determined that such quantities do not compromise the conservation status of the bait species. **NB.** The conservation status of bait species was not considered in the BSAI Pacific Cod Freezer Longline Fishery that was certified in February 2006. The Moody Marine assessment team considered that this was an important issue and so included this PI in this assessment. Given that there was only limited information on the origin and status of the bait species this PI was scored below 80 and a Condition of Certification set. **For the BSAI pot fishery:** The main bait species used in the pot fishery are herring. Most of the herring is obtained from local Alaskan stocks. Information on the quantities used was not available. The score would have been higher if information was available on the quantities of bait species and it has been determined that such quantities do not compromise the conservation status of the bait species. **Condition 3 (for the longline and pot fisheries):** The client is required to determine the origin and quantities of bait that are used within the fishery and evaluate and confirm that such quantities do not compromise the conservation status of the bait species. It is required that this Condition is met by the second annual surveillance audit. It is recommended that in order to achieve this Condition the client reviews and provides a report on the species, quantities, origin and stock status in order to confirm that their use as bait is not compromising their long term sustainability.
Client Action	AFDF will work with sector members of the industry working group to gather information

Plan

on quantity and species of bait used in the Pacific cod longline fishery in the Gulf of Alaska management area. Based on initial information, squid is the predominant bait species, and almost none of the squid used is harvested in Alaska. This fleet survey will provide sufficient information to evaluate whether the level of bait usage compromises the conservation status of the bait species. This information will be provided to the certifier within the first 24 months of certification.

Conclusion from 1st audit

The summary report did not consider the stock status of the bait species used in the longline and pot fisheries and so the team were not able to conclude whether the quantities used in the fisheries compromised their conservation status.

In accordance with the Condition, it is anticipated that the client will provide the audit team with a complete report by the second audit.

Client Progress

Status of bait stocks used in the Alaska Pacific Cod fisheries

Three of the four Pacific Cod fisheries use bait to attract fish (longline, pot and jig). Argentine and East Coast squid were important in 2011 in the longline and jig fisheries, while Pacific sardines dominated in the pot fishery (Table 14). Many bait stocks lack rigorous stock assessment programs whether they are from the United States or outside. This makes it difficult to determine the effect of the Pacific cod fishery on the bait stock. It is also difficult to determine an accurate estimate of the amount of a type and source of bait. There is no chain of custody for bait dealer transactions.

Table 14: Bait species, quantity, fishery source and status for the Pacific cod longline, pot and jig fisheries.

Fishery	Bait	Quantity	Fishery Source	Status
Longline	Pacific Squid (Humbolt) *Dosidicus gigas*	Minimal	US West Coast	Undeterminable
	East Coast Squid *Illex illecebrosus*	**36 t** Alaska usage of 15,800 t produced in 2011*	US East Coast	Undeterminable
	Argentine Squid *Illex argentines*	**349 t** usage of 76,700 t produced in 2011	South Atlantic	Undeterminable
	Pacific Saury *Cololabris saira*	None reported for 2011	China	Unknown
	Pacific Herring *Clupea harengus*	*Herring are used as bait in crab fisheries, but not preferred in the P. cod fishery.	US West Coast	Stable
Pot	Pollock *Theragra chalcogramma*	Minimal usage of pollock pieces.	Alaska	Stable
	Pacific Sardine *Sardinops sagax*	**680 t** Alaskan usage of 11,300 t produced in 2011.	Canada West Coast	Stable
Jig	East Coast Squid *Illex illecebrosus*	Usage level in this fishery is included in the amount reported above.	US East Coast	Undeterminable
	Argentine Squid *Illex argentines*	Usage level in this fishery is included in the amount reported above.	South Atlantic	Undeterminable

Table footnotes: Where usage weights are given, figures specified are considered state-wide Alaska usage estimates as reported by bait house representatives characterizing the Alaska market to AFDF executive director. First *: Usage = 2.3 X 10^{-3} per cent of production: 2nd *: Usage = 4.6 X 10^{-3} per cent of production.

Pacific Sardine

Pacific Sardines used as bait in the pot sector of the Alaska Pacific cod fishery are reported to be from the Pacific Northwest and British Columbia. After a collapse in the mid 20th century, Pacific sardine stocks all along the west coast of North America have rebounded. The Pacific Fishery Management Council and the Department of Fisheries and Oceans Canada have both established conservative harvest regimes (F_{15} Rule). 2010 harvest for CA, OR and WA was 66,900 mt. See http://swr.nmfs.noaa.gov/fmd/cps/pacsar.htm.

Below are directed harvest allocations for 2012 in the same fishery. The 1.5 million lbs. reportedly used in the P cod fishery in Alaska would equate to less than 1% of the harvest from the Pacific Northwest fishery alone.

The Pacific sardine resource off California, Oregon, and Washington is managed under the authority of the Coastal Pelagic Species (CPS) Fishery Management Plan (FMP) on a January through December fishing season. The total harvest guideline (HG) for January 1, 2012, through December 31, 2012, is 97,409 metric tons (mt), with a directed harvest fishery allocation of 94,409 mt. The 2012 HG is apportioned the following way: January 1-June 30, 33,093 mt for directed harvest with an incidental set-aside of 1,000 mt; July 1-September 14, 38,964 mt for directed harvest with an incidental set-aside of 1,000 mt; September 15-December 31, 24,352 mt for directed harvest with an incidental set-aside of 1,000 mt.

Table 15: 2012 Pacific sardine harvest in metric tons.

Estimated Landings			
Directed Harvest Allocation Jan 1- June 30 = **33,093**			
	California	Oregon	Washington
1st Period Totals	**11,300**	**0**	**0**
Directed Harvest Allocation July 1- September 14 = **38,694**			
	California	Oregon	Washington
2nd Period Totals	**0**	**0**	**0**
Initial Directed Harvest Allocation, September 15 – Dec. 31 = **24,352**			
	California	Oregon	Washington
3rd Period Totals	**0**	**0**	**0**
Year Totals	**11,300**	**0**	**0**

*Preliminary data acquired from CDFG, ODFW, and WDFW
The above landings are figures as of **May 11, 2012**.

Pacific Herring

Pacific herring are harvested throughout Alaska primarily in bait and sac roe fisheries. Harvests are guided by a 20% rule (no more than 20% of the biomass may be harvested). Since 2000, harvests have been between 60 and 120 million lbs with the bait harvest averaging less than approximately 5 million lbs (ADF&G). The small amounts of Pacific herring used as bait are used in the crab fishery and are NOT preferred for the Pacific cod fishery. It is used infrequently as bait for Pacific cod.

	Pacific Saury Historically, Japan was the reportedly the primary supplier of Pacific saury, however, the tsunami destroyed a large amount of fish in the cold storages as well as 43 of the 60 saury fishing vessels. Japan is obtaining saury from China and the bait for the Pacific cod fisheries is also reportedly from China. Pacific saury catches fluctuate widely by year, depending on the weather and other factors. In fiscal 2009, catches were abundant, reaching some 300,000 metric tons, with imports at just 80 metric tons. In fiscal 2010, only about 200,000 metric tons were caught, as unseasonably warm ocean waters kept the fish well offshore in deep water, and to the north of Hokkaido. Prices for saury were high. **Pollock** Pollock is a relatively new bait for the Pacific cod fishery. The bait is reportedly remainders of the Pollock after processing. The AFSC recently estimated the 2012 abundance to be 11% greater than the 2011 estimate. The 2012 recommendation for the ABC is 22% greater than the 2011 ABC west of 140 ^{o} W (AFSC 2011). **Squid** Squid are highly sensitive to changes in oceanographic conditions, such as sea temperature; recruitment and reproduction can fluctuate dramatically on a seasonal or annual basis. Such variability makes it difficult to assess the abundance of squid; the status of many populations is unknown. Squid live fast and die young; most species complete their entire life cycle within one year. This, along with the fact that most squid spawn year-round, makes these species inherently resilient to fishing pressure (WWF) Pacific Squid Fins of the Pacific squid (Humboldt) are reportedly used as bait. As with all squid, little is known of their stock status. They were reported as exceptionally abundant in a Scientific American article in 2010 while the Pacific Fishery Management Council reported that they were exceptionally abundant in 2009 and rare in 2010 (Scientific American). Ilex or Eastcoast Squid Used as an alternative to Argentine squid when price or availability dictates; estimate of usage level is 90/10 Argentine/ilex. See table for recent ABC for Eastcoast harvest. Argentine Squid Argentine squid current stocks are said to be fully exploited. It cannot be assessed as to whether the current fishing levels are keeping the populations at safe levels because of a lack of management for this species. Squid are not particularly vulnerable to fishing pressure as they are a short-lived species with a life span of 1 year but they spawn in aggregations and migrate to spawning areas, resulting in an increase in vulnerability to fishing pressure during the spawning season. Squid are semelparous, which means they only spawn once before they die so this also adds to their vulnerability to fishing pressure. They are caught using a method called squid-jigging which has very little to no negative impact on the environment and landed catches consist of very little bycatch (Seafood Choice). The harvest of *Illex argentines* reported for 2011 was 76,760 tonnes. The usage level for the P cod fishery in Alaska would be less than ½ of 1% of that reported harvest. See: http://www.minagri.gob.ar/site/pesca/pesca_maritima/02-desembarques/index.php
Observations	The more detailed and quantitative information provided during this audit goes well beyond the qualitative information made available during the last surveillance audit. These data confirm that several species of squids and Pacific sardines are the major sources of

	bait for the Pacific cod fisheries, supplemented with some pollock and herring. Information on stock status indicates that the use of pollock and sardine as bait is sustainable. Although, information on the population status of squid species used as bait in not available, <1% of the Argentine squid catch is used for bait in the Pacific cod fisheries. At this level, the use of Argentine squid as bait is highly unlikely to have negative impacts on squid abundance. TACs of short-fin squid (*Illex illecebrosus*) of the northeastern United States was 58,000 mt in 2004 with an average catch during the period of 2000-2003 of about 6,000 mt (report of the 2005 Stock Assessment Workshop, Northeast Fisheries Science Center, NMFS). Therefore, the amount of *Illex* squid used for bait (about 36 mt) is highly unlikely to be of conservation concern.
Conclusion	SG60: Types of bait, extent of use and sources of supply are known. Although little information is known on the amounts used, their collection is unlikely to cause significant conservation problems. SG80: There is adequate knowledge of the use of bait including sources and amounts and there is sufficient information to indicate that collection of bait does not cause significant conservation problems. SG100: All significant impacts of the supply and use of bait are known, and are negligible. The information on bait used in the Pacific cod fishery is sufficient to close this Condition and to re-score the fishery at 80. This fishery meets the SG level of 80 given that there is adequate knowledge of the use of bait including sources and amounts and there is sufficient information to indicate that collection of bait does not cause significant conservation problems. A higher score would be possible if there were data on how the types and amounts of bait used in these fishery varies over time. An understanding of the inter-annual or long-term variability in the types and amounts of baits used would increase confidence in conclusions based on data from a single year.

Condition 4	**For the BSAI longline, pot and trawl fisheries**
PI	**2.1.3.2:** Is any gear lost during fishing operations and can 'ghost fishing' occur?
SG 60	Some recording of gear losses takes place and an assessment can be made of ecosystem impacts, including possible 'ghost fishing'
SG 80	There is knowledge of the type, quantity and location of gear lost during fishing operations. Estimates can be made on the extent of adverse effects, including 'ghost fishing'. Estimates made show that losses do not cause unacceptable impacts on the ecosystem.
SG 100	There is detailed knowledge of the type, quantity and location of gear types lost during fishing operations. The impact of gear loss on habitat, target and non-target species has been well estimated or recorded. The effect of gear loss on target and non-target species has been measured and shown to have negligible effects on habitats, ecosystems or species of concern.
Score	75
Rationale	**For the longline fishery:**

	Observers are required to evaluate gear performance during hauls of longlines using a coded system. This code indicates if there were problems with the gear that may have affected the amount of fish caught. There are seven different codes that are applicable. However, there appear to be no estimates of the amount of longline gear that may be lost in the Pacific cod fishery. Ghost fishing of lost gear in soft bottom sediments is considered unlikely as gear will be quickly buried. It is possible that there is some ghost fishing by lost longline gear on hard bottom substrates, but this remains to be studied. The score would have been higher if there was information on the amount of gear lost by the longline fleet and information was available on the extent to which ghost fishing takes place and lost gear impacts the benthos, particularly in hard bottoms. **For the pot fishery:** Observers are required to evaluate gear performance during hauls of pots using a coded system. This code indicates if there were problems with the gear that may have affected the amount of fish caught. There are seven different codes that are applicable. We were not made aware of any formal estimate of the amount of pot gear that may be lost in the Pacific cod fishery, however, we did hear that in some locations there were periodic lost pot recovery programs. Pots are required to have biodegradable escape panels and escape rings to limit the temporal effect of any ghost fishing. **For the trawl fishery:** Although lost gear may be noted in vessel logbooks, there appears to be no formal recording or collating of when and where trawl gear is lost. Impacts of lost trawl gear are likely to be minimal in terms of ghost fishing. The amount of gear lost is likely to be small but cannot be quantified. Overall although little information is available, the relationship between typical levels of lost trawl gear in trawl fisheries and the very low impact of lost trawl gear strongly suggests that there will be no measurable effects from gear loss.
And	**For the BSAI longline fishery**
PI	**2.1.5.3:** Does the fishery have unacceptable impacts on habitat structure?
SG 60	There is no evidence that the fishery is having unacceptable impacts, further work is planned or underway if appropriate.
SG 80	Appropriate information is available on the effects of the fishery on habitat within major fishing areas. This indicates no unacceptable impacts.
SG 100	Effects on habitat structure are well documented and are within acceptable tested/justified limits.
Score	75
Rationale	**For the longline fishery** The longline fishery for Pacific cod is thought to have minimal effects on soft bottom sediments in the BS and even on the hard bottom substrate of AI the effects on the bottom are estimated to come primarily from the trawl fishery and not longlines (EFH EIS 2005). Although these are rather comprehensive analyses, it is important to note that these analyses make some assumptions which have not been verified. Furthermore, studies that

	quantitatively assess the effects of longlines on seafloor habitat features were not found (EFH EIS 2005). **N.B.** This PI is equivalent to PI 2.1.5.4 in the Bering Select Freezer Longline certification report. The Moody Marine concurred with the score and rationale set out in that certification report. **Condition 4 (for the longline, pot and trawl fisheries):** The client is required to quantify and identify the location of lost fishing gear and assess the extent of adverse effects, including "ghost fishing". If adverse effects are identified identify ways of reducing gear loss and implement a program to monitor improving performance. It is required that this Condition is met by the second annual surveillance audit. It should be noted that in relation to the longline fishery this Condition is harmonised with a similar Condition applied within the existing MSC certified longline fishery operating in the BSAI. According to the 2009 surveillance audit report for that fishery the clients – Bering Select Seafood Company - have undertaken a review of gear loss in their fleet which was shown to be minimal and so have little if any impact on the ecosystem. The surveillance report indicates that the client intends to have an analysis undertaken that is representative of the whole fleet and has proposed that this be undertaken in a joint study with the AFDF.
Client Action Plan	AFDF will work with sector members of the industry working group to initiate a program of recording amount, location and date of longline gear loss in the Pacific cod fishery in the Bering Sea/Aleutian Island management area. This information will be provided to the certifier within the first 24 months of certification. Some information on gear loss may be grouped so that confidentiality of sensitive location information cannot be traced to individual vessels. Biodegradable panels are required on all pot gear in both State and Federal waters fisheries. If the results of this program suggest that particular fishing areas are creating significant and unacceptable impacts, AFDF will identify ways of reducing gear loss and implement a program to monitor improving performance in this aspect of operations.
Conclusion from 1st audit	While progress has been made on this Condition the client will have to make rapid progress in distributing the lost gear forms and encouraging their completion in order to meet the requirements of this Condition.
Client Progress	This Condition requires collection of accurate and reliable information on the loss of trawl nets, skates of hook and line gear, and pots. The objective is to provide information that will facilitate evaluating the magnitude and potential effects of ghost fishing. The client developed a standard "Lost Gear Reporting Form" for each of the gear groups and a reporting system within the first year of certification. Condition 2 requires that, at a minimum, such a system record gear type, position, and date lost, amount retrieved, etc. In year two following certification, the gear loss reporting system was implemented. AFDF produced Lost Gear Reporting Forms and distributed those forms to fleet managers, representatives of fishing groups and processors for the respective gear groups, asking for voluntary participation during the 2011 season. However, the return, collection and compilation of the Lost Gear forms for the 3 gear types has not progressed according to our work plan. There is a strong reluctance on the vessel skippers' part to transfer set or tow location information from the vessel log and pass that sensitive information along to anybody, even with the guarantee of confidentiality. So the number of returned Lost Gear forms is minimal to date, and there is an insufficient sample size from which to draw any

	valid conclusions. Based on the experience this client had with an open request for participation by distributing forms to the fleet managers of the major processors and through fishing organizations representing the pot and longline fisheries for Pacific cod, AFDF will follow up with an attempt at a fishery specific approach. The trawl catcher-processor (CP) fishery for Pacific cod is undistinguishable from the Head and Gut (H&G) trawl sector of the Flatfish fishery in the Bering Sea/Aleutian Islands, and the trawl catcher vessel (CV) fishery for Pacific cod is also undistinguishable from the trawl CV sector of the Flatfish fishery in the GoA. Therefore, AFDF would like to submit the information provided for the Flatfish Lost Trawl Gear 2012 – 2013 survey as being representative of the Lost Gear condition for the trawl sector of the Pacific cod fishery when compiled. For the Pot and Longline sectors, AFDF will make every attempt to bring more direct communication to the processor level, including fleet managers, in order to stress that cooperation on the part of their pot and longline skippers is imperative, and that we simply have to have valid information and cooperation for the MSC certification of sustainability to remain in place. Input from Martin Loefflad at the AFSC briefing, combined with additional input from Alaska Seafood Cooperative's John Gauvin, convinced AFDF that the trawl gear type was best handled in the environment of the CP and CV sectors. These sectors would more likely cooperatively fill out the survey accurately and completely after it being discussed at a skipper's meeting with the company, and the results of NOT providing the information will be interruption of sustainability certification. AFDF will be submitting the information submitted by ASC for the trawl Flatfish CP & CV sectors as the trawl Pacific cod CP & CV sector submissions. The companies and vessels participating in the Pacific cod pot and longline sectors, are generally smaller and have a less corporate structure to the groups. As such, they don't necessarily work as a cooperative. AFDF will therefore work with the fleet managers for the major processors and have one-on-one communication with them regarding the necessity for collecting this information, and the assured confidentiality by AFDF of the set location information being requested. The team is evaluating the potential for areas with concentrated amounts of lost pot or longline gear to occur in the GoA and Aleutian Island areas. The client feels that this multi-level approach, specific to the gear type, will lead to the quickest available lost gear information, particularly for the pot and longline gear groups; C & D seasons – 2012, and A season – 2013, which can be analysed and compiled for the May 2013 site visit. The client will also continue dialogue with Martin Loefflad, Observer Program Director, NMFS Seattle, regarding quality of lost gear information available from current observer information, as well as the likelihood that NMFS would introduce a "lost gear" emphasis within the newly redesigned and more comprehensive observer program upon request of an MSC client. The Proposed Restructuring of the Observer Program is a regulatory change indicating that the management structure is responding to an acknowledged issue and has taken action to fill the perceived data gap; the same gap which was recognized by the assessment team and resulted in this condition. Lost gear information from the normal restructured observer program would not likely answer the specific questions with any accuracy, or any better than the previous observer program data is able to. Finally, the client will also pursue a query of the existing observer data for the last 5 years, depending on costs incurred.

Observations	The apparent reluctance of skippers to provide information on gear loss is problematic and to date little progress has been achieved toward satisfying this condition. A renewed effort by the client to obtain these data will be imperative, and a fleet specific approach seems appropriate. While gathering information on lost gear in the longline and pot fisheries may require the client to conduct a degree of advocacy with skippers and fleet managers, information on the trawl component of the Pacific cod fishery should be forthcoming through the certified Alaska flatfish trawl fisheries. However, the Pacific cod client will need to work with the Alaska flatfish client to ensure that this collaboration is productive. Efforts to have observers collect information on gear loss from the Pacific cod fishery are useful and may yield results. The assessment team is concerned, though, that despite increased coverage, limited observer training with respect to gear and other competing duties may compromise the quality of such estimates. There would seem to no substitute for having the information provided by vessel captains.
Conclusion	Overall, it is the team's conclusion that progress against this condition is not satisfactory and that greater effort must be made by the client this year to provide the needed information on the general location, the types, amounts and frequency of gear loss by the Pacific cod longline, pot and trawl fisheries in the BSAI by the next annual audit.

Condition 5	**For the BSAI trawl fishery**
PI	**2.2.1.2:** Are interactions of the fishery with such [ETP] species adequately determined?
SG 60	The main interactions directly related to the fishery are known.
SG 80	Adequate quantitative estimates are made of the effects of interactions directly related to the fishery.
SG 100	Reliable quantitative estimates are made of the interactions of all populations directly related to the fishery, and qualitative information is available on indirect impacts. Incidental mortalities are recorded and reported.
Score	75
Rationale	**For the trawl fishery:** Because of separation of feeding areas and the fishery, interactions between the fishery and threatened Steller's eider is considered to be negligible. Adequate quantitative estimates are made of the effects of interactions directly related to the fishery with mammals & the short-tailed albatross. Disturbance competition and by-catch are also understood for mammals, and exclusion zones around breeding sites and haul-out sites exist based on foraging and disturbance studies. The interactions of seabirds and the trawl fishery have been reasonably well studied and documented (e.g. Zador *et al*. 2008). There have also been a number of *ad hoc* studies by, for example, Melvin *et al*. on various Alaskan fisheries that provide considerable information about seabird by-catch and mitigation. Much effort has been directed at understanding the interactions of seabirds with other fisheries, notably the long-line fisheries, in the region but bird strikes in gears and vessels by species are incompletely recorded (PSEIS). The interactions of the trawl fisheries with seabirds needs better quantitative definition, especially in the extent of the net sonde (third) cable in causing injury and mortality.

	Condition 5 (for the trawl fishery): The client is required to provide adequate quantitative estimates of the effects of the fishery on seabirds by the first annual surveillance audit.
Client Action Plan	Based on information from the NPFMC website and discussions with Ed Melvin of Washington Sea Grant, a leading researcher on both longline and trawl fisheries seabird impact, AFDF and the industry working group believe that the current Pacific cod trawl fishery may already meet this Condition. Data on seabird bycatch has been collected to the species level or species group level in the Alaska trawl fisheries since 1993. Gulls, alcids and some other species are lumped, because in the case of gulls, particularly juveniles, specific species ID's are difficult even for experts. It is our understanding that shearwaters are collected by species, but are not broken out by species in the SAFE reports - this is also true of alcids - few are caught so they are lumped. The "unidentified" category results largely from sampling at night when a dark bird is taken in less than prime condition - difficult to tell a fulmar from a shearwater, but observers should always be able to tell an albatross from either of these. It is important to get the albatross ID's correct, since they are the species most vulnerable in these fisheries. AFDF and the industry working group will review the literature and state of knowledge regarding impacts of the trawl fishery and adequacy of mitigation measures specified within the first 12 months. If the certifier decides that there are gaps or insufficient information on impacts to specific species or inadequacy of mitigative measures, AFDF will work with the National Marine Fisheries Service (NMFS) to see if additional information and/or measures can be implemented.
Conclusion from 1st audit	The team considers that progress in obtaining current estimates of seabird bycatch is satisfactory and, given that more recent data than 2006 will shortly be available, were content to keep this Condition open until they received these new data and the client's analysis of these data with respect to their estimated impact on the bycatch species.
Client Progress	**Preliminary Seabird bycatch Estimates for Alaskan Groundfish Fisheries, 2007-2010** This preliminary report provides estimates of seabirds caught as bycatch in commercial groundfish fisheries operating in federal waters of the Alaska U.S. Exclusive Economic Zone for the years 2007 through 2010. Bycatch estimates for 1993 through 2006 have been previously reported in the Ecosystem Chapter of the annual Stock Assessment and Fishery Evaluation reports (Fitzgerald et. al, 2008). The groundfish fishery includes the gear types demersal longline, pot, pelagic trawl, and non-pelagic trawl. The estimates provided here do not apply to gillnet, seine, troll, jig, or halibut longline fisheries. Estimates are based on two sources of information. The first is data provided by NMFS-certified fishery observers deployed to vessels and floating or shoreside processing plants. Observers provide a suite of information on many parameters of the catch (Alaska Fisheries Science Center (AFSC) 2010). These data are expanded from the sample up to the fleet using weekly processing reports of total landings. The numbers provided here are produced from the NMFS Alaska Regional Office Catch Accounting System (Cahalan et. al 2010). This is the third approach since 1993 used to generate estimates of seabird bycatch in these fisheries (Figure 4). The first approach was carried out by the USFWS and covered the years 1993 through 1997 (Stehn et. al 2001). The second analytical approach was completed within the AFSC, in the National Marine Mammal Laboratory and covered the years 1993 through 2006 (Fitzgerald et. al, 2008). These estimates were provided annually beginning in 1998. Given staffing and database changes that occurred in 2007 and 2008, the AFSC has been revising the approach to developing these annual estimates. While all three approaches used the same two primary data sources, each

approach is slightly different and produces slightly different results, although the results shown in years of overlap for the demersal longline fleet (Figure 4) show good agreement. The current analytical method being employed (Catch Accounting System) results in estimates that are about 8% higher in the demersal longline fleet than the previous method used. This is due to an improved ability to extrapolate to portions of the fishery that are not directly observed.

While numbers here are summarized into broad species groups in some cases, observers identify each bird from their sample to the most accurate species or species group that they can. For the analysis and reporting of bycatch, many of these are consolidated to a larger grouping (Table 8, above). For example, the species group "Gull" includes all Laridae except Kittiwakes. Most gulls that are identified to species within this group are Glaucus, Glaucus-winged, Herring, and unidentified (typically juvenile) or hybrid gulls.

Estimated bycatch for the years 2007 through 2010 (Tables 16 through 18) are based on observer sample data. Biases do exist, however, with sampling on commercial fishing vessels. On trawl vessels, seabird mortality can occur due to interactions with gear such as net-monitoring equipment (paravanes or third wires) or be caught in the net wings and not be landed with the fish catch. These mortalities would not be included in the estimates reported below. The AFSC is working on an evaluation of these additional sources of mortality on trawl vessels and how best to monitor and include them in annual estimates (Fitzgerald et al., in prep.).

This preliminary report addresses only the point-count estimates for seabird mortality associated with groundfish. Estimates are provided for all gear types (pot, longline and trawl) across all Fishery Management Plan areas (Bering Sea and Aleutian Islands, Gulf of Alaska) for each year (Table 16). The combined trawl fleet bycatch by gear type (pelagic and non-pelagic) in all management areas (Table 17) and the trawl bycatch in the BSAI (Table 18) are then shown. A comprehensive report is being prepared that will also provide information on the actual number of birds observed, measure of units of effort for each fishery, bycatch rates, and other features.

Table 16: Total estimated seabird bycatch in Alaskan Federal groundfish fisheries, all gear types and fishery management plan areas combined, 2007 through 2010.

Species/ Species Group	Year			
	2007	2008	2009	2010
Unidentified Albatross	16	0	0	0
Short-tailed Albatross	0	0	0	15
Laysan Albatross	17	420	114	267
Black-footed Albatross	176	290	52	44
Northern Fulmar	4,581	3,426	7,921	2,357
Shearwater	3,602	1,214	622	647
Storm Petrel	1	44	0	0
Gull	1,309	1,472	1,296	1,141
Kittiwake	10	0	16	0
Murre	7	5	13	102
Puffin	0	0	0	5
Auklet	0	3	0	0
Other Alcid	0	0	105	0
Other Bird	0	0	136	0
Unidentified	509	40	166	18

Total	10,228	6,914	10,441	4,596

Table 17: Estimated seabird bycatch for the Alaskan Groundfish pelagic (P) and non-pelagic (N) trawl gear types across all fishery management plan areas.

Species/ Species Group	P / N	Year			
		2007	2008	2009	2010
Unidentified Albatross	P	0	0	0	0
	N	0	0	0	0
Short-tailed Albatross	P	0	0	0	0
	N	0	0	0	0
Laysan Albatross	P	0	0	0	0
	N	0	0	9	0
Black-footed Albatross	P	0	0	0	0
	N	0	0	0	0
Northern Fulmar	P	522	290	302	69
	N	101	248	333	436
Shearwater	P	21	13	3	22
	N	705	0	38	133
Storm Petrel	P	1	0	0	0
	N	0	44	0	0
Gull	P	9	9	3	0
	N	294	0	79	57
Kittiwake	P	0	0	6	0
	N	0	0	0	0
Murre	P	2	0	0	0
	N	0	0	0	102
Puffin	P	0	0	0	0
	N	0	0	0	0
Auklet	P	0	3	0	0
	N	0	0	0	0
Other Alcid	P	0	0	0	0
	N	0	0	105	0
Other Bird	P	0	0	3	0
	N	0	0	133	0
Unidentified	P	16	0	37	3
	N	0	0	7	0
Totals	P	601	315	354	94
	N	1,100	292	704	728

Table 18: Estimated seabird bycatch for the Alaskan groundfish Bering Sea and Aleutian Islands fishery management plan areas, pelagic and non-pelagic trawl gear combined.

Species/ Species Group	Year			
	2007	2008	2009	2010
Unidentified Albatross	0	0	0	0
Short-tailed Albatross	0	0	0	0
Laysan Albatross	0	0	9	0
Black-footed Albatross	0	0	0	0
Northern Fulmar	562	498	635	384

Shearwater	726	13	41	155
Storm Petrel	1	44	0	0
Gull	303	9	82	57
Kittiwake	0	0	6	0
Murre	2	0	0	102
Puffin	0	0	0	0
Auklet	0	3	0	0
Other Alcid	0	0	105	0
Other Bird	0	0	136	0
Unidentified	16	0	44	3
Total	1,610	567	1,058	701

Additional data were also provided by the client following a request for information to place the bycatch mortality rates in the context of the population estimates for Alaska seabird species.

Species	Approximate No. of Breeders in Alaska	Approximate % of N. American Breeders
Laysan Albatross *(Phoebastria immutabilis)*[4]	630,000 pairs	n/a
Black-footed Albatross *(Phoebastria nigripes)*[4]	58,000 pairs	n/a
Short-tailed Albatross *(Phoebastria albatras*)[4]	1800 pairs*	n/a

[4]Species added to Table 1 from "Breeding Status, Population Trends and Diets of Seabirds in Alaska, 2009. Data is from 2003-04. *6/12/2012 personal communication with Dr. K. Kuletz - STAL Recovery Team, U.S.F.W.S.

Observations

The updated seabird bycatch data presented to the audit team satisfies the requirements of this Condition by providing current data on takes of Short-tailed Albatross (*Phoebastria albatrus*). There were no reported takes of this species in the GOA Pacific cod fisheries. Incidental takes of three short-tailed albatross in August and September of 2010 and October 2011 in the demersal longline cod fishery in the Bering Sea were recorded The Biological Opinion for the endangered Short-tailed Albatross (USFWS 2003) allows for an incidental take of 4 birds in each two-year period for the demersal longline fishery. The current two-year period is 2011-2012. These are the first takes in the context of the Biological Opinion. The latest information indicates that Short-tailed Albatross numbers continue to increase with a population size of 3,500 individuals (NOAA Information Bulletin 11-82, Oct 31, 2011).

Conclusion

SG60: The main interactions directly related to the fishery are known.

SG80: Adequate quantitative estimates are made of the effects of interactions directly related to the fishery.

SG100: Reliable quantitative estimates are made of the interactions of all populations directly related to the fishery, and qualitative information is available on indirect impacts. Incidental mortalities are recorded and reported.

This condition can be closed. The PI can be re-scored at the SG 80 level as there are adequate quantitative estimates of the effects of interactions directly related to the fishery on short-tailed albatross.

	A higher score would be possible if a larger proportion of the fleet were observed.

Condition 6	**For the BSAI jig, longline, pot and trawl fisheries**
PI	**3A.1.4:** Is the management system subject to external review?
SG 60	There are mechanisms in place to allow for external review.
SG 80	The management system is subject to external review at appropriate intervals. Monitoring and evaluation are responsive to reviews. Results of the reviews are made public.
SG 100	The management system is subject to regular and frequent external review. Monitoring and evaluation are ongoing and improvements quickly tested and implemented. Results of on-going evaluation of management performance are made public.
Score	75
Rationale	**For the jig, longline, pot and trawl fisheries:** The management system is subject to regular and frequent external review. The NPFMC system conducts regular reviews of the groundfish fisheries including during which external parties have full opportunity for critical comment. Reviews of FMP amendments include input from the Scientific and Statistical Committee (SSC), the Advisory Panel (AP), external scientists, industry, environmental nongovernmental organizations, and the general public. The Plan Development Team solicits peer reviews of stock assessments and its meetings consider outside views regarding its analyses. For the U.S. as a whole, legal challenges to Council and NMFS management decisions regarding the groundfish fisheries have often required managers to explain and justify their management actions. Agencies such as the Government Accountability Office (GAO) have conducted a number of intensive reviews of the federal fisheries management process. Congressional committees have conducted oversight and legislative hearings regarding the region's fisheries and the Magnusson/Stevens Act itself is subject to periodic review. The Council and NMFS frequently turn to outside sources for technical advice, particularly regarding scientific matters and monitoring issues. For example, a panel of seven distinguished outside scientists conducted a review of the Alaskan groundfish fisheries directed toward describing current management strategies, determining whether the current quota setting approach was consistent with the MSA and if it was considerate of ecosystem needs (Goodman et al. 2002). Pacific cod was subjected to a Center for Independent Experts (CIE) review in 2001 that assessed the "next generation" models and use of decision theory to recommend harvest targets and limits. The team concludes that the management system has mechanisms in place for internal review, and uses them on a regular basis. Monitoring and evaluation are an ongoing process. It is not known whether the state sector of the fishery is subject to a similar level of external review. It is for this reason that the Condition is scored below 80. **Condition 6 (for the jig, longline, pot and trawl fisheries):** The state's external management review process is clearly described and shows that it is monitored, evaluated and responsive to reviews and that the results of the reviews are made public. It is required that this Condition is met by the first annual audit.

Client Action Plan	AFDF agrees to provide the certifier with a complete report on the external management review process in place for the State of Alaska's groundfish management system within the first 12 months of certification. If the certifier considers there to be any deficiencies in the report or in the external management system, AFDF will work with the sector members of the industry working group and the certifier to specify a workable timeline for improvement. Additional regulatory information applicable to Condition : Title 16.05.221. Boards of Fisheries and Game. (a) For purposes of the conservation and development of the fishery resources of the state, there is created the Board of Fisheries composed of seven members appointed by the governor, subject to confirmation by a majority of the members of the legislature in joint session. The governor shall appoint each member on the basis of interest in public affairs, good judgment, knowledge, and ability in the field of action of the board, and with a view to providing diversity of interest and points of view in the membership. The appointed members shall be residents of the state and shall be appointed without regard to political affiliation or geographical location of residence. The commissioner is not a member of the Board of Fisheries, but shall be ex officio secretary. Title 16.05.251. Regulations of the Board of Fisheries. Title 16.05.258. Subsistence use and allocation of fish and game. Title 16.05.260. Advisory committees. Title 16.05.270. Delegation of authority to commissioner. Title 16.05.300. Board meetings. Title 16.05.730. Management of wild and enhanced stocks of fish. Title 16.05.735. Management of offshore fisheries. 5 AAC 96.625. Joint board petition policy.
Conclusion from 1st audit	The surveillance team conclude that the AFDF have not provided a complete report on the external management review process for the State of Alaska's groundfish management system. As a result progress on the condition is considered to be behind target and in order to rectify this, the surveillance team require the report to be provided to them by 31st July 2011. The AFDF response should be guided by the elements of the SG80 as well as the associated text that was provided in the scoring rationale in the original assessment report. The focus should be on describing (synthesizing from available material) for the state of Alaska: • the state's role in both conservation and allocation decisions; • the types of external review (as distinct from public comment) that exist; • the timing (intervals) of this review; • the process by which monitoring and evaluation (M&E) responds to such reviews; • the existence of reports in which the results of reviews are made public.
Client Progress	Following the provision of the first report in 2011, the assessment team was subsequently provided with a more complete report detailing: • evidence or written documentation of the Board of Fisheries (and management system) seeking external review. • written documentation of the Board of Fisheries (management system) receiving external review. • written documentation of the Board of Fisheries' (management system's) response to external review. • other examples of the Board of Fisheries being responsive to public input.

	The report was drafted by Jim Marcotte, ex-Executive Director of the Alaska Board of Fisheries, and is dated November 29th, 2011.
Observations	The document submitted is much improved over the previous one. It provides a clear and documented picture of the way that the Board of Fisheries, a citizen's advisory board, solicits, receives and responds to public input. As the document notes, the Board of Fisheries process concerns allocation. Also included in the "management system" is the conservation arm, represented in ADF&G. At this point, the assessment team has an adequate picture of what the Alaska state system review entails.
Conclusion	SG60: There are mechanisms in place to allow for external review. SG80: The management system is subject to external review at appropriate intervals. Monitoring and evaluation are responsive to reviews. Results of the reviews are made public. SG100: The management system is subject to regular and frequent external review. Monitoring and evaluation are ongoing and improvements quickly tested and implemented. Results of on-going evaluation of management performance are made public. The additional information provided by the Marcotte (2009) report allows the fishery to meet the SG 80 guidepost: The jig, longline, pot and trawl Pacific cod fisheries meet the SG 80 standard, the fisheries are rescored from 75 to 80, and this condition is closed-out.

Any complaints against the certified operation; recorded, reviewed and actioned

Any complaints against the certified operation:

No formal complaints have been filed with AFDF as the certificate holder, or any of the companies or fishing organizations covered under the certificate for Pacific cod fisheries in either the Bering Sea/Aleutian Islands or Gulf of Alaska management areas.

The certified operation:

The certified operation considered here is the following signatories to the AFDF GOA Pacific cod MSC certification programme:

Jig:

Alaska Jig Association, Trident Seafoods, Harbor Crown Seafoods, Adak Seafood, Peter Pan Seafoods, Icicle Seafoods, Westward Seafoods.

Longline:

American Seafoods Company, Aleutian Spray Fisheries, Cape Romanzof Fisheries, Jubiliee Fisheries, Glacier Fish Company, Tatoosh Fisheries, Alaska Longline Co. , Alaska Leader Fisheries, Bering Select Fisheries, Blue North Trading Company, Shelford's Boat Ltd., Trident Seafoods, Adak Seafoods, Harbor Crown Seafoods, Peter Pan Seafoods, Icicle Seafoods, Westward Seafoods, Deep Sea Fisheries.

Pot:

Alaska Crab Coalition, Trident Seafoods, Harbor Crown Seafoods, Adak Seafood, icicle Seafoods, Peter Pan Seafoods, Tatoosh Seafoods, Shelford's Boat Ltd., Westward Seafoods, Alyeska Seafoods, Deep Sea

Fisheries.

Trawl:
United Catcher Boats, Trident Seafoods, Adak Seafoods, Icicle Seafoods, Peter Pan Seafoods, Best Use Coalition, American Seafoods Company, Arctic Storm, Westward Seafoods, Alyeska Seafoods, Fishing Company of Alaska.

Any relevant changes to legislation or regulation.

Bering Sea skate egg concentration areas

The Council is currently considering designating several known areas of skate egg concentrations as Habitat Areas of Particular Concern (HAPC). Currently, the Council is considering up to six areas. HAPC designations may or may not be accompanied by additional management measures. The Environmental Analysis informing this action as well as enforcement concerns associated with potential area closures can be found at: http://alaskafisheries.noaa.gov/npfmc/PDFdocuments/conservation_issues/HAPC/SkateHAPC_InitRev312.pdf.

GOA salmon bycatch in non--pollock fisheries

At its February 2012 meeting, the Council received a discussion paper describing options for reducing Chinook salmon bycatch in the GOA non-pollock fisheries. This action is in its early development, and the most recent information can be found at: http://www.fakr.noaa.gov/npfmc/PDFdocuments/bycatch/GOAchinookbycatch112.pdf.

Bering Sea canyons

Greenpeace, NMFS, and the University of California, Santa Barbara recently collaborated on a study to observe fishing effects in Bering Sea canyons. The abstract this report is below. The full study can be found here: http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0033885.

Any relevant changes to management regime.

Managing and minimizing trawl impacts:

Pacific cod fishing is conducted with 4 gear types, one of which is non-pelagic trawl gear, which contacts the sea floor. This form of trawl gear is the only effective way to harvest many of the species harvested off Alaska. However, the use of non-pelagic trawl gear is controversial for some stakeholder groups, and any MSC certification objections will likely highlight this gear type.

The Council has taken a two-pronged approach to address these concerns. First, habitat conservation areas have been established in the Bering Sea, Aleutian Islands, and Gulf of Alaska. These areas are designed to protect marine resources, biodiversity, and subsistence activities. Additionally, non-pelagic trawl gear is allowed only in a small percentage (5% - 6% by area) of the BSAI and GoA management areas. Second, industry has collaborated with scientists to mitigate the effects of trawls to the benthic habitat by raising trawl sweeps off the bottom, and reducing impacts by 90% (Rose *et al*., 2010).

Overall Conclusions

Efforts made this year towards closing out the conditions on this fishery have generally been good- the first, second, third, fifth and sixth conditions have been closed as the related performance indicators have been met at the SG80 level or above.

The single remaining condition, the fourth, is focussed on lost gear and the potential for impacts to occur on

habitat. This was scheduled for closure this year, but the industry survey that was undertaken in an effort to provide data on lost gear did not provide useful quantities of data. Therefore, this condition could not be closed, and the much better information will need to be provided if it is to be closed out at the next surveillance audit, in accordance with the revised schedule.

Overall, the audit team commends the client and all those involved with the fishery for the work carried out this year. No changes in management have taken place that would detrimentally affect the performance of this fishery against the MSC Standard and the fishery continues to meet the requirements of the MSC Standard. MSC Certification should therefore continue and surveillance audits (see Annex 2 for surveillance level) should continue on an annual basis.

Annex 1: Notification of surveillance audit.

At-Sea Processors Association
Bering Sea and Aleutian Islands Pollock Fishery
Gulf of Alaska Pollock Fishery

Best use Cooperative
Bering Sea and Aleutian Islands Flatfish Fishery
Gulf of Alaska Flatfish Fishery

Alaska Fisheries Development Foundation
Bering Sea and Aleutian Islands Pacific Cod Fishery
Gulf of Alaska Pacific Cod Fishery

MSC Certification

Certification Body: Intertek Moody Marine (IMM)

Second Annual Combined Surveillance Audits

Following certification of these three fisheries, Intertek Moody Marine is now continuing the process of combined annual surveillance audits of the fisheries. The audits have two principal functions:

1. To review any changes in the management of the fishery, including regulations, key management or scientific staff, or stock evaluation,
2. To evaluate the progress of the fishery against any Conditions of Certification raised during the Full Assessment.

During the audit, or at separate meetings, the audit team shall be speaking with representatives of the fishery and fishery management organisations. We expect to carry out meetings between May 28th and June 1st 2012.

Meetings will be held in Seattle, Washington, and attended by the following Audit Team members listed below. Further details of the team members can be found on the following page.

Dr. Rob Blyth-Skyrme	**Coordinator / Lead Auditor**	**On site**
Dr. Jake Rice	**P1**	**On site**
Dr. Don Bowen	**P2**	**On site**
Dr. Susan Hanna	**P3**	**On site**

Should you have any information on this fishery that you feel should be considered in the assessment, please advise us. We may be available to meet with stakeholders as appropriate. If you would like to arrange a meeting, please advise us of:

a) your name and contact details
b) your association with the fishery
c) the issues you would like to discuss (in order for us to arrange appropriate representation)
d) where and when you would like to meet

Yours,

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Annex 2: Determination of surveillance level

A surveillance audit may be conducted as either an "on-site" or "offsite audit". This is determined by using criteria set out by the MSC:

Criteria	Surveillance Score
1. Default Assessment Tree	
Yes	0
No	2
2. Number of Conditions	
Zero Conditions	0
1-5 Conditions	1
>5 Conditions	2
3. Principle Level Scores	
≥ 85	0
<85	2
4. Conditions on outcome PIs?	
Yes	2
No	0

The score for the fishery is used to determine the surveillance level appropriate to the fishery using the table below:

			Years after certification or re-certification			
Surveillance score	**Surveillance level**		**Year 1**	**Year 2**	**Year 3**	**Year 4**
2 or more	Normal surveillance		On-site surveillance audit	On-site surveillance audit	On-site surveillance audit	On-site surveillance audit & recertification visit
1	Remote surveillance	Option 1	Off-site surveillance audit	On-site surveillance audit	Off-site surveillance audit	On-site surveillance audit & recertification visit
		Option 2	On-site surveillance audit	Off-site surveillance audit	On-site surveillance audit	
0	Reduced surveillance		Review new information	On-site surveillance audit	Review new information	On-site surveillance audit & recertification visit

The BSAI Pacific cod fisheries did not use the default assessment tree and so automatically score 2 and so they will require an on-site audit in 2013 and for the remaining period of the certification.