

5 Synthesis of Changes Since 2004

5.1 Changes in the Management of Fisheries

Since the adoption of the groundfish management policy in 2004, the Council has continued to make changes to its groundfish management program. The changes that have occurred to date can be witnessed in the FMP and regulatory amendments that have been implemented over this time period. Additionally, there have also been national changes affecting the groundfish management program. The Magnuson-Stevens Act was reauthorized in 2006, and contained provisions that have affected the groundfish management program to some extent (for example, annual catch limits and provisions governing the development of limited access privilege programs).

Table 10 lists the groundfish FMP amendments that have been implemented from 2004 to 2015, as well as those for which the Council has taken final action, but regulations are still being developed. The Council has recommended over 20 amendments to the BSAI FMP and GOA FMP since the adoption of its groundfish management policy in April 2004. Additionally, four BSAI and four GOA amendments had been adopted by the Council prior to April 2004, but had not yet been implemented when the PSEIS was written. Table 11 provides a synthesis of the major regulatory amendments that have been implemented during the same period. Between the two lists, the major changes in groundfish management are captured.

In addition, since the 2004 PSEIS, NMFS and the Council have prepared four comprehensive EISs that analyzed changes in the management of the fisheries. The Final Environmental Impact Statement for Essential Fish Habitat in Alaska (EFH EIS, NMFS 2005) evaluates alternatives and environmental consequences for three actions: (1) describing and identifying EFH for fisheries managed by the Council; (2) adopting an approach for the Council to identify Habitat Areas of Particular Concern within EFH, and (3) minimizing to the extent practicable the adverse effects of Council-managed fishing on EFH. In 2010 NMFS and the Council conducted an EFH 5-Year Review that examined information within the 2005 EFH EIS and determined (1) new and more recent information exists to refine EFH for a small subset of managed species; (2) certain fishing effects may be impacting sensitive habitats of Bristol Bay red king crab, however additional analysis is needed; and (3) the non-fishing impacts analysis, including advisory EFH Conservation Recommendations, should be updated with the most current level of information.

The Alaska Groundfish Harvest Specifications Final Environmental Impact Statement (Harvest Specifications EIS, NMFS 2007a) evaluated the environmental, social, and economic effects of alternative harvest strategies for the federally managed groundfish fisheries in the GOA and BSAI management areas. The Harvest Specifications EIS evaluates the effects of different alternatives on target species, non-specified species, forage species, prohibited species, marine mammals, seabirds, essential fish habitat, ecosystem relationships, and economic aspects of the groundfish fisheries. Each year, NMFS prepares a SIR for that EIS to evaluate the need to prepare a supplemental EIS for the groundfish harvest specifications.

The Bering Sea Chinook Salmon Bycatch Management Final Environmental Impact Statement (Chinook EIS, NMFS 2009a) evaluated the Bering Sea pollock fishery and the effects of alternatives to minimize Chinook salmon bycatch to the extent practicable in that fishery.

The Steller Sea Lion Protection Measures Final Supplemental Environmental Impact Statement (SSL EIS, NMFS 2014b) evaluates the environmental, social, and economic effects of alternatives to the Steller sea lion protection measures for the BSAI groundfish fisheries, in particular the Atka mackerel, Pacific cod, and pollock fisheries in the Aleutian Islands.

Finally, the Council also adopted, as Council policy, an ecosystem vision statement that applies to its fishery management as a whole, including the groundfish fisheries, in February 2014. The Council explicitly considered the relationship of the vision statement with the groundfish management policy, and found no inconsistency. The vision statement is included below:

Ecosystem Approach for the North Pacific Fishery Management Council

Value Statement

The Gulf of Alaska, Bering Sea, and Aleutian Islands are some of the most biologically productive and unique marine ecosystems in the world, supporting globally significant populations of marine mammals, seabirds, fish, and shellfish. This region produces over half the nation's seafood and supports robust fishing communities, recreational fisheries, and a subsistence way of life. The Arctic ecosystem is a dynamic environment that is experiencing an unprecedented rate of loss of sea ice and other effects of climate change, resulting in elevated levels of risk and uncertainty. The North Pacific Fishery Management Council has an important stewardship responsibility for these resources, their productivity, and their sustainability for future generations.

Vision Statement

The Council envisions sustainable fisheries that provide benefits for harvesters, processors, recreational and subsistence users, and fishing communities, which (1) are maintained by healthy, productive, biodiverse, resilient marine ecosystems that support a range of services; (2) support robust populations of marine species at all trophic levels, including marine mammals and seabirds; and (3) are managed using a precautionary, transparent, and inclusive process that allows for analyses of tradeoffs, accounts for changing conditions, and mitigates threats.

Implementation Strategy

The Council intends that fishery management explicitly take into account environmental variability and uncertainty, changes and trends in climate and oceanographic conditions, fluctuations in productivity for managed species and associated ecosystem components, such as habitats and non-managed species, and relationships between marine species. Implementation will be responsive to changes in the ecosystem and our understanding of those dynamics, incorporate the best available science (including local and traditional knowledge), and engage scientists, managers, and the public.

The vision statement shall be given effect through all of the Council's work, including long-term planning initiatives, fishery management actions, and science planning to support ecosystem-based fishery management.

Table 10 BSAI and GOA Groundfish FMP amendments since 2004

BSAI amd	GOA amd	Action	Date of Council action	Year of Implementation
48	48	Revisions to the annual harvest specification process for groundfish	2003	2004
62	62	Single geographic location	2002	2009
	63	Move skates to the target species category	2003	2004
65	65	Identify habitat areas of particular concern, and harvest control measures	2005	2006
	67	Individual Fishing Quota (IFQ) – allow category B quota share to be fished on a vessel of any length, in any area	2005	2007
	68	Rockfish pilot program	2005	2006

BSAI amd	GOA amd	Action	Date of Council action	Year of Implementation
	69	Change total allowable catch specification for the 'other species' category	2005	2006
71		CDQ – allow limited non-fishing investments, CDQ oversight, and 3-year allocation cycle (<i>superseded by provisions of the revised Magnuson-Stevens Act</i>)	2002	N/A
73	77	Remove dark rockfish from the FMP	2007	2009
	72	Rescind retention requirements in shallow water flatfish fishery	2003	2008
78	73	Revise essential fish habitat descriptions, harvest control measures	2005	2006
79		Groundfish retention standard (suspended as of 2011)	2003	2008
80		Sector allocation and cooperative for head and gut groundfish catcher processors	2007	2007
81	74	Revised management policy	2004	2004
82		Allocation of Aleutian Islands pollock total allowable catch to the Aleut Corporation	2004	2005
83	75	Housekeeping updates to the FMP	2004	2005
84		Exempt certain vessels from salmon bycatch savings area closures	2005	2007
85		Pacific cod sector allocations	2006	2008
86	76	Observer program restructuring	2010	2012
87		CDQ eligibility (<i>superseded by provisions of the revised Magnuson-Stevens Act</i>)	2006	N/A
88		Aleutian Islands Habitat Conservation Area boundary adjustment	2007	2008
89		Bering Sea habitat conservation measures	2007	2008
90	78	Allow post-delivery transfers for Amendment 80 cooperatives (BSAI 90) and rockfish program (GOA 78)	2007	2009
91		Revise PSC limit for salmon bycatch, rescind savings areas	2009	2010
	79	Set allowable biological catch and overfishing level specifications for the "other species" category	2008	2008
92	82	Rescind latent trawl gear licenses	2008	2009
93		Modify rules for Amendment 80 cooperative formation	2010	2011
94		Require gear modification to trawl sweeps for nonpelagic trawl vessels targeting flatfish	2009	2010
	83	Pacific cod sector allocations	2009	2012
	85	Remove BSAI stand down provision for catcher processors participating in rockfish pilot program	2008	2009
	86	Add a Pacific cod fixed gear endorsement to GOA licenses	2009	2011
95		Move skates from the other species to the target species category	2010	2010
96	87	Revise FMP species to fit either in target or ecosystem component categories, describe current practice for setting annual catch limits and using accountability measures	2010	2010
97		Allow vessel replacement for Amendment 80 vessels	2010	2012
	88	Central GOA Rockfish Program: allocate exclusive harvest privileges to trawl vessels for Pacific ocean perch, pelagic shelf rockfish, and northern rockfish	2010	2011
	89	Establish area closures around Kodiak for GOA Tanner crab protection, require trawl sweep modification for GOA flatfish	2010	2014

BSAI amd	GOA amd	Action	Date of Council action	Year of Implementation
		fisheries		
98	90	Update EFH descriptions and associated information, and impacts of non-fishing activities on EFH, and extend timing of HAPC process to correlate with the EFH 5-year review	2011	2012
99		Change the freezer longline maximum length overall on License Limitation Program (LLP) licenses	2012	2014
100	91	Add an ecosystem component category for grenadiers to the FMP	2014	2014
	93	Establish PSC limits for Chinook salmon in the Central/Western GOA pollock fisheries, and require full retention of salmon	2011	2012
	94	Revise the vessel use caps applicable to sablefish quota share held by GOA Community Quota Entities (CQE) and add three eligible communities to the CQE Program	2011	2013
	95	Establish PSC limits for Pacific halibut in the Gulf of Alaska	2012	2014
102		CQE program in Area 4B and Area 4B "fish up"	2012	2014
103		Prohibit Pacific cod fishing in Pribilof Islands Habitat Conservation Zone	2010	2014
	96	Provide ability for CQE to buy small blocks of halibut QS	2013	2014
	97	Chinook PSC management measures for non-pollock trawl fisheries	2013	2014
104		Establish habitat areas of particular concern (HAPC) skate sites	2013	2015
105		Provide flexibility for flatfish specifications	2013	2014
106		Allow replacement of AFA vessels	2013	2014
107		Establish transit areas through walrus protection areas at Round Island and Cape Peirce	2014	2015
108	100	Correction on vessel length restriction for small vessel LLP license	2014	2015
109		Allow for small boat CDQ Pacific cod fishery	2015	
110		Chinook and chum salmon PSC limit measures	2015	
	101	Allow use of longline pots for sablefish	2015	
111		Halibut PSC limit reductions	2015	
112	102	Observer coverage for small catcher processors	2015	
113		Aleutian Islands Pacific cod catcher vessel fishery and shoreplant delivery requirement	2015	

Table 11 Major regulatory amendments for the BSAI and GOA groundfish fisheries since 2004

Note: does not include regulations that implement FMP amendments, or are temporary, interim, corrections or clarifications

Subject	Action	Year of Implementation
Harvest specifications	2004 BSAI and GOA harvest specifications	2004
	2005-2006 BSAI and GOA harvest specifications	2005
	2006-2007 BSAI and GOA harvest specifications	2006
	2007-2008 BSAI and GOA harvest specifications	2007
	2008-2009 BSAI and GOA harvest specifications	2008
	2009-2010 BSAI and GOA harvest specifications	2009
	2010-2011 BSAI and GOA harvest specifications	2010
	2011-2012 BSAI and GOA harvest specifications	2011
	2012-2013 BSAI and GOA harvest specifications	2012
	2013-2014 BSAI and GOA harvest specifications	2013
	2014-2015 BSAI and GOA harvest specifications	2014
	2015-2016 BSAI and GOA harvest specifications	2015
Catch restrictions	remove a harvest restriction on the HLA Atka mackerel fishery in the Aleutian Islands	2004
	full retention of demersal shelf rockfish and donation rules	2004
	allow processors to use the offal from halibut and salmon intended for the prohibited species donation program for commercial products (fish meal)	2004
	adjust the maximum retainable allowance (MRA) enforcement period for BSAI pollock from enforcement at any time during a fishing trip, to enforcement at the time of offload	2004
	revise the MRAs for groundfish in the GOA arrowtooth flounder fishery	2009
	repeal groundfish vessel incentive program	2008
	GOA pollock trip limits	2009
	revise the MRAs for groundfish in the BSAI arrowtooth and Kamchatka flounder fishery	2013
	remove groundfish retention standard requirements	2013
	BSAI fixed gear parallel fishery management measures	2012
Bering Sea AFA pollock fishery	remove the expiration date of regulations implementing the AFA	2004
CDQ	simplify the processes for making quota transfers, for authorizing vessels as eligible to participate in the CDQ fisheries, and for obtaining approval of alternative fishing plans	2005
	Revise CDQ regulations for recordkeeping, vessel licensing, catch retention requirements, and fisheries observer requirements to ensure that they are no more restrictive than regulations in effect for comparable non-CDQ fisheries managed under individual fishing quotas or cooperative allocations	2012

Subject	Action	Year of Implementation
BSAI and GOA IFQ sablefish fishery	allow quota shareholders in 4C to fish in either 4C or 4D	2005
	IFQ cost recovery fee reform	2006
	exclude tagged halibut and sablefish catches from IFQ account deduction	2006
	allow transfers of quota share for medical reasons; require VMS for vessels harvesting sablefish in the BSAI; allow category B catcher vessel quota share for Southeast Outside District sablefish to be fished on catcher vessels of any length	2007
	allow processing of non-IFQ species on a vessel with B, C, or D shares onboard	2008
	allow longline pot gear in Bering Sea during June, allow mobilized military personnel to make temporary IFQ transfers	2008
	IFQ online access to IFQ account information	2008
	Allow longline pot gear in Southeast GOA	2015
GOA rockfish program	revise central GOA rockfish fisheries program monitoring and enforcement provisions	2007
	extension of central GOA rockfish program under MSA	2008
seabirds	revise seabird avoidance measures in the hook-and-line fisheries off Alaska to reduce incidental catch of the short-tailed albatross and other seabird species	2004
	revise seabird avoidance measures to strengthen gear standards for small vessels and eliminate certain unnecessary requirements	2008
	eliminate seabird avoidance requirements for vessels less than or equal to 55 ft LOA in 4E	2009
Marine mammals	revise SSL protection measures for the GOA pollock and Pacific cod fishing closure areas near four SSL haul outs and modify the seasonal management of pollock harvest in the GOA	2005
	Revise SSL protection measures for the Aleutian Islands Atka mackerel and Pacific cod fisheries	2010
	Designate critical habitat for the Cook Inlet beluga whale	2011
	Revise SSL protection measures for the Aleutian Islands Atka mackerel, Pacific cod, and pollock fisheries	2014
Research areas	reopen the Cape Sarichef Research Restriction Area in the BSAI to directed fishing for groundfish	2006
	close Chiniak Gully Research Area to all commercial trawl fishing from August 1 to September 20, 2006-2010	2006
Observer program	provide flexibility in the deployment of observers	2004
	electronic reporting for vessels – ATLAS (at-sea observer communication system requirements)	2004
	technical amendment extending the North Pacific observer program beyond 2002	2004
	revise requirements facilitating observer data transmission and improve support for observers (ATLAS 2)	2006
	observer sunset date removal	2007
	Improve operational efficiency of the Observer Program and collected data	2010

Subject	Action	Year of Implementation
reporting requirements	make effective the collection of information under the AFA amendments	2004
	exempt groundfish catcher processors and motherships with operational VMS from check-in check-out requirements	2008
	implement new electronic groundfish catch reporting system, the Interagency Electronic Reporting System (IERS), and its data entry component, eLandings	2009
	exempt vessels using dinglebar gear from the requirement to use VMS	2009
	Miscellaneous recordkeeping and reporting revisions, incl to e-Landings	2008
	BS Chinook salmon bycatch economic data collection for the Bering Sea pollock fishery	2012
	Modify equipment and operational requirements for freezer longliners named on License Limitation Program licenses endorsed to catch and process Pacific cod at sea with hook-and-line gear in the BSAI	2012
	GOA trawl economic data collection	2014
	Revise the at-sea scales program for catcher/processors and motherships that are required to weigh catch at sea.	2014
	Codify type-approval standards, requirements, procedures, and responsibilities applicable to VMS products and services.	2015

5.2 Management changes as they pertain to the Council's policy goals

The following section evaluates the Council's management actions since the completion of the 2004 PSEIS in 2004. The Council's groundfish policy (the approved, preferred alternative from the 2004 PSEIS) is structured with nine goal statements, each supported by specific objectives, see Appendix 1. For each goal statement and set of objectives, we identify the relevant FMP and regulatory amendments implemented over the last ten years, as well as other management steps that the Council has taken with respect to these goals. The discussion in this section is not necessarily comprehensive, as each amendment may satisfy many of the Council's goals and objectives. Rather, it is intended to provide an overview of the major management changes of the last eleven years, and how they compare to the management objectives that the Council set for itself in 2004.

Additionally, we have also looked back to the example FMPs that illustrated the preferred alternative analyzed in the 2004 PSEIS. Given the Council's actions of the last ten years, the current groundfish management program does now fall within the range of example FMPs that were analyzed in the PSEIS.

Each of the sections below identifies one of the Council's policy goals. The specific objectives, sometimes abbreviated, linking to that policy goal are listed after each policy goal. If the objectives are also linked to a specific item on the Council's workplan,³⁵ that is noted also. After each policy goal and objectives are listed the FMP amendments related to this goal statement, the regulatory amendments related to this goal statement, and other management actions related to this goal statement.

³⁵ The Council developed a workplan to track the implementation of the various management objectives over time and prioritize issues for consideration. The workplan was developed in June 2004 revised in February 2007. The Council is updated on the status of this workplan at each meeting.

Prevent Overfishing

1. Adopt conservative harvest levels
2. Use existing OY caps
3. Specify OY as a range
4. Periodic reviews of $F_{40\%}$ and adopt improvements
5. Improve management through species categories (on workplan)

FMP amendments related to this goal statement

- revisions to the harvest specifications process (B48/G48)
- moved skates to target category (G63)
- biologically-based specifications for GOA “other species” category (G69, G79)
- amendments to bring FMPs in line with annual catch limit requirements, including moving other species into target category, and creating an ecosystem component category (B95, G87)
- amendment to include grenadiers in the ecosystem component of the FMPs (B100, G91)
- Restructured observer program reduces bias in catch accounting (B86, G76)
- Provide flexibility for flatfish specifications (B105)

Regulatory amendments related to this goal statement

- Annual specifications for setting harvest levels

Other management actions related to this goal statement

- Regular Center for International Experts reviews for stock assessments and harvest strategies
- Ongoing work on accounting for uncertainty in control rules
- Council policy and ongoing discussion of spatial management for stocks

Promote Sustainable Fisheries and Communities

6. Promote conservation while providing for OY
7. Promote management measures that avoid social and economic disruption
8. Promote fair and equitable allocation
9. Promote safety

These considerations are applied to all management actions.

Preserve Food Web

10. Develop indices of ecosystem health (on workplan)
11. Improve ABC calculations to account for uncertainty and ecosystem
12. Limit harvest on forage species
13. Incorporate ecosystem considerations in fishery management

Other management actions related to this goal statement

- Uncertainty and ecosystem considerations taken into account during stock assessment and harvest specifications
- Ecosystem indices reported and assessed in annual ecosystem SAFE report
- Adoption of the Aleutian Islands Fishery Ecosystem Plan, and development of a Bering Sea Fishery Ecosystem Plan
- Development of ecosystem synthesis reports for the Bering Sea and the Aleutian Islands ecosystem areas, and ongoing development of report for the Gulf of Alaska
- Adoption, as Council policy, of an ecosystem vision statement

Manage Incidental Catch and Reduce Bycatch and Waste

14. Continue and improve current incidental catch and bycatch program (on workplan)
15. Develop incentive programs for bycatch reduction (on workplan)
16. Encourage research for non-target species population estimates (on workplan)
17. Develop management measures that encourage techniques to reduce bycatch (on workplan)
18. Continue to manage incidental catch and bycatch through seasons and areas
19. Account for bycatch mortality in TAC accounting (on workplan)
20. Control prohibited species bycatch through PSC limits (on workplan)
21. Reduce waste to biologically and socially acceptable levels

FMP amendments related to this goal statement

- Groundfish retention standard (B79, subsequently removed)
- Bering Sea Chinook salmon bycatch restrictions (B84, B91)
- Trawl sweep elevation requirement in the flatfish fisheries (B94, G89)
- GOA area closures to reduce bairdi crab bycatch (G89)
- Establishment of PSC limits for Chinook salmon in the GOA trawl pollock and non-pollock fisheries (G93, G97)
- Reduce PSC limits for GOA halibut (G95)
- Restructured observer program reduces bias in bycatch accounting (B86, G76)
- Prohibit Pacific cod fishing in Pribilof Islands Habitat Conservation Zone (B103)
- BSAI Chinook and chum salmon PSC avoidance measures (B110 *approved by Council, not yet implemented*)
- Reduce PSC limits for BSAI halibut (B111 *approved by Council, not yet implemented*)

Regulatory amendments related to this goal statement

- Annual specifications for setting prohibited species limits
- Revisions to MRAs
- Revision to regulations for prohibited species donation program and fishmeal

Other management actions related to this goal statement

- Upcoming discussion paper on BSAI crab bycatch
- Council encourages research through annual research priorities
- NMFS and observer program work on improving statistical methods for bycatch accounting (as part of National Bycatch Report initiative)
- Development of a halibut management framework

Avoid Impacts to Seabirds and Marine Mammals

22. Continue to protect ESA-listed and other seabirds
23. Maintain or adjust SSL protection measures (on workplan)
24. Encourage review of marine mammal and fishery interactions
25. Continue to protect ESA-listed and other marine mammals (on workplan)

FMP amendments related to this goal statement

- Walrus protection areas around Round Island and Cape Pierce, including transit corridors for Federal fishing vessels (B107)

Regulatory amendments related to this goal statement

- Revisions to seabird avoidance measures, including in Area 4E
- Revisions to Steller sea lion closures for pollock and cod fisheries in the GOA
- Revisions to Steller sea lion protection measures for Atka mackerel, Pacific cod, and pollock fisheries in the Aleutian Islands
- Designation of critical habitat for Cook Inlet beluga whale

Other management actions related to this goal statement

- ESA consultations on fishery impacts on listed seabirds and marine mammals
- Council receives protected species report at each meeting, monitoring issues with seabirds and marine mammals
- Reconsideration of Steller sea lion closures in 2014 biological opinion and 2014 EIS

Reduce and Avoid Impacts to Habitat

26. Review and evaluate efficacy of habitat protection measures for managed species (on workplan)
27. Identify EFH and HAPC, and mitigate fishery impacts as necessary (on workplan)
28. Develop MPA policy
29. Encourage research on baseline habitat mapping (on workplan)
30. Develop goals and criteria for MPAs; implement as appropriate (on workplan)

FMP amendments related to this goal statement

- HAPC (B65/G65) and EFH (B78/G73) amendments, and associated fishery area closures in the GOA and Aleutian Islands (AI)
- Bering Sea Habitat Conservation (B89) with area closures for non-pelagic trawling
- Trawl sweep elevation requirement in the flatfish fisheries (B94, G89)
- Update to EFH information with findings from the 2010 EFH 5-year review (B98/G90)
- Designation of skate nurseries in Bering Sea as HAPC (B104)

Other management actions related to this goal statement

- Discussion of protected areas for Bering Sea canyons
- Discussion paper resulting from EFH 5-year review to look at groundfish impacts on crab EFH (especially red king crab in southwestern Bristol Bay)
- Ongoing 2015 EFH 5-year review, including updates to fishing effects model and EFH descriptions
- Discussion of a Northern Bering Sea Research Area Research Plan (subsequently tabled)
- Council discussion regarding nominating Alaska MPAs to national MPA center register (tabled)
- Council encourages research through annual research priorities

Promote Equitable and Efficient Use of Fishery Resources

31. Provide economic and community stability through fair allocation
32. Maintain LLP and initiate rights-based management programs (on workplan)
33. Periodically evaluate effectiveness of rights-based management programs
34. Consider efficiency when adopting management measures (on workplan)

FMP amendments related to this goal statement

- Sector allocations for Pacific cod (B85, G83); fixed gear endorsement in GOA (G86)
- Sector allocations and cooperative formation for 3 flatfish species, POP, and Atka mackerel in BSAI (Amendment 80); vessel replacement and cooperative revisions (B80, B90, B93, B97)
- Latent licenses rescinded (B92/82, G86)
- Cooperative program for rockfish in central GOA (G68); program revisions (G78, G85); new program authorized (G88)
- BSAI freezer longline maximum length overall adjustment (B99)
- AI pollock to the Aleut Corporation (B82); Single geographic location amended for pollock motherships (B62, G62); AFA vessel replacement (B106)
- IRIU rescinded in GOA for shallow water flatfish (G72)
- IFQ B quota shareholders can fish on any size vessel (G67), “fish up” in Area 4B (B102)
- Revisions to GOA CQE program entities, revise vessel use caps, allow purchase of small blocks, establish CQE program in Area 4B (G94, G96, B102)
- Allow for a small boat CDQ Pacific cod fishery (B109, *approved by Council but not yet implemented*)
- Allow use of longline pots for sablefish (G101, *approved by Council but not yet implemented*)
- Aleutian Islands Pacific cod catcher vessel fishery and shoreplant delivery requirement (B113, *approved by Council but not yet implemented*)

Regulatory amendments related to this goal statement

- Modify monitoring and reporting requirements for BSAI cod freezer longliners
- BSAI fixed gear parallel fishery management measures
- Minor revisions to AFA, CDQ, IFQ, Rockfish Programs
- GOA pollock trip limits

Other management actions related to this goal statement

- Permit fee authorization (all FMPs)

Increase Alaska Native Consultation

35. Incorporate local and traditional knowledge into fishery management
36. Consider ways to enhance local and traditional knowledge collection
37. Increase Alaska Native participation in fishery management (on workplan)

FMP amendments related to this goal statement

- AI pollock to the Aleut Corporation (B82)
- Revisions to GOA CQE program eligible entities, revise vessel use caps, allow purchase of small blocks, establish CQE program in Area 4B (G94, G96, B102)
- Allow for a small boat CDQ Pacific cod fishery (B109, *approved by Council but not yet implemented*)
- Aleutian Islands Pacific cod catcher vessel fishery and shoreplant delivery requirement (B113, *approved by Council but not yet implemented*)

Other management actions related to this goal statement

- Community outreach and consultation policy adopted by Council in 2008
- Community committee helps prioritize outreach (currently focused on BSAI salmon analyses)
- Website redesigned to include a rural outreach component

Improve Data Quality, Monitoring, and Enforcement

38. Increase utility of observer data (on workplan)
39. Develop equitable funding mechanisms for the NPGOP (on workplan)
40. Increase economic data reporting requirements (on workplan)
41. Improve technology for monitoring and enforcement (on workplan)
42. Encourage development of an ecosystem monitoring program
43. Cooperate with NPRB to identify needed research
44. Promote enforceability
45. Coordinate management and enforcement programs with Federal, State, international, and local partners

FMP amendments related to this goal statement

- Observer program restructuring (B86/G76)
- Remove dark rockfish from FMP, allow management by State of Alaska (B73/G77)
- Change observer coverage category exemptions for small catcher processors (B112/G102, *approved by Council but not yet implemented*)

Regulatory amendments related to this goal statement

- Electronic reporting, online accounting
- Changes to VMS requirements (required for sablefish in BS, no longer required for dinglebar lingcod in GOA)
- Repeal of vessel incentive program
- Changes to observer program to provide flexibility in deployment and improve operational efficiency
- Bering Sea Chinook salmon bycatch economic data collection
- GOA trawl economic data collection

Other management actions related to this goal statement

- Annual refinement of observer data through the deployment plan
- Ongoing work to improve Catch Accounting System
- Discussion paper on VMS use and requirements
- Electronic monitoring is being developed as a tool for catch monitoring. Pre-implementation program approved for 2016.
- Council encourages research through annual research priorities, cooperates with North Pacific Research Board
- Council initiated and participates in Alaska Marine Ecosystem Forum, as well as maintaining other relationships with partner entities

5.3 Changes in groundfish and environmental conditions

The following is a brief summary of Council documents that evaluate groundfish and environmental conditions.

Groundfish SAFE reports

The Council's annual Groundfish Stock Assessment and Fishery Evaluation (SAFE) report provides a detailed analysis of the status of groundfish stocks each year. No groundfish species is currently, nor has been, overfished or subject to overfishing, since the analysis that was conducted in the 2004 PSEIS.

Ecosystem Assessments in the annual Groundfish SAFE report

The AFSC prepares an Ecosystem Considerations appendix to the annual SAFE reports (Zador 2014) that provides a comprehensive overview of environmental conditions in the BSAI and GOA on an annual basis. The appendix includes an ecosystem assessment for the Bering Sea, Aleutian Islands, and Gulf of Alaska, as well as various data series that are ecosystem status and management indicators.

The AFSC staff has developed a format for reporting various indices over time, and comparing the most recent five years against the historical record for each indicator. The first section of the Ecosystem Considerations appendix includes abbreviated report cards for the Eastern Bering Sea and the Aleutian Islands (a report card for the GOA is being prepared), as well as an executive summary of recent trends. The report shows climate indices for the North Pacific, including the Pacific Decadal and Arctic Oscillations, and eastern Bering Sea ice retreat and cold pool volume indices. All of these are within one standard deviation of the historical mean for the data set. The report also shows ecosystem indices for the groundfish fishery regions, and fishery indices for the Bering Sea, Gulf of Alaska, and Aleutian Islands. The 5-year mean is generally within one standard deviation of the historic mean.

2010 EFH 5-year review

Additionally, the 2010 EFH 5-year review (NPFMC and NMFS 2010) evaluated changes in fishing impacts on habitat from the period analyzed in the EFH EIS (and incorporated by reference in the 2004 PSEIS) and the subsequent five-year period. Total trawl fishing effort decreased in all regions for pelagic and non-pelagic trawling, between the period analyzed in the EFH EIS (1998 to 2002) and the subsequent period (2003 to 2007). The report included figures plotting both the average fishing intensity, by five year period, as well as the difference in intensity between periods. The principal shifts in fishing intensity are summarized in the following paragraphs.

Bering Sea trawl: There has been no radical shift in the distribution of nonpelagic trawl fishing intensity in the Bering Sea from the period 1998 to 2002 to the period 2003 to 2007. The large area of the central Bering Sea that was subject to particularly high bottom trawl intensity in 1998 to 2002 received moderately lighter intensity from 2003 to 2007. Four principal areas were subject to increased bottom trawl intensity; (1) along the northwest border of the Pribilof Islands Habitat Conservation Zone, (2) off of Kuskoquim Bay, (3) along the southern border of the King Crab Protection Zone, and (4) western side of the Nushagak Peninsula (inner Bristol Bay). Most of the increases were moderate, though two of eight blocks in the fourth area along the western side of the Nushagak Peninsula (inner Bristol Bay) had strong increases. The area of high intensity effort north of Akutan Island, Unimak Pass and Unimak Island remained a high intensity area. Many of the shifts within that area registered as moderate or strong changes because of the high absolute levels of fishing intensity. The central Bering Sea showed a pattern of higher intensity in pelagic trawling around a central area of lower intensity near the border of management areas 509 and 513. Decreases in fishing intensity occurred on the west side of the Nushagak Peninsula, off of Kuskoquim Bay, northeast of St George Island, and Pervenets Canyon to the far northwest. Intensity dropped in the area north of Akutan Island, Unimak Pass, and Unimak Island, while there were increases on the southwest and eastern sides of that area.

Aleutian Islands trawl: There was a trend of decreases in bottom trawl fishing throughout the region, from the 1998 to 2002 period to the 2003 to 2007 period, with moderate decreases noted in the Adreanof Islands and Petrel Bank, as well as throughout the western portions of Rat Islands. Stronger increases in intensity occurred around Buldir Island and west of Tanaga, with moderate increases found in the Near Islands. Pelagic trawling in the Aleutian Islands decreased from 416 blocks fished in the first period, mainly on the 541/518 (Bering Sea) border, to only 16 blocks fished in the most recent period. Fishing intensity for pelagic trawl fisheries in the Aleutian Islands is currently very minor.

Gulf of Alaska trawl: Moderate decreases were seen in intensity of nonpelagic trawl fishing throughout the region, from the earlier (1998 to 2002) time period to the later (2003 to 2007), with overall blocks fished decreasing by approximately 40 percent. Largest drops in intensity occurred near Chiniak and south of Chirikof Island with moderate increases in intensity to the northwest of Chirikof Island and south of Ugak Island. Very minor changes in intensity were seen in pelagic trawling in the GOA, with moderate increases in Shelikof Strait, but decreases in intensity in most Kodiak nearshore waters, as well as in isolated areas of 610 and 620.

Aleutian Islands Fishery Ecosystem Plan

In December 2007, the Council completed a Fishery Ecosystem Plan (FEP) for the Aleutian Islands ecosystem area. The FEP evaluates physical, biological, and socioeconomic relationships among ecosystem components, to identify areas of uncertainty and associated risk. Key ecosystem interactions, including climate and physical factors, predator-prey relationships, fishing effects, regulatory constraints, and socioeconomic (both fishing and non-fishing) activities occurring in the area are identified and associated with monitoring indicators. These indicators are tracked on an annual basis through the Aleutian Islands Ecosystem Assessment, in the Groundfish SAFE report.