Annual Review / Recommendations

# Research Priorities

#### MSA Mandate

- "Each Council shall, in accordance with the provisions of this Act
  - (7) develop, in conjunction with the scientific and statistical committee, multi-year research priorities for fisheries, fisheries interactions, habitats, and other areas of research that are necessary for management purposes, that shall—
    - (A) establish priorities for 5-year periods;
    - (B) be updated as necessary; and
    - (C) be submitted to the Secretary and the regional science centers of the National Marine Fisheries Service for their consideration in developing research priorities and budgets for the region of the Council; "

## Annual research priority process

# Groundfish Plan Team input

August – Groundfish PT subgroup reviews and prioritizes research list November – Groundfish PTs add to priority list, if necessary, during individual stock assessment reviews

#### Development of final list

June – SSC finalizes recommendations to Council, and Council adopts a research priority list and distributes to funding bodies

#### September -Groundfish PTs approve research priorities

February – Scallop PT reviews and prioritizes research list

May - Crab PT reviews and prioritizes research list

Scallop Plan

Team input

## Management Priorities

- Annual April Review
- Programmatic EIS for Groundfish (2002)
- 9 General Priorities
  - Prevent Overfishing
  - Promote Sustainable Fisheries and Communities\*
  - Preserve Food Web
  - Manage Incidental Catch and Reduce Bycatch and Waste
  - Reduce and Avoid Impacts to Seabirds and Marine Mammals
  - Reduce and Avoid Impacts to Habitat
  - Promote Equitable and Efficient Use of Fishery Resources
  - Increase Alaska Native & Community Consultation
  - Improve Data Quality, Monitoring and Enforcement
- 45 Management Objectives

## Revised Categories / Definitions

**CRITICAL ONGOING MONITORING**: Information provided by monitoring activities in this category (1) provide an essential management function; (2) cannot likely be acquired through other means; or (3) are required by regulation. This is monitoring essential to maintaining our compliance with federal requirements, including National Standards, or necessary for the ongoing management of the fishery. Postponement would have a significant and immediate impact on management.

**URGENT**: Research that is essential for compliance with federal requirements, including National Standards, or that has been identified by management as necessary to aid decision-making. It is expected that a one or two year project would meet the information need. Postponement would have a significant impact on management.

## Revised Categories / Definitions

**IMPORTANT** (Near Term): Obtaining a new set of data or research result that is likely to aid in the evaluation of a near term management goal. The research might be a several year program. Postponement will not have an immediate impact on fishery management; however, the information generated will likely inform near term (e.g., <5 year) Council actions.

**STRATEGIC** (Future Needs): Research that is valuable but is not associated with an immediate need or near-term (e.g., <5years) Council action.

#### Action

- Review existing/new research priorities
- Recommend priorities to Council
- Other Issues:
  - Protected Resources
  - Halibut
  - Database

#### Materials

- Terms and Definitions
- List of Existing Research Priorities
  - Sent to Secretary in 2015
  - Edited to reflect Plan Team recommendations
- New projects

#### Existing Council Research Priorities with 2016 Plan Team Revisions

D1 Research Priorities June 2016

Research ID	Title	Description	Council Priority	Updated Plan Team Priority	
144	District-wide survey for demersal shelf rockfish in Southeast Alaska	Conduct a district-wide survey for demersal shelf rockfish in Southeast Alaska on a biennial or triennial basis. Survey information is becoming extremely dated.	Critical	GF:Important, Crab:, Scallop:	No Action Underway
145	Continuation of State and Federal annual and biennial surveys	Continuation of State and Federal annual and biennial surveys in the GOA, AI, and EBS, including crab pot surveys, is a critical aspect of fishery management off Alaska. It is important to give priority to these surveys, in light of recent federal budgets in which funding may not be sufficient to conduct these surveys. Loss of funding for days at sea for NOAA ships jeopardizes these programs. Budgetary concerns have resulted in cuts to not only days at sea, which increases uncertainty, but also sampling the deepest strata, which threatens the value of trawl surveys as a synoptic ecological survey. These surveys provide baseline distribution, abundance, and life history data that form the foundation for stock assessments and the development of ecosystem approaches to management. Although an ongoing need, these surveys are considered the highest priority research activity, contributing to assessment of commercial groundfish and crab fisheries off Alaska.	Critical	GF: Critical, Crab: Critical, Scallop:	Underway
150	Maintain the core biological and oceanographic data (e.g., biophysical moorings, stomach data, zooplankton, age 0 surveys) necessary to support integrated ecosystem assessment	Maintain the core data and process studies needed to support integrated ecosystem assessments. Core data include inputs for single- or multi-species management strategy evaluations, food web, and coupled biophysical end-to-end ecosystem models (e.g. biophysical moorings, stomach data, zooplankton, age 0 surveys (i.e. BASIS surveys)). Develop and maintain indices of sea ice formation, sea ice retreat, and timing/extent of the spring bloom for the EBS. For this, maintenance of moorings, especially M-2, is essential. If recent changes in ice cover and temperatures in the Bering Sea persist, these may have profound effects on marine communities.	Critical	GF: Important, Crab: Strategic, Scallop:	Underway
186	Collect and maintain zooplankton and meroplankton biomass and community composition time series	Collect and maintain zooplankton and meroplankton biomass and community composition time series in the eastern Bering Sea. Develop, collect and maintain time series of zooplankton biomass and community composition for the GOA, AI, Arctic.	Critical	GF: Important, Crab: Strategic, Scallop:	Partially underway
190	Collect and maintain time series of ocean pH	Collect and maintain time series of ocean pH in the major water masses off Alaska to improve understanding of ocean acidification and its effects on managed species, upper level predators and lower trophic levels	Critical	GF: Critical, Crab: Critical, Scallop:	Underway
218	Survey capability for forage fish	Develop a long-term survey capability for forage fish (partially underway). The NPRB funded GOA and Bering Sea projects are currently describing the spatial and temporal variability in the structure of forage fish communities and the effect of this variability on predators. This work should be continued and methods for long-term monitoring should be developed.	Critical	GF: Important, Crab:, Scallop:	Partially underway
226	Continue to evaluate the economic effects from fishery policy changes on coastal communities.	Continue to evaluate the economic effects from fishery policy changes on coastal communities. This includes understanding economic impacts (both direct and indirect) and how the impacts are distributed among communities and economic sectors.	Critical	GF: Critical, Crab: Important, Scallop:	Partially underway

#### Materials

- Terms and Definitions
- List of Existing Research Priorities
  - Sent to Secretary in 2015
  - Edited to reflect Plan Team recommendations
- New projects

#### Plan Team Recommendations for New Research Priorities

#### D2 Plan Team Recommendations JUNE 2016

				Research	1		
Research ID	Title	Description	Plan Teams	status	Ecosystem Areas	Keywords	Management Objective
		Assessment of existing database of camsled images is needed to					1 1
		provide scallop counts and sizes, contributing to abundance					1 1
			Scallop PT - Priority:		Gulf of Alaska, Bering Sea,	Fish and Fisheries Monitoring.	1
511	Computerized image analysis of current camera sled data	presence of other organisms can be assessed.	Urgent	Underway	Aleutian Islands	Scallop	Prevent overfishing
	comparence image unurjus or content content sice data	presence of other organisms can be assessed.	organi	Chock way	Accidentistation	2000	Trevent overnaming
		Samples from Bering Sea scallops with weak meats were					1
		collected and sent to the ADF&G Anchorage Pathology Lab for					1 1
		analysis of any evidence of diseases and/or parasites. The					1
		results showed that the scallops were infected with an					1 1
		apicomplexan-like parasite. To further evaluate the geographic					1
		extent and infection rates of this parasite, a sampling effort was					1
	Evaluate extent and importance of parasites in scallop	initiated in July 2015 to collect samples from select locations	Scallop PT - Priority:	Partially	Gulf of Alaska, Bering Sea,	Environmental Influences on	1
	populations	across the state, from Yakutat to the Bering Sea.	Important	underway	Aleutian Islands	Ecosystem Processes	Preserve Food Web
313	populations	across the state, from Taxotat to the Berling Sea.	important	Partially	Aleutian Islanus	ecosystem Processes	Preserve rood web
531	Collect growth data for Bering Sea crab stocks	Pending feedback from PT	Crab PT - Priority: Urgent		Bering Sea	Stock Assessment	Prevent overfishing
351	collect growth data for Bering Sea crap stocks	renuing recubeck from P1	Crab PT - Priority: Urgent Crab PT - Priority:	underway	Gulf of Alaska, Bering Sea,	SUUCA ASSESSMENT	rievent overnishing
• • • • • • • • • • • • • • • • • • • •	National annual Christian Christian Christian Christian	Seeding to dead to see 27				51-00 1	Samuel annualistics
532	Natural mortality estimation for crab stocks	Pending feedback from PT	Important	No action	Aleutian Islands	Stock Assessment	Prevent overfishing
							1
		Develop criteria necessary for using Thorson's geostatistical					1
		model as an alternative to the designed-based estimates for					1
		abundance indices used in stock assessments. Assess whether	Joint Groundfish PT -				1
		there are certain life history characteristics or levels of	Priority: Critical Ongoing		Gulf of Alaska, Bering Sea,		
533	Explore geospatial approaches for time series of survey data	aggregation where this model should be used.	Monitoring	underway	Aleutian Islands	Stock Assessment	Prevent overfishing
			Joint Groundfish PT -				
534	Develop technical interaction model for BSAI MSE	Pending	Priority: Urgent	Underway	Bering Sea, Aleutian Islands	Stock Assessment	Prevent overfishing
							1
		Several methods are currently in use around the country for					1
		setting harvest specifications for data-poor and data-moderate					1
		stocks (corresponding, respectively, to Tiers 6 and 4-5 of the					1
		BSAI and GOA groundfish harvest control rules), several others					1
		are currently under development, and still others could be					1
		developed in the future. There is a need to continue					1 1
	Development and evaluation of data poor and data moderate	development of such methods and to conduct comparative	Joint Groundfish PT -		Gulf of Alaska, Bering Sea,		
535	methods	performance tests of the methods.	Priority: Strategic	Underway	Aleutian Islands	Stock Assessment	Prevent overfishing
		L				l	
		Climate change impacts are becoming an increasingly important			I	l	
		consideration for long term planning and should be included in			I	l	
		projections of exploitable fish stocks and associated ecosystem			I	l	
		components. Incorporation of climate-based parameters into			I	l	
		fish stock assessments will allow for exploration of harvest			I	l	
		scenarios in the context of evolving climate conditions.					
	Evaluate incorporation of climate change impacts into stock	Research is needed to explore how these parameters can be	Joint Groundfish PT -		Gulf of Alaska, Bering Sea,	Ecosystem Modeling, Stock	
536	assessments	integrated into fishery stock assessments.	Priority: Strategic	Underway	Aleutian Islands	Assessment	Prevent overfishing
					I	l	
		Archived ageing structures such as otoliths can deteriorate over			I	l	
		time unless they are stored in appropriate media. Loss of			I	l	
		archived structures reduces the potential for obtaining			I	l	
		information through techniques such as micro-chemical				l	Improve Data Quality,
	Identification of best practices for long term storage of ageing	analysis. Best practices for long term storage are currently not	Joint Groundfish PT -	Partially	Gulf of Alaska, Bering Sea,	l	Monitoring and
537	structures.	well established.	Priority: Strategic	underway	Aleutian Islands	Fish and Fisheries Monitoring	Enforcement
		·					

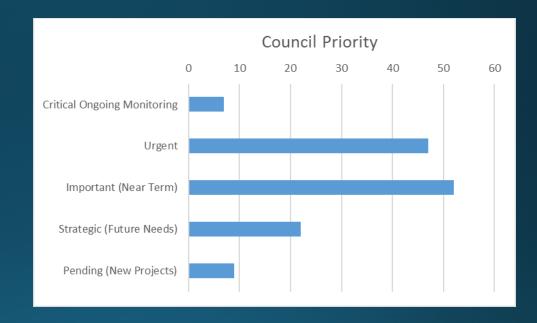
## Management Priorities

Management Priority	N Projects
Prevent Overfishing	49
Preserve Food Web ("EBFM")	33
Protected Species	13
Data Quality / Enforcement	10
Economics	10
Bycatch	9
Habitat	8
Communities	5
Total	137



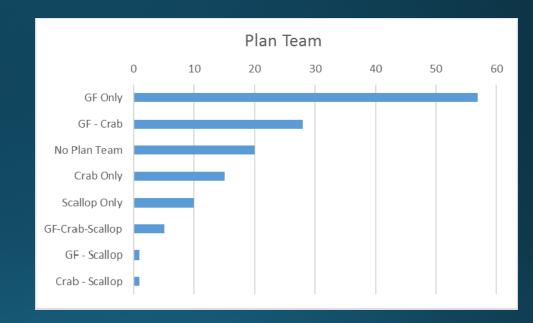
## **Priority Categories**

Council Priority	N Projects
Critical Ongoing Monitoring	7
Urgent	47
Important (Near Term)	52
Strategic (Future Needs)	22
Pending (New Projects)	9
Total	137



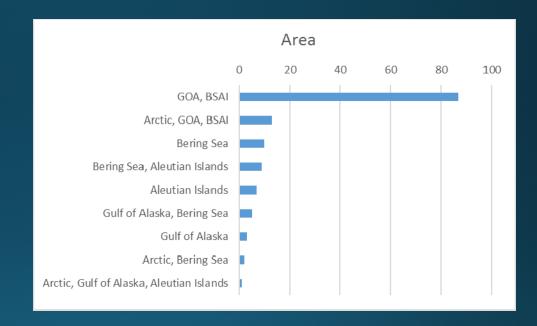
#### Plan Teams

Plan Team	N Projects
GF Only	57
GF - Crab	28
No Plan Team	20
Crab Only	15
Scallop Only	10
GF-Crab-Scallop	5
GF - Scallop	1
Crab - Scallop	1
Total	137



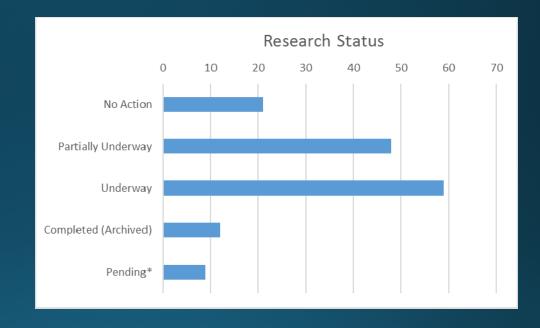
## Management Areas

Area	N Projects
GOA, BSAI	87
Arctic, GOA, BSAI	13
Bering Sea	10
Bering Sea, Aleutian Islands	9
Aleutian Islands	7
Gulf of Alaska, Bering Sea	5
Gulf of Alaska	3
Arctic, Bering Sea	2
Arctic, Gulf of Alaska, Aleutian Islands	1
Total	137



### Research Status

Research Status	N Projects
No Action	21
Partially Underway	48
Underway	59
Completed (Archived)	12
Pending*	9
Total	149



## Status vs. Priority

	C.O.M	Urgent	Important	Strategic
No action		6	8	6
Partially underway	3	13	16	12
Underway	4	25	22	4

(18 projects with pending "status" or "priority"

Major Issue	Critical	Urgent	Important	Strategic	Total
Assessment Inputs		13	21	5	39
Ecosystem Assessments		1	9	4	14
At Sea Survey	6	4	3		13
Habitat		2	5	1	8
Protected Species		4	2	2	8
Halibut		4	3	1	8
Economic Analysis	1	2	1	3	7
PSC Management		6	1		7
Management		4		1	5
Communities		1	4		5
Climate Change			1	4	5
Steller Sea Lion		3	1		4
Fishery Interactions		2	1		3
Data Quality		1		1	2
Total	7	47	52	22	128

Assessment Inputs					
Sub-Issue	Critical	Urgent	Important	Strategic	Total
Stock Structure		1	3		4
Catchability / Selectivity		1	2		3
Distribution / Movement		1	2		3
Spatial Assessment		1	2		3
Ageing methods		1	2		3
Discard Mortality		1	1		2
Natural Mortality			2		2
Initiate Assessment		1		1	2
Life History		1	1		2
Temperature Database			1		1
Depredation			1		1
Uncertainty		1			1
Projection Models				1	1
Total Removals		1			1
Reproductive Index		1			1
Data Poor Methods			1		1
Bioeconomic Modeling			1		1
Archived Data				1	1
Maturity				1	1
Stock-Specific Ecosystem Ind	icators		1		1
CPUE Factors		1			1
Hybridization				1	1
Survey Data Analysis			1		1
Stock Recruit Relationship		1			1
Total		13	21	5	39

At Sea Surveys	Priority				
Sub-Issue	Critical	Urgent	Important	Strategic	Total
Survey techniques	1	3	2		6
Maintain Survey	4				4
Expand Survey Collection	1		1		2
Expand Survey Range		1			1
Total	6	4	3		13
Climate Change		Pric	ority		
Sub-Issue	Critical	Urgent	Important	Strategic	Total
Ocean Acidification				2	2
Improved Data Availability				1	1
Climate Forcing			1		1
Modeling				1	1
Total			1	4	5
Communities		Pric			
Sub-Issue	Critical	Urgent	Important	Strategic	Total
Subsistence Use		1	1		2
Social and Economic Linkages	5		1		1
Effects of Management			1		1
Importance of Non-Commerc	cial Species		1		1
Total		1	4		5

<b>Economic Analysis</b>					
Sub-Issue	Critical	Urgent	Important	Strategic	Total
Chinook Mgmt Effects			1		1
Allocation		1			1
Non-market Value				1	1
Comprehensive		1			1
Product Inventory				1	1
Demand Analysis				1	1
Effects of Management	1				1
Total	1	2	1	3	7
<b>Ecosystem Assessments</b>					
Sub-Issue	Critical	Urgent	Important	Strategic	Total
Ecosystem Indicators			3		3
Diseases and Parasites		1	1		2
Water Quality			1	1	2
Ecosystem Productivity			1		1
Ecosystem Structure			1		1
Primary Production				1	1
Species Composition				1	1
Predator-Prey Interactions			1		1
Benthic Community Composi	ition			1	1
Energy Pathways			1		1
Total		1	9	4	14

Fishery Interactions					
Sub-Issue	Critical	Urgent	Important	Strategic	Total
Monitoring		1			1
Target and Non-Target (Gene	ral)	1			1
Trawl Impacts on RKC			1		1
Total		2	1		3
Economic Analysis		Pric	rity		
Sub-Issue	Critical	Urgent	Important	Strategic	Total
EFH and HAPC determination			2		2
Mapping			1	1	2
Habitat Function in Populatio	on and Ecos	ystem Proc	1		1
Benthic Community Composi	tion	1			1
Assess and Monitor		1			1
Effects of Management			1		1
Total		2	5	1	8
Halibut			rity		
Sub-Issue	Critical	Urgent	Important	Strategic	Total
Industry Responses		1			1
Spatial Patterns		1			1
Population Dynamics			1		1
Ecosystem Effects			1		1
Dependence		1			1
Effects of Management		1			1
Economic Analysis			1		1
Long term Impacts				1	1
Total		4	3	1	8

Management		Priority				
Sub-Issue	Critical	Urgent	Important	Strategic	Total	
MSE		2			2	
Uncertainty		1			1	
Spatial Changes in Effort				1	1	
Risk Analysis		1			1	
Total		4		1	5	
PSC Management		Pric	ority			
Sub-Issue	Critical	Urgent	Important	Strategic	Total	
Economic Analysis		2			2	
Socio-Economic Analyses			1		1	
Gear Modification		1			1	
Chinook Mgmt Effects		1			1	
Bycatch Reduction		1			1	
Comprehensive		1			1	
Total		6	1		7	

<b>Protected Resources</b>		Priority				
Sub-Issue	Critical	Urgent	Important	Strategic	Total	
Fishery Impacts		1	1	1	3	
Population Dynamics		1		1	2	
Effects of SSL Measures		1			1	
Movement Analysis		1			1	
Socio-Economic Analyses			1		1	
Total		4	2	2	8	
Steller Sea Lion		Pric	ority			
Sub-Issue	Critical	Urgent	Important	Strategic	Total	
Killer Whale Predation		1			1	
Health		1			1	
Population Dynamics		1			1	
Survey techniques			1		1	
Total		3	1		4	

### Protected Resource and Halibut Priorities

Plan Team	N Projects
GF Only	57
GF - Crab	28
No Plan Team	20
Crab Only	15
Scallop Only	10
GF-Crab-Scallop	5
GF - Scallop	1
Crab - Scallop	1
Total	137

Protected Resources: 12

Halibut: 8

### Protected Resource Priorities

Research ID	Title	Description	Category	Approach	Focus	Ecosystem Area	Council Priority	Research Status
159	Evaluate interactions between fisheries and pinnipeds	Studies of the interactions between fisheries and protected species, such as Steller sea lions in the Central and Western Aleutian Islands (areas 541, 542, 543), and northern fur seals on the eastern Bering Sea shelf are needed. These studies should be conducted at appropriate spatial and temporal scales with an emphasis on seasonal prey fields, diet, and movement of fisheries and pinnipeds.	Protected Species	Fishery Impacts	Pinnipeds	BSAI	Urgent	Underway
160	Assess vital rates of Steller sea lions	Assess vital rates (i.e., reproduction and survival) of Steller sea lions in the western DPS (including Russia) at sufficient frequency to track population dynamics.	Steller Sea Lion	Population Dynamics	Western DPS	BSAI	Urgent	Underway
161	Assess the health of Stellar sea lions	Assess possible indirect effects of fisheries removals via periodic health assessments, indices of body condition, survival of pups and juveniles, and natality of Steller sea lions in the western DPS.	Steller Sea Lion	Health	Western DPS	BSAI	Urgent	Underway
162	Quantify killer whale predation of Steller sea lions (M)	Quantify killer whale predation of Steller sea lions, particularly in the western and central Aleutian Islands.	Steller Sea Lion	Killer Whale Predation	AI	Al	Urgent	Underway
180	Economic, social, and cultural valuation research on protected species	Economic, social, and cultural valuation research on protected species is needed (i.e., non-market consumptive use, passive use, non-consumptive use).	Protected Species	Socio- Economic Analyses	Protected Resource Mgmt	GOA, BSAI	Important	Underway
212	Develop methods to estimate sea lion abundance	Develop new methods to estimate sea lion abundance, such as the use of unmanned aerial vehicles, which could increase the probability of acquiring abundance estimates in remote areas.	Steller Sea Lion	Survey techniques	Abundance	GOA, BSAI	Important	Underway

### Protected Resource Priorities

Research ID	Title	Description	Category	Approach	Focus	Ecosystem Area	Council Priority	Research Status
213	Assess the impact of the displacement of the groundfish fleet on Northern fur seals	Assess the impact of the displacement of the groundfish fleet due to Steller sea lion protection measures on the prey availability, foraging ecology, diet, movements, and vital rates for Northern fur seals.	Protected Species	Effects of SSL Measures	Northern Fur Seals	GOA, BSAI	lirgent	Partially Underway
214	Evaluate the impact of seabird bycatch in fisheries on bird populations, and methods to reduce	Assess the extent and impact of seabird bycatch in fisheries on bird populations, and develop methods to reduce seabird bycatch, particularly protected species, such as short-tailed albatross.	Protected Species	Fishery Impacts	Seabirds	GOA, BSAI	Important	Underway
215	Determine potential impacts of fishing activities on marine mammals	Determine potential impacts of fishing activities on marine mammals (e.g., state managed gillnet fisheries), and in particular on North Pacific right whales and the Eastern North Pacific blue whales, particularly in identified critical (NPRW) or essential (NPBW) habitat.	Protected Species	Fishery Impacts	Marine Mammals	GOA, BSAI	Strategic	No Action
249	Assess the movement of Steller sea lions and northern fur seals	Assess the movement of Steller sea lions and northern fur seals in response to environmental variability to understand the spatial changes of predator-prey interactions.	Protected Species	Movement Analysis	Steller Sea Lion and Northern Fur Seal	BSAI	Ilroant	Partially Underway
364	Updated sperm whale stock assessment	Updated sperm whale abundance estimates are needed. Sperm whale depredation interactions with longline fisheries have increased, but little is known about sperm whale populations. Updated population estimates and defined PBR's are needed to effectively respond if a take occurs in the longline fishery.	Protected Species	Population Dynamics	Sperm Whale	GOA, BSAI	Urgent	No Action
390	Assess the population status of harbor seals in the Aleutian Islands and determine factors affecting their population trajectories	Assess the population status of harbor seals in the Aleutian Islands and determine factors affecting their population trajectories	Protected Species	Population Dynamics	Harbor Seal	AI	Strategic	No Action

### Halibut Priorities

Research ID	Title	Description	Category	Approach	Focus	Ecosystem Area	Council Priority	Research Status
209	Investigate factors affecting the guided angler sector of the halibut fishery	Continue to investigate factors that affect angler demand and trip supply in the guided angler sector of the halibut fishery.	Halibut	Economic Analysis	Rec Angler Demand	GOA, BS	Important	Underway
386	Investigate long term effects of fishing on Pacific halibut	Collect genetic samples for future comparison.	Halibut	Long term Impacts	Fishery Impacts	GOA, BSAI	Strategic	Underway
387	Determine effects of migration on the Pacific halibut population and management	Extend existing analyses of tagging studies to include age-specific components. Continue to evaluate the role of migration in contributing to population dynamics and trends associated with area-specific catch, PSC levels, and downstream effects.	Halibut	Population Dynamics	Migration	GOA. BSAI	Important	Underway
388	Study temporal and spatial patterns in size-atage of Pacific halibut	Reanalyze historical records of Pacific halibut size-atage. Requires identifying samples from consistent spatial areas as well as re-ageing of older samples that utilized differing methods for age determination. Relate observed patterns to somatic growth via otolith increment analysis and development of bioenergetics model relating long-term environmental and ecological drivers to halibut size-at-age. Continue to explore the potential role of fishing in observed size-at-age trends via direct or evolutionary pathways and the interaction with size-selective fishing, include these analyses in harvest policy analyses.		Spatial	Size-At- Age	GOA, BSAI	Urgent	Underway

## Halibut Priorities

Research ID	Title	Description	Category	Approach	Focus	Ecosystem Area	Council Priority	Research Status
389	Investigate ecosystem effects and inter-species interactions of halibut	Investigate potential ecosystem effects and interspecies interactions on Pacific halibut recruitment and size-at-age. Includes integration of existing IPHC and NOAA trawl survey observations of size-at-age, diet, and population distribution and trends for multiple species in the GOA and BS.	Halibut	Ecosystem Effects		GOA, BS	Important	Underway
491	Assess dependence and impacts of halibut management actions on communities	Quantitatively and qualitatively examine the suite of engagements, dependencies, and vulnerabilities of halibut dependent communities and impacts of halibut management actions.	Halibut	Dependenc e	Communit ies	GOA, BSAI	Urgent	Pending
492	Investigate factors underlying fishery responses to halibut PSC caps	There is need to understand the underlying factors through which industry can adjust its behavior and its corresponding halibut encounter rates, in response to potential changes in halibut PSC caps. Investigations under this category could be conducted in combination with evaluations of alternative management actions for halibut PSC under Research Priority 385.	Halibut	Industry Responses	Bycatch Reduction	GOA, BSAI	Urgent	Pending
493	Examine the relative importance of historical closed areas in the vicinity of the Pribilof Islands as juvenile halibut nursery habitat relative to other regions coast-wide.	Evaluate the biological effects of establishing spatial protections of juvenile halibut fromfishing gear on BSAI halibut stock health.	Halibut	Effects of Manageme nt	PI Nursery Habitat	BS	Urgent	Pending

Separation of SSC and Council Recommendations



Old Categories in Report Generator



Old Terms in Query Tool



"Underway" glitch



				Group 1 P	riority Edits	;		Group 1 Status Edits			
ResearchID	Title	<b>Current Plan Team Priority</b>	Hanselman	Lunsford	Stichert	FINAL	Research Status	Hanselman	Lunsford	Stichert	FINAL
			Critical	Critical	Critical	Critical					
	Continuation of State and Federal annual		Ongoing	Ongoing	Ongoing	Ongoing					
145	and biennial surveys	Critical	Monitoring	Monitoring	Monitoring	Monitoring	Underway	Underway	Underway	Underway	Underway
	Methods for reliable estimation of total							Partially	Partially	Partially	Partially
202	removals	High	Important	Important	Important	Important	Underway	Underway	Underway	Underway	Underway
	Monitor skate egg case concentrations every										
	2 to 3 years using non-invasive research										
219	design, such as in situ observation	Low	Strategic	Strategic	▼ategic	Strategic	No action	No Action	No Action	No Action	No Action
	Investigate in situ methods of tagging				Ī			Partially	Partially		Partially
382	species that experience barotrauma	Low	Strategic	Strategic	Strategic	Strategic	No action	Underway	Underway	Don't Know	underway
	Identification and integration of archived							Partially	Partially	Partially	Partially
194	data	Medium	Don't Know	Important	Important	Important	Partially underway	Underway	Underway	Underway	Underway
	Improve surveys in untrawlable habitat,										
	particularly for rockfish, Atka mackerel, and							Partially	Partially	Partially	Partially
146	sculpins	Medium	Important	Important	Important	Important	Partially underway	Underway	Underway	Underway	Underway
								Partially	Partially	Partially	Partially
193	Improve species identification	Medium	Important	Important	Important	Important	Partially underway	Underway	Underway	Underway	Underway
218	Survey capability for forage fish	Medium	Don't Know	Important	Important	Important	Partially underway	Don't Know	No Action	Don't Know	Don't Know
	Studies on factors that affect catchability										
169	particularly for King and Tanner crab	Medium	Don't Know	Don't Know	Important	Important	Underway	Don't Know	Don't Know	Underway	Underway
	Assess seasonal diets and species										
168	interactions of fish and shellfish	Medium	Don't Know	Don't Know	Don't Know	Don't Know	Partially underway	Don't Know	Don't Know	Don't Know	Don't Know
	Research on survey analysis techniques for							Partially	Partially	Partially	Partially
220	species that exhibit patchy distributions	Medium	Important	Important	Important	Important	Partially underway	Underway	Underway	Underway	Underway
	Collect maturity scans during fisheries that							Partially	Partially	Partially	Partially
221	target spawning fish	Pending	Strategic	Strategic	Strategic	Strategic	Underway	Underway	Underway	Underway	Underway
	Conduct routine surveys of subsistence in the										
165	northern Bering Sea and Arctic Ocean	Low	Don't Know	Don't Know	Don't Know	Don't Know	Partially underway	Don't Know	Don't Know	Don't Know	Don't Know
	Investigate long term effects of fishing on										
386	Pacific halibut	Pending	Important	Important	Important	Important	Underway	Don't Know	Don't Know	Don't Know	Don't Know
381	Effects of changes to the observer program	Critical	Urgent	Urgent	Urgent	Urgent	No action	Underway	Underway	Underway	Underway

Multiple Simultaneous Editor Functionality

Open Query Functionality



Scroll Functionality



#### Action

- Review existing/new research priorities
- Recommend priorities to Council
- Other Issues:
  - Protected Resources
  - Halibut
  - Database

## Questions?