

Joint IPHC / Council Meeting

June 2017

Juneau

Research Priorities

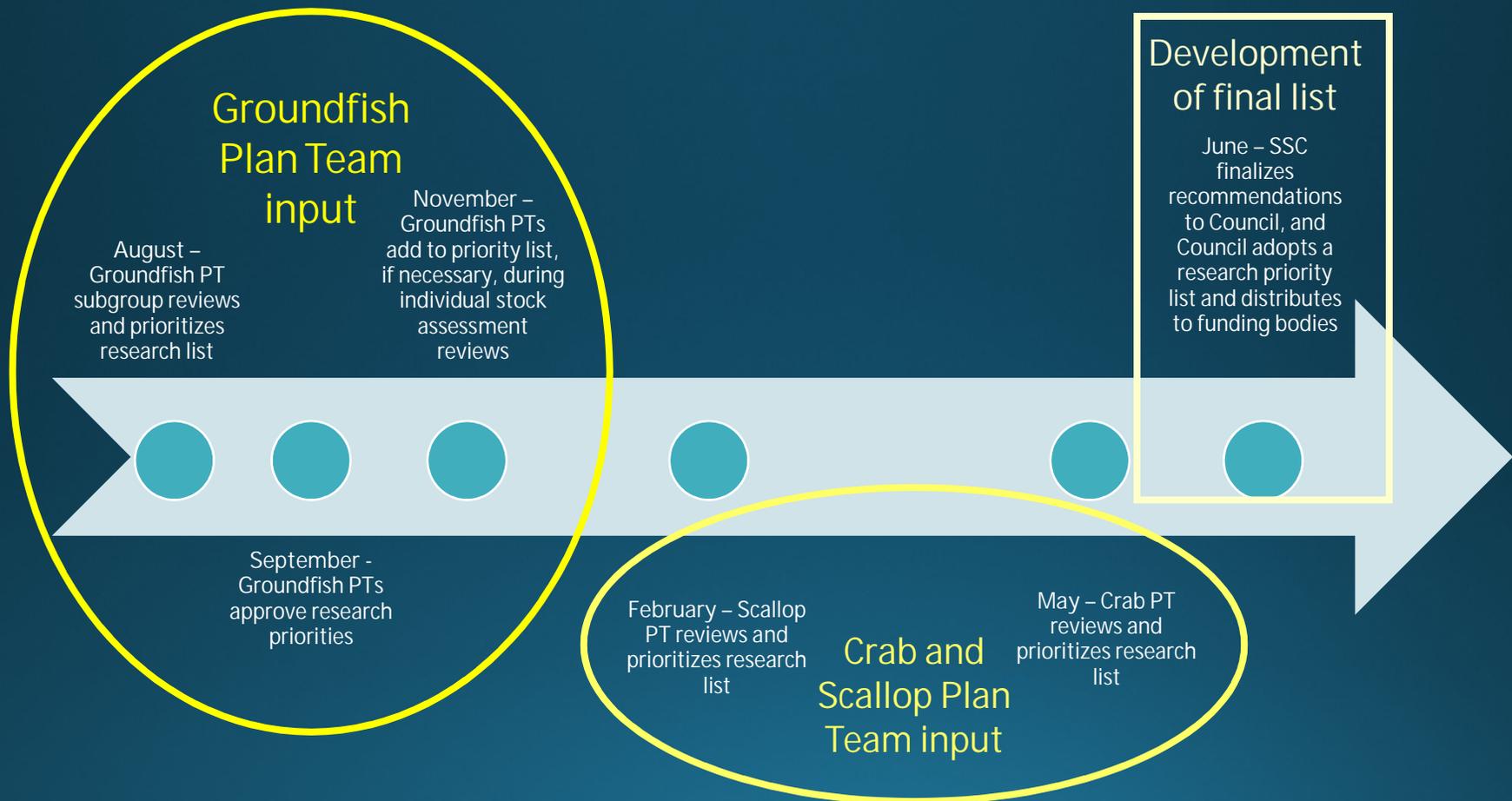
MSA Mandate

“Each Council shall, in accordance with the provisions of this Act —

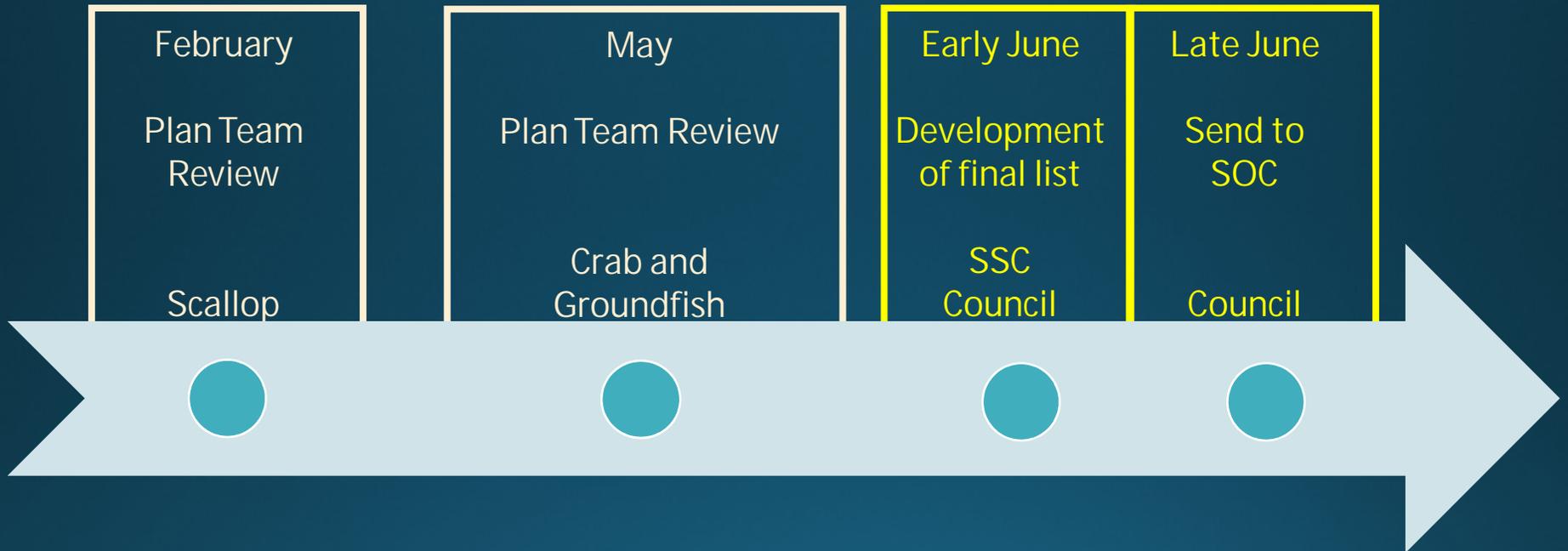
(7) develop, in conjunction with the scientific and statistical committee, multi-year research priorities for fisheries, fisheries interactions, habitats, and other areas of research that are necessary for management purposes, that shall—

- (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



Annual research priority process



Terms / Definitions

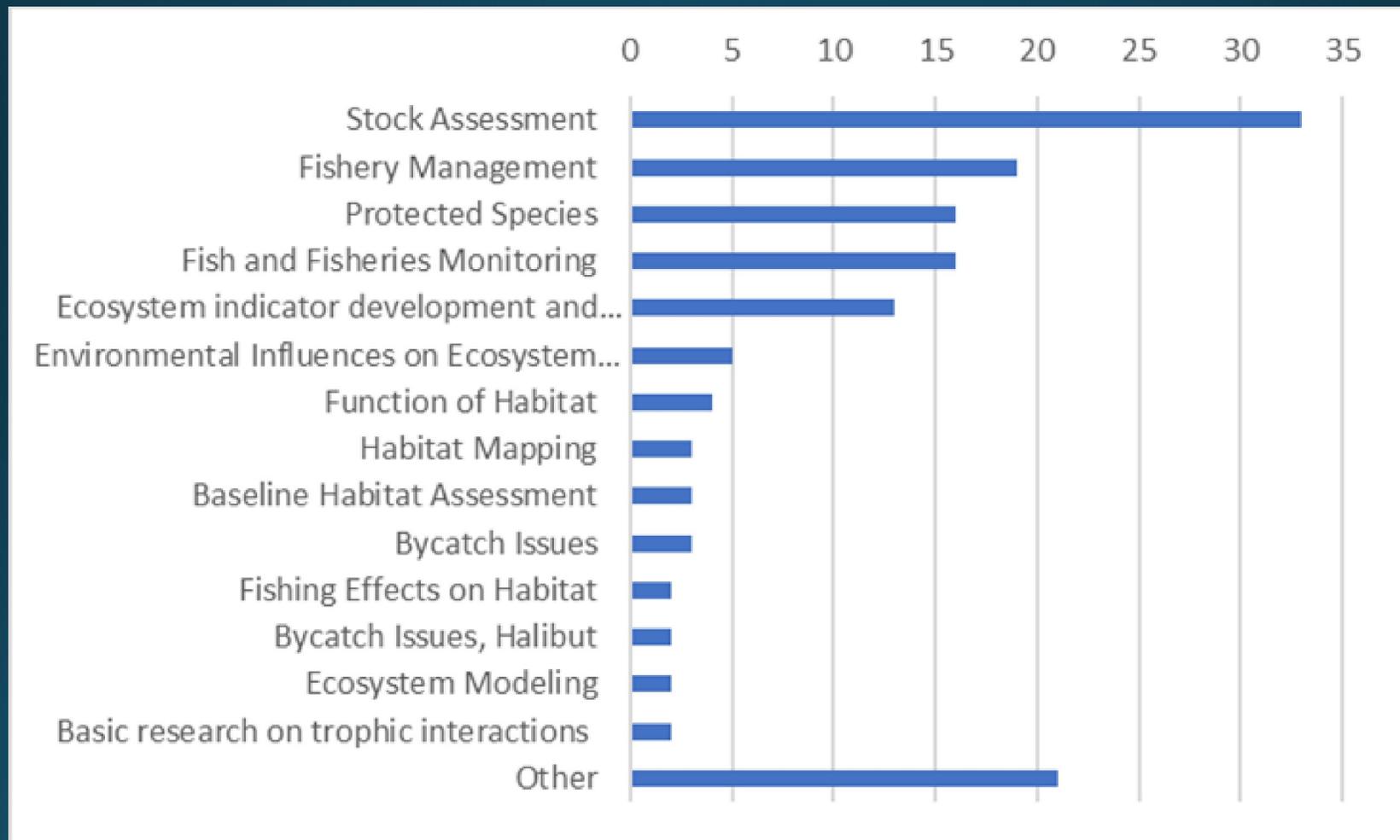
CRITICAL ONGOING MONITORING

URGENT

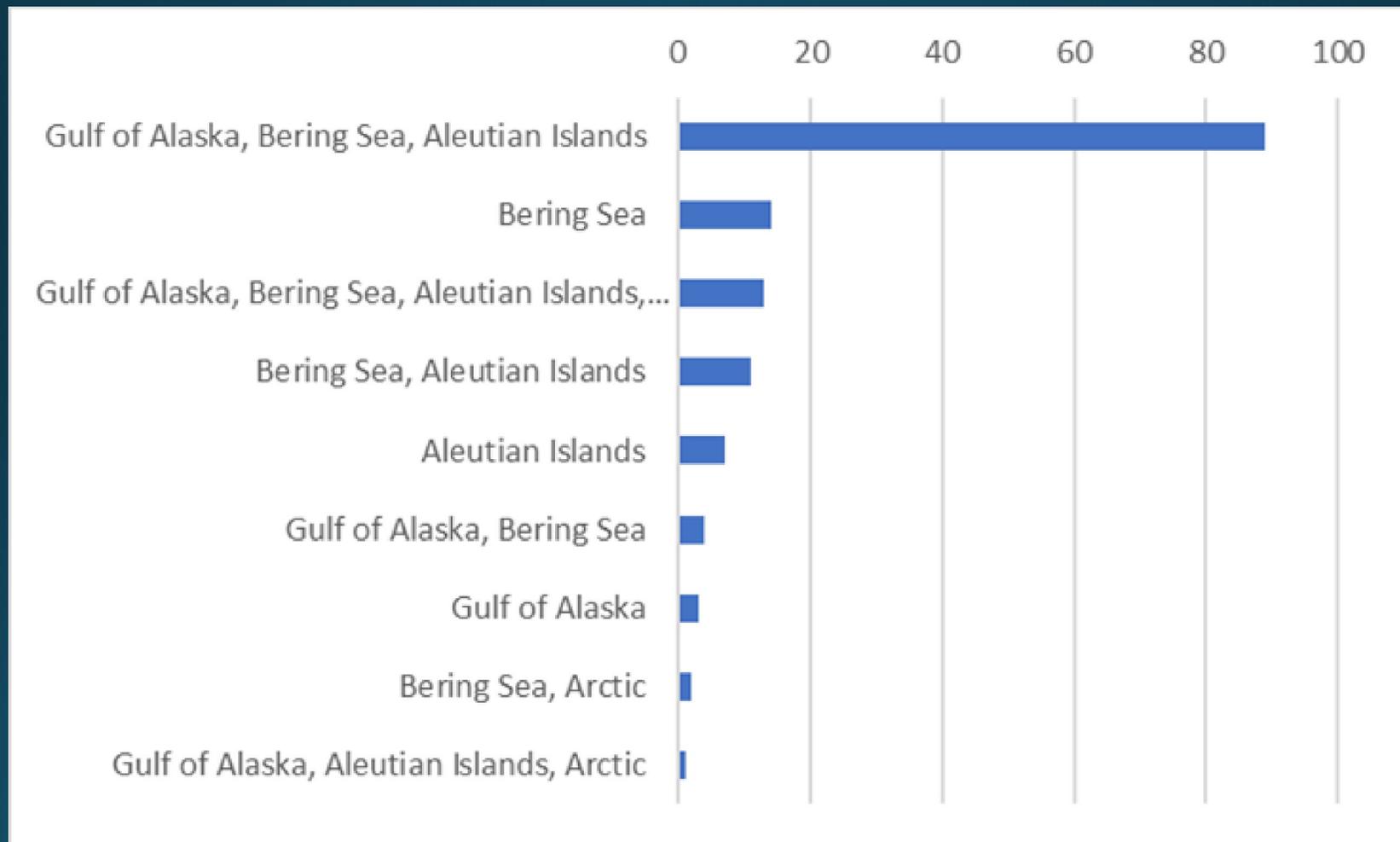
IMPORTANT

STRATEGIC

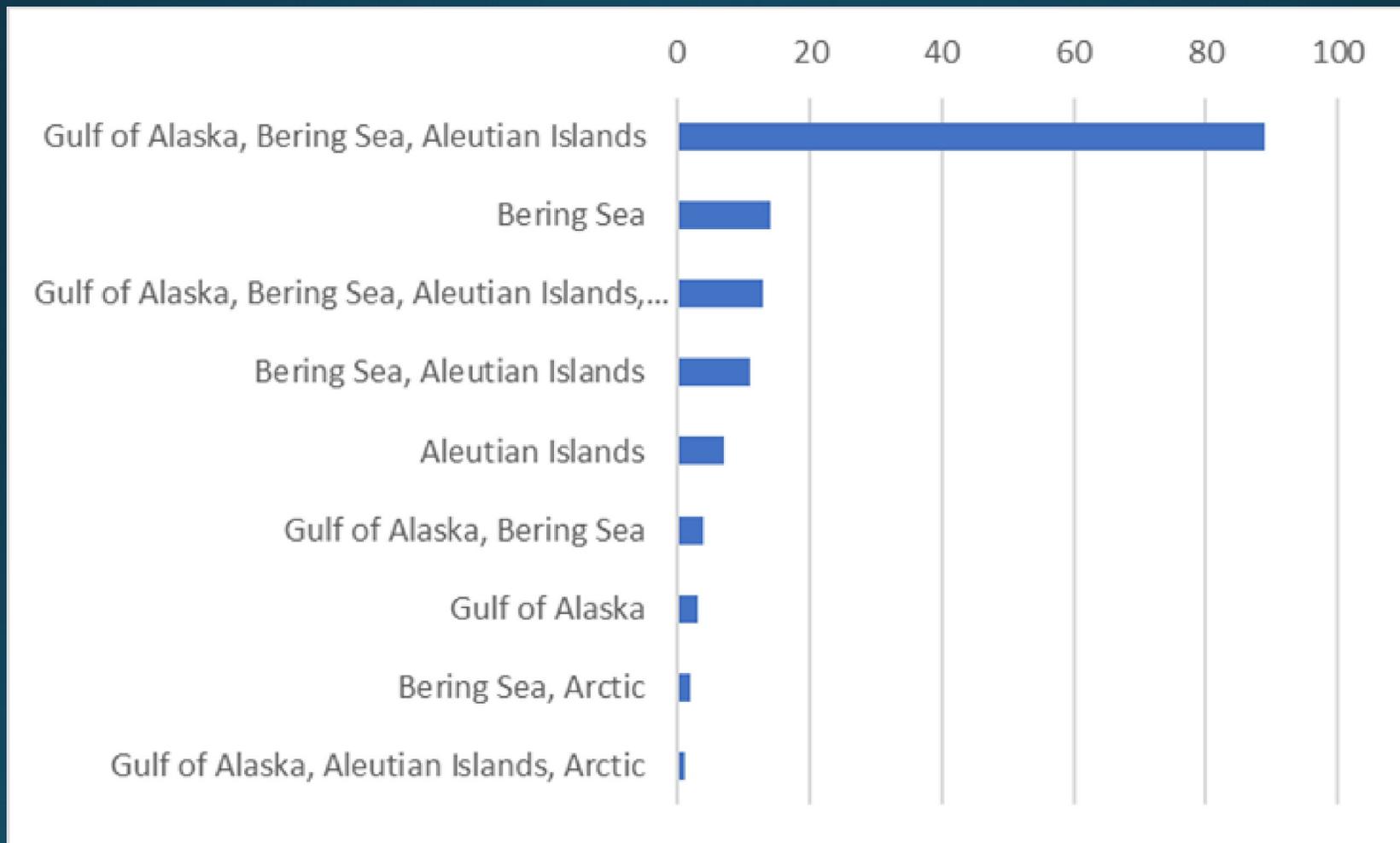
Subject Area



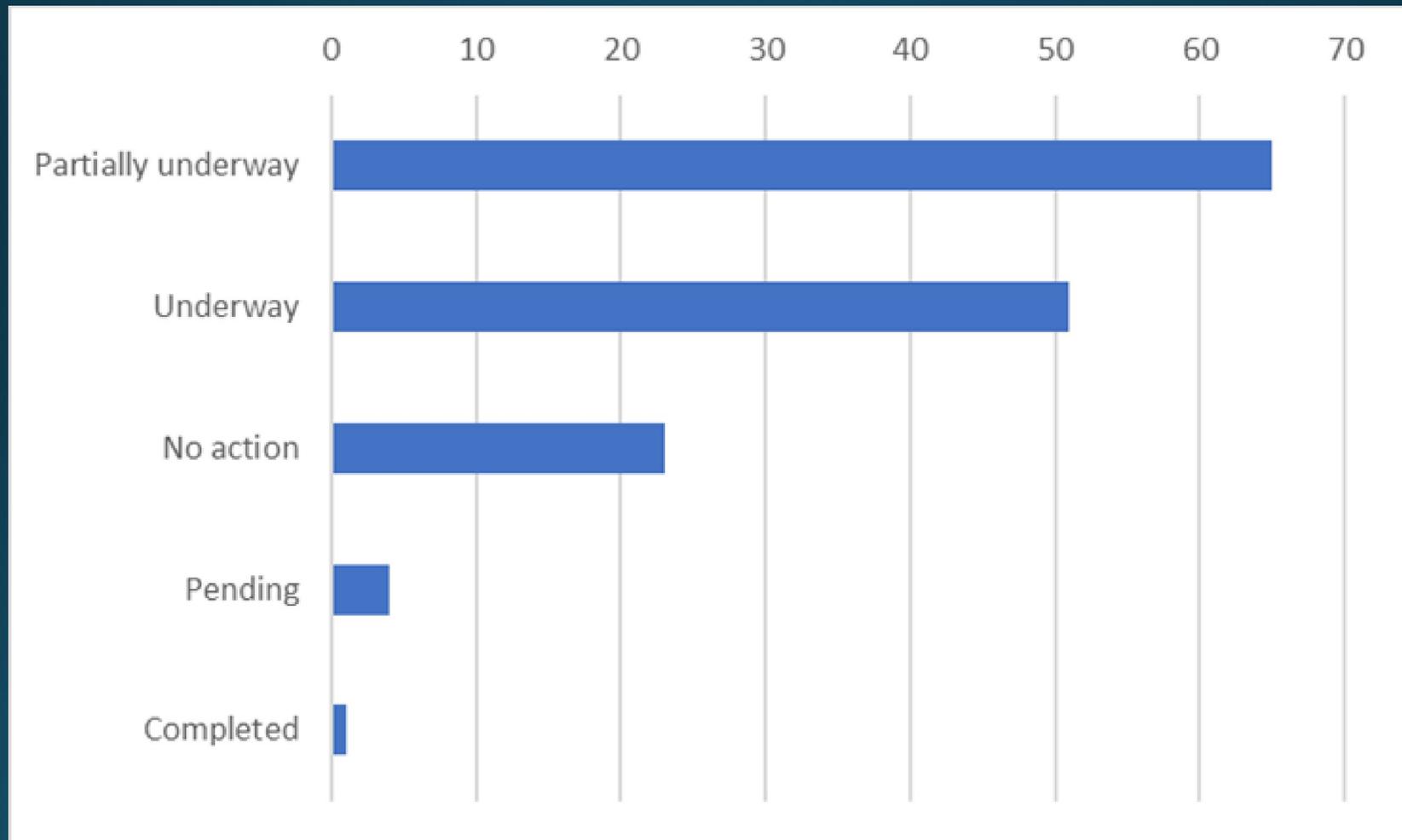
Priority Rankings



FMP Areas



Research Status



Status vs. Priority

	C.O.M.	Urgent	Important	Strategic
No action	2	4	7	5
Partially underway	9	14	28	13
Underway	6	23	18	4

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

Priorities by Subject Area

Major Issue	Priority				Total
	Critical	Urgent	Important	Strategic	
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

Priorities by Subject Area

Halibut Sub-Issue	Priority				Total
	Critical	Urgent	Important	Strategic	
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

New PT-Suggested Projects

Research ID	Title	Description	Council Priority	2016 SSC Priority	2017 Plan Team Priority	2017 Research Status
571*	Age validation for scallop shells	The combination of O18 (oxygen isotope) analysis and a benthic temperature model can be used to validate that the bands in cross sections of scallop shells are annuli and can be used to determine scallop age. This method is less time consuming than other methods that require recapture of scallops.	Pending (New Project)	Important	GF: -- Crab: -- Scallop: Important	No action
591*	Development of a common assessment modeling platform for Bering Sea crab assessments	GMACS (Generalized Modeling for Alaskan Crab Stocks) is a statistical size-structured population modeling framework. It is designed to be flexible, scalable, and useful for both data-limited and data-rich situations. GMACS is intended to be the primary modeling platform used to conduct assessments of all crab stocks in the Bering Sea. GMACS was first used to provide management advice for Saint Matthews blue king crab in 2016, and work is ongoing for a Bristol Bay red king crab application. Additional functionality is needed for GMACS to be applied to snow and Tanner crab. (fold into #367 urgent – Anne has edits)	Pending (New Project)	Pending (New Project)	GF: -- Crab C.O.M. Scallop: --	Underway
592	Maturity estimates for Bering Sea and Aleutian Island crab stocks	Application of Tier 3 control rules for crab requires reliable estimates of maturity to determine mature biomass. Maturity estimates of BSAI crab stocks are, in many cases, based on old studies using outdated methods. New studies to estimate both male and female maturity curves are needed for several stocks, with Aleutian Islands golden king crab considered a priority.	Pending (New Project)	Urgent	GF: -- Crab Important Scallop: --	No action
593	Develop collections for the core biological and oceanographic data (e.g., biophysical moorings, benthic production, larval surveys) necessary to support crab stock assessment.	Support collection of the core data and process studies needed to support integrated ecosystem assessments on spatial and temporal scales relevant to crab stocks. 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, benthic production, larval surveys, larval drift). Develop and maintain indices of cold pool extent and the 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 crab production and distribution.	Pending (New Project)	Pending (New Project)	GF: -- Crab Important Scallop: --	No action
594	Effects of trawling and other anthropogenic benthic contact activities on crab habitat	The effects on habitat, and subsequent risks to growth and survival of the crab stocks that utilize those habitats, from trawling and other anthropogenic activities that impact the benthos need to be quantified in terms of scale and severity of immediate impact, as well as chronic effects and potential for recovery. Specific to BBRKC which was identified as a priority.	Pending (New Project)	Pending (New Project)	GF: -- Crab Important Scallop: --	No action

Halibut Priorities

Research ID	Title	Description	Council Priority	2016 SSC Priority	2017 Plan Team Priority	2017 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.	Important	C.O.M.	GF: Strategic Crab: -- Scallop: --	Underway
211	Benefits and costs of directed halibut catch and halibut PSC utilization	Research the benefits and costs of directed halibut catch and halibut PSC utilization in different fishing sectors. For halibut and other PSC and bycatch species, conduct research to better identify where regulations restrict the utilization of fish from its most beneficial use and evaluate how changes in existing regulations would affect different sectors and fisheries.	Urgent	Important	GF: Urgent Crab: -- Scallop: --	Underway
385	Study Pacific halibut PSC, bycatch, and discard behavior in fisheries	Continue to explore management actions that reduce the incentives for PSC-, bycatch- and discard-related mortality of Pacific halibut. Evaluation of observer coverage, accuracy, and representativeness of PSC and bycatch estimates should be included.	Urgent	Urgent	GF: -- Crab: -- Scallop: --	Underway
386	Investigate long term effects of fishing on Pacific halibut	Collect genetic samples for future comparison.	Strategic	Strategic	GF: -- Crab: -- Scallop: --	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.	Important	Important	GF: -- Crab: -- Scallop: --	Underway

Halibut Priorities

Research ID	Title	Description	Council Priority	2016 SSC Priority	2017 Plan Team Priority	2017 Research Status
388	Study temporal and spatial patterns in size-at-age of Pacific halibut	Reanalyze historical records of Pacific halibut size-at-age. 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.	Urgent	Urgent	GF: -- Crab: -- Scallop: --	Underway
389	Investigate ecosystem effects and inter-species interactions of halibut	Investigate potential ecosystem effects and inter-species 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.	Important	Important	GF: Important Crab: -- Scallop: --	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.	Urgent	Urgent	GF: -- Crab: -- Scallop: --	No action
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.	Urgent	Urgent	GF: Urgent Crab: -- Scallop: --	No action
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 from fishing gear on BSAI halibut stock health.	Urgent	Urgent	GF: -- Crab: -- Scallop: --	No action

Database



North Pacific Fishery Management Council: Research Priorities

[Query List](#) [Reports](#)

Research Priorities Query and Records List

[Export](#)

Plan Teams -

- Joint Groundfish PT
- Crab PT
- Scallop PT

Council Actions -

Ecosystem Area -

- Gulf of Alaska
- Bering Sea
- Aleutian Islands
- Arctic

Council Priority -

Research Status -

10 records per page

Search:

ID	Title	Council/SSC Priority	Research Status	Ecosystem Area	Related Council Action
144	District-wide survey for demersal shelf rockfish in Southeast Alaska	Critical Ongoing Monitoring	No action	Gulf of Alaska	Harvest specifications
145	Continuation of State and Federal annual and biennial surveys	Critical Ongoing Monitoring	Underway	Gulf of Alaska, Bering Sea, Aleutian Islands	Harvest specifications
146	Improve surveys in untrawlable habitat, particularly for rockfish, Atka mackerel, and sculpins	Urgent	Partially underway	Gulf of Alaska, Bering Sea, Aleutian Islands	Harvest specifications
147	Life history research on data poor or non-recovering crab stocks	Important	No action	Bering Sea	Harvest specifications
148	Spatial distribution and movement of crabs relative to life history events and fishing	Urgent	Partially underway	Bering Sea	Harvest specifications
149	Improve handling mortality rate estimates for crab	Important	Partially underway	Gulf of Alaska, Bering Sea, Aleutian Islands	Harvest specifications
150	Maintain the core biological and oceanographic data (e.g., biophysical moorings, stomach data, zooplankton, age 0 surveys) ...	Critical Ongoing Monitoring	Underway	Gulf of Alaska, Bering Sea, Aleutian Islands, Arctic	Ecosystem impacts

Database Changes

Added Separate
SSC and Council
Recommendations

ALASKA FISHERIES INFORMATION NETWORK

Alaska Fisheries Information Network

HOME

North Pacific Fishery Management Council: Research Priorities

Query List Reports

Research Priorities Query and Records List [Export](#)

Plan Teams -

Joint Groundfish PT

Crab PT

Scallop PT

Council Actions -

Ecosystem Area -

Council Priority -

SSC Priority -

Research Status -

10 records per page

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145	Continuation of State and Federal annual and biennial surveys	Critical Ongoing Monitoring	Critical Ongoing Monitoring	Underway	Gulf of Alaska, Bering Sea, Aleutian Islands	Harvest specifications
146	Improve surveys in untrawlable habitat, particularly for rockfish, Alka mackerel, and sculpins	Urgent	Urgent	Underway	Gulf of Alaska, Bering Sea, Aleutian Islands	Harvest specifications
147	Life history research on data poor or non-recovering crab stocks	Important	Important	Partially underway	Bering Sea	Harvest specifications
148	Spatial distribution and movement of crabs relative to life history events and fishing	Urgent	Important	Partially underway	Bering Sea	Harvest specifications
149	Improve handling mortality rate estimates for crab	Important	Important	Partially underway	Gulf of Alaska, Bering Sea, Aleutian Islands	Harvest specifications
150	Maintain the core biological and oceanographic data (e.g., biophysical moorings, stomach data, zooplankton, age 0	Critical Ongoing Monitoring	Critical Ongoing Monitoring	Underway	Gulf of Alaska, Bering Sea, Aleutian Islands, Arctic	Ecosystem impacts

Coordination with NPRB

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Pressing Fishery Management Needs</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">↕</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Marine Ecosystem Information Needs</p>	 Oceanography & Lower Level Productivity	 Fish Habitat	 Fishes & Invertebrates	 Marine Mammals	 Seabirds	 Human Dimensions
	Nutrient Dynamics Phytoplankton Ecology Phytoplankton - Sea Ice Dynmaics Zooplankton Ecology	Other Human Related Impacts Fishing Effects Habitat Mapping Ecosystem Functions of Habitat	Stock Assessment Research & Development Alternative Harvest Strategies Socio-economic Considerations Reducing Catch of Unwanted Species Causes of Perturbations of Major Species Ecosystem Change Implications on Fisheries Management	Other Human Related Impacts Fisheries Interactions Marine Habitat Use Foraging Success Population Dynamics Long-term Climate Change	Other Human Related Impacts Fisheries Interactions Marine Habitat Use Foraging Success Population Dynamics Long-term Climate Change	Fishery Management & Policy Baseline Assessment Issues Human Health & Marine Resources Human Values & Resource Protection Climate Variability & Change

Coordination with NPRB

Council			NPRB Projects
Research ID	Title	Priority	
226	Continue to evaluate the socio-economic effects from fishery policy changes on coastal communities.	C.O.M.	0318 Development of comprehensive baseline commercial fishing community engagement and dependency profiles for the Bering Sea, Aleutian Islands, and Western Gulf of Alaska regions 0528 Socioeconomic baseline information for the Pribilof Islands 0529 Valuation of habitat closures 1412 Patterns and Trends in Salmon Fishing on the Yukon River, Alaska 1520 Adapting to Environmental Change: Shifts in Values, Beliefs and Practices in Three Aleutian Island Communities
154	Pacific cod stock assessment for the Aleutian Islands	Urgent	0815 Pacific cod (<i>Gadus macrocephalus</i>) migration and distribution related to spawning in the eastern Bering Sea: a mark-recapture experiment on a large geographic scale 0817 A landscape genetics approach to Pacific cod (<i>Gadus macrocephalus</i>) population structure in the Bering Sea and Aleutian Islands; investigation of ecological barriers to connectivity between potentially distinct population components 1105 Age validation of Pacific cod using high resolution stable isotope signatures in otoliths 1505 Size-at-age of Pacific cod (<i>Gadus macrocephalus</i>) in the Eastern Bering Sea 1507 Experimental estimation of catchability of the combined bottom trawl and acoustic survey for walleye pollock (<i>Gadus chalcogrammus</i>) in the Eastern Bering Sea.
385	Study Pacific halibut PSC, bycatch, and discard behavior in fisheries	Urgent	0712 Bycatch characterization in the Pacific halibut fishery : A field test of electronic monitoring technology 0710 Potential trawl impacts upon ecological processes controlling habitat quality in juvenile flatfish nurseries 1525 Automated Fish Measuring System addressing monitoring needs for reducing halibut bycatch mortality in trawl fisheries 1607 Reducing the prohibited species catch of Pacific halibut: A prospective analysis of fleet behavior in the North Pacific groundfish fisheries. 1510 Survival of Pacific halibut released from Bering Sea flatfish trawl catches through expedited sorting: applying advanced tags to observe survival rates and relating outcomes to viability assessments
165	Conduct routine surveys of subsistence in the northern Bering Sea and Arctic Ocean	Urgent	1013 Little Diomedea Hunters and Elders Ecological Knowledge, Management Strategies, and Usage of Walruses (<i>Odobenus rosmarus</i>) in Bering Strait 1113 Algal toxins in Alaskan marine mammal populations: Assessing current and emerging exposure threats 1316 Long Term Observations on Sea Ice by the Community of Barrow Project Jukebox 1412 Patterns and Trends in Salmon Fishing on the Yukon River, Alaska

Future Developments

- Continue to integrate with NPRB
 - Links to Pubs, Legacy Data
 - Workshop in Feb?

Questions?