



2002-2006 NPRB Request for Proposal (RFP) Evolution RFPs have been aligned with the NPRB Science Plan. Project topics summarize original language in each RFP

	2002	2003	2004	2005	2006
Lower Trophic Level Productivity (Science Plan pg 41)	<ul style="list-style-type: none"> Lower trophic level productivity Factors affecting marine productivity Influence of climate on ecosystems Unusual events (e.g., coccolithophorid blooms) Ecosystem models for managers 	<ul style="list-style-type: none"> Ocean monitoring Long term monitoring of NPZ Lower trophic level productivity Factors affecting marine productivity Influence of climate on ecosystems Unusual events (e.g., coccolithophorid blooms) Ecosystem models for managers 	<ul style="list-style-type: none"> Ocean monitoring Long term monitoring of NPZ Lower trophic level productivity Factors affecting marine productivity Influence of climate on ecosystems Also: Special Needs 3, 4 	<ul style="list-style-type: none"> Ocean monitoring Determining ecosystem status Also: Special Need 6 	<ul style="list-style-type: none"> Ocean monitoring CPR, M2-M8 buoys, GAK Line (non-RFP) Lower trophic level productivity Research related to Table 3-2, Science Plan
Fish Habitat (Science Plan pg 51)	<ul style="list-style-type: none"> Coral/sensitive substrate habitat maps Factors affecting habitat Impacts of fisheries and other human influences 	<ul style="list-style-type: none"> Coral/sensitive substrate habitat maps Factors affecting habitat Impacts of fisheries and other human influences Fishery management tools to protect habitat 	<ul style="list-style-type: none"> Coral/sensitive substrate habitat maps Factors affecting habitat Impacts of fisheries/human influences Fisheries impacts on prey/predators Fishery management tools to protect habitat Evaluation of fish/habitat associations 	<ul style="list-style-type: none"> Coral/sensitive substrate habitat maps Effects of commercial fishing on groundfish essential habitat Ecosystem function of different habitats 	<ul style="list-style-type: none"> Recovery/resilience of fish habitat Research related to Table 3-3, Science Plan Also: Special Need 1
Fishes and Invertebrates (Science Plan pg 65)	<ul style="list-style-type: none"> Bycatch Bycatch assessment and reduction techniques Stock assessment/recruitment processes Stock assessment techniques and larval fish ecology Salmon stock dynamics, mortality and migration Fishery management/economics Fishing capacity reduction 	<ul style="list-style-type: none"> Bycatch Bycatch and mortality assessment and reduction techniques Stock composition research on bycatch species in groundfish fisheries Stock assessment/recruitment processes Improve stock assessment techniques and mortality estimates Interdependence of fisheries or stocks Salmon stock dynamics, mortality and migration Genetic identification of salmon stocks Fishery management/economics Economic impacts of management including capacity reduction 	<ul style="list-style-type: none"> Bycatch Bycatch and mortality assessment and reduction techniques Stock composition research on bycatch species in groundfish fisheries Info on lesser-known, non-target finfish species Stock assessment/recruitment processes Improve stock assessment techniques and mortality estimates Factors affecting stock dynamics and distribution Fishing effects on life histories/genetics Delineations of stock boundaries Fishery management/economics Socio-economic impacts, including capacity reduction/ habitat protection 	<ul style="list-style-type: none"> Stock assessment/recruitment processes Spatially explicit pollock assessments Life history information gaps Crab life history and ecology Research related to Table 3-4, Science Plan Also: Special Need 7 	<ul style="list-style-type: none"> Ice seal and walrus distribution/abundance Northern right whale distribution/abundance Research related to Table 3-9, Science Plan
Marine Mammals (Science Plan pg 83)	<ul style="list-style-type: none"> Stressed/endangered species survival Responses to ocean climate trends and prey availability 	<ul style="list-style-type: none"> Stressed/endangered species survival Responses to ocean climate trends and prey availability 	<ul style="list-style-type: none"> Factors, including fisheries, affecting pinnipeds (excluding Steller sea lions) and cetaceans Also: Special Need 1 	<ul style="list-style-type: none"> Ice seal studies Northern fur seal studies Also: Special Need 1 	<ul style="list-style-type: none"> Distribution/abundance of seabirds at sea Demographic parameters Human impacts during migration and overwintering
Seabirds (Science Plan pg 97)	<ul style="list-style-type: none"> Stressed/endangered species survival Responses to ocean climate trends and prey availability 	<ul style="list-style-type: none"> Stressed/endangered species survival Responses to ocean climate trends and prey availability 	<ul style="list-style-type: none"> availability Fisheries and other factors affecting seabirds and seabirds Also: Special Need 1 	<ul style="list-style-type: none"> Also: Special Needs 1, 5 	
Humans (Science Plan pg 113)	N/A	N/A	N/A	<ul style="list-style-type: none"> Connecting fisheries, management and science Fisheries management systems and stewardship of living marine resources Conflict elimination in statutes, regulations Strengthening international agreements Impact of public participation in management Fisheries history Regulatory enforcement/compliance Fishing safety measures analysis Also: Special Needs 8,9 	<ul style="list-style-type: none"> Research related to Table 3-13, Science Plan
Other Prominent Issues (Science Plan pg 123)	<ul style="list-style-type: none"> Contaminants Sources, transport, and accumulation Effects on ecosystem structure and function Effects of climate change 	<ul style="list-style-type: none"> Contaminants Sources, transport, and accumulation Effects on ecosystem structure and function Effects of climate change Oil spills, logging runoff, coastal development Predictive model development Invasive Species Origins and impacts 	<ul style="list-style-type: none"> Contaminants Sources, transport, and accumulation Effects on ecosystem structure and function 	<ul style="list-style-type: none"> Contaminants Sources, transport, and accumulation Effects on ecosystem structure and function 	<ul style="list-style-type: none"> Contaminants Sources, transport, effects and accumulation in subsistence, recreational and commercial species, and other ecosystem components Shipping risk assessment studies



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Ecosystem Studies (Science Plan pg 133)	N/A	N/A	N/A	N/A	N/A
Bering Sea IERP (Science Plan pg 136)	N/A	N/A	Also: Special Need 2	• BSAI LME planning Also: Special Need 2	• Response of the Bering Sea ecosystem to climate change: modeling and retrospective studies • BSIERP LME team established
Gulf of Alaska Project (Science Plan pg 136)	N/A	N/A	N/A	• GOA LME planning	• GOA LME team established
One-Time Special Needs	N/A	N/A	1. Develop methods for remote sensing of upper trophic level abundance 2. Evaluate ecosystem indicators 3. Forage Fish stock assessment methodologies (401) 4. Evaluation of ocean circulation models 5. Education and Outreach (402) 6. Alaska Marine Information System (404) 7. Arctic Ocean Synthesis 8. Southeast Alaska Synthesis (406)	1. Develop methods for remote sensing of upper trophic level abundance 2. Evaluate ecosystem indicators (502) 3. Arctic Ocean Synthesis (503) 4. Ecosystem modeling assessment conference (EMC) 5. Evaluate seabirds as ecosystem indicators (516) 6. Evaluate Plankton monitoring methods 7. Analysis of ongoing salmon programs (504) 8. Evaluation of bio-economic models for regulatory impact assessments 9. Synthesis of subsistence data availability and sampling programs	1. Marine habitat mapping technology workshop (615)
Local and Traditional Knowledge (Science Plan pg 144)	• Need for LTK emphasized in text	• Need for LTK emphasized in text	• Need for LTK emphasized in text	• Need for LTK emphasized in text	• LTK encouraged in text • LTK related to other priorities Also: Community Involvement
Coordination and Partnerships (Science Plan pg 147)	N/A	N/A	N/A	N/A	Oil Spill Recovery Institute • Forage fish
Cooperative Research with Industry (Science Plan pg 148)	N/A	N/A	N/A	N/A	• Cooperative research encouraged in text
Technology Development	N/A	N/A	N/A	N/A	N/A
Education, Outreach and Community Involvement (Science Plan pg 150)	Education and Outreach • Minimum \$500 per project Community Involvement • Encouraged in text	Education and Outreach • Minimum \$500 per project Community Involvement • Encouraged in text	Education and Outreach • Minimum \$2,000 per project Community Involvement • Encouraged in text	Education and Outreach • Minimum \$2,000 per project Community Involvement • Encouraged in text	Education and Outreach • Minimum \$2,000 per project Community Involvement • Pilot project for community-based observation system



2007-2011 NPRB Request for Proposal (RFP) Evolution RFPs have been aligned with the NPRB Science Plan. Project topics summarize original language in each RFP

	2007	2008	2009	2010	2011
Lower Trophic Level Productivity (Science Plan pg 41)	<p>Ocean monitoring</p> <ul style="list-style-type: none"> • Long-term ocean monitoring <p>Lower trophic level productivity</p> <ul style="list-style-type: none"> • Shelf-inland water coupling in ACC; importance of freshwater runoff • Seasonal/interannual variation in primary and secondary production in SE GOA • Benthos • Process driving secondary production 	<p>Oceanography and Lower Trophic Level Productivity</p> <ul style="list-style-type: none"> • Coupling between shelf, nearshore and inland waters in the Alaska Coastal Current (ACC) as well as the importance of freshwater runoff • Population dynamics, distribution and abundance, productivity and trophic roles of appendicularians and pteropods • Oceanic zooplankton species in shelf food webs: on-shelf transport processes • Euphausiid biology 	<p>Oceanography and Lower Trophic Level Productivity</p> <ul style="list-style-type: none"> • Importance of ocean fronts to ecosystem processes in the GOA • Coupling between shelf, nearshore and inland waters in the Alaska Coastal Current (ACC) and the importance of freshwater runoff • Changing Arctic food webs 	<p>Oceanography and Lower Trophic Level Productivity</p> <ul style="list-style-type: none"> • Importance of physical features to ecosystem processes • Ocean acidification in Alaska waters • Changing Arctic food webs • Research related to Table 3-2, Science Plan 	<ul style="list-style-type: none"> • Biotic and abiotic features driving ecosystem processes • The role of iron in GOA productivity and ecosystem structure
Fish Habitat (Science Plan pg 51)	<ul style="list-style-type: none"> • Recovery/resilience of fish habitat • Effects of commercial fishing on groundfish essential habitat 	<ul style="list-style-type: none"> • Habitat mapping in the Northern Bering Sea Research Area 	<ul style="list-style-type: none"> • Bering Sea canyons: comparison between canyon and slope habitats using existing data • Pribilof Canyon benthic habitat mapping • Essential habitats for forage fish in the GOA 	<ul style="list-style-type: none"> • Bering Sea canyons: comparison between canyon and slope habitats • Essential habitats for forage fish and demersal spawning fishes • Habitat analysis in the Northern Bering Sea Research Area 	N/A
Fishes and Invertebrates (Science Plan pg 65)	<p>Bycatch</p> <ul style="list-style-type: none"> • Bycatch estimation Stock assessment/ recruitment processes • Life history, ecology and fluctuations in BSAI crab stocks • Local impacts of fishing on prey of upper trophic level consumers • Squid and shark assessment • Research related to Table 3-4, Science Plan and North Pacific Fishery Management Council Research Priorities 	<p>Contaminants</p> <ul style="list-style-type: none"> • Long-term contamination • Point source contamination 	<ul style="list-style-type: none"> • Stock assessment, life history and population biology of North Pacific sharks • Stock assessment support • Fish movement 	<ul style="list-style-type: none"> • Stock assessment, life history and population biology of North Pacific sharks • Stock assessment support • Fish movement • Pacific salmon • Forage species • Ocean acidification impacts on fish • Research related to Table 3-4, Science Plan 	<ul style="list-style-type: none"> • Non-target species management • Stock assessment support • Impact of early life body condition on recruitment strength • Fish and Shellfish movement • Pacific salmon • Forage species • Ocean acidification impacts on fish • Early life history of demersal marine fishery target species • Other fish and invertebrate research
Marine Mammals (Science Plan pg 83)	<ul style="list-style-type: none"> • Sea otters • North Pacific right whales • Cook Inlet beluga whales • Polar bears • Fur seals 	<ul style="list-style-type: none"> • Analyses of current determinants of exvessel, wholesale, international, and retail demands for principal seafood products from the GOA and BSAI • Pre- and post-implementation studies of the benefits and costs associated with changes in management regimes • Prospective and retrospective analyses of changes in the spatial and temporal distribution of fishing effort 	<ul style="list-style-type: none"> • Study design for quantifying indirect local effects of fisheries on upper trophic predators • Small or declining populations 	<ul style="list-style-type: none"> • Small or declining populations • Ice-dependent pinnipeds • Short-term Steller sea lion movement patterns • Southeast Alaska sea otters • Research related to Table 3-9, Science Plan 	<ul style="list-style-type: none"> • Declining, depleted or ESA listed populations • Steller sea lion feeding ecology, migration, movement and supplemental count information in the Aleutian Islands and central GOA
Seabirds (Science Plan pg 97)	<ul style="list-style-type: none"> • Seabirds as indicators of forage fish • Beached bird monitoring program • Stressed and endangered species survival 	<ul style="list-style-type: none"> • Seabird-ecosystem relationships • Indirect and long-term population effect of contaminants • Spectacled eiders 	<ul style="list-style-type: none"> • Influence of non-breeding season conditions on population dynamics • Seabird-forage fish ecosystem relationships • Small or declining populations 	<ul style="list-style-type: none"> • Influence of non-breeding season conditions on population dynamics • Seabird-forage fish ecosystem relationships • Small or declining populations • Research related to Table 3-12, Science Plan 	N/A
Humans (Science Plan pg 113)	<ul style="list-style-type: none"> • Research related to Table 3-13, Science Plan and North Pacific Fishery Management Council Research Priorities 	<ul style="list-style-type: none"> • Analyses of current determinants of exvessel, wholesale, international, and retail demands for principal seafood products from the GOA and BSAI • Pre- and post-implementation studies of the benefits and costs associated with changes in management regimes • Prospective and retrospective analyses of changes in the spatial and temporal distribution of fishing effort 	N/A	<ul style="list-style-type: none"> • Social and economic studies of bycatch and bycatch mitigation • Pre- and post-implementation studies of management actions • Community adaptability to ecosystem change • Cost-benefits of fishery enforcement services • Research related to Table 3-13, Science Plan 	<ul style="list-style-type: none"> • Social and economic studies of bycatch and bycatch mitigation • Pre- and post-implementation studies of management actions • Community adaptability to ecosystem change, market impacts and management regime • Changes • Cost-benefits of fishery enforcement services
Other Prominent Issues (Science Plan pg 123)	<p>Contaminants</p> <ul style="list-style-type: none"> • Shipping risk assessment studies • Other 	<p>Contaminants</p> <ul style="list-style-type: none"> • Long-term contamination • Point source contamination 	<p>Marine Diseases Technology Development</p> <ul style="list-style-type: none"> • Molecular and laboratory-based technology development • Marine measurement technology development 	<ul style="list-style-type: none"> • Marine diseases and biotoxins • Invasive species • Marine spatial planning • Benthos Technology Development • Molecular and laboratory-based technology • Marine measurement technology • Resource assessment technology 	N/A



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Ecosystem Studies (Science Plan pg 133)	N/A	<ul style="list-style-type: none"> Aleutian Islands Nearshore dynamics of the Aleutian Islands Ecosystem impacts of climate and ocean conditions in the Aleutian Islands Fishing effect interactions Advancing ecosystem approach to fisheries management Development of forecasting tools that incorporate ecosystem indicators Ecosystem indicators including retrospective studies 	<ul style="list-style-type: none"> Aleutian Islands Nearshore dynamics of the Aleutian Islands Population structure Impacts of volcanic activity Ecosystem Indicators and Data Rescue sData rescue Ecosystem indicators 	<ul style="list-style-type: none"> Ecosystem Indicators and Data Rescue Data rescue Ecosystem indicators 	<ul style="list-style-type: none"> The Arctic: fish stocks and habitat with a special emphasis on Arctic cod Data rescue
Bering Sea IERP (Science Plan pg 136)	<ul style="list-style-type: none"> Response of the Bering Sea ecosystem to climate change: full RFP for BSAI IERP 	<ul style="list-style-type: none"> Program funded for 2007–2012: BEST/BSIERP partnership, \$35M 	<ul style="list-style-type: none"> Program ongoing 	<ul style="list-style-type: none"> Program ongoing 	<ul style="list-style-type: none"> Program ongoing
Gulf of Alaska Project (Science Plan pg 136)	<ul style="list-style-type: none"> GOA LME planning with team 	<ul style="list-style-type: none"> GOA LME implementation and partnerships 	<ul style="list-style-type: none"> GOA IERP funded for \$8M 2009–2014; Upper Trophic Level component funded 	<ul style="list-style-type: none"> GOA IERP funded for \$8M 2009–2014; Lower and Middle Trophic Level components funded 	<ul style="list-style-type: none"> Program ongoing
One-Time Special Needs	<ol style="list-style-type: none"> Establish a comprehensive sea ice database for the Bering Sea/Bering Strait region Compile and analyze chlorophyll data Design arctic baseline survey north of Bering Strait 	N/A	N/A	N/A	N/A
Local and Traditional Knowledge (Science Plan pg 144)	<ul style="list-style-type: none"> LTK encouraged in text LTK related to other priorities Also: Community Involvement 	<ul style="list-style-type: none"> LTK encouraged in text LTK related to other priorities Also: Community Involvement 	<ul style="list-style-type: none"> LTK encouraged in text LTK related to other priorities Also: Community Involvement 	<ul style="list-style-type: none"> LTK encouraged in text LTK related to other priorities Also: Community Involvement 	<ul style="list-style-type: none"> LTK encouraged in text LTK related to other priorities Also: Community Involvement
Coordination and Partnerships (Science Plan pg 147)	<ul style="list-style-type: none"> Oil Spill Recovery Institute Socioeconomics: modeling community impacts Tracking and monitoring marine organisms Alaska Ocean Observing System Evaluation of buoy locations 	<ul style="list-style-type: none"> Oil Spill Recovery Institute Socioeconomics: modeling community impacts Contaminant baseline assessment Forage fish and near-shore habitat associations 	<ul style="list-style-type: none"> Oil Spill Recovery Institute PWS NPZ model validation Rockfish habitat association in PWS Larval drift, transport and distribution in PWS 	<ul style="list-style-type: none"> Oil Spill Recovery Institute PWS NPZ model validation Rockfish habitat association in PWS Larval drift, transport and distribution in PWS 	<ul style="list-style-type: none"> Oil Spill Recovery Institute Under Fish and Invertebrates: Fish and Shellfish movement – especially those proposals that address movement of rockfish and lingcod Under Cooperative Research: Oil spill research in Arctic and subarctic marine ecosystems
Cooperative Research with Industry (Science Plan pg 148)	<ul style="list-style-type: none"> Fishing Industry Gear modification Fisheries monitoring Bycatch remediation Ecosystem monitoring Oil and Gas Industry Seaduck migration and impacts Walrus in Chukchi Sea Polar bears in Chukchi Sea North Slope salmon 	<ul style="list-style-type: none"> Fishing Industry Gear modification Fisheries monitoring Bycatch reduction Ecosystem monitoring and research Whale entanglement avoidance and deterrents Habitat mapping Oil and Gas Industry Polar Bears Marine mammal acoustic studies Shoreline change Ice Seals Salmon distribution Influence of oil and gas development on marine bird distribution, migration and habitat use 	<ul style="list-style-type: none"> Fishing Industry Fisheries monitoring & improved estimation of total bycatch Electronic monitoring Gear modification Bycatch reduction and reduction in bycatch mortality Avoidance of interactions between fishing gear and whales Regulatory compliance and effectiveness of fishery enforcement services Oil and Gas Industry Polar bears Species of special concern Shoreline change Invertebrate distribution and abundance 	<ul style="list-style-type: none"> Fishing Industry Gear modification Handling mortality Fishery monitoring Ecosystem observations and research Crab life cycle and rehabilitation Oil and Gas Industry Species of special concern in the Arctic Monitoring from platforms in the Arctic 	<ul style="list-style-type: none"> Fishing Industry Gear modification Handling mortality Fishery Monitoring Ecosystem Observations and Research Oil and Gas industry Species of special concern Monitoring from platforms in the Arctic Oil spill research in Arctic and subarctic marine ecosystems
Technology Development	N/A	N/A	<ul style="list-style-type: none"> Molecular and laboratory based technology development Marine measurement technology development 	<ul style="list-style-type: none"> Molecular and laboratory based technology development Marine measurement technology development Resource assessment technology development 	<ul style="list-style-type: none"> Molecular and laboratory based technology development Marine measurement technology development Resource assessment technology development
Education, Outreach and Community Involvement (Science Plan pg 150)	<ul style="list-style-type: none"> Education and Outreach \$60,000 to outreach professionals (BSIERP) Minimum \$2,000 per project (non-BSIERP) Community Involvement Community-based research 	<ul style="list-style-type: none"> Education and Outreach \$100,000 (BSIERP) Minimum \$2,000 per project (non-BSIERP) Graduate research awards (\$100,000) Student awards at Symposium Community Involvement Community-based research 	<ul style="list-style-type: none"> Education and Outreach \$100,000 (BSIERP) Minimum \$2,000 per project (non-BSIERP) Graduate research awards (\$100,000) Student awards at Symposium State Science Fair awards Community Involvement Community-based research 	<ul style="list-style-type: none"> Education and Outreach \$100,000 (BSIERP) Minimum \$2,000 per project (non-BSIERP) Graduate research awards (\$100,000) Student awards at Symposium State Science Fair awards Community Involvement Community-based research 	<ul style="list-style-type: none"> Education and Outreach \$100,000 (BSIERP) Minimum \$2,000 per project (non-BSIERP) Graduate research awards (\$100,000) Student awards at Symposium State Science Fair awards Community Involvement Community-based research



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	2012	2013	2014	2015	2016
Lower Trophic Level Productivity (Science Plan pg 41)	<ul style="list-style-type: none"> Retrospective studies Other oceanography and lower trophic level research 	<ul style="list-style-type: none"> Emphasis on abiotic and biotic ecosystem processes affected by bottom topography Processes driving secondary production Benthos Cold Water Corals Nearshore sea ice environments Other oceanography and lower trophic level research 	<ul style="list-style-type: none"> Processes driving secondary production Nearshore sea ice environments Other oceanography and lower trophic level research 		
Fish Habitat (Science Plan pg 51)	<ul style="list-style-type: none"> Effects of fishing closures on benthic habitat and production of managed species Essential habitats for forage fish and other managed fish and invertebrate species Cumulative impacts 	N/A	<ul style="list-style-type: none"> Essential habitats Bering Sea slope deep-sea corals Other fish habitat research 		
Fishes and Invertebrates (Science Plan pg 65)	<ul style="list-style-type: none"> Stock assessment research and model development Fish and invertebrate movement Discard and handling mortality Biodiversity and implications for fisheries management Impacts of climate change on crab stocks Other fish and invertebrate research 	<ul style="list-style-type: none"> Stock assessment research and model development Fish and invertebrate movement Discard and handling mortality Biodiversity and implications for fisheries management Impacts of climate change on fish and crab stocks Forage species Pacific salmon Halibut Other fish and invertebrate research 	<ul style="list-style-type: none"> Stock assessment research and model development Tier 5 rockfish Impacts of climate change on fish and crab stocks Forage species Other fish and invertebrate research 		
Marine Mammals (Science Plan pg 83)	<ul style="list-style-type: none"> Retrospective studies Adaptive management experiment design Population status, dynamics, distribution, and foraging ecology of Steller sea lions in the Commander Islands Other marine mammal research 	<ul style="list-style-type: none"> Harbor seal population trends Ecology of marine mammal populations that are increasing or expanding in range Steller sea lions Northern Pinniped Unusual Mortality Events (UME) and potential effects on other species Retrospective studies Other marine mammal research 	<ul style="list-style-type: none"> Retrospective studies Other marine mammal research 		
Seabirds (Science Plan pg 97)	<ul style="list-style-type: none"> Influence of non-breeding season conditions on population dynamics Seabird – prey ecosystem relationships Effects of human derived food sources on seabirds Seabirds and the marginal sea ice zone Other seabird research 	<ul style="list-style-type: none"> Seabirds and the marginal sea-ice zone Retrospective studies Other seabird research 	<ul style="list-style-type: none"> Trophic ecology of seabirds Identifying demographic and life history responses of seabirds to environmental variability, including climate change Conservation biology/ecology of species-at-risk Anthropogenic impacts on seabirds Other seabird research 		
Humans (Science Plan pg 113)/Socio-economic and policy issues	<ul style="list-style-type: none"> Social and economic studies of bycatch and bycatch mitigation Pre- and post-implementation studies of management actions Culture, values, and voice in the fisheries management process Community adaptability to ecosystem change, market impacts, and management regime changes Other socioeconomic and policy issues research 	<ul style="list-style-type: none"> Identify and assess the scope of data that is needed to effectively evaluate social and economic impact of management decisions for fisheries or marine mammal harvests. Retrospective analyses of marine mammal management decisions Retrospective analyses of fishery management decisions Examination of timely issues associated with the “graying of the fleet”. 	<ul style="list-style-type: none"> The values of salmon systems in the Arctic-Yukon-Kuskokwim region Climate change and coastal communities 		
Other Prominent Issues (Science Plan pg 123)	<ul style="list-style-type: none"> Food Safety Coastal contaminants Invasive species 	<ul style="list-style-type: none"> Food safety Coastal contaminants Toxicity of oil, dispersants and industry-associated discharges Invasive species 	<ul style="list-style-type: none"> Zoonotic infections and biotoxins Coastal contaminants Toxicity of oil, dispersants and industry-associated discharges Invasive species 		



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Ecosystem Studies (Science Plan pg 133)	<ul style="list-style-type: none"> Arctic Focus Lower trophic level food webs Determining scales of near shore sea ice primary production Arctic Cod Arctic fish habitat Movement, habitat use and body condition of walrus, belugas and ice seals in the Bering, Chukchi and Beaufort Seas Data Rescue 	N/A	N/A		
Bering Sea IERP (Science Plan pg 136)	• Program ongoing	• Program ongoing	• Program ongoing		
Gulf of Alaska Project (Science Plan pg 136)	• Program ongoing	• Program ongoing	• Program ongoing		
One-Time Special Needs	N/A	N/A	N/A		
Local and Traditional Knowledge (Science Plan pg 144)	<ul style="list-style-type: none"> LTK encouraged in text LTK related to other priorities Also: Community Involvement	<ul style="list-style-type: none"> LTK encouraged in text LTK related to other priorities Also: Community Involvement	<ul style="list-style-type: none"> LTK encouraged in text LTK related to other priorities Also: Community Involvement		
Coordination and Partnerships (Science Plan pg 147)	<ul style="list-style-type: none"> Under Fish and Invertebrates: <ul style="list-style-type: none"> Fish and shellfish movement Fish Habitat - Essential habitats for forage fish and other managed fish and invertebrate species Under Seabirds: <ul style="list-style-type: none"> Seabird – prey ecosystem relationships Under Other Prominent Issues: <ul style="list-style-type: none"> Coastal contaminants Data Rescue Under Focus Section – Arctic Focus: <ul style="list-style-type: none"> Determining scales of near shore sea ice primary production 	<ul style="list-style-type: none"> Under Oceanography and Lower Trophic Level Productivity <ul style="list-style-type: none"> Nearshore sea ice environments Under Fish and Invertebrates <ul style="list-style-type: none"> Fish and Invertebrate movement Forage species Under Seabirds <ul style="list-style-type: none"> Seabirds and the marginal sea-ice zone Retrospective studies Under Other Prominent Issues <ul style="list-style-type: none"> Toxicity of oil, dispersants and industry-associated discharges Under Cooperative Research with Industry <ul style="list-style-type: none"> Oil spill research in Arctic and sub-arctic marine ecosystems Data Rescue With BOEM	<ul style="list-style-type: none"> Under OSRI <ul style="list-style-type: none"> Under Oceanography and Lower Trophic Level Productivity <ul style="list-style-type: none"> Nearshore sea ice environments Under Fish and Invertebrates <ul style="list-style-type: none"> Forage Species Fish habitat - essential habitats Under Seabirds <ul style="list-style-type: none"> Identifying demographic and life history responses of seabirds to environmental variability, including climate change Under Other Prominent Issues <ul style="list-style-type: none"> Coastal Contaminants Toxicity of oil, dispersants and industry-associated discharges Under Cooperative Research with Industry <ul style="list-style-type: none"> Oil spill research in Arctic and sub-arctic marine ecosystems Data Rescue 		
Cooperative Research with Industry (Science Plan pg 148)	<ul style="list-style-type: none"> Fishing Industry <ol style="list-style-type: none"> Gear modification Fishers' knowledge Fishery monitoring Ecosystem observations and research Oil & Gas Industry <ol style="list-style-type: none"> Species of special concern Monitoring from platforms 	<ul style="list-style-type: none"> Fishing Industry <ol style="list-style-type: none"> Gear modification Fishery monitoring Catch identification Ecosystem observations and research Energy efficiency technology Oil & Gas Industry <ol style="list-style-type: none"> Species of special concern Monitoring from platforms Oil spill research in Arctic and subarctic marine ecosystems 	<ul style="list-style-type: none"> Fishing Industry <ol style="list-style-type: none"> Gear modification Fishery monitoring Ecosystem observations and research Energy efficiency technology Oil & Gas Industry <ol style="list-style-type: none"> Species of special concern Monitoring from platforms Oil spill research in Arctic and subarctic marine ecosystems 		
Technology Development	<ul style="list-style-type: none"> Molecular and laboratory-based technology development Marine measurement technology development Resource assessment technology development Energy efficiency technology development Other technology development 	<ul style="list-style-type: none"> Molecular and laboratory-based technology development Marine measurement technology development Resource assessment technology development Other technology development 	<ul style="list-style-type: none"> Molecular and laboratory-based technology development Marine measurement technology development Other technology development 		
Education, Outreach and Community Involvement (Science Plan pg 150)	Education and Outreach <ul style="list-style-type: none"> \$100,000 (BSIERP) Minimum \$2,000 per project (non-BSIERP) Graduate research awards (\$100,000) Student awards at Symposium State Science Fair awards Community Involvement <ul style="list-style-type: none"> Community-based research 	Education and Outreach <ul style="list-style-type: none"> \$100,000 (BSIERP) Minimum \$2,000 per project (non-BSIERP) Graduate research awards (\$100,000) Student awards at Symposium State Science Fair awards Community Involvement <ul style="list-style-type: none"> Community-based research 	Education and Outreach <ul style="list-style-type: none"> \$100,000 (BSIERP) Minimum \$2,000 per project (non-BSIERP) Graduate research awards (\$120,000) Student awards at Symposium Community Involvement <ul style="list-style-type: none"> Community-based research 		