



NOAA
FISHERIES

Alaska Fisheries Science Center

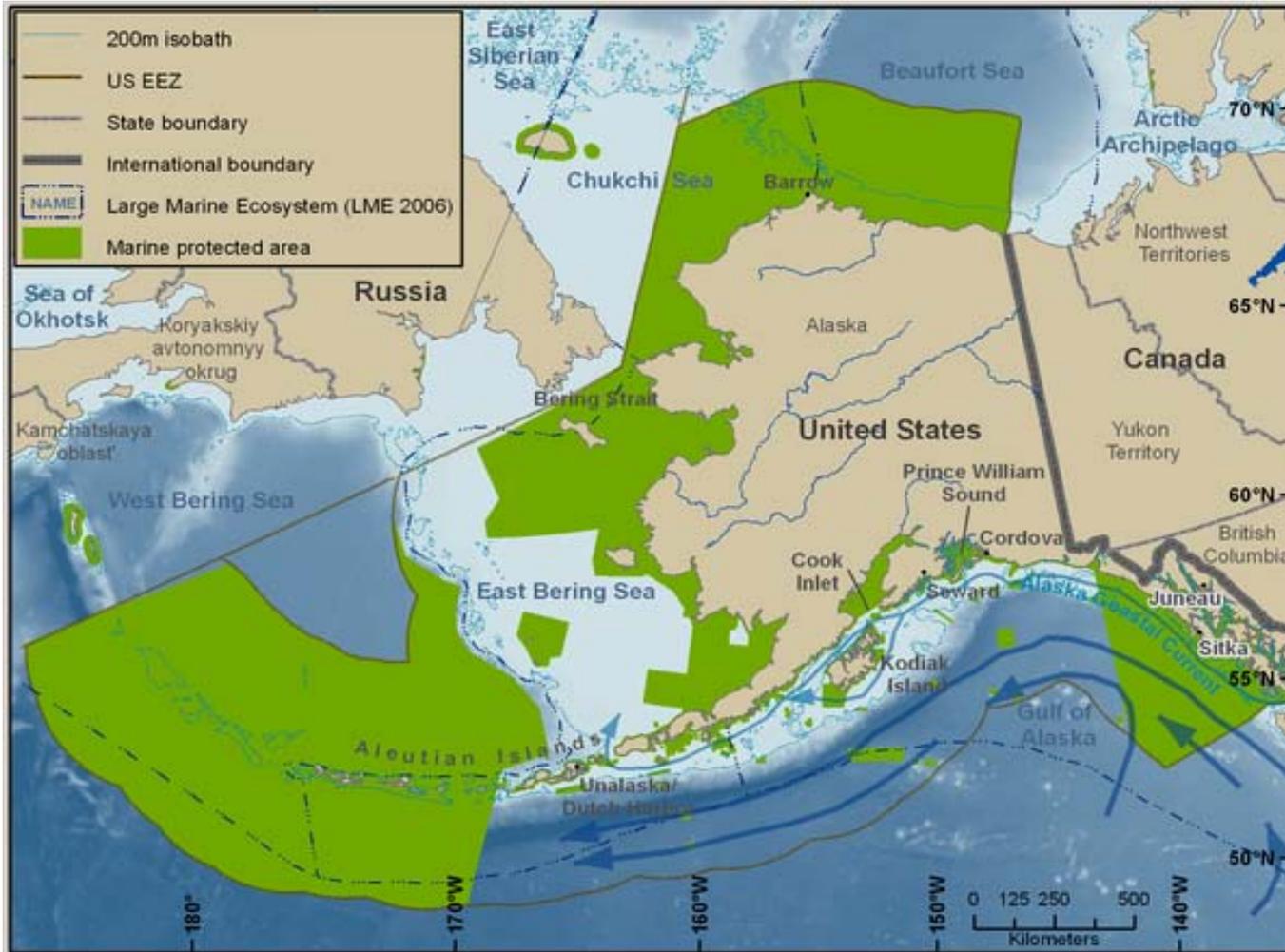
MSA Data Review:
AFSC Overview

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Director, AFSC
26 August 2013

Alaska Fisheries Science Center

- Employment: ~ 465 people (Federal and contracted)
- Locations:
 - Seattle, WA
 - Juneau, Kodiak, Dutch Harbor, Anchorage, Little Port Walter, and the Pribilof Islands, AK
 - Newport, OR
- 2013 Funding: ~ \$63.1 M OR&F and \$15 M Reimbursable

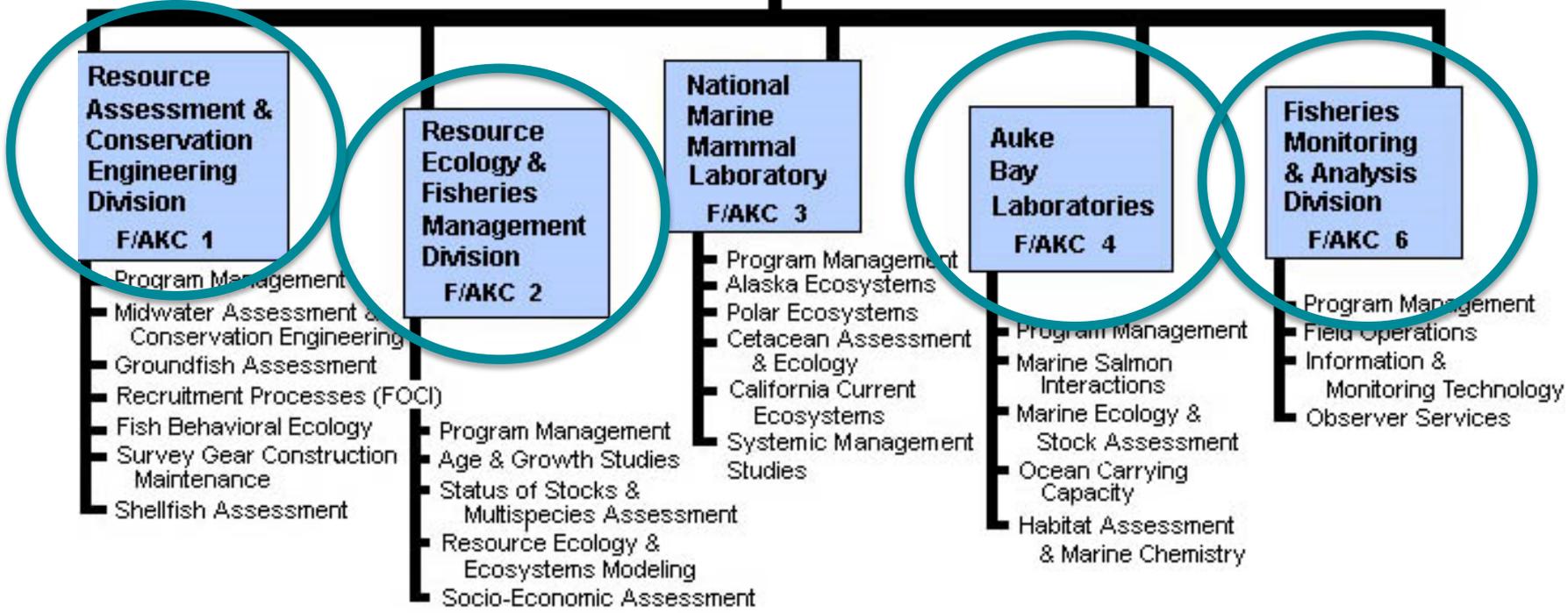
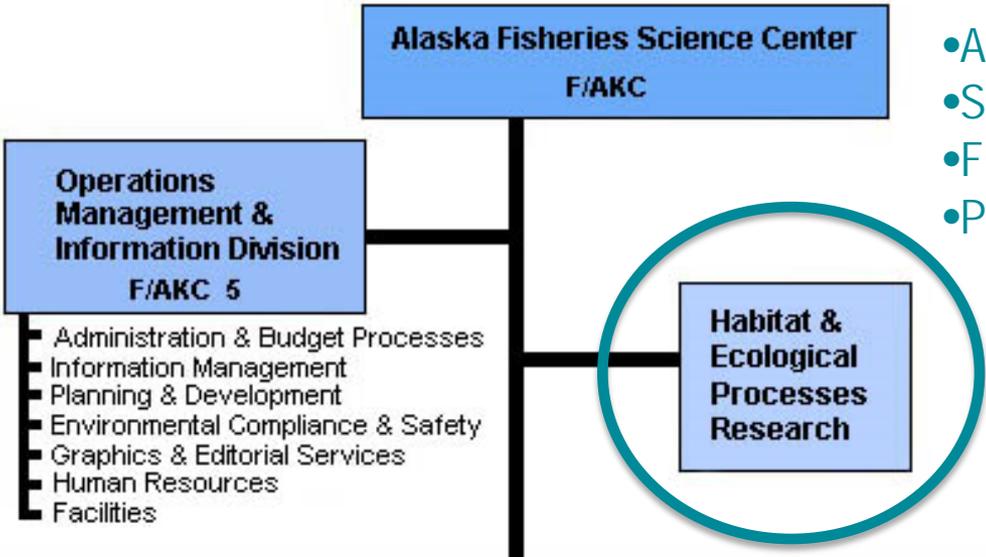
AFSC Studies 5 Large Marine Ecosystems



- Gulf of Alaska
- Bering Sea
- Aleutian Islands
- Northern Bering & Chukchi Seas
- Beaufort Sea

Fautin D, Dalton P, Incze LS, Leong J-AC, et al. (2010) An Overview of Marine Biodiversity in United States Waters. PLoS ONE 5(8): e11914. doi:10.1371/journal.pone.0011914
<http://www.plosone.org/article/info:doi/10.1371/journal.pone.0011914>

- Assessment Responsibilities
- Survey Responsibilities
- Fishery Dependent Data
- Process Study Overview



AFSC's Strategic Science Planning: A Model for the Nation

- The "science side" of NOAA Fisheries is adopting the AFSC's model of the Science Plan and Implementation Process to set research and funding priorities
- Each Science Center and the Office of Science and Technology completed the process in FY13

Alaska Fisheries Science Center: NOAA's Gateway to the Arctic

NOAA's Alaska Fisheries Science Center is responsible for research on marine species, and their habitats, living in the coastal oceans of Alaska. This region of nearly 3 million square miles includes waters in the Gulf of Alaska, Bering Sea, Aleutian Islands, and the Arctic Ocean, and supports some of the most important commercial fisheries in the world.

Key Species

- Groundfish and crabs (29 stocks)
- Deep water corals
- Shelter sea fan
- Cook Inlet beluga whale
- Western Arctic bowhead whale
- Ice-dependent seals
 - Guadalupe seal
 - Spotted seal
 - Ringed seal
 - Ribbon seal

Sample Technologies Employed

- Trawl and longline
- Acoustic profilers
- Environmental monitors
- Artificial lighting
- Genetic stock identification
- Modeling
- Bycatch reduction devices
- Electronic monitoring devices
- Underwater video systems

Our Strengths

- Fishery stock assessment expertise incorporating fishery dependent and independent data to support groundfish and crab management
- Economic and socio-cultural information to resource managers, commercial and subsistence fishers, and other stakeholders
- Marine mammal stock assessment incorporating state-of-the-art technology, telemetry, and passive acoustics to support management
- Integrated ecosystem level observation and process studies to understand Arctic and sub-Arctic ecosystems

What Makes Us Unique

- Applied research on groundfish and salmon supporting the largest commercial fishery in the US
- Operate the nation's largest fishery observer program to meet science and fishery management demands. Fishery dependent data is available in near real time to both the agency and the fishing industry for managing fishery quotas
- Applied research on marine mammals, fish and shellfish in the Arctic supports management decisions regarding oil and gas development and Alaska Native subsistence communities
- Four Large Marine Ecosystems occur in waters off Alaska
- Provide the science to support the sustainable harvest of over half the nation's commercially fished walrus

New Directions

- Baseline ecosystem data for the northeastern Bering and Chukchi Seas to assess potential effects of oil and gas exploitation and extraction in the Arctic
- Comparative abundance estimates for four species of ice-associated seals in the Bering, Chukchi and Brouderf Seas
- Investments in advanced technology for improved assessment surveys

Mobile: www.afsc.noaa.gov | Facebook: [NOAA Alaska](https://www.facebook.com/NOAAAlaska) | Twitter: [@NOAAAlaska](https://twitter.com/NOAAAlaska)
115 Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Seattle

AFSC Director's Guidance for FY13

- Emphasized two core research foci:
 - Support assessments required for the current NPFMC tiers for fish, crab, and marine mammal stocks
 - Provide information to the NPFMC and AKR to for management decisions, to support quota monitoring, and for legal and regulatory analyses



AFSC Director's Guidance for FY13

Identified seven funding priorities:

1. Successful implementation of the observer program restructuring
2. Funding for use of NOAA ship time and of pre-paid charter time
3. Sustained stock assessments of groundfish, shellfish and protected species
4. Research on Cook Inlet beluga whales
5. Research on the western population of Steller sea lions
6. Arctic research on marine mammals, fish, and habitat including the Bering-Aleutian Salmon International Survey (BASIS) and aerial ice seal surveys
7. Fulfilling our commitments to the Bureau of Ocean Energy Management and the Gulf of Alaska Project research program funded by the North Pacific Research Board

2013 Fishery Survey Effort for the Gulf of Alaska

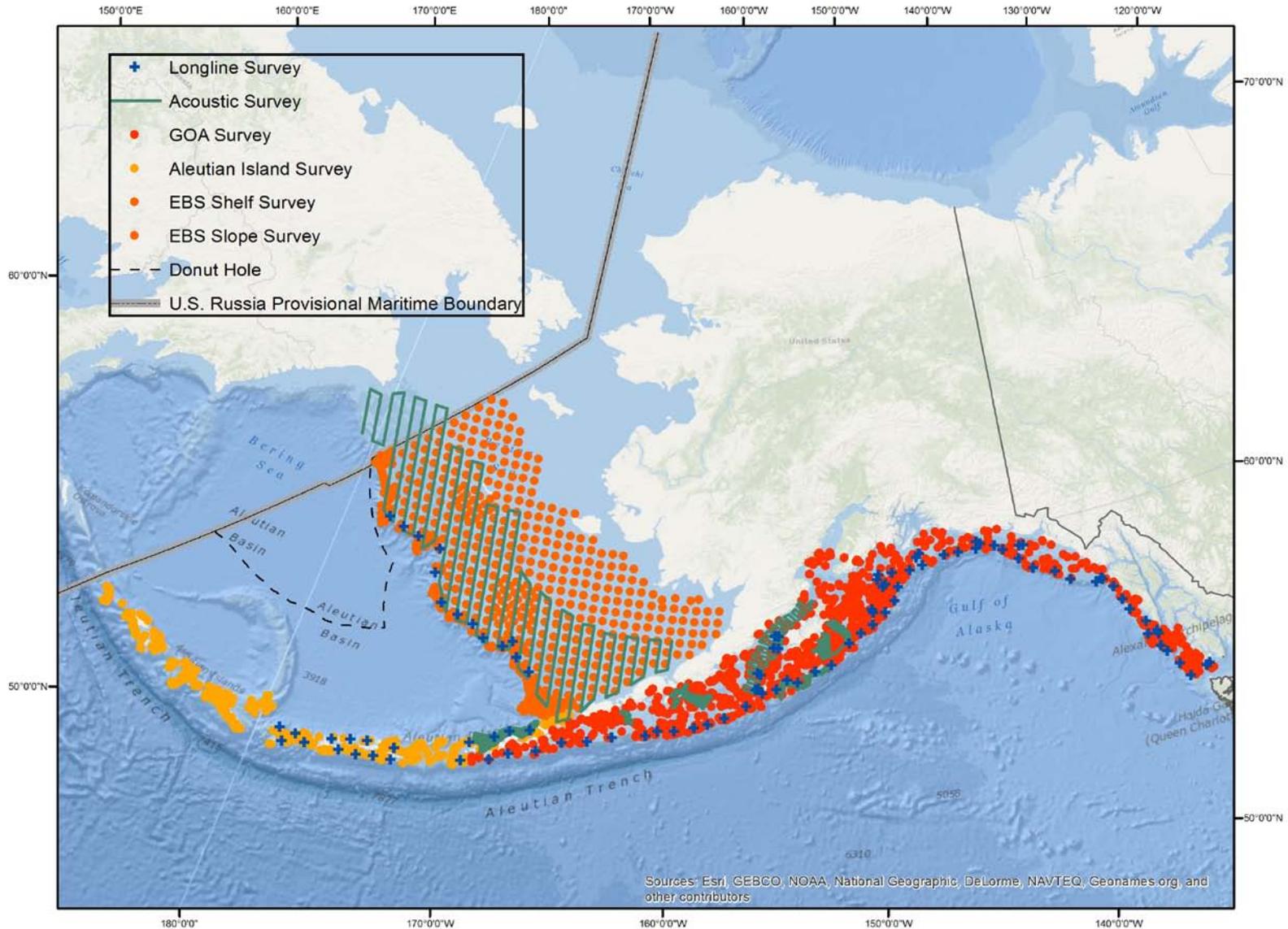
- Biennial bottom trawl survey (GOA “lite” in 2013)
- Winter recruitment processes survey in SE AK (GOA IERP)
- Late larval recruitment processes survey
- Longline survey for sablefish, Greenland turbot, giant grenadier, and roughey, shortraker, and thornyhead rockfish
- Summer acoustic-trawl survey of pollock throughout the entire GOA
 - Establishing this as a biennial survey in conjunction with the bottom trawl survey



2013 Fishery Survey Effort for the Bering Sea

- Biennial winter acoustic-trawl survey of Bogoslof Island pollock
- Annual bottom trawl survey of eastern Bering Sea continental shelf crab and groundfish stocks
- Spring recruitment processes ichthyoplankton survey in southeastern Bering Sea
- Bering Arctic Subarctic Integrated Survey (BASIS)

Routine AFSC Stock Assessment Surveys





Fishery-Dependent (Observer) Data

- Developed and implemented infrastructure necessary to support observer restructuring effort
- Observers collect biological data (e.g., otoliths, tissues) that are made available to AFSC RACE/ABL staff)
- Dedicated resources toward development of electronic monitoring tools for use in Alaskan fisheries management
- The “ongoing” observer program deployed 44,710 observer days on vessels and at shoreside processing plants in 2012

Cooperative Research Examples

Bering Sea Crab Trawl Surveys (2004-2012)

- Partners: Bering Sea Fisheries Research Foundation and Alaska Department of Fish & Game
- Fishery-dependent component on opilio crab handling mortality
- Fishery-independent components:
 - Bairdi crab growth studies
 - Bristol Bay red king crab surveys (inshore areas)
 - Trawl selectivity research for both Opilio and Bairdi

Cooperative Research Examples

Characterizing pollock winter distribution (2003-2013)

- Partners: Two commercial pollock trawl vessels and the Pollock Conservation Cooperative Research Center
- Opportunistic data collection of sonar images, dates, times and GPS coordinates
- Collection of distribution of pollock – and environmental variants – over the harvesting season
 - Analyses on diel changes in spatial distribution and temporal and spatial dynamics

<http://icesjms.oxfordjournals.org/content/early/2013/05/22/icesjms.fst052.full.pdf+html>

Previous Relevant Reviews

Center for Independent Experts:

- Eastern Bering Sea Crab and Groundfish Bottom Trawl Surveys (2012)
- Gulf of Alaska Walleye Pollock Assessment (2012 – relevant to the acoustic surveys)
- Alaska Sablefish Assessment (2009 – relevant to the longline survey)

Terms of Reference – Reviewers should address:

- To what extent do fishery independent survey data quality, statistical precision, and timeliness issues impact overall assessment accuracy, precision and timeliness?
- What are the major fishery independent survey successes; are they supported?
- What are the major fishery independent survey limitations/weaknesses and how could they be resolved? Define potential improvements and priorities for recommended improvements.
- To what extent do fishery dependent data quality, statistical precision, and timeliness issues impact overall assessment accuracy, precision and timeliness?
- What are the major fishery dependent data sources successes; are they supported?

Terms of Reference Continued....

- What are the major fishery dependent data limitations/weaknesses and how could they be resolved? Define potential improvements and priorities for recommended improvements.
- What recommendations do you have for prioritizing fishery-independent and fishery-dependent data collection improvements?
- To what extent are fishery independent and fishery dependent data readily accessible to Center stock assessment scientists and to various external researchers who may wish to replicate NMFS stock assessments?
- Identify the highest priority needs for improving fishery dependent and fishery independent data. Define potential improvements.

Terms of Reference: Overarching Questions

- Relationship of current and planned fishery assessment data activities to Center fishery assessments mandates and requirements – is the Center doing the right things?
- Opportunities – are there opportunities that the Center should be pursuing in collecting and compiling fishery assessment data, including shared approaches with partners?
- Scientific/technical approach – are the Center's fishery data objectives adequate, and is the Center using the best suite of techniques and approaches to meet those objectives?
- Organization and priorities – is the Center's fishery data system properly organized to meet its mandates and is the allocation of resources among program appropriate?
- Scientific conduct – are the Center's fishery data programs being conducted properly (survey design, standardization, integrity, peer review, transparency, confidentiality, PII, etc.)?



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Questions?

FY 14 Annual Guidance Memo: AFSC

- (1) continued success of the full-coverage and partial-coverage components of the observer program and progress with electronic monitoring capabilities;
- (2) operational funding for AFSC use of NOAA ship time and of pre-paid charter time;
- (3) sustained stock assessments of groundfish (longline and trawl in BS and GOA), shellfish, and protected species;
- (4) research on Cook Inlet beluga;
- (5) western population of Steller sea lion research;
- (6) Arctic research on marine mammals, fish, and habitat including the Bering-Aleutian Salmon International Survey (BASIS) and our commitments to the Arctic Ecosystem Integrated Survey (Arctic Eis); and
- (7) fulfilling our commitments to the Bureau of Ocean and Energy Management (in support of NOAA permit reviews of oil and gas explorations and development) and the Gulf of Alaska Project research program funded by the North Pacific Research Board (GOA IERP).



AFSC FY 13 Budget Summary



NOAA FISHERIES

	ORF	Reimbursable
High Arctic LMEs	\$1.3M	\$9.3M
Bering Sea LME	\$38.8M	\$2.8M
GOA LME	\$23.0M	\$2.9M
Total	\$63.1M	\$15.0M