

Alaska Fisheries Science Center FY24 State of the Center

Robert Foy

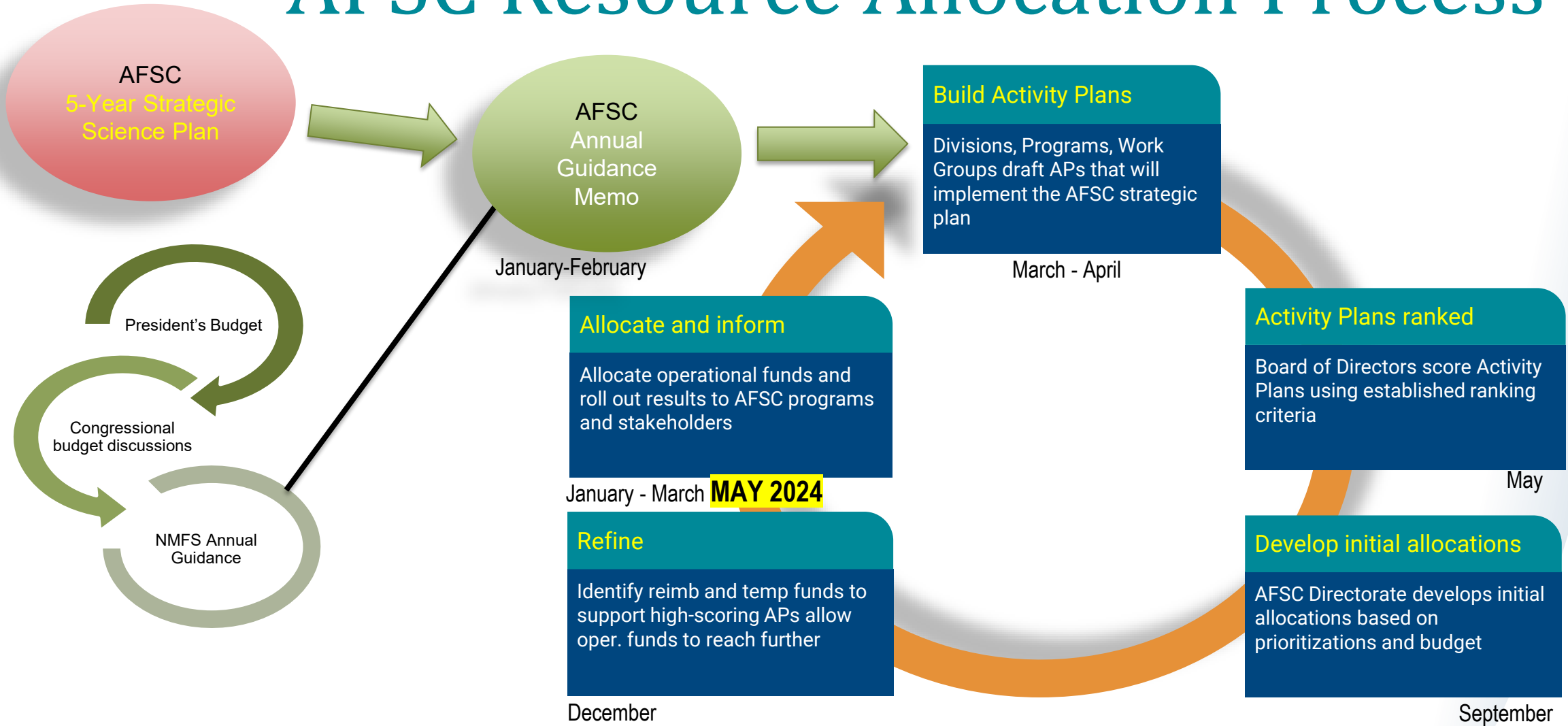
AFSC Research and Science Director

Presentation for North Pacific Fisheries Management Council

June 7, 2024

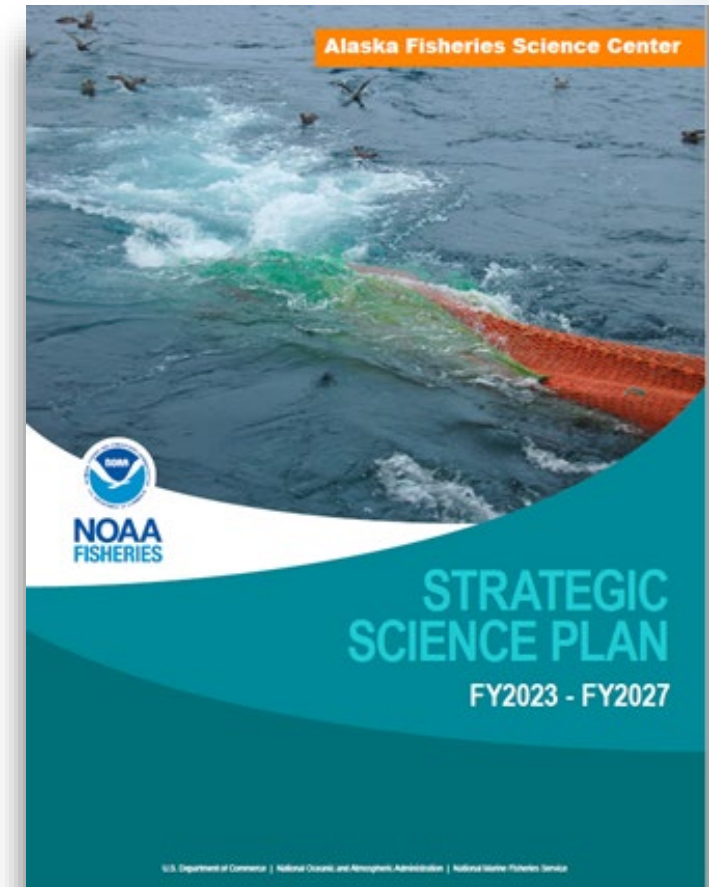


AFSC Resource Allocation Process



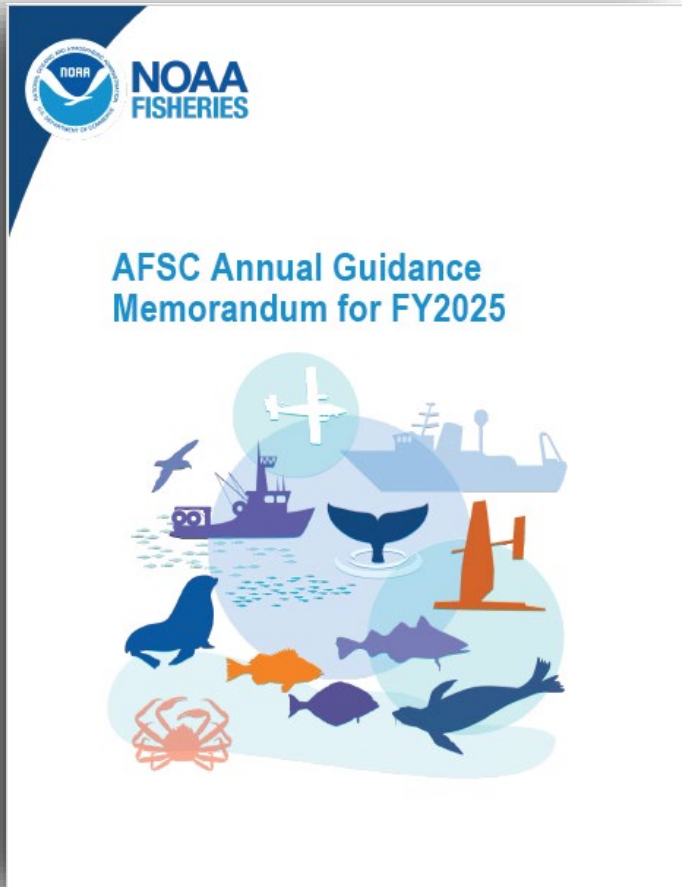
AFSC Strategic Science Plan (SSP)

- Identifies our priorities for across five years
- Aligned to advance NOAA mission and NMFS Strategic Plan
- **Goal 1:** monitor and assess fish, crab, and marine mammal populations, fisheries and marine ecosystems.
- **Goal 2:** Monitor and predict climate impacts on living marine resources.
- **Goal 3:** Advance new initiatives and innovations.



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AFSC Annual Guidance Memo (AGM)



- Research that improves our understanding of:
 - environmental and climate forcing of ecosystem processes (e.g., recruitment, species distribution shifts, changing maturity and growth, fish condition, stock boundary changes, food availability, phenology) that have been identified as critical uncertainties or production bottlenecks for informing specific management decisions.



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AFSC Annual Guidance Memo (AGM)

- **sudden or unexpected shifts** in distribution, increased production, or mortality events (e.g., snow crab, red king crab, Pacific cod, salmon, sablefish, gray whales) **or immediate monitoring requirements to support sustainable management.**
- stock assessment model parameters needed to support significant **changes in fishery prosecution** (e.g., selectivity change of hook-and-line to pot gear).
- **Survey modernization:** to transition between historical fishery-independent index tools to new statistical survey design (e.g., systematic to stratified random), new gear types (e.g., different net, UXS), or multispecies/multipurpose surveys.



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Budget Trends



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FY24 President's Budget (April 2023)

- FY24, the NOAA requested \$6.8 billion in discretionary appropriations, **an increase of \$450.5 million** from the FY23 enacted budget.
 - +\$80.2M toward building a climate-ready nation
 - +\$81.4M to inform economic development (wind, seafood)
 - +\$9.1M to improve equity and workforce (coastal communities)
 - +\$363.2 million for satellites
 - +\$55.7 million for facilities
- The FY24 Budget builds on investments in the Inflation Reduction Act (IRA) and Bipartisan Infrastructure Law (BIL) for Climate-Ready Coasts, climate data and services, and fisheries and protected resources.
- [More information](#)



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FY24 Actual Budget

- FY24, NMFS had **an increase of \$16.6 million** (not including IRA or BIL) from the FY24 enacted budget.



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FY25 President's Budget

- FY25, the NOAA requests \$1.2 billion in discretionary and mandatory to continue and enhance operations at NOAA Fisheries.
 - +\$24.6M offshore wind
 - +\$10M Mitchell Act hatcheries
 - - \$9.8M National Cooperative Research Program
 - Supports projects that have a cooperative component with academic, industry or other stakeholders/partners
 - -\$2.9M Bycatch Reduction Engineering Program

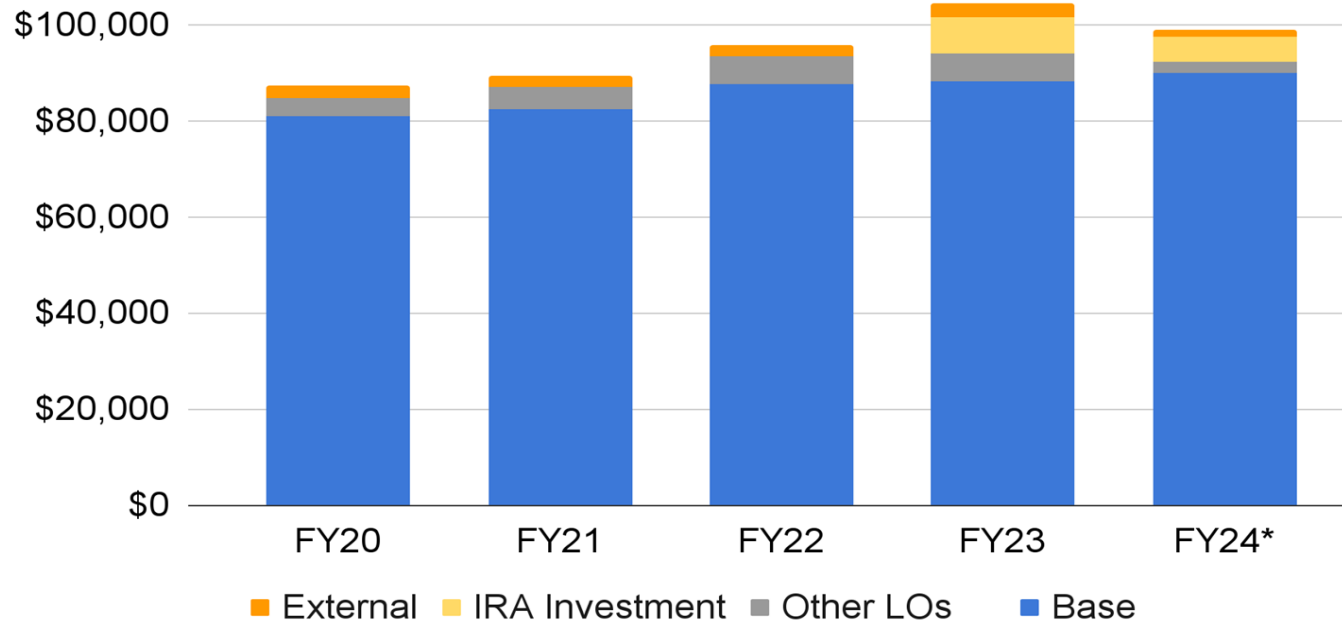
- [More information](#)



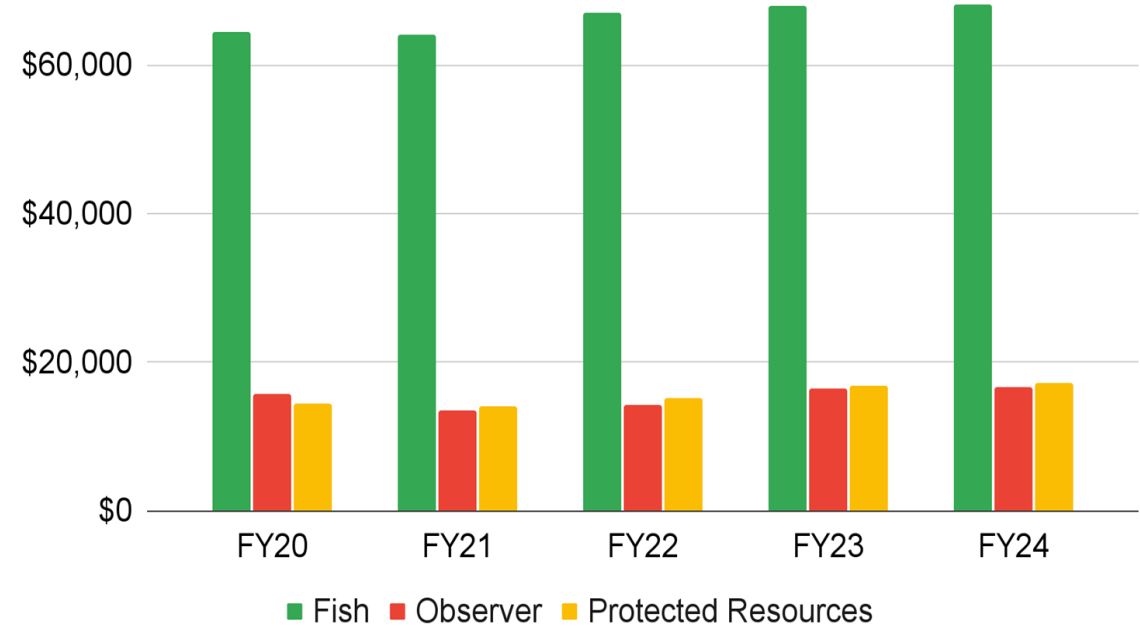
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Total Funding Trends FY20-FY24*

Alaska Fisheries Science Center Total

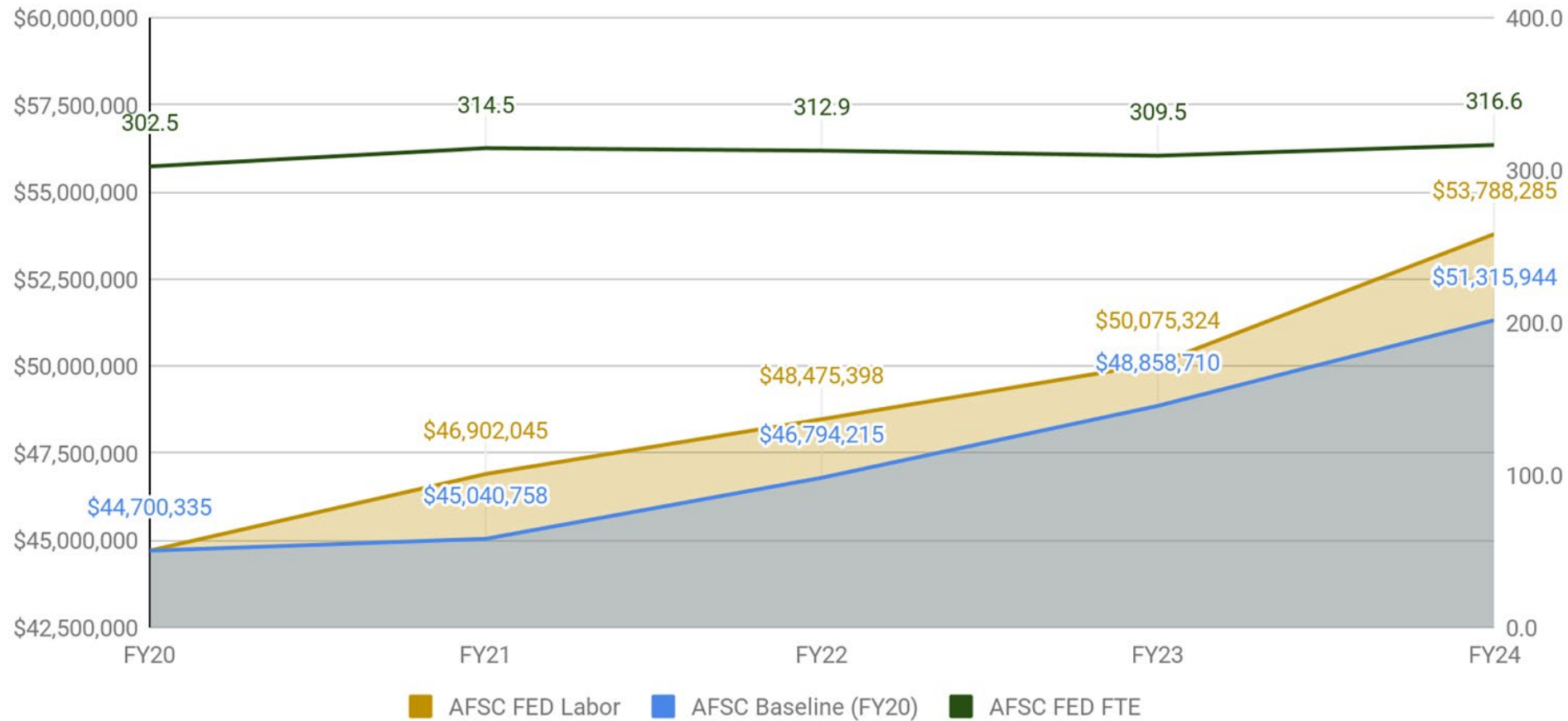


Fish, Observer, and Protected Resources



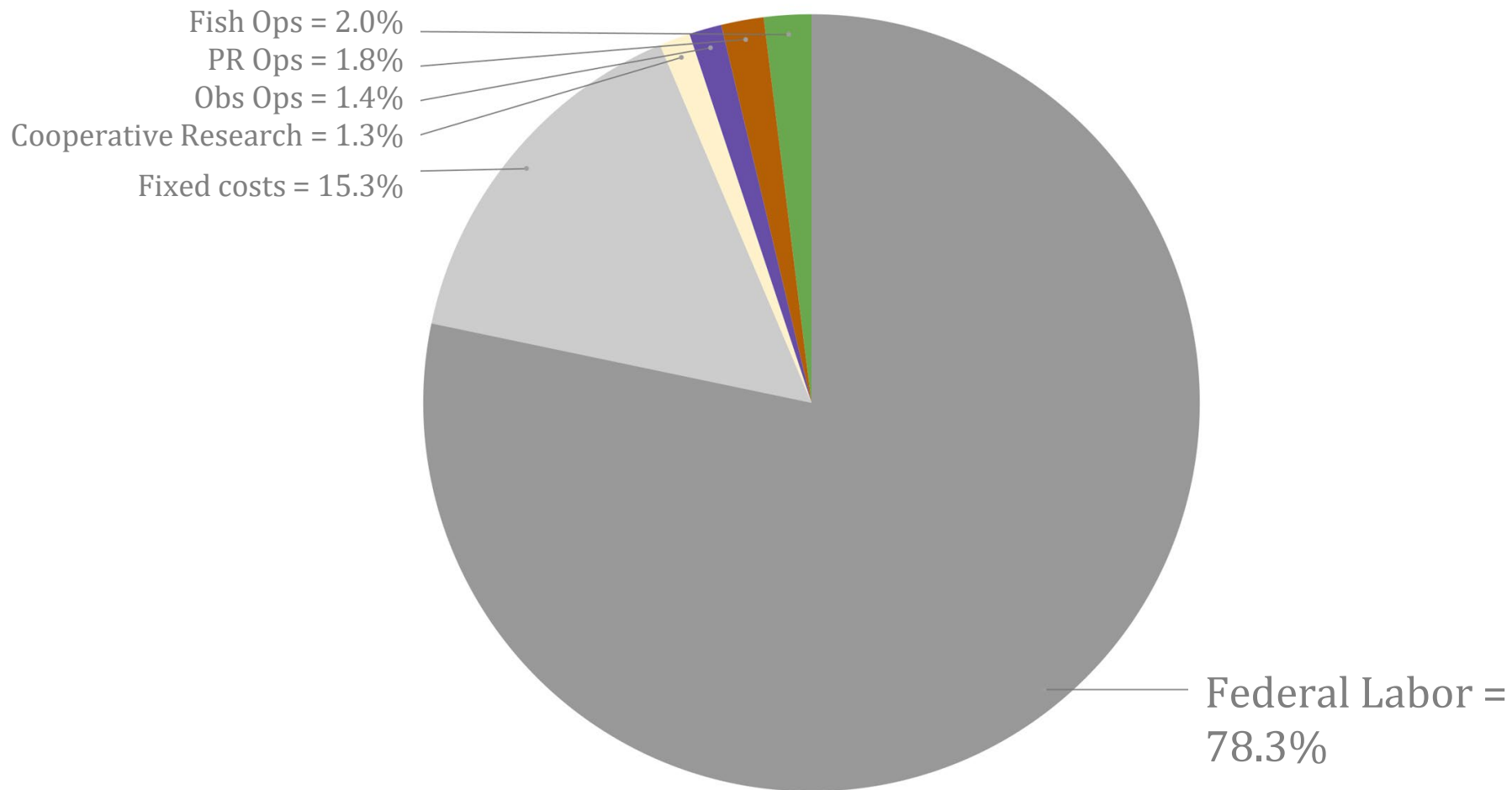
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AFSC Federal Labor Trends FY20-24 Overtime



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AFSC FY24 Enacted Budget Funding Profile



- Fixed Costs/Non-Discretionary includes facilities, mandatory travel, and other costs that are required to be paid annually.
- Temporary and reimbursable funds are not included.



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Inflation Reduction Act

<https://www.noaa.gov/inflation-reduction-act>

The Inflation Reduction Act (["IRA", HR 5376, PL 117-169](#)), signed August 16, 2022, provides a total of \$3.3B to NOAA. These funds have been internally divided into three "buckets," as noted below, and allow NOAA to add increased focus to weather and climate resilience, coastal restoration and protection, supercomputing, facilities, and aircraft.

Bucket 1



Coastal Communities & Climate Resilience

Bucket 2



Forecasting, Weather, & Climate

Bucket 3



Facilities, Permitting, Aircraft, & More



• Climate Ready Fisheries

- Fishery Survey Charters
- Marine Mammal Survey Charters
- Survey Modernization
- Climate Ecosystem Fisheries Initiative
- Equity and Environmental Justice
- Strategic Initiatives
 - UxS
 - Omics
 - Remote Sensing
 - Optical
 - Passive Acoustics
 - Social Science

- FY23 \$7,600,210
- FY24 \$4,894,235



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• Arctic Research

- Additions to monitoring indices of co-managed marine mammal stocks relative to climate change in the Arctic.
- Support co-development of research and knowledge needs with academic, international, and Indigenous partners.
- Socio-economic studies conducted to better inform Arctic policy decisions
- Interns and students supporting partnerships to co-develop local and Indigenous knowledge

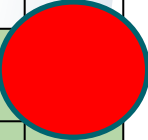


Science Activities

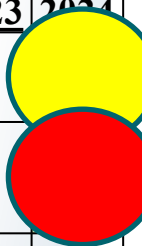


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LME	Platform	Spp Group	Survey	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Gulf of Alaska	Charter	Fish	GAP Gulf of Alaska Bottom Trawl Summer															
	Charter	Fish	GAP Gulf of Alaska Bottom Trawl Slope		x		x		x		x		x		x		x	
	Charter	Fish	MESA GOA & EBS & Aleutian Islands Longline Summer															
	State Ship	Fish	EMA Southeast Alaska Coastal Monitoring Summer															
	NOAA Ship	Fish	MACE Shumagin/Sanak Pollock Acoustic-Trawl Winter															
	NOAA Ship	Fish	MACE Kenai/PWS Pollock Acoustic-Trawl Winter															
	NOAA Ship	Fish	MACE Shelikof Strait Pollock Acoustic-Trawl Winter															
	NOAA Ship	Fish	MACE Gulf of Alaska Pollock Acoustic-Trawl Summer															
	NOAA Ship	Ecosystem	EcoFOCI Gulf of Alaska Ichthyoplankton Spring															
	NOAA Ship	Fish	EcoFOCI Western Gulf of Alaska Juvenile Fish Fall															
Charter	Ecosystem	GulfWatch oceanography&forage fish/humpback																



LME	Platform	Spp Group	Survey	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Aleutian Islands	Charter	Fish	GAP Aleutian Islands Bottom Trawl Summer															
	Charter	Fish	MESA GOA & Eastern Bering Sea & Aleutian Islands Longline Summer															
	NOAA Ship	Ecosystem	EcoFOCI Alaska Movement of Key Fishes Summer											X	X	X	X	X



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Survey Modernization

- Foundation of current survey design dates back to the 1950s
- Better response to changes in environmental conditions and distribution of fish and crab stocks -- more nimble, adaptive survey approach
- New advanced survey technologies that improve efficiency and effectiveness (e.g., uncrewed vessel systems, eDNA, trawl sensors, camera systems)
- Obsolete survey gear material and design (cost, availability, supply chain)
- New methods (i.e., stratified random approach)
- New survey analysis tools (e.g., model-based methods, Artificial Intelligence)
- Need for new data types to support ecosystem-based fisheries management, Essential Fish Habitat designations, and climate forecasting



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Survey Modernization



Next Steps-Planned 2024

- Summer 2024
 - EBS Shelf and Slope work
- Flume tank studies (NFLD)
 - Scale models: comparative analysis of current trawl and new designs
 - Identify optimized trawl design
- New trawl door design (postponed until 2025)
 - Lower cost, longer life span
 - Better materials
 - More stable, consistent trawl spread
 - Adaptable at sea for diverse studies (surface to seafloor)
- 15 vs. 30 study
 - Reduction in trawl time (cost, effort, impact)
 - Need to ensure relational catchability with current survey
- Upper Slope Feasibility and Calibration study
 - Add upper portion of Bering slope to annual survey area, more responsive to changing ocean

DRAFT Milestones (funding dependent)

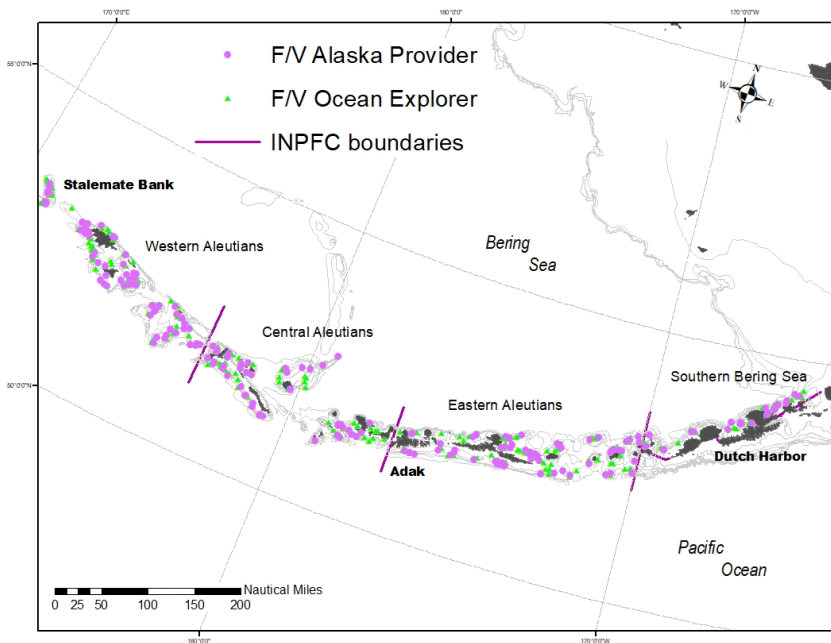
1. Calibration factors derived for slope/shelf surveys (2025)
2. New bottom trawl gear designed and built (2025)
3. New Bering sea survey design proposed and agreed upon (2026)
4. 15min vs 30min catchability/selectivity correction factors derived (2026)
5. New survey gear calibration (2026)
6. Survey time series calibration (2026), transition design (2026), and transition implementation (2027)

Project contact: Stan Kotwicki stan.kotwicki@noaa.gov



FY24 Bottom Trawl Surveys

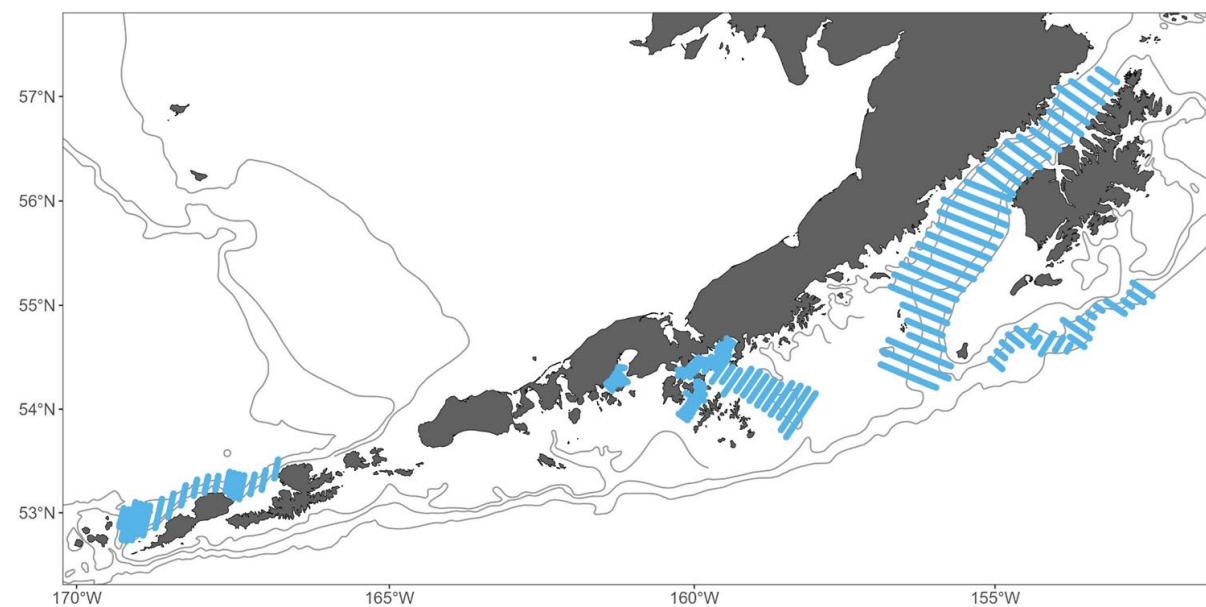
- Aleutian Islands (2 vessels)-- reduced 20 DAS
- Eastern Bering Sea (2 vessels)-- reduced 9 DAS
- Northern Bering Sea-- survey modernization



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FY24 Acoustic Surveys

- Winter Acoustic Trawl Surveys
 - Shumagins/Sanak: Completed
 - Bogoslof Island: Completed
 - Shelikof Strait and Chirikof Shelfbreak: Completed
- Summer Acoustic Trawl Surveys
 - EBS: Scheduled, **reduced by 22 DAS**



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Longline Survey Suspended



Sablefish



Pacific
Cod



Greenland
Turbot



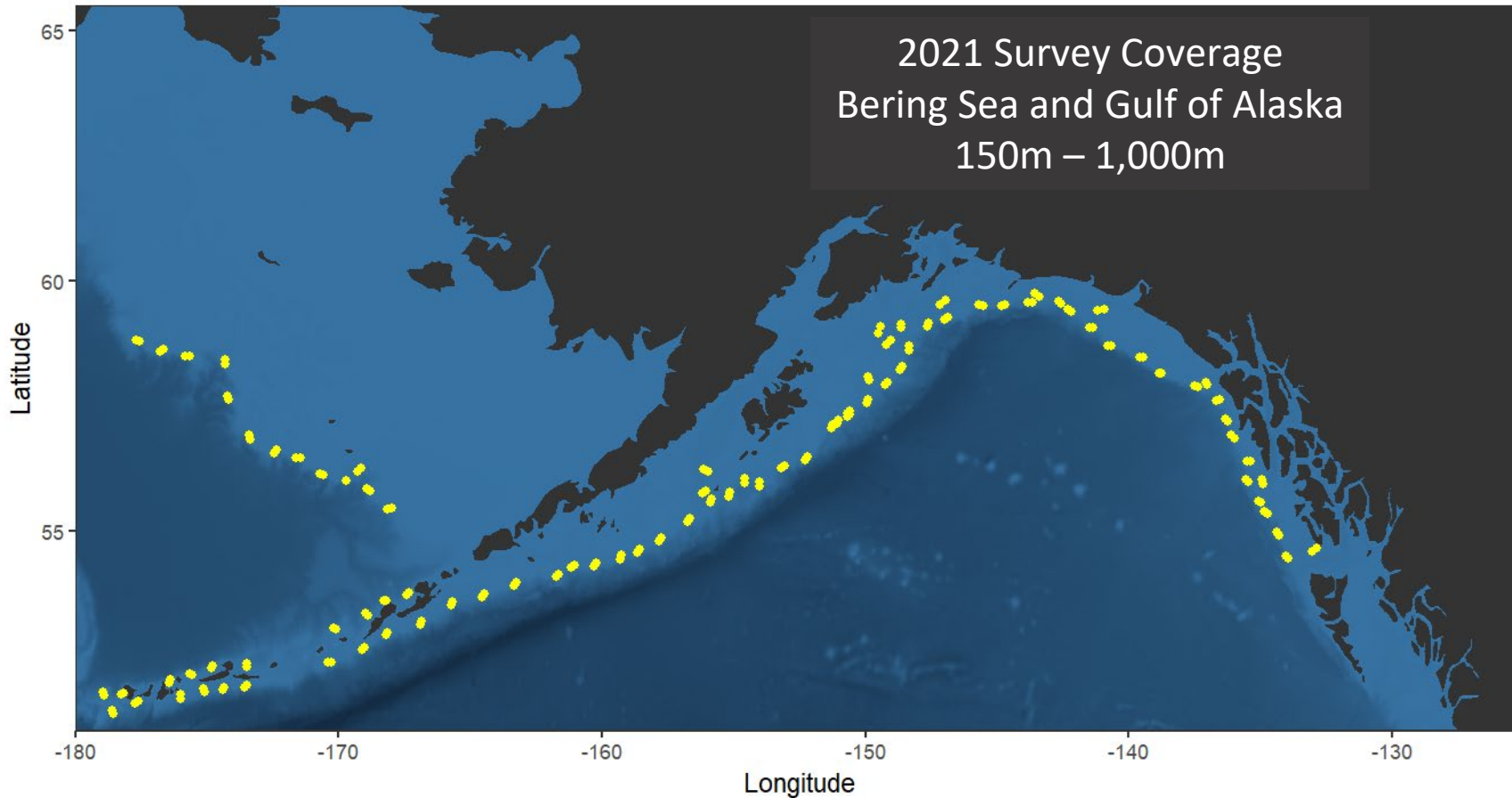
Roughey
e
Rockfish



Blackspotted
Rockfish



Shortraker
Rockfish



Purpose: Extending a 43-year time series of monitoring sablefish and other commercially important and non-target groundfish species throughout Alaska for stock assessment and ecosystem monitoring.

Vessel: Contracted freezer longliner



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Ecosystem Surveys

- ecoFOCI Spring Mooring: Partial
- ecoFOCI/RPA Spring Ichthyoplankton: Currently Underway
- RPA EBS Fall Juvenile Fish Survey: Scheduled
- ecoFOCI Fall Mooring: Scheduled



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Projects with limited effort in FY24

- AFSC eDNA Activity Plan
- Conservation Engineering
- Rockfish, sablefish, and salmon biological research (e.g. Bycatch Analysis and Dynamic Ocean)
- Food habits collections and analysis
- RPA: EBS and GOA Fisheries Surveys and Ecosystem Assessments
- Collect, Analyze and Disseminate Socioeconomic Data
- Identifying and Surveying Untrawlable Habitat
- Seabed characterization and modeling to improve stock assessments and support ecosystem studies
- Arctic Research and Ecosystem Assessment
- North Pacific nearshore surveys of fishery resource species
- Climate drivers of ELH productivity of FMP species
- Non-Target Species Stock Assessment and Research
- Laboratory Infrastructure for Biochemical Analysis
- BSAI, GOA seabird and fisheries interactions



October Council Updates

- Alaska Salmon Research Task Force
- Socioeconomics Program Overview
- Alaska Environmental Equity and Justice Planning



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Thank You!

