

Alaska Fisheries Science Center FY23 State of the Center

Robert Foy
AFSC Research and Science Director

Presentation for North Pacific Fishery Management Council
October 5, 2023



Overview

- Staff updates
- Survey updates
- Survey Modernization Effort



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Staff updates



Julie Keister

**RACE Recruitment
Process Program**

Program Manager



Melissa Haltuch

**REFM SSMA
Program**

Program Manager



Jason Jannot

**FMA Analytical
Services**

Program Manager



Angela Doroff

**Auke Bay
Laboratory**

Deputy Division



Director

Acting positions



Julien Lartigue

AFSC

**Acting Deputy
Director**



Chris Melary

**Office of Fisheries
Information
Systems**

Acting Director



Meaghan Bryan

AFSC

**Acting Planning
Officer**



Marysia Szymkowiak

**Economic and Social
Sciences Research
Program**

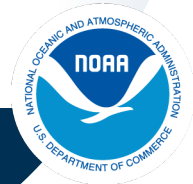
Acting Program



Manager

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2023-2024 survey status update



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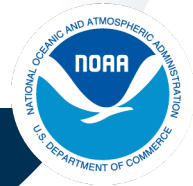
<u>Survey</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
GOA BT vessel 1		Green		Green		Green		Green		Green		Green		Green
vessel 2		Green		Green		Green		Green		Green		Green		Green
vessel 3		Red		Red				Red		Red		Red		Red
Deep shelf and slope groundfish longline	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Winter Acoustic-Trawl Shumagin/Sanak	Green	Red	Green	Green	Green	Green	Green	Green	Green	Red	Green	Red	Green	Yellow
Winter Acoustic-Trawl Bogoslof		Red	Green		Green		Green		Green		Green		Red	
Winter Acoustic-Trawl PWS/Kenai	Green					Green		Green		Red				
Winter Acoustic-Trawl Shelikof	Green	Red	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow
Summer Acoustic-Trawl GOA		Green		Green		Green		Green		Green		Green		Yellow
Spring GOA Ichthyoplankton		Green		Green		Green		Green		Green		Green		Yellow
Summer GOA Age-0	Green					Green		Green		Green		Red		Yellow
Kodiak Pacific cod nursery habitat	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Green
Large-Scale GOA Pacific cod nursery habitat									Green	Green	Green	Green	Yellow	Green
GulfWatch oceanography&forage fish	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green



<u>Survey</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
Eastern Bering Sea vessel 1	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red	Green	Green	Green
vessel 2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red	Green	Green	Green
Summer Acoustic-Trawl EBS	Green	White	Green	White	Green	White	Green	White	Green	White	Drone	White	Green	White
Bering Sea Slope	Green	White	Green	White	Red	White	Green	White	Red	White	Red	White	Red	White
Northern Bering Sea vessel 1	Green	White	White	White	White	White	White	Green	White	Green	Red	Green	Green	Green
vessel 2	Green	White	White	White	White	White	White	Green	White	Green	Red	Green	Green	Green
Deep shelf/slope groundfish longline	White	Green	White	Green	White	Green	White	Green	White	Green	White	Green	White	Green
Spring EBS Ichthyoplankton	Green	White	Green	White	Green	White	Green	White	Green	White	Red	White	Red	White
Summer EBS Age-0 (Inc. BASIS)	White	Green	Green	White	Green	White	Green	White	Green	White	Red	White	Yellow	White
Spring EBS Ecosystem/Moorings	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red	Green	Green	Green
Fall EBS Ecosystem/Moorings	White	Green	White	White	White	Green	Green	Green	Green	Green	White	Green	Green	Yellow
Northern Bering Sea juvenile fish	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red	Green	Green	Green
Fall NBS ECO-Foci/DBO	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red	Green	Green

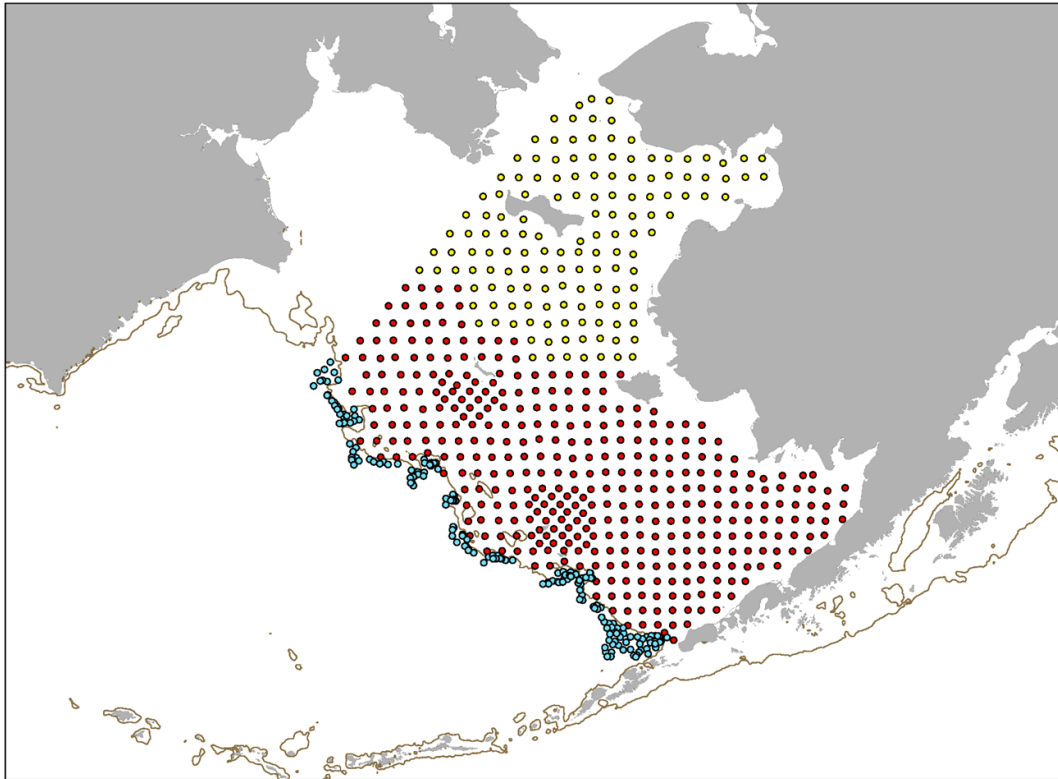


<u>Survey</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
Aleutian Island vessel 1	Green	White	Green	White	Green	White	Green	White	Green	White	Red	White	Green	White
Aleutian Island vessel 2	Green	White	Green	White	Green	White	Green	White	Green	White	Red	White	Green	White
Deep shelf and slope groundfish longline	Green	White	Green	White	Green	White	Green	White	Green	White	Green	White	Green	White



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Survey modernization in the Bering Sea



- Need to adapt surveys to the new reality:
 - Design one survey for all 3 BS regions (EBS, NBS, Slope)
 - Increase survey efficiency, optimize effort allocation,
 - Design flexible survey that will be responsive to assessment data needs and adaptable to new technologies
- Need to redesign gear and change sampling methods
 - Gear is becoming obsolete (doors, floats, nylon mesh, bridles, etc)
 - Improve fishing methods (e.g. use autotrawl)
 - Need to decrease tows from 30 to 15 min to reduce catch volume and number of tows with split catch.



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Why survey modernization is necessary?

- Changes are happening despite our wishes: consistency through standardization is still important, but it can hinder the progress
- The challenges to standardization are common and difficult to overcome

new survey technologies



survey gear becoming obsolete



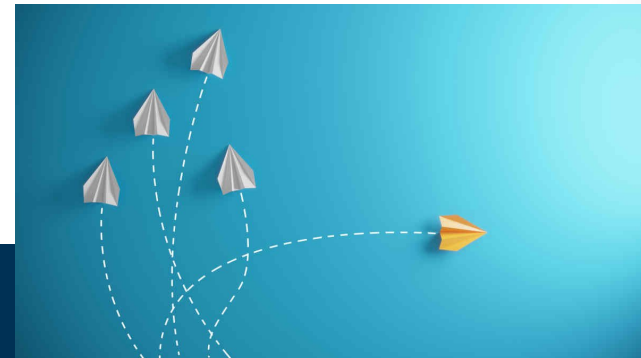
- loss of traditional sampling ability: MPAs, wind farms, etc;



changes in ecosystems, expansion of stocks into new areas



changes in survey objectives



More challenges

economy, politics, and social considerations



new statistical methods, AI
Machine Learning Vs. Statistics



need to support subsistence and local communities



need for new data types, e.g. EBFM, EFH, climate change forecasting, etc



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What does it take to change survey?

1. Money, time, and people (it may take few years and may require temporarily return to biennial sampling in the NBS).
2. Good planning.
3. Knowledge.
4. **Engagement from stakeholders.**
5. Testing, a lot.
6. Transition period.



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Why do we need to start now?

1. NOAA Fisheries mission: the stewardship of the nation's ocean resources and their habitat.
2. AFSC priorities: 1. Foster healthy and sustainable marine resources; 5. Improve organizational excellence
3. Assure continuity of management advice in face of changes in ecosystem, technologies, and methods.
4. It will take a while, so the sooner we start the better.
5. We have the expertise (NOAA and stakeholders, we can do it together).



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Project components and timeline

1. Sampling design – area, frequency, sampling density (work started in 2023)
2. Determining 15min vs 30min catchability/selectivity correction factors (work started, more data collections needed)
3. Combining slope/shelf data and determine calibration factors between current slope and shelf gears (work started in 2023)
4. **Survey bottom trawl gear and fishing methods redesign (workshop with stakeholders planned for October 2023)**
5. New survey gear calibration (no start date yet)
6. Survey time series calibration, transition design, and transition implementation (no start date yet)



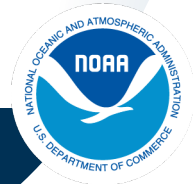
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Potential milestones

AFSC working group on EBS survey modernization (October 2023)

Projects:

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)



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Call for stakeholders engagement

Call for public and industry engagement in all projects, but especially in **project (4) on survey bottom trawl gear and fishing methods redesign**. Initial workshop is planned in late October (Date TBD).

Workshop coordinator: Nancy Roberson
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Project contacts:

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Thank You!

