

Ecosystem & Socioeconomic Profile Update & Socioeconomic Indicators

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Sablefish and Arrowtooth ESP Contributors
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October 2024, Presentation to the Scientific and Statistical Committee

ESP Definition

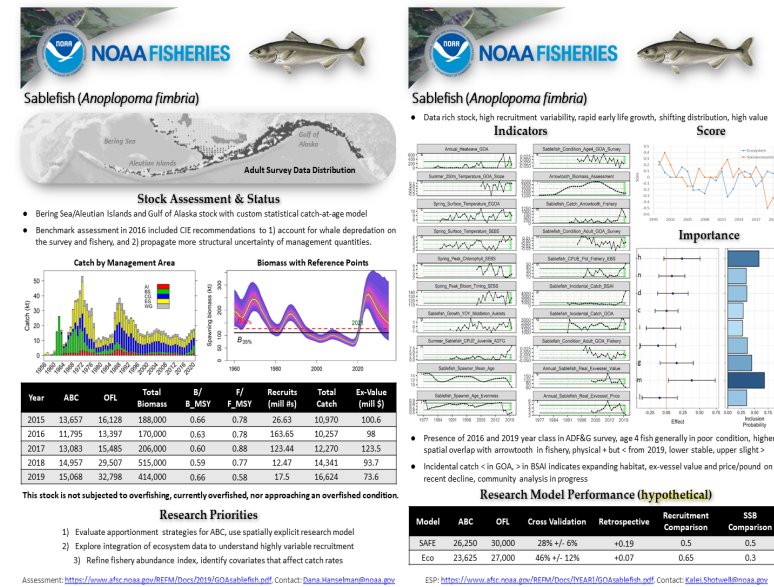
Process

Important ecosystem and socioeconomic indicators are identified and analyzed at the stock level



Product

Supplemental report that synthesizes the results of the indicator analysis and communicates drivers of stock dynamics



ESP Decisions

Qualitative

additional context

- Risk Tables
- Rebuilding Plans
- TAC Discussions
- Survey Planning
- Research Priorities
- Request for Proposals

Quantitative

assumptions

- Mechanistic linkages
- Consistency with stock life history
- Biological realism

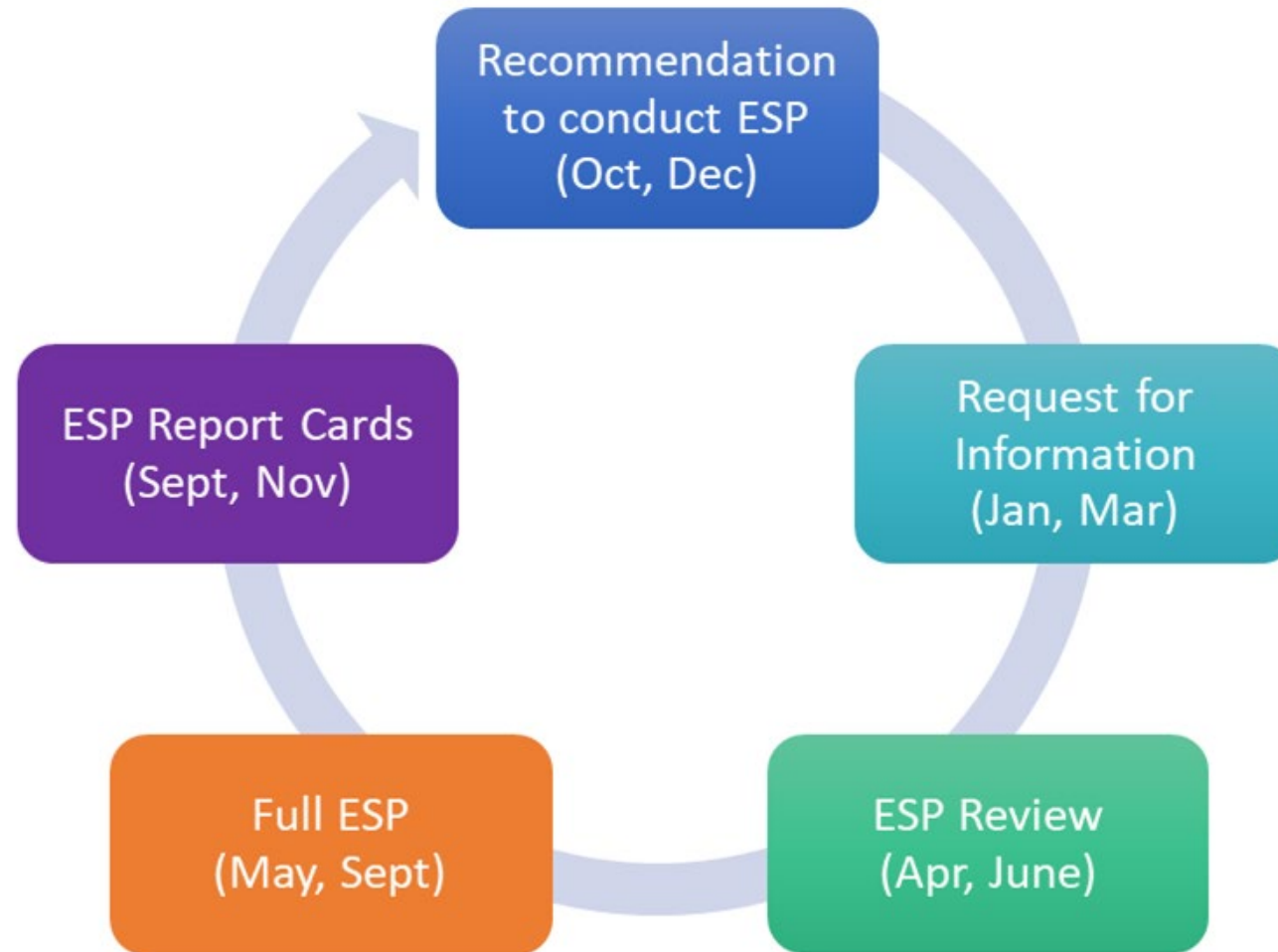
choices

- Inform data conditioning
- Time blocks
- Parameter values consistent with existing info

covariates

- Indicator time series directly included in model (e.g. Woods Hole Assessment Model)

General Timeline





Overview

- Changes to increase ESP capacity

 - Request For Information (RFI)

 - ESP Mini option

 - Update on National ESP Initiative

 - Developing socioeconomic indicators for sablefish (Dame)

Request For Information (RFI)

● Main elements

Description and process timing

List of requests representing data gaps and research priorities by stock

Instructions for contributions, information review, roles and responsibilities

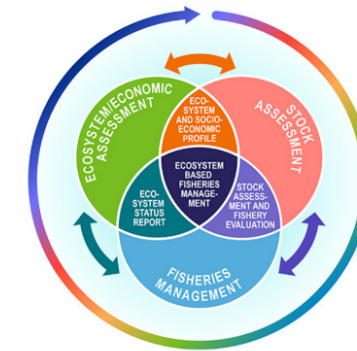
Coordination

Work with Crab ESP team to organize crab RFI similarly, earlier timing

Work with ESR, ESSR teams to identify overlap areas and streamline contributions

Request for Information (RFI): Ecosystem and Socioeconomic Profile (ESP) of the Groundfish stocks in Alaska

Groundfish ESP Teams
2025



Stepwise plan and cycle for review of information submissions in response to this RFI:

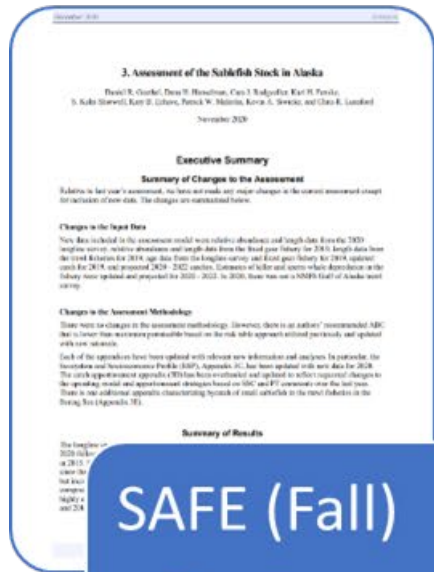
Request Opening	February 3, 2025
Request Closing	February 28, 2025
Review of Submitted Information	March 10-21, 2025
Notification of Selected Information	March 28, 2025

Please contact Kalei Shotwell (kalei.shotwell@noaa.gov) if you have any questions about this Request for Information (RFI).



Alaska ESP Process

Step 1



SAFE (Fall)

- Plan Team
- Dec Council
- Request ESP

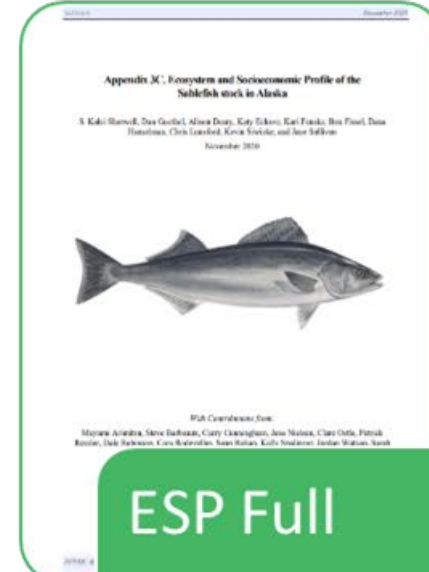
Step 2



RFI (Spring)

- Submissions
- Team Review
- Decision

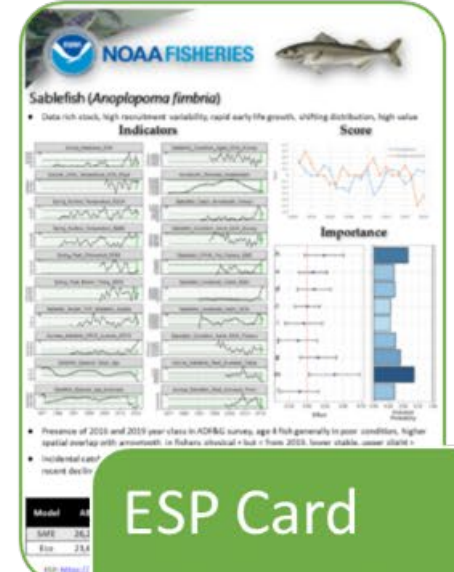
Step 3



ESP Full

- Mechanisms
- Indicators
- Sept Final

Step 4



ESP Card

- Current Yr
- Nov PT
- Dec Council

Introducing ESP Mini

Recommendation, Review, Request

Start with recommended ESP stocks

Review ESR, EFH, any synthesis papers

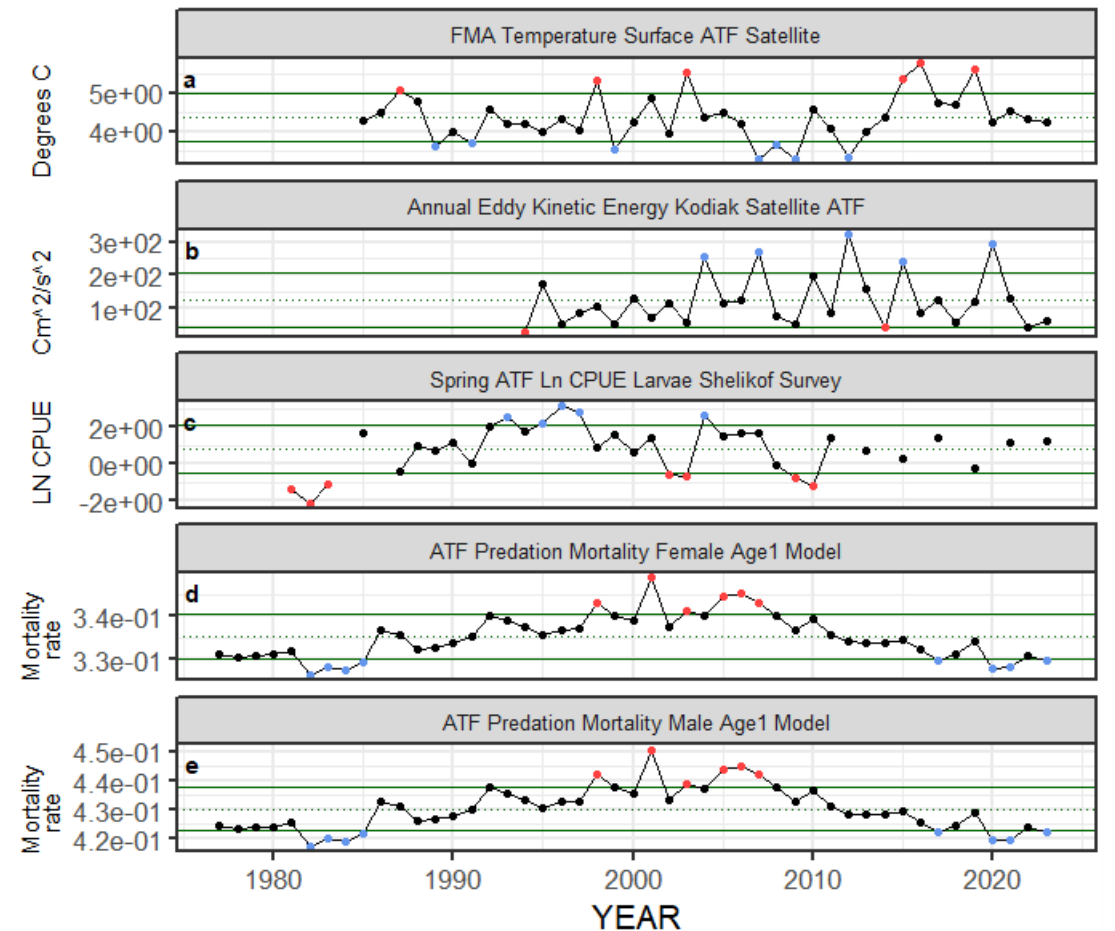
Request stock-specific indicators in RFI

Data Management and Report

Upload submitted indicators to ESP
data management tool on AKFIN

AKESP R package for standard graphics
and reporting templates

Two examples ([Tanner](#), arrowtooth)



Example GOA Arrowtooth Flounder

Indicator category	Indicator	2019 Status	2020 Status	2021 Status	2022 Status	2023 Status
Larval	FMA Temperature Surface ATF Satellite	high	neutral	neutral	neutral	neutral
	Annual Eddy Kinetic Energy Kodiak Satellite ATF	neutral	high	neutral	neutral	neutral
	Spring ATF Ln CPUE Larvae Shelikof Survey	neutral	NA	neutral	NA	neutral
Juvenile	ATF Predation Mortality Female Age1 Model	neutral	low	low	neutral	low
	ATF Predation Mortality Male Age1 Model	neutral	low	low	neutral	low
	ATF Predation Mortality Female Age2 Model	neutral	low	low	neutral	low
	ATF Predation Mortality Male Age2 Model	neutral	low	low	neutral	low
	Summer ATF Size Small ADFG Survey	neutral	neutral	neutral	neutral	neutral
Adult	Summer ATF CPUE ADFG Survey	neutral	neutral	neutral	neutral	neutral
	Summer Temperature Bottom GOA Survey ATF	high	NA	neutral	NA	neutral
	Annual Biomass Consumed ATF Model	neutral	neutral	low	neutral	neutral
	Annual Ration ATF Model	neutral	low	low	neutral	neutral
	Summer ATF Condition Adult GOA Survey	neutral	NA	neutral	NA	neutral
	Summer ATF Center Gravity East GOA Model	neutral	NA	low	NA	neutral
	Summer ATF Center Gravity North GOA Model	low	NA	low	NA	neutral
	Summer ATF Area Occupied GOA Model	neutral	NA	neutral	NA	neutral



National ESP History



Alaska ESPs (17 stocks requested, 7 complete)

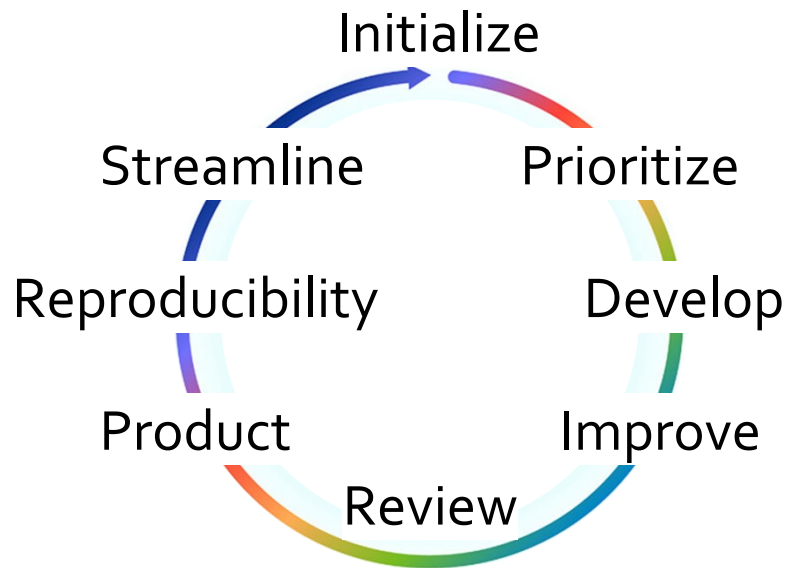
Pacific Islands ESPs (2 stocks requested, 1 complete)

Northeast ESPs (7 stocks requested, 3 complete)

Northwest/Southwest (ESP-like reports)

Southeast (ESP-like report card)

National Initiative



National ESP Coordination Project

- Team consists of 18 reps from NMFS science centers, regional offices, and headquarters
- Purpose and Activities
 - Improve communication, share across science centers, create efficiencies
 - National ESP webpage, step-by-step guide, conduct [share workshops](#), co-creating activities, tracking, and reporting
- Coordinated Projects - IRA Data Modernization
 - Build out current ESP data management and reproducibility infrastructure for other regions, case study Northeast



Feedback on Socioeconomics in ESPs

- National ESP share workshops

Less emphasis on socioeconomics in ESPs (little "s"), uncertainty in how to choose / use socioeconomic indicators to support management decisions

Inspired national "good practices" project for streamlining socioeconomic indicators in ESPs (activity at ESP share workshop)

- Alaska SSC Minutes ([2022](#), [2023](#)) and NPFMC [Motion](#)

SSC has consistently provided feedback on socioeconomics in ESPs particularly to coordinating multiple products, suggested workshop

Council recommended a review of available data to recommend species-level socioeconomic indicators appropriate for the ESP



Proposed Socioeconomic Indicators for Sablefish

In response to the SSC's request for additional socioeconomic information in the Alaska sablefish ESP

Improves coordination of socioeconomic information in Council decision-information sources

Provides socioeconomic information that meets BSIA threshold at time of TAC setting

We developed four new socioeconomic indicators for the sablefish fishery

1. Historical and inseason sablefish prices and landings by size
2. Total Allowable Catch (TAC) utilization by region
3. Total sablefish revenue share
4. Regional quotients by value and landings



Indicator #1: Inseason Pricing and Quantity Sold by Size

Reports the total landings (in pounds), the proportion of total landings by size category, and the annual size-specific average price per pound.

Data Source

- Alaska Regional Office inseason eLandings data

 - Catcher-processor fleet does not size sablefish

 - Limited size information is available for the trawl fleet

 - Considers fish tickets for the fixed gear fleet

- Trends in price between inseason eLandings, COAR, and CFEC are very similar

 - COAR and CFEC consider post-season adjustments

 - Do not differentiate by size category



Indicator #1: Inseason Pricing and Q uantity Sold by Size

Methods

Size categories are very similar between processing facilities but quality grades are not
~97% of all reports that listed size categories could be binned

Q uality ranged between letters ("a" to "f"), symbols (+,-), and numbers (# 1 to # 3)

Price per-pound is based on the average among all quality grades

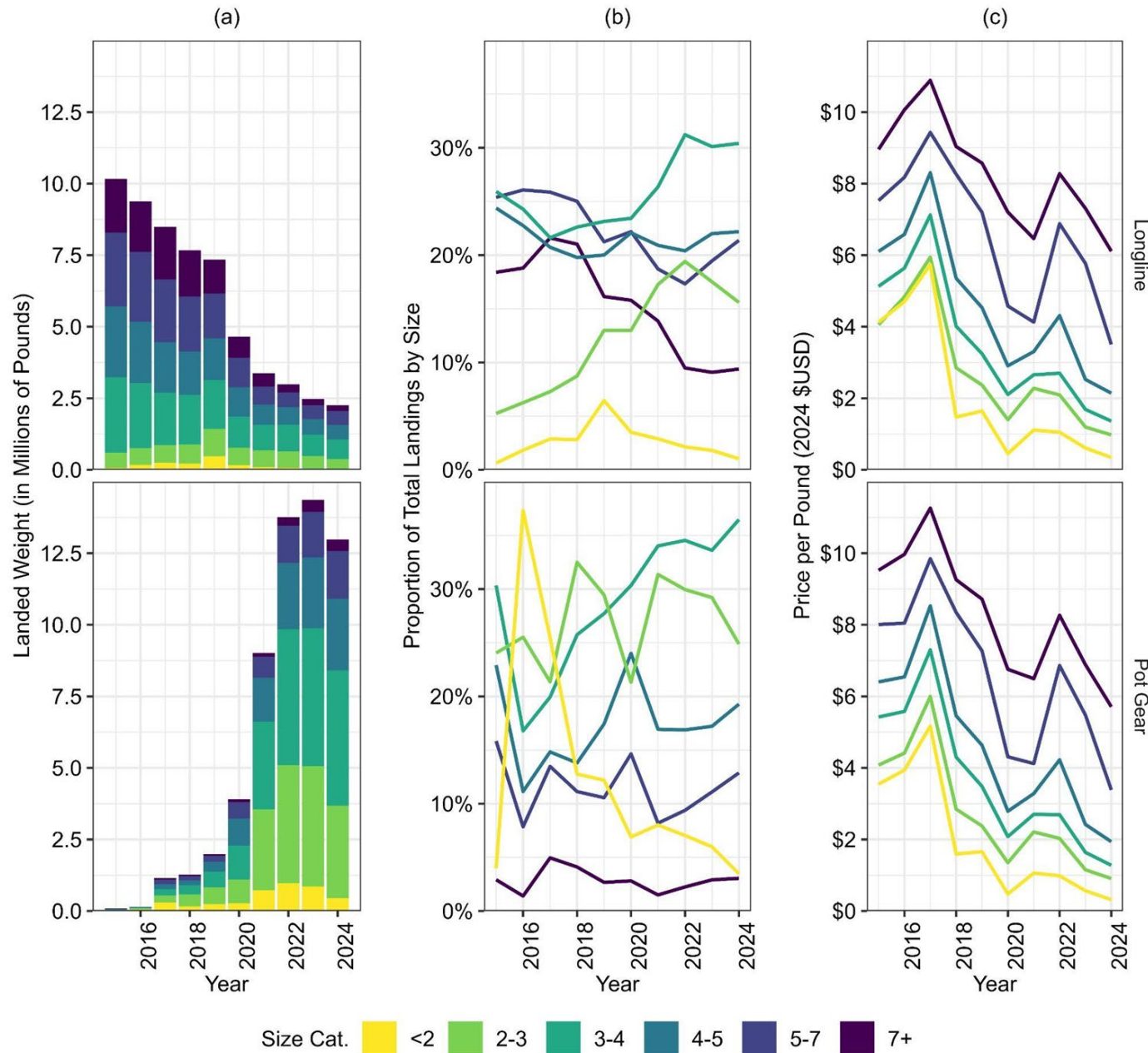
Consider historical data between January 1 and September 30

Compared full- and partial-year historical data

Less than a 5% absolute difference



Indicator #1: Inseason Pricing and Q uantity Sold by Size



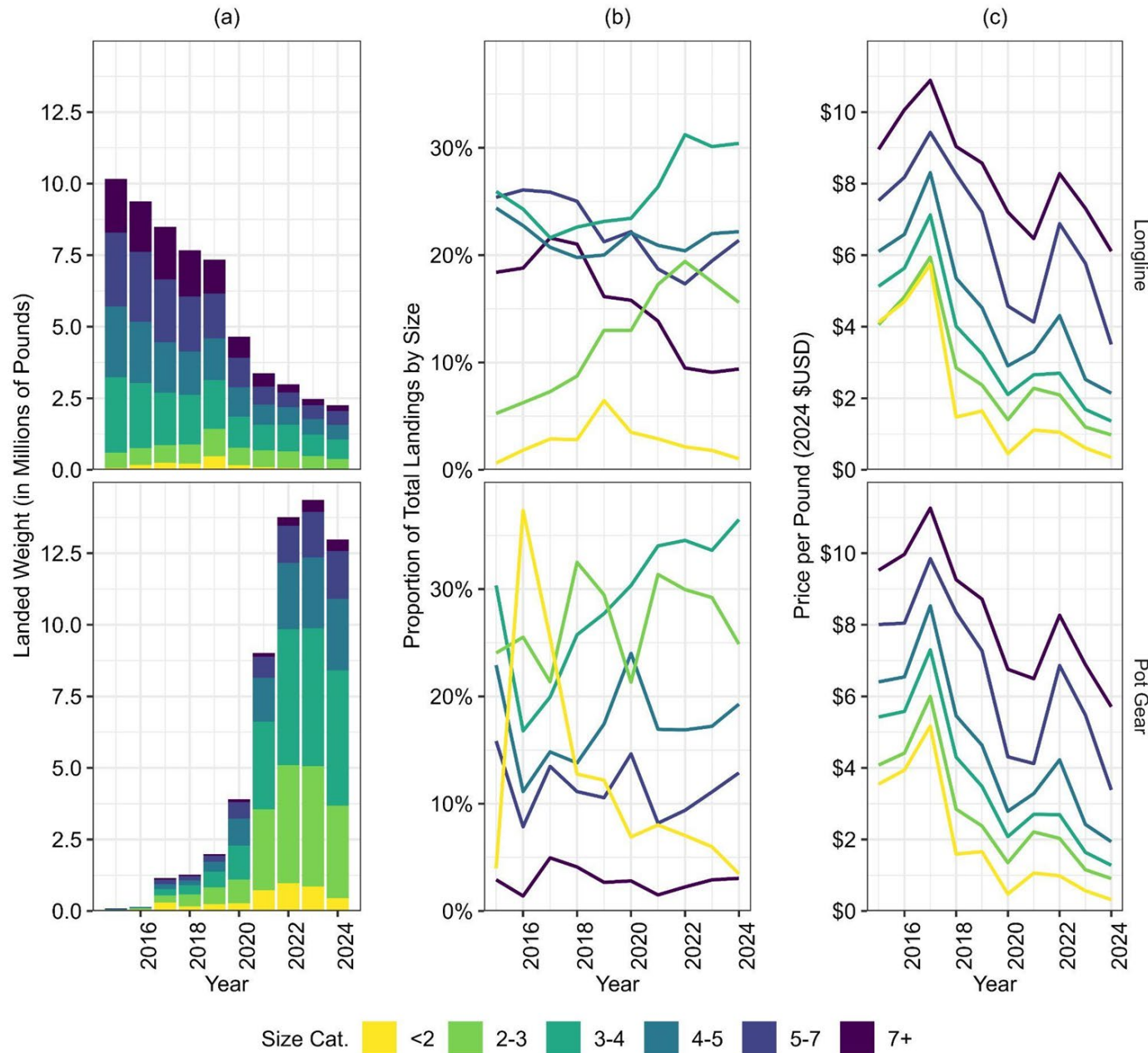
Interpretation: Comparison of total landings, proportion of total landings by size, and price per pound by size for the fixed gear fishery differentiated by gear-type

Decrease in the proportion of sablefish <2 lbs and >7 lbs size categories

Increase in the proportion of sablefish in the 2 to 3 lb and 3 to 4 lb size categories



Indicator #1: Inseason Pricing and Q uantity Sold by Size



Price declines are similar between the 5-7 lb and >7 lb and between all other size categories

SSC/Council Use: Provides information on fishery performance and market conditions for the fixed gear fishery



Indicator #2: Percentage of Total Allowable Catch (TAC) Harvested

- Reports the cumulative TAC utilization (as a percent) for the BSAI and GOA

Data Source

Catch Accounting System (CAS)

Methods

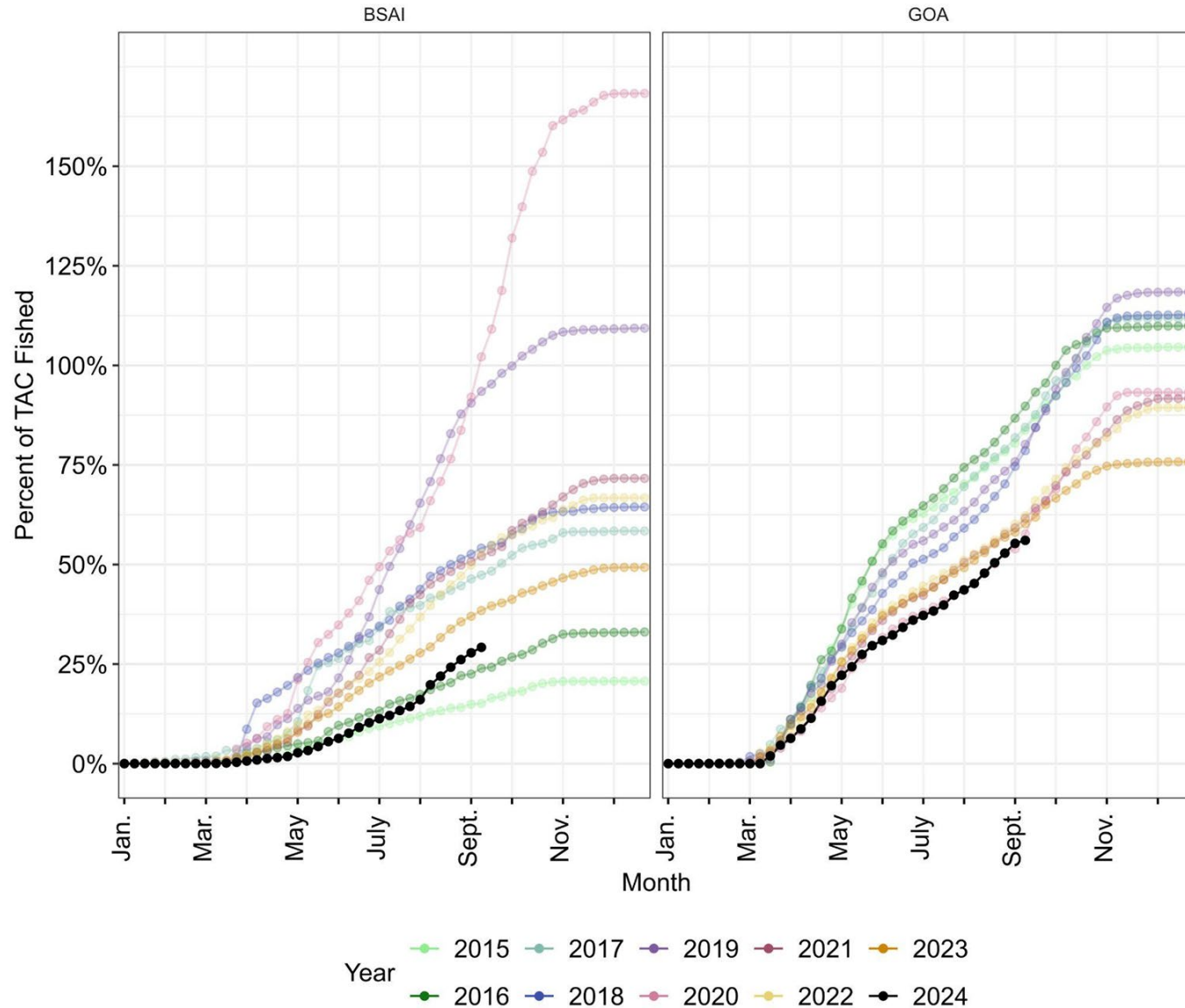
Report weekly TAC utilization through September (full-year for historical TAC utilizations)

Divide the cumulative sum of weekly sablefish landings by region-specific TAC levels

More detailed sector-level TAC utilization presented by the AKR in December



Indicator #2: Percentage of Total Allowable Catch (TAC) Harvested



Interpretation: The historical and inseason percentage of TAC utilization by week for the BSAI and GOA

SSC/Council Use: Determine which region may be most sensitive to changes in TAC regulations

Note: Data on landings used for TAC utilization includes catch and discards



Indicator #3: Total Revenue Share by Sector and Gear Type

Reports the historical proportion of total region-specific sablefish revenue by catcher vessels and catch processors and gear-type

Data Sources

Commercial Operator's Annual Report (COAR)

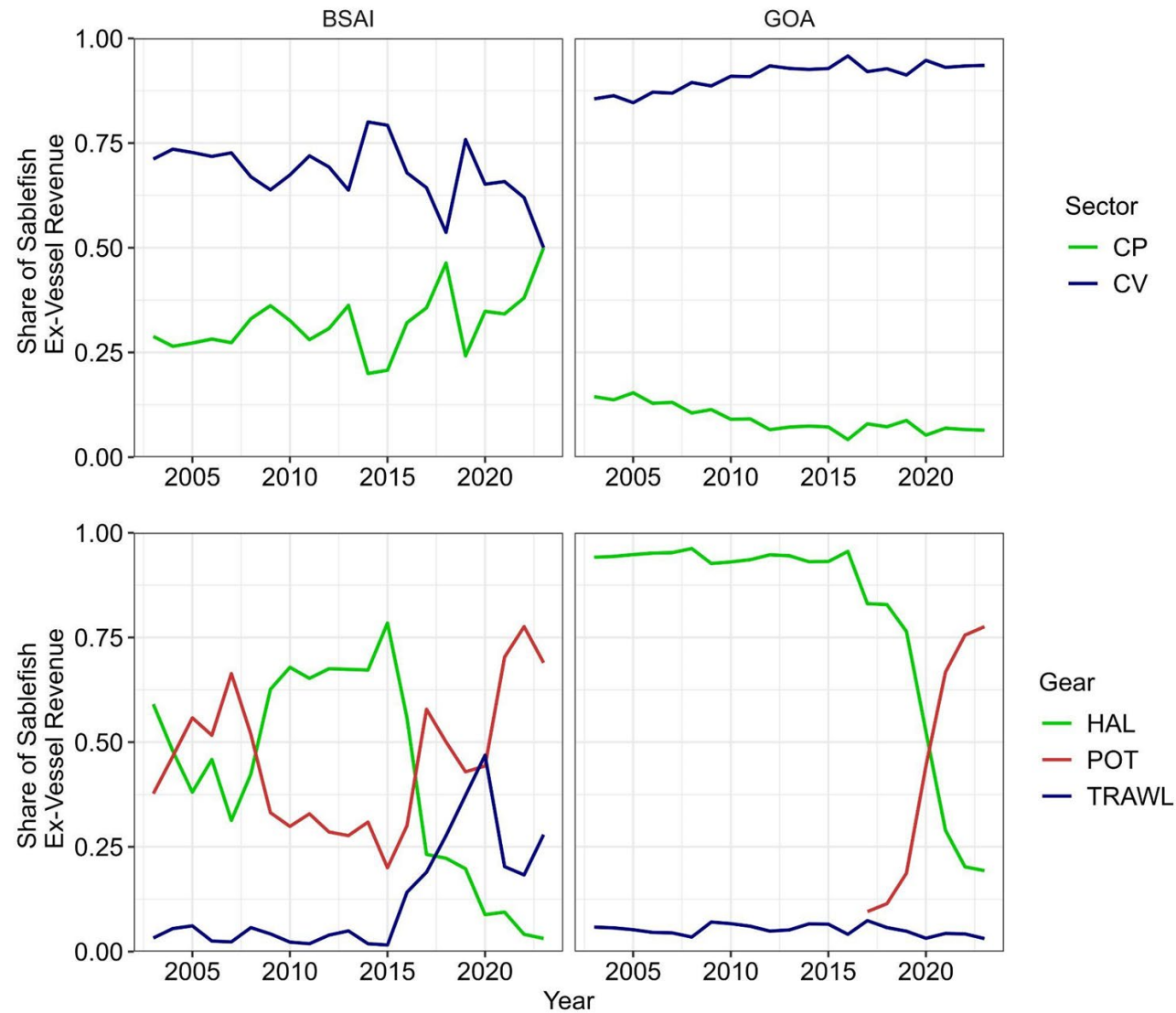
Catch Accounting System (CAS)

Methods

Divide the sector- and gear-specific sablefish revenue by the total sablefish revenue associated with each region



Indicator #3: Total Sablefish Revenue Share by Sector and Gear Type



Interpretation: The temporal change in the proportion of total sablefish revenue within each sector/gear-type by region

SSC/Council Use: Provide insight in setting TAC in consideration of economic and social factors

Note: Data pre-2017 for pot gear in GOA is excluded due to confidentiality



Indicator #4: Regional Quotient

Reports the historical (2008-2023) involvement of communities (based on vessel owner registration residence and landings port) based on landings and value

Data Sources

Commercial Operator's Annual Report (COAR)

Catch Accounting System (CAS)

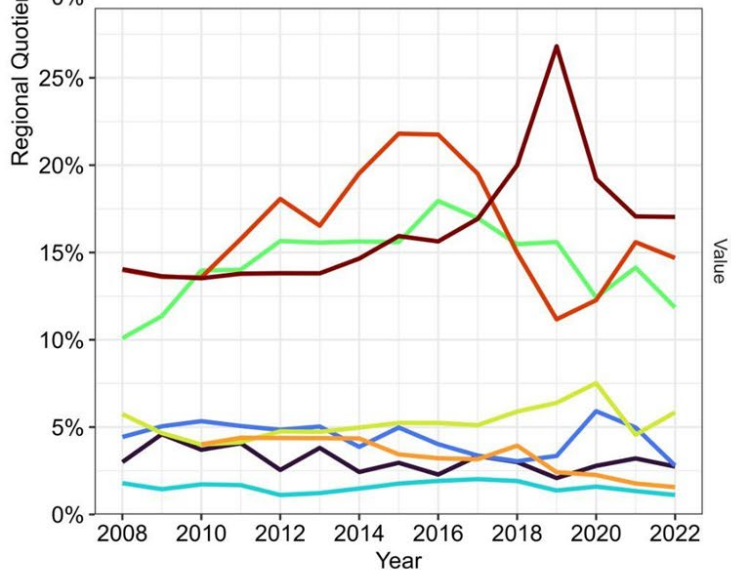
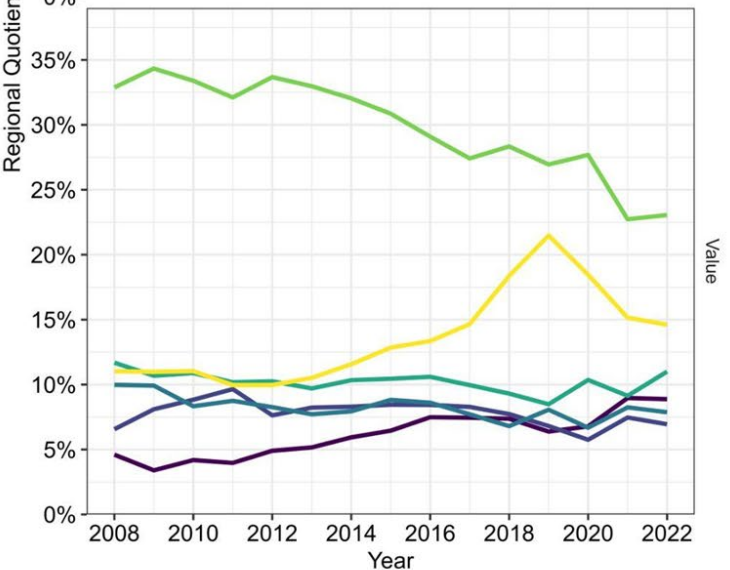
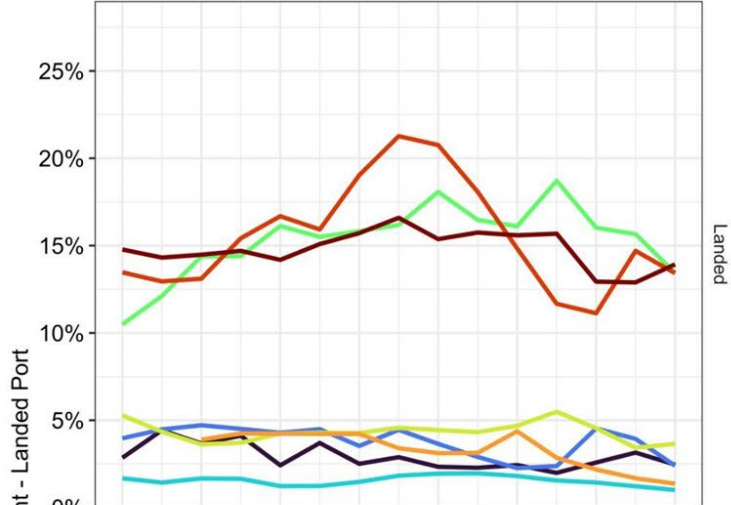
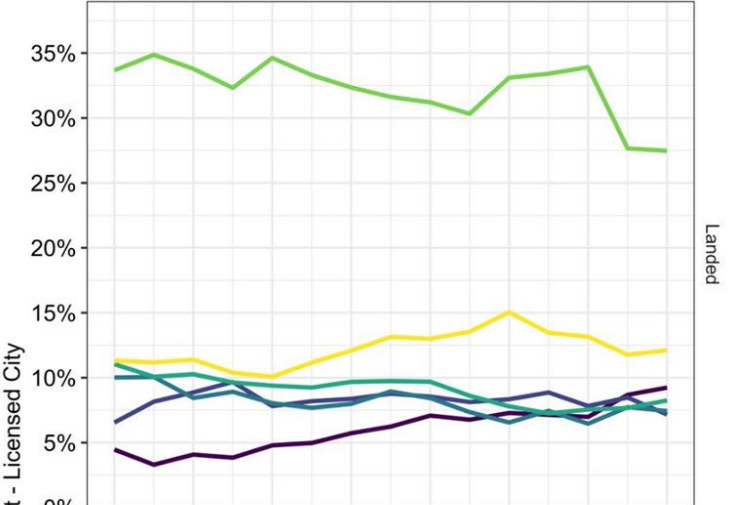
Methods

Divide the community-specific sablefish landings (value) by total landings (value) among all communities



Regional Quotient by Vessel Owner Registration Location

Regional Quotient by Landings Port



Communities

- HOMER
- KODIAK
- OTHER WASHINGTON
- PETERSBURG
- SEATTLE MSA
- SITKA

Communities

- CORDOVA
- JUNEAU
- KETCHIKAN
- KODIAK
- PETERSBURG
- SAND POINT
- SEWARD
- SITKA

Interpretation: Community-specific landings (revenue) as a proportion of total landings (revenue)

SSC/Council Use: Determine potential community impacts from changes in TAC/other regulations and the importance of sablefish for communities





Plan Team Discussion & Recommendation

- Teams discussed use of fishery performance in risk tables and how ESP products have multiple uses
 - Teams requested clarification from SSC on how socioeconomic information fits into risk tables, how it feeds into ABC and OFL setting, and where socioeconomic indicators for TAC setting should reside
- Teams recommended to standardize size grade definitions and pricing across processors



Discussion

- 1) Do the RFI process and ESP Mini option seem useful for initiating and updating recommended ESPs?
- 2) **Are there any thoughts or concerns on the proposed sablefish socioeconomic indicators?
Additional ideas?**
- 3) How and where should we report ESP information to assist management decisions (ABC or TAC)?

Thank You!



Contact:

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ESP Summary

Stock	Year initiated	Full ESP	Partial update	Report card*
Sablefish	2017	2017 - <u>2019</u>	<u>2020</u>	<u>2021</u> , <u>2022</u> , <u>2023</u>
Gulf of Alaska Pollock	2019	<u>2019</u>	<u>2020</u>	<u>2021</u> , <u>2022</u> , <u>2023</u>
EBS Pacific Cod	2020	<u>2021</u>		<u>2021</u> , <u>2022</u> , <u>2023</u>
GOA Pacific Cod	2020	<u>2021</u>		<u>2021</u> , <u>2022</u> , <u>2023</u>
St Matthew Blue King Crab	2019	<u>2019</u>	<u>2020</u>	<u>2022</u>
Bristol Bay Red King Crab	2020	<u>2020</u>		<u>2021</u> , <u>2022</u> , <u>2023</u>
Bering Sea Snow Crab	2021	<u>2022</u>		<u>2023</u>

