Report of the September 2019 Joint Groundfish and Crab Plan Team meeting

NOAA FISHERIES
Alaska Fisheries Science Center

Grant Thompson and Plan Teams

Meeting overview

Date: September 16

Place: AFSC Seattle lab

Leaders: Jim Ianelli, Chris Lunsford (GOA GPT co-chairs); Sara Cleaver (GOA GPT coordinator); Grant Thompson, Steve Barbeaux (BSAI GPT co-chairs); Steve MacLean (BSAI GPT coordinator); Martin Dorn, Katie Palof (CPT co-chairs); Jim Armstrong (CPT coordinator)

Participation: 41 Team members present, plus numerous AFSC and AKRO staff and members of the public (many via WebEx)

The Teams welcomed:

- New GPT coordinators: Sara Cleaver (GOA), Steve MacLean (BSAI)
  One nominated GPT member: Marysia Szymkowiak (GOA)

Documents and presentation files available on the Team agenda site

- Link provided on Council agenda (under item C5)

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Agenda (3-Plan Teams)

- Administration
- *Ecosystem Socioeconomic Profile (ESP) / prioritization*
- Preview of Ecosystem and Economic Conditions (PEEC) workshop
- *Bering Sea Fishery Ecosystem Plan (FEP)*
- Social Sciences Planning Team (SSPT) overview
- Ecosystem Status Report (ESR): climate and oceanography update
- Vector Autoregressive Spatio-Temporal (VAST) model
- Electronic monitoring (EM) observer program issues

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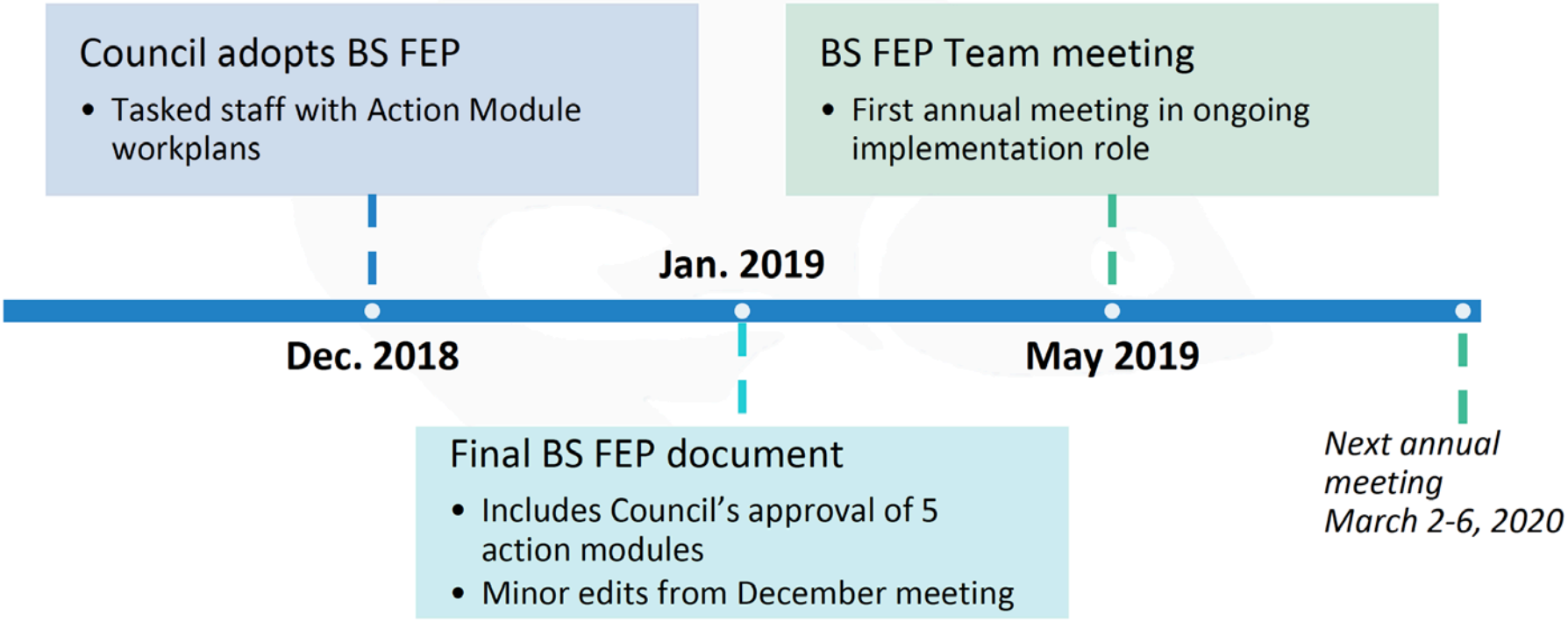
ESP Needs

Accessibility	Metrics and indicators need to be readily available similar to stock assessment output
Consistency	Metrics and indicators need to be reliably and consistently produced
Timeliness	Metrics and indicators need to be processed on the time scales of the stock assessments they feed

Bering Sea Fishery Ecosystem Plan (FEP)

Bering Sea Fishery Ecosystem Plan



Bering Sea FEP team: Four tasks

Strategic guidance for monitoring Bering Sea ecosystem status	• *Develop and track ecosystem indicators appropriate to BS FEP ecosystem objectives* • *Strategic review of ecosystem products*
BS FEP Action Modules	• *Track progress of ongoing Action Modules* • *Recommendations on identifying new Action Modules*
Maintain the Core BS FEP	• *Consider how completed Action Modules inform the Core FEP, update core FEP as appropriate* • *Track how ecosystem information used in Council process*
Outreach and communication	• *Provide Council with periodic overviews of ecosystem products and research, including LK and TK progress* • *Work collaboratively with Plan Teams and other partners*

Next annual meeting: Week of March 2-6, 2020

Social Sciences Planning Team (SSPT) overview

Data Gap Analysis (DGA) v4 structure (not mutually exclusive)

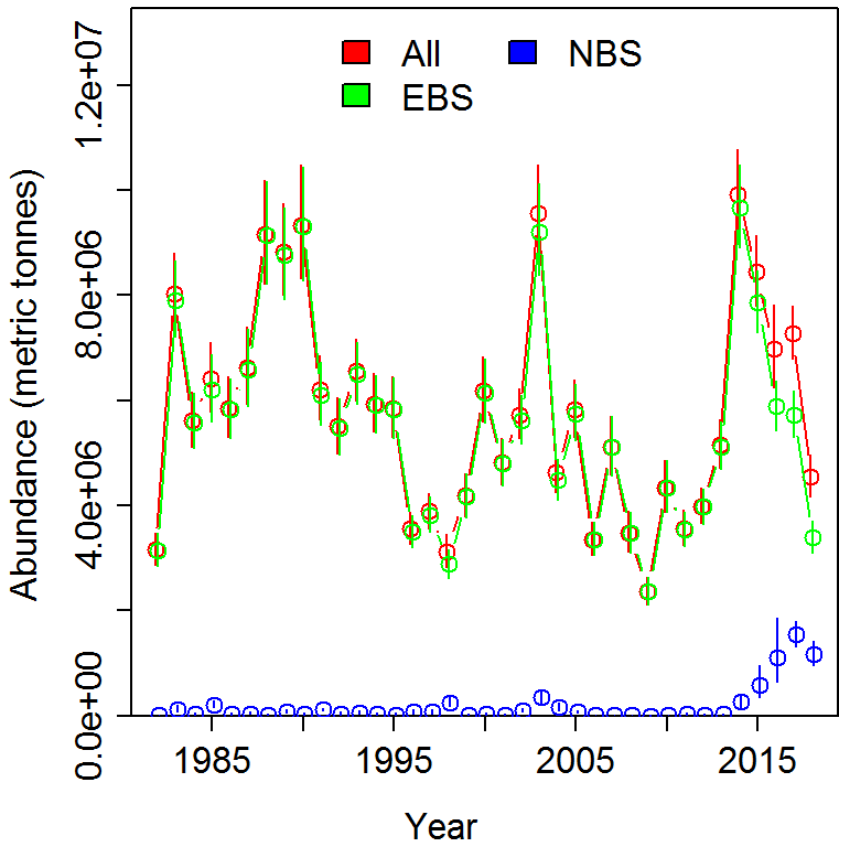
1. Commercial
2. Recreational
3. Subsistence
4. Fishing Communities
5. Unit of Analysis
    1. Individual/households
    2. Community and region
    3. Tribe
    4. Entity
    5. Nation

Vector Autoregressive Spatio-Temporal (VAST) model

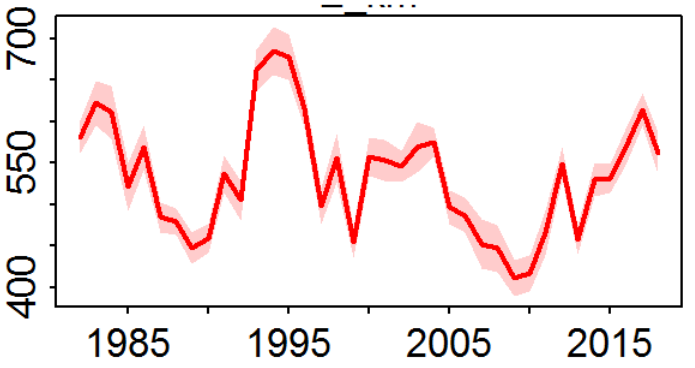
VAST: treatment of survey data…

- Jim Thorson (HEPR, AFSC)
- Presented on Vector Autoregressive Spatio-Temporal (VAST) model
  - Benefits, drawbacks, and proposed terms of reference

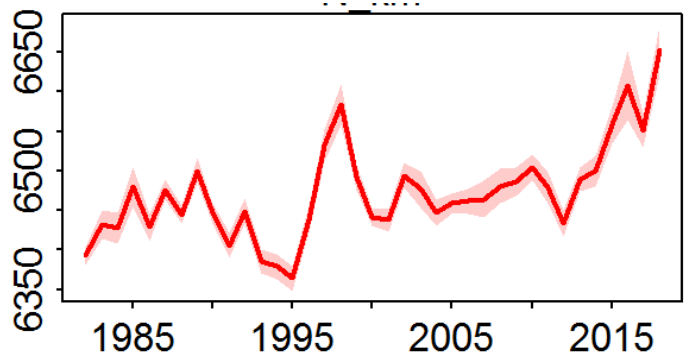
Pollock survey biomass



Eastward center of gravity (km)



Northward center of gravity (km)



EM observer program issues

Teams' supported the following:

- Re-evaluate fixed gear EM vessel selection process
- Re-evaluate the 30% trip selection value
- Evaluate the impact of non-review of end-of-year fixed gear EM (video) data
- Evaluate how EM catch-estimation methods are done for fixed gear; specifically, how catch in biomass is estimated in the absence of biological data
- Identify and establish ways to integrate fixed gear EM data with standard observer data feeds (e.g., via AKFIN)

The Teams recommended that resources be allocated to fund identified shortfall and that efficiency measures to deploy observers and EM systems be pursued

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- The Teams welcomed:
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  - One new (unofficial) GPT member: Marysia Szymkowiak (GOA)
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Agenda

- Administrative
- Research priorities
- Recruitment processes alliance and surveys
- EBS/NBS shelf trawl survey
- Longline survey
- GOA trawl survey
- Halibut discard mortality rates
- Sablefish discards
- Economic SAFE report
- Sablefish assessment
- AFSC genomics activity plan
- Risk table
- Marine mammal update

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Research priorities

- Teams recommended bringing forward the top eight list and initiating a process for taking projects off the list
- Other concerns
  - Many of these are “ideas” rather than actual research proposals
  - Sometimes no explicit proposal or PI is identified
  - Process does not consider cost (just value)
  - No process for filtering, rewriting, or deleting priorities
  - Proposals are usually not from people who intend to do the research, so they are often vague and poorly defined
  - Projects that would naturally qualify as priorities do not get entered into the system (for examples, see BS/RE rockfish and Pacific cod in the BSAI and GOA Team minutes, respectively)
- Teams recommended that these issues be raised in the report to the SSC in February

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Research priorities

- Several concerns raised
  - Many of these are “ideas” rather than actual research proposals
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EBS/NBS shelf trawl survey

- Results presented previously under agenda item B4 (AFSC Report)
- The Teams commend the Bering Sea survey group for their rapid and timely production of the survey estimates

Alaska Fisheries Science Center

Dennis Benjamin	Erin Fedewa	Chris Long	Ceceilia O'Leary
Lyle Britt	Jen Gardner	Vanessa Lowe	Jon Richar
Kelly Champagne	Rebecca Haehn	Michael Martin	Bethany Riggle
Connor Cleary	Jerry Hoff	Kevin McCarty	Kathryn Sobocinski
Jason Conner	Pam Jensen	Todd Miller	Duane Stevenson
Liz Dawson	Stan Kotwicki	Arianna Myers	Cynthia Yeung
Alex DeRobertis	Mike Levine	Dan Nichol	Leah Zacher

Other organizations

Zachary Kelleher	Andy Nault	Jonathan Schroeder
Hayley Mazur	Myra Scholze	Jeffrey Scott

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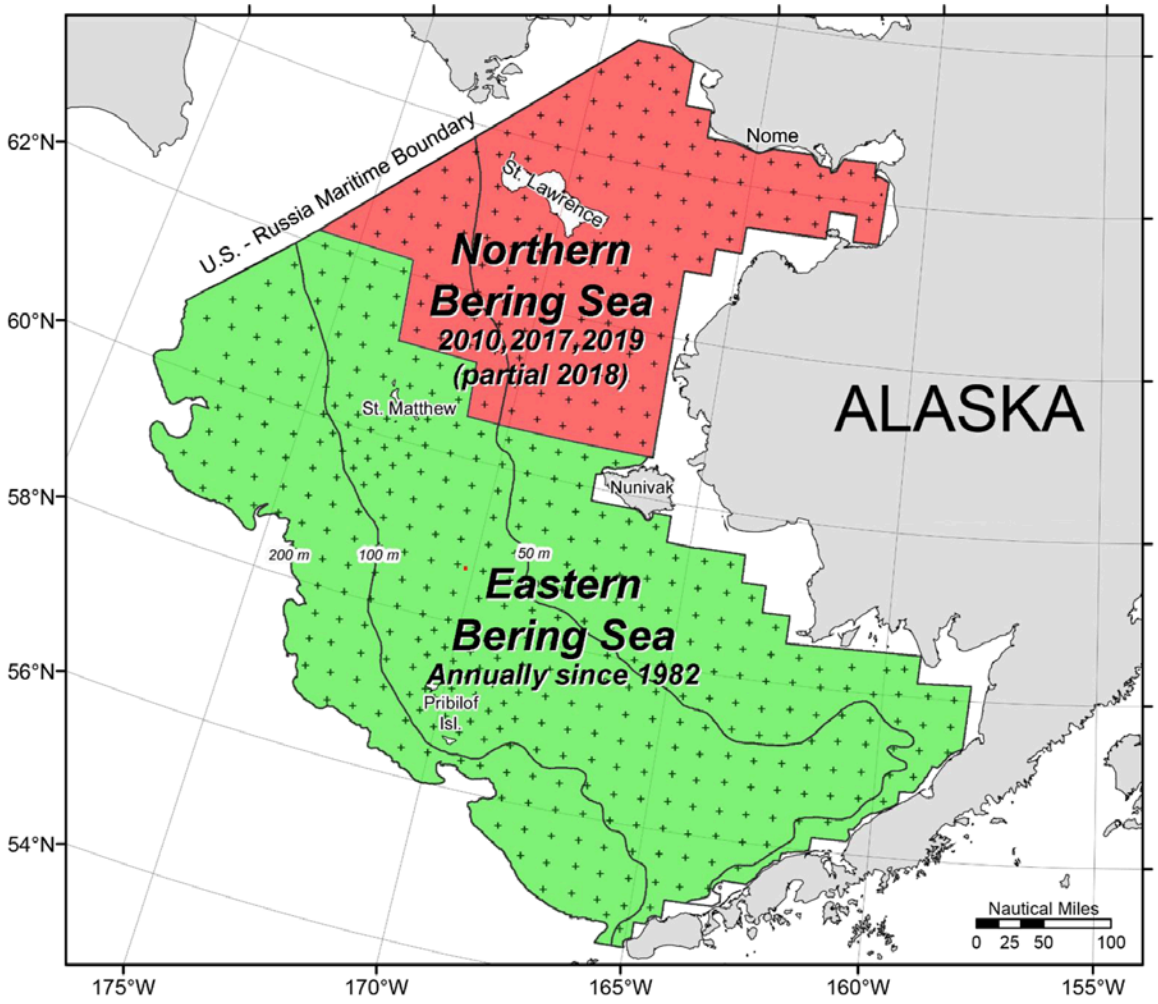
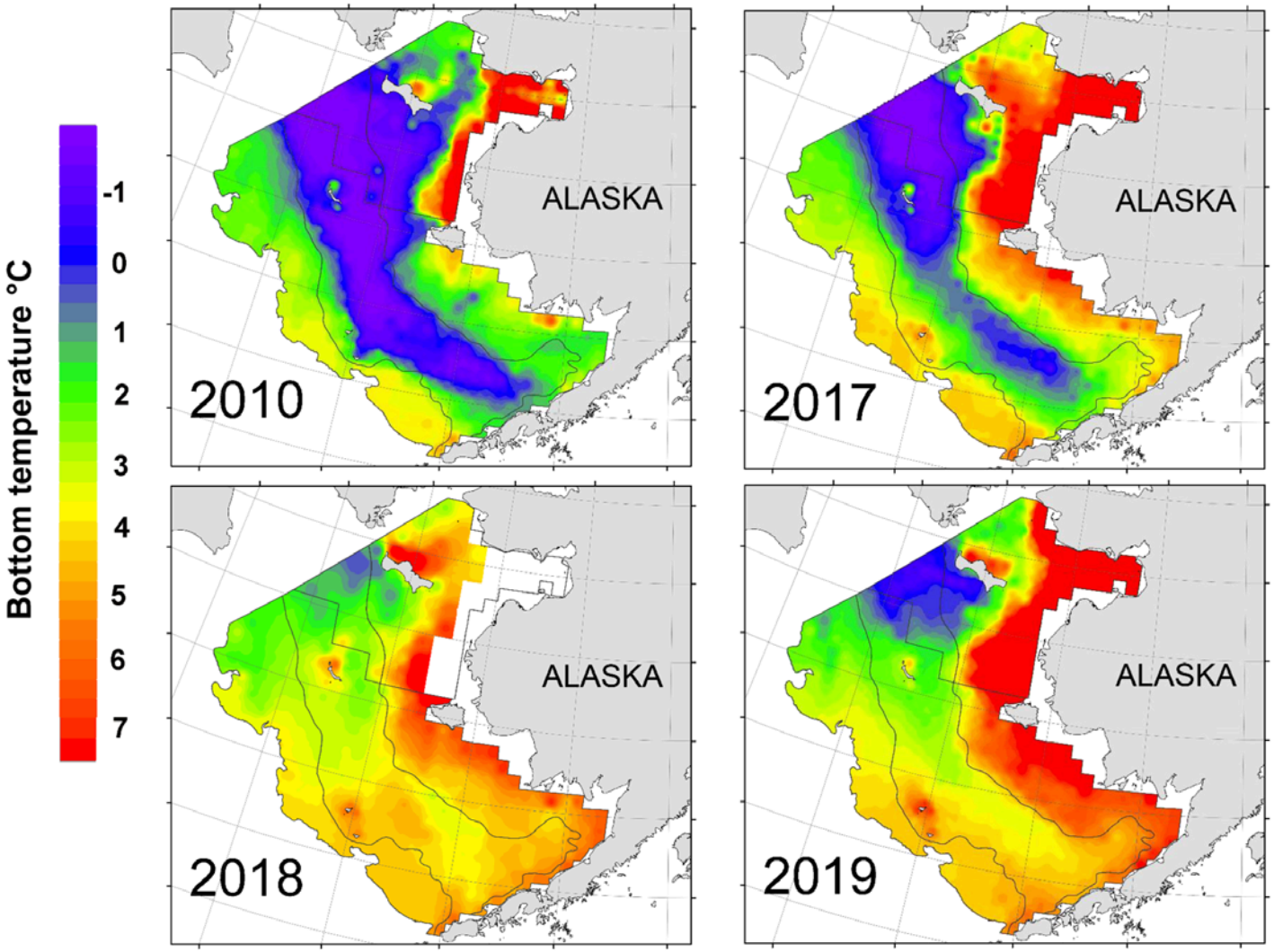
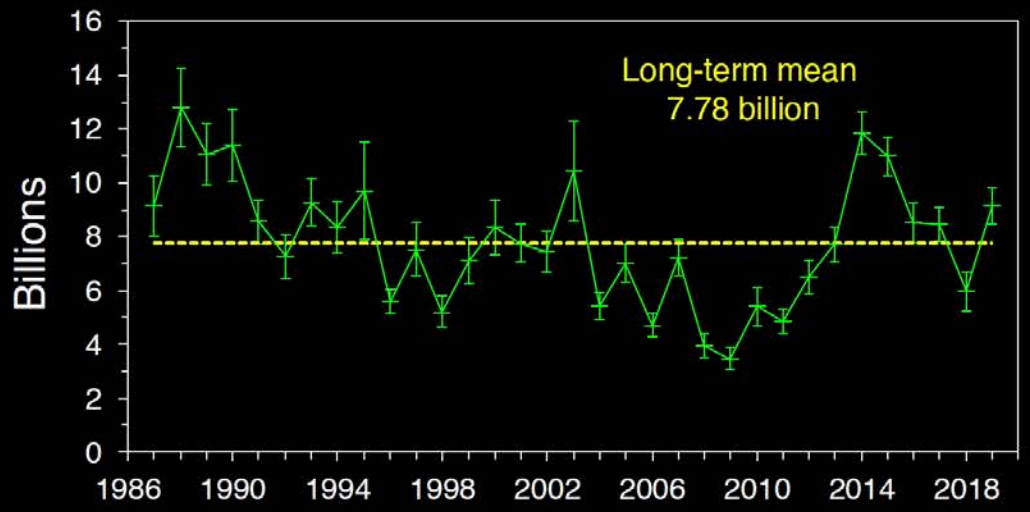
Standard surveys



Survey bottom temperatures



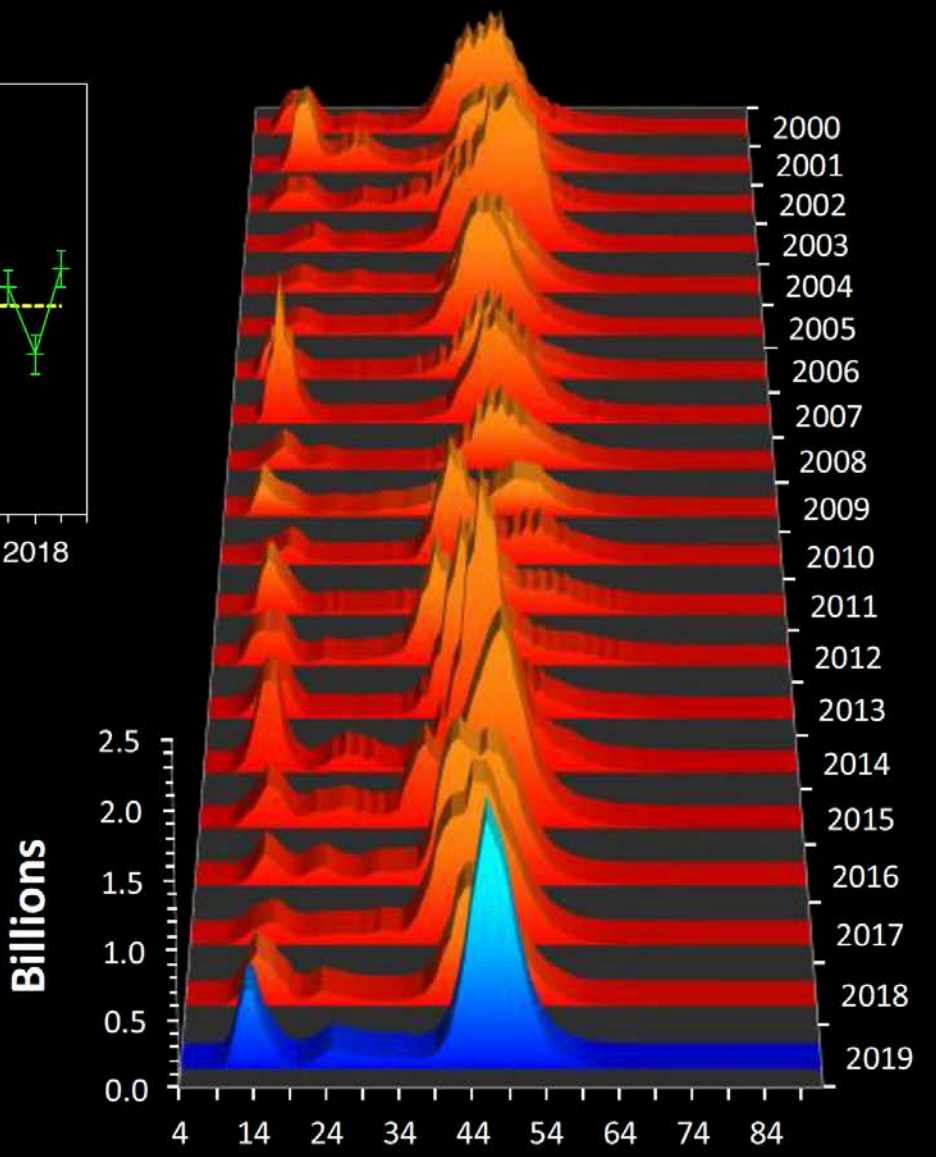
EBS Walleye pollock



EBS Abundance

9.13 billion

+53% from 2018 (6.0 billion)

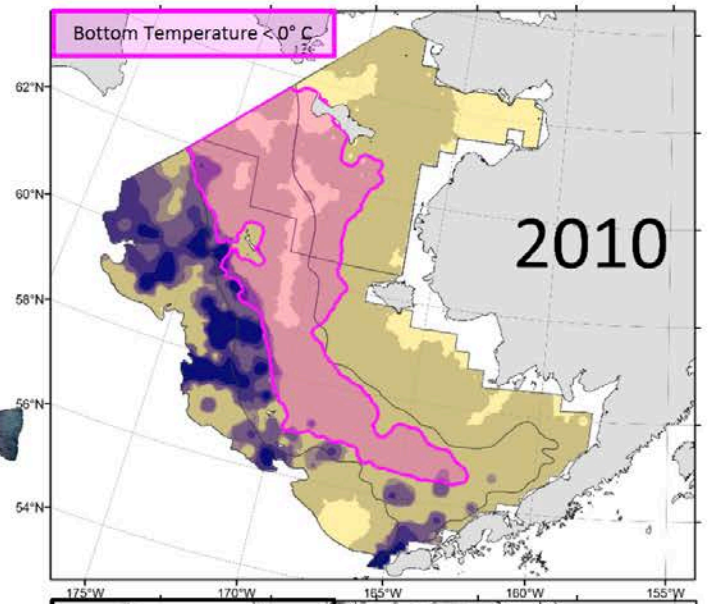


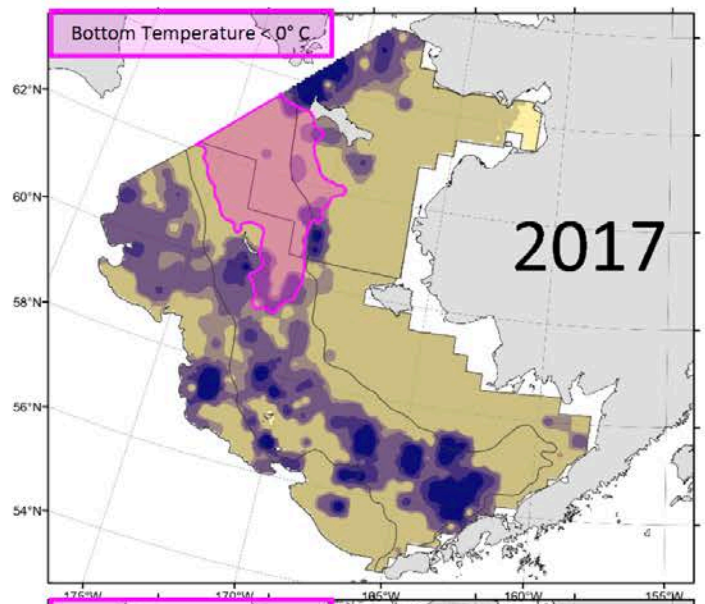
Bering Sea Pollock Distribution

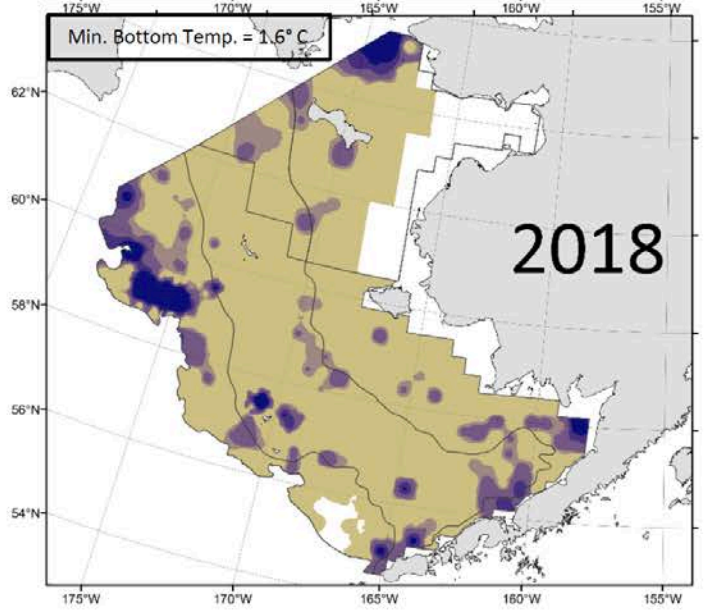
Walleye Pollock

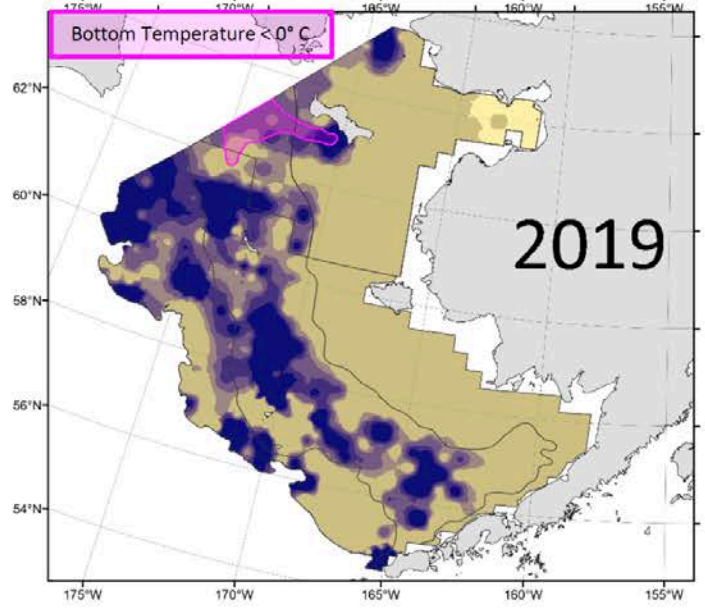
(kg/ha)

- no catch
- > 0 - 75
- > 75 - 100
- > 100 - 150
- > 150 - 200
- > 200 -300
- > 300

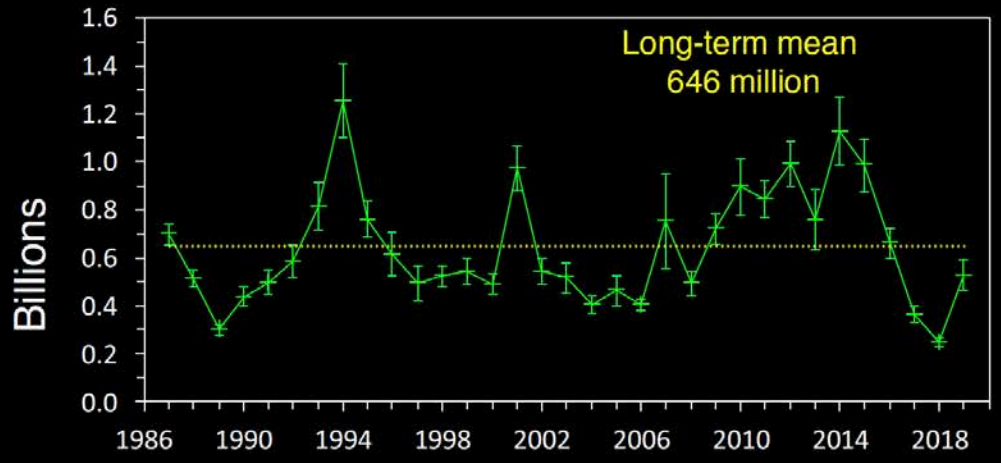








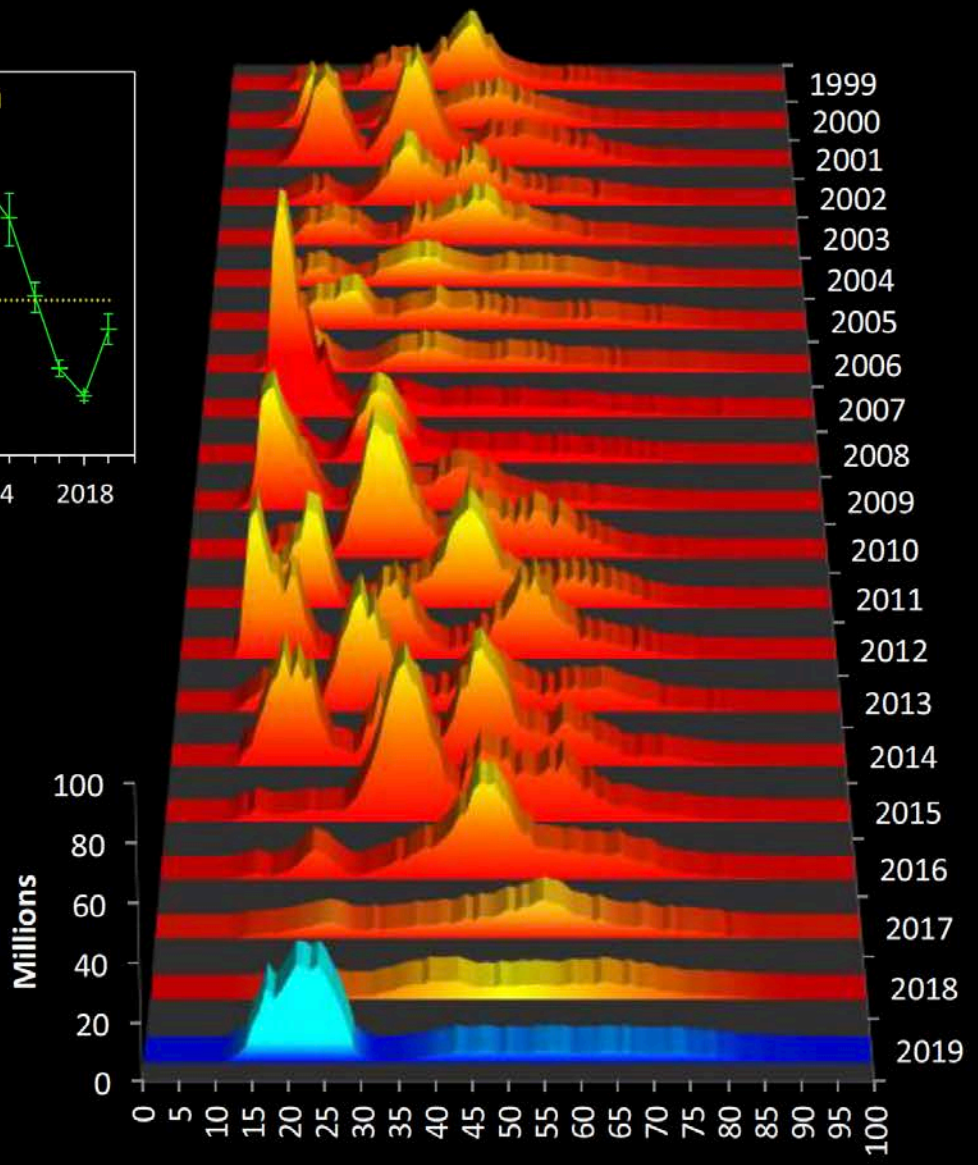
EBS Pacific cod



EBS Abundance

527 million

+112% from 2018 (249 million)

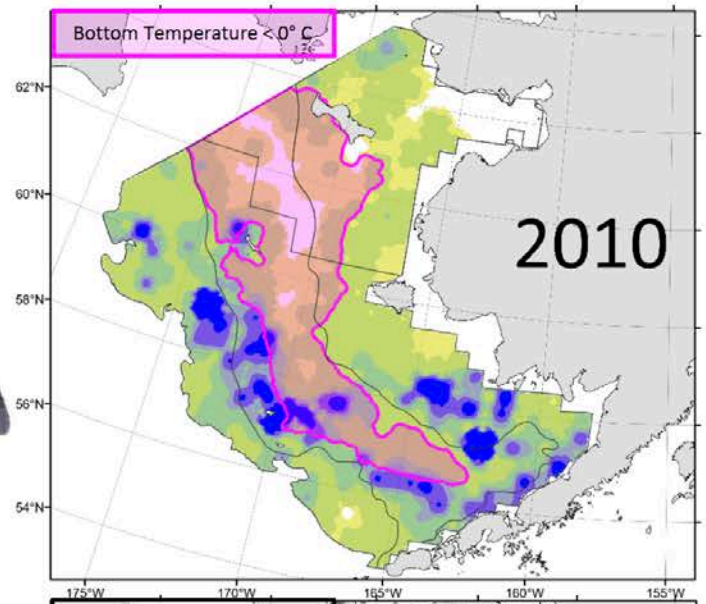


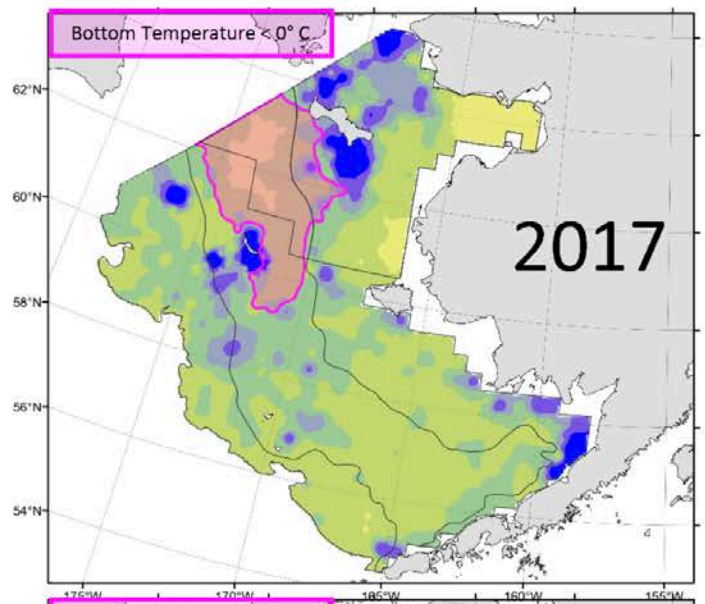
Bering Sea Pacific Cod Distribution

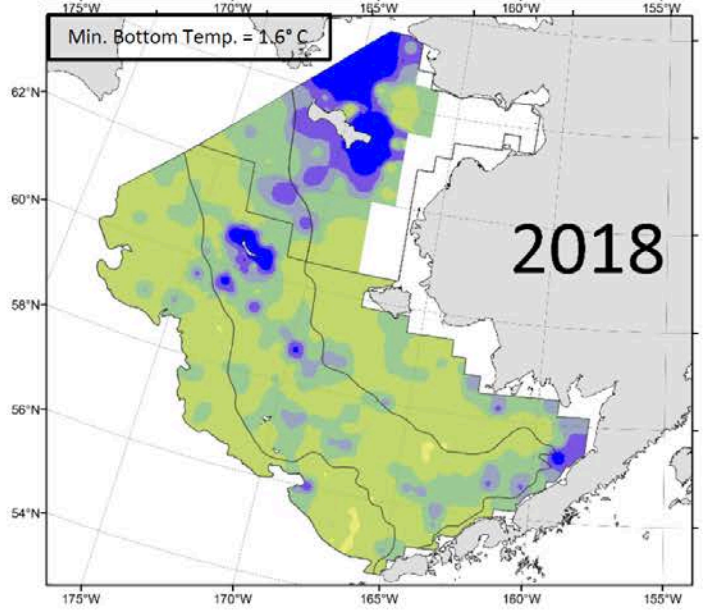
Pacific Cod

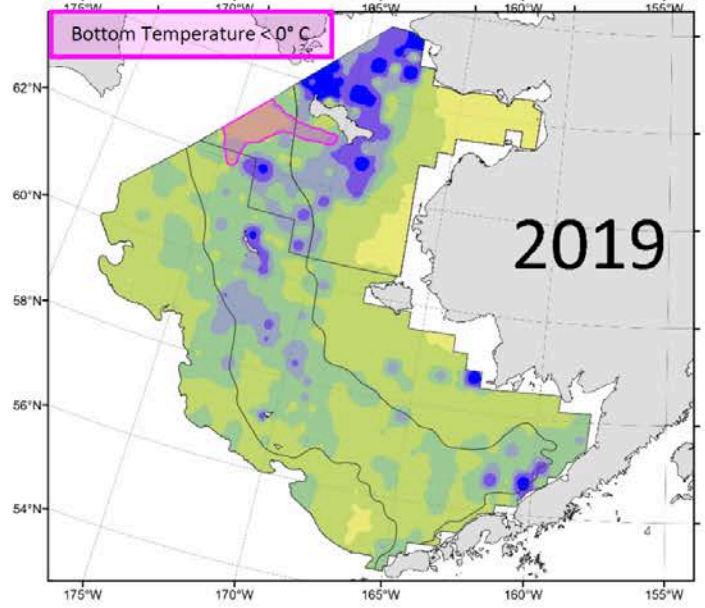
(kg/ha)

- no catch
- > 0 - 1
- > 1 - 10
- > 10 - 20
- > 20 - 30
- > 30 - 40
- > 40

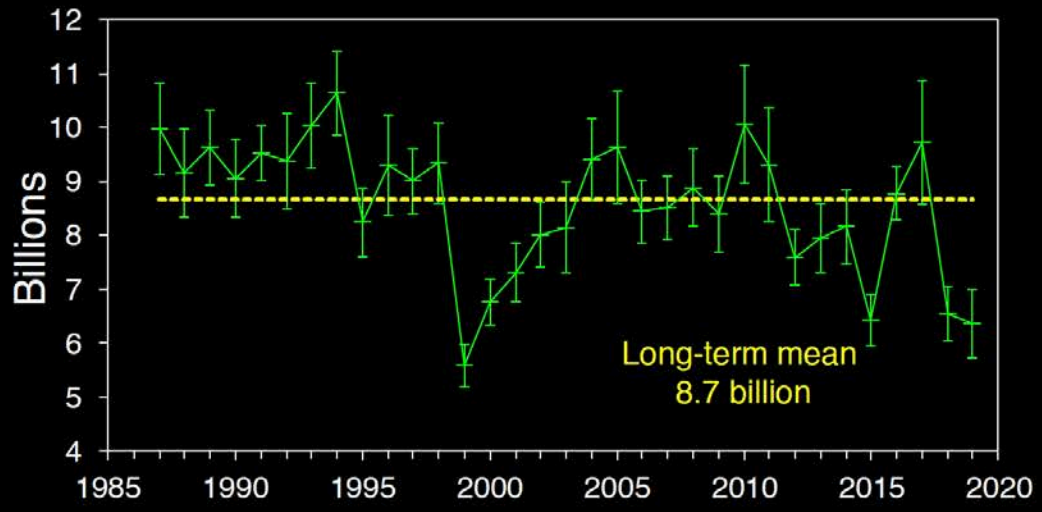








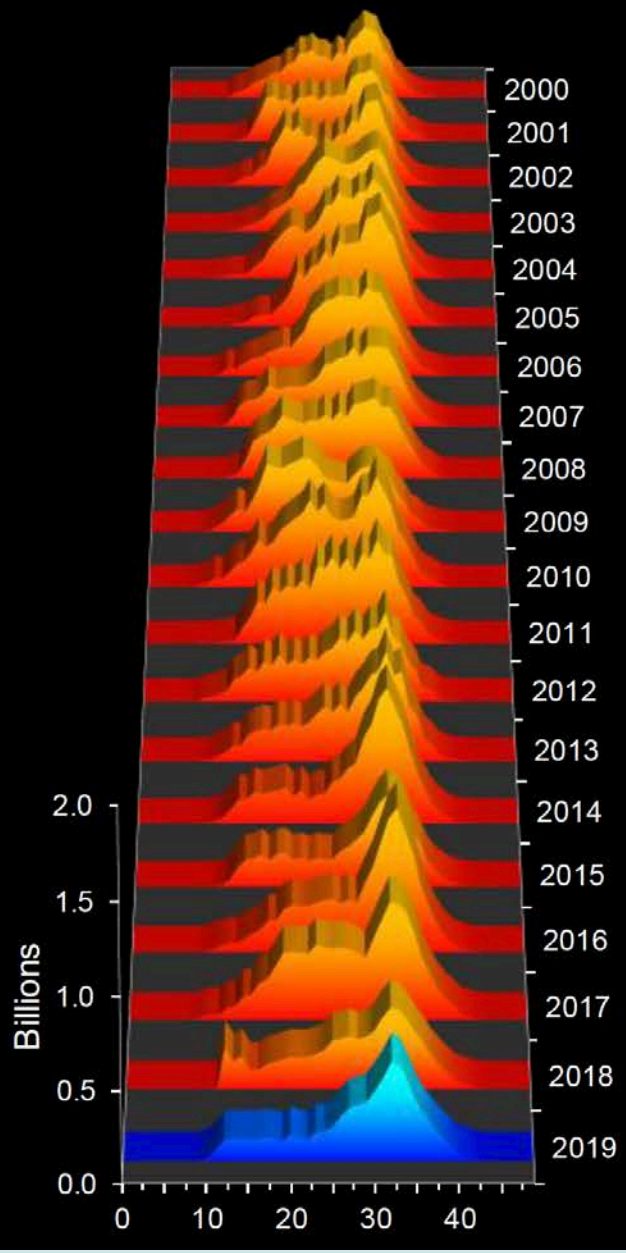
EBS Yellowfin sole



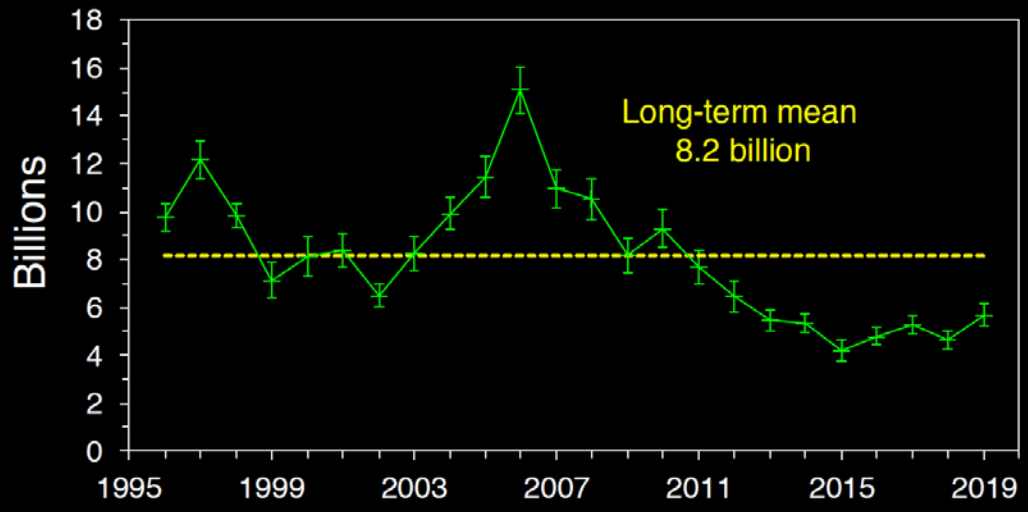
EBS Abundance

6.4 billion

-3% from 2018 (6.5 billion)



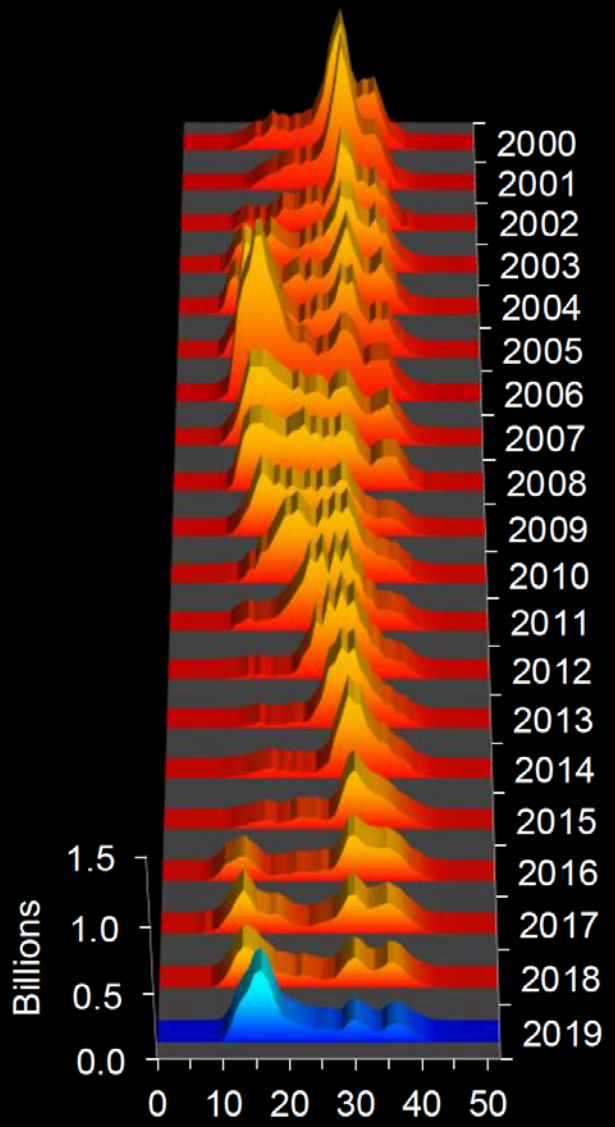
EBS Northern rock sole



EBS Abundance

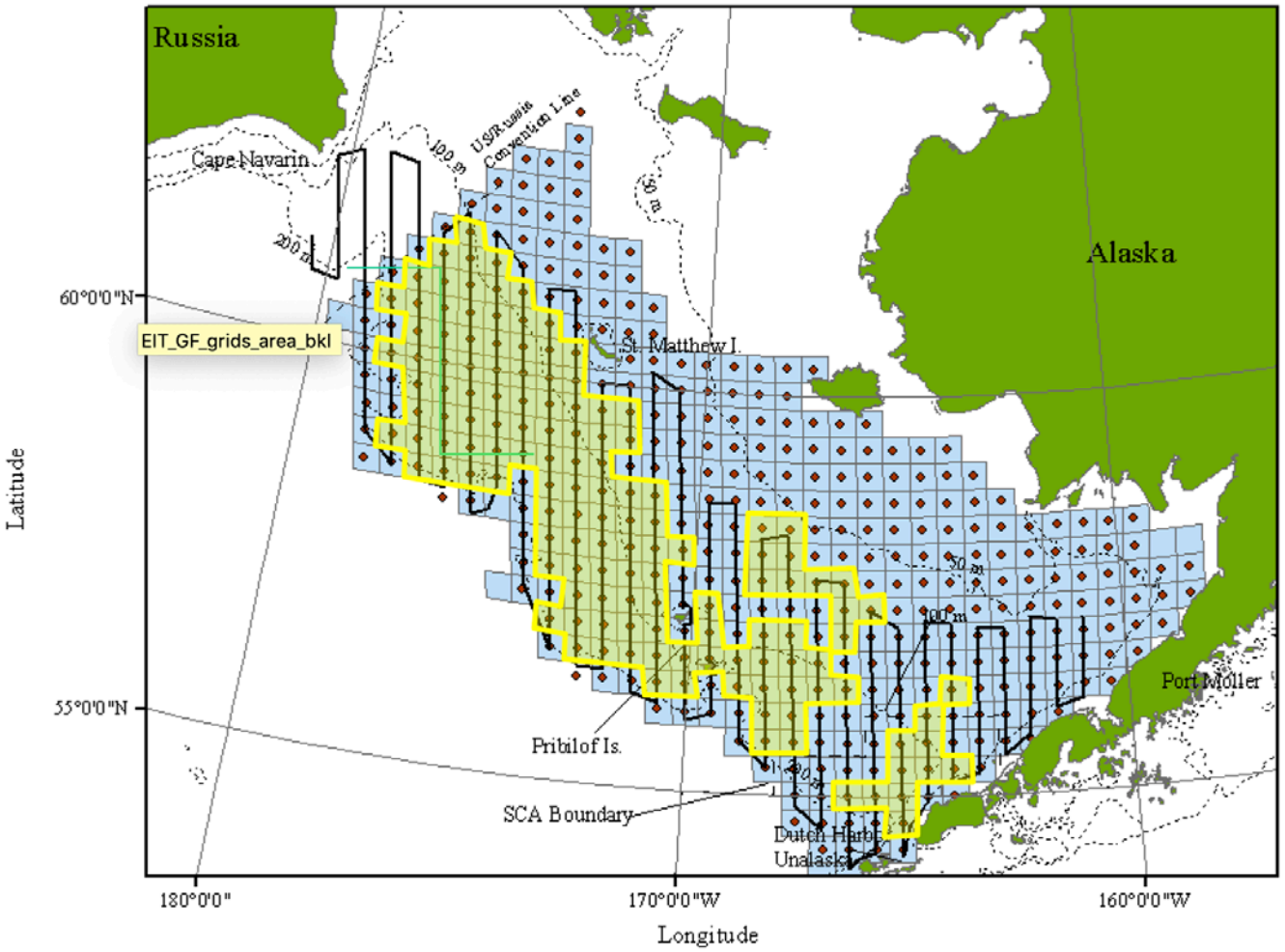
5.68 billion

+23% from 2018 (4.63 billion)

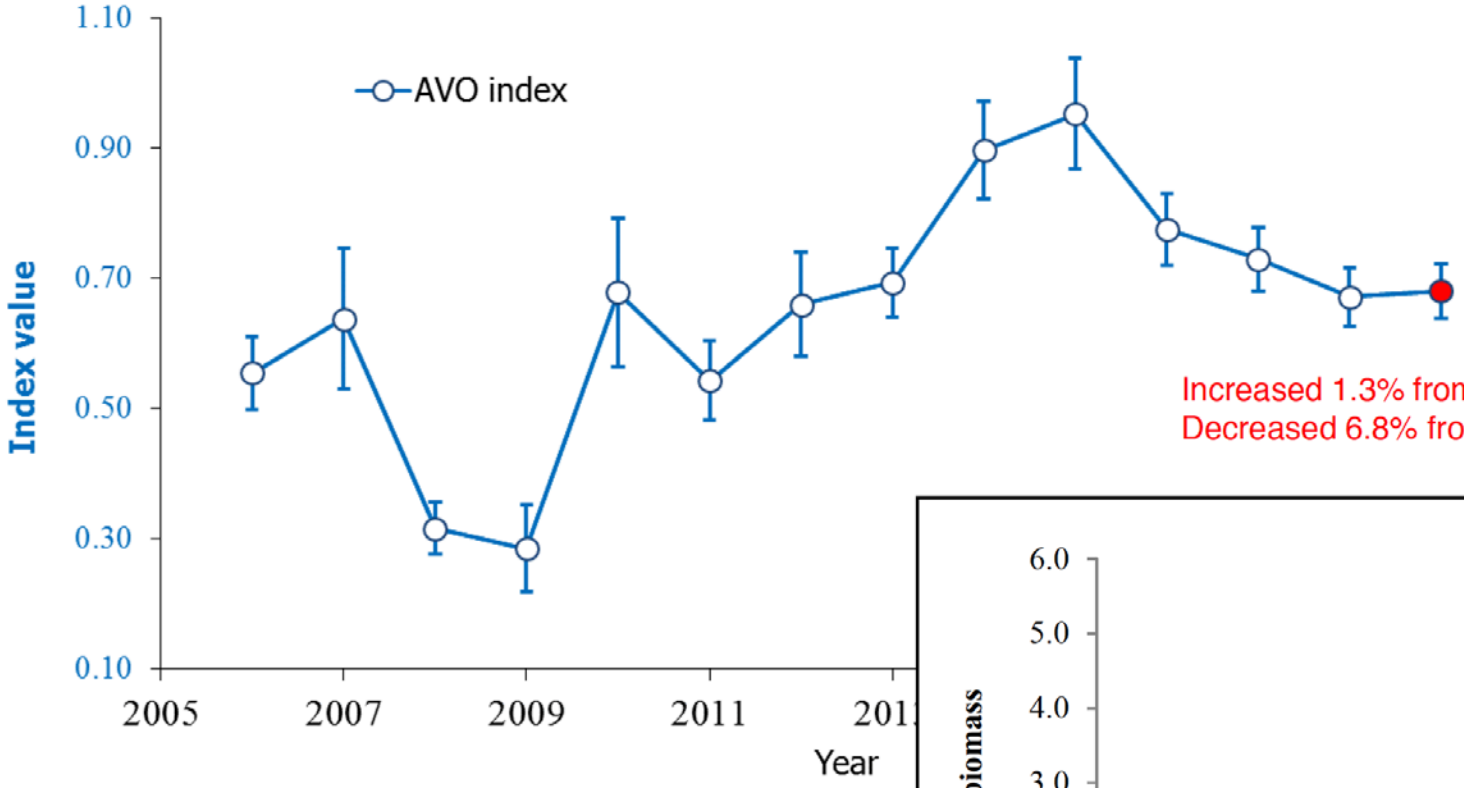


AVO (index of midwater pollock from bottom trawl survey acoustics)

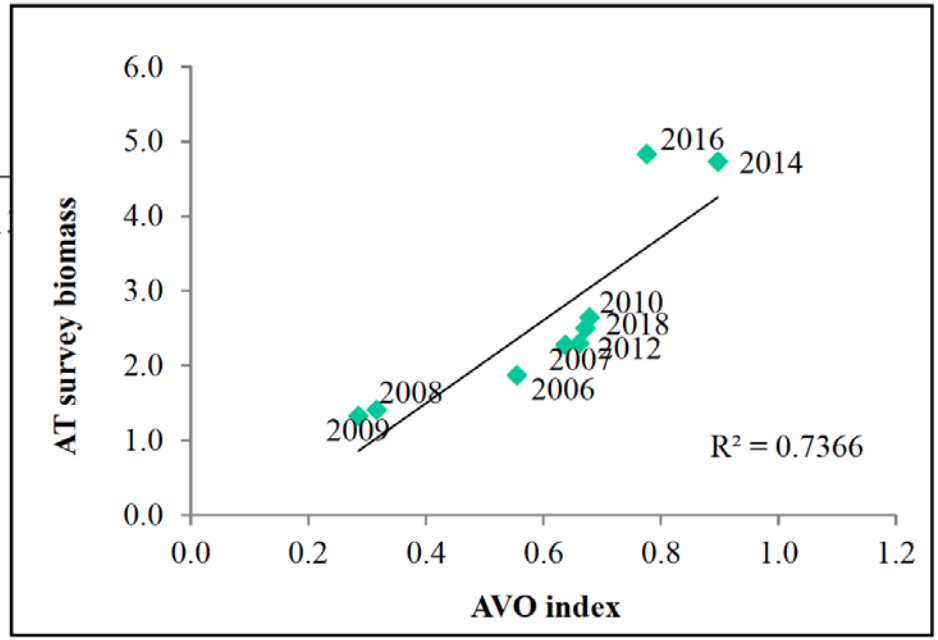
S. Stienessen, T. Honkalehto, N. Lauffenburger, P. Ressler



2019 AVO Index



Increased 1.3% from 2018
Decreased 6.8% from 2017



Halibut discard mortality rates

Table 1. 2019 halibut DMRs specified for fishery operational types defined for halibut PSC management in GOA and BSAI groundfish fisheries and halibut DMR Workgroup recommendations for 2020 and 2021.

Area	Gear	Operation	2019 DMR	2020/2021 DMR
BSAI	Pot	All	19%	27%
	Hook-and-line	CP	8%	9%
	Hook-and-line	CV	4%	9%[a]
	Non-pelagic trawl	Mothership / CP	78%	75%
	Non-pelagic trawl	CV	59%	58%
GOA	Pot	All	4%	0%
	Hook-and-line	CP	11%	11%
	Hook-and-line	CV	21%	13%
	Non-pelagic trawl	Mothership / CP	79%	75%[b]
	Non-pelagic trawl	CV	67%	68%
	Non-pelagic trawl	CV-Rockfish Prog	49%	52%
All	Pelagic trawl	All	100%*	100%*

[a] Based on BSAI HAL CP

[b] Based on BSAI NPT CP

*Fixed, not estimated

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Sablefish assessment

2019 RPN index increased by 48% from 2018

The 2014 year class will be around 50% mature

No model changes expected for the 2019 assessment

May recommend reduction from maxABC using the risk table

- 2019 ABC was reduced by 45% from maxABC

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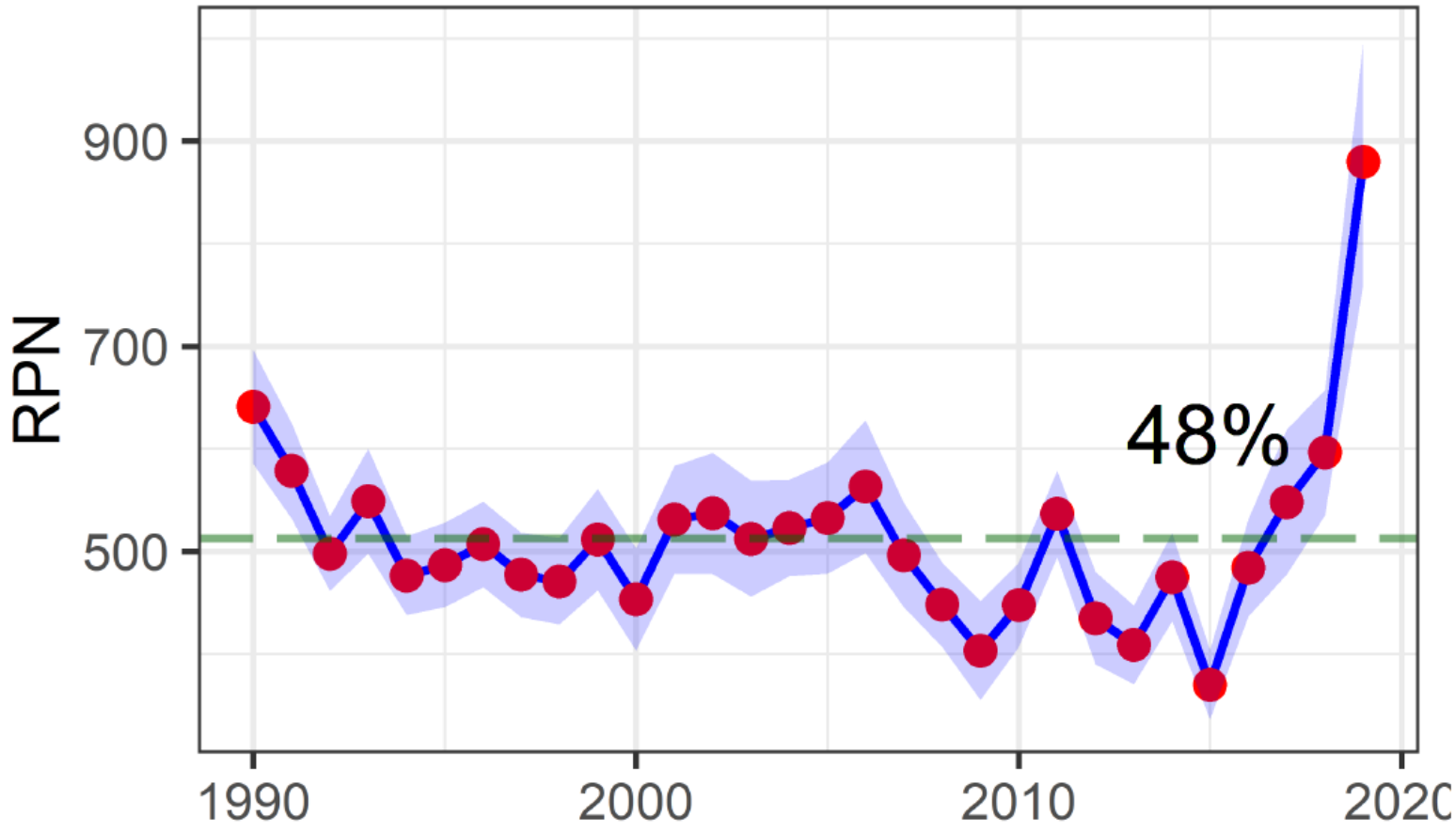
Sablefish assessment

- Longline survey results (all areas)



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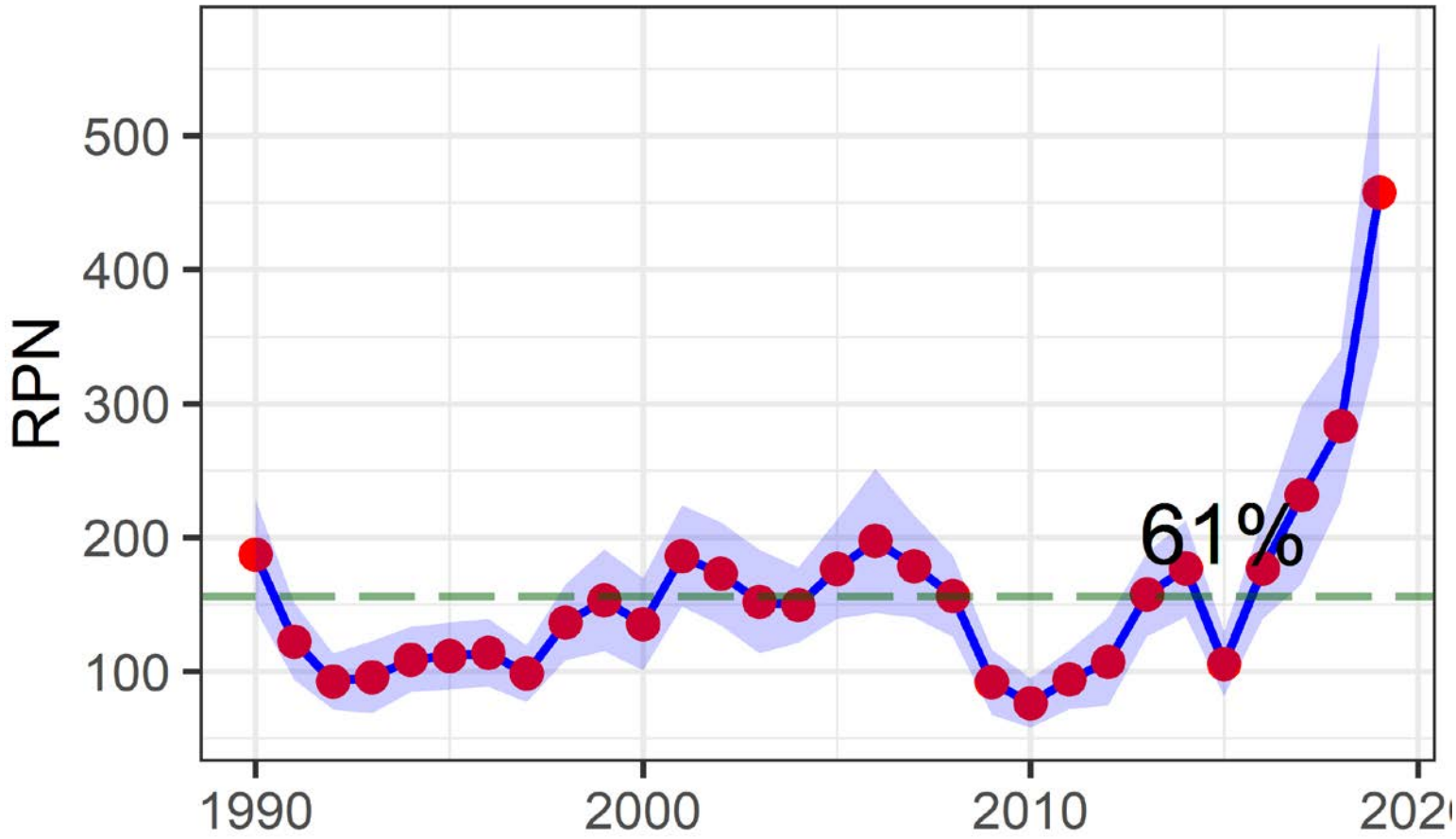
Sablefish assessment

- Longline survey results (BSAI only)



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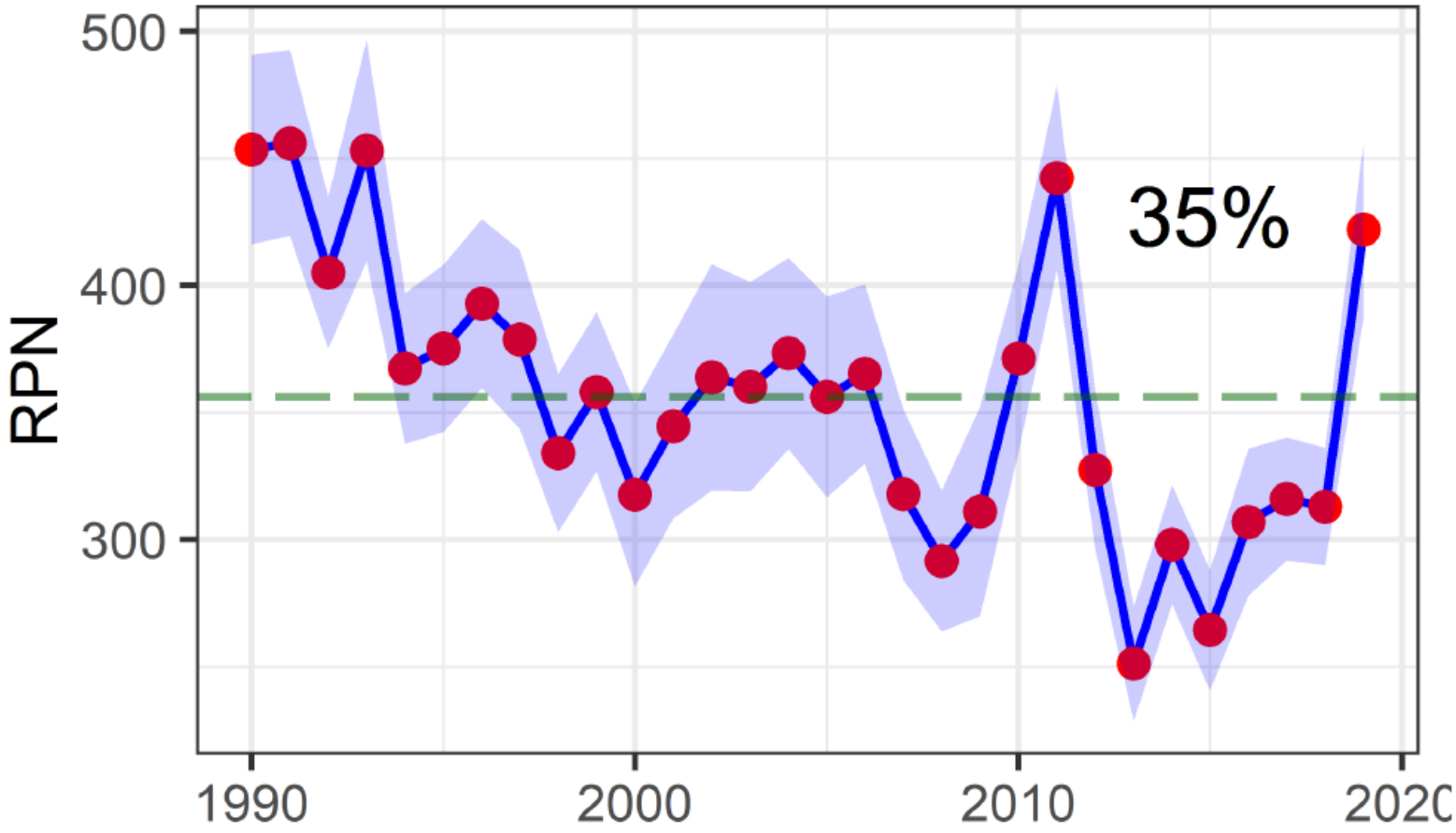
Sablefish assessment

- Longline survey results (GOA only)



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Sablefish assessment OFL mismatch

BS catch approaching OFL, due to bycatch in trawl fleets

Region-specific OFLs and ABCs holdover from FMP-specific assessments

- Only groundfish stock spans the BSAI and GOA FMPs
- Stock status reporting awkward
  - Separate OFLs specified, only sum “counts” in status determination

Teams noted exceeding OFL in BS alone **not** a conservation concern

Combining the OFL for BS and AI *acceptable*

The Teams recommend authors bring alternatives for OFL:

1. Combine the BS and AI and
2. Combine OFL Alaska-wide

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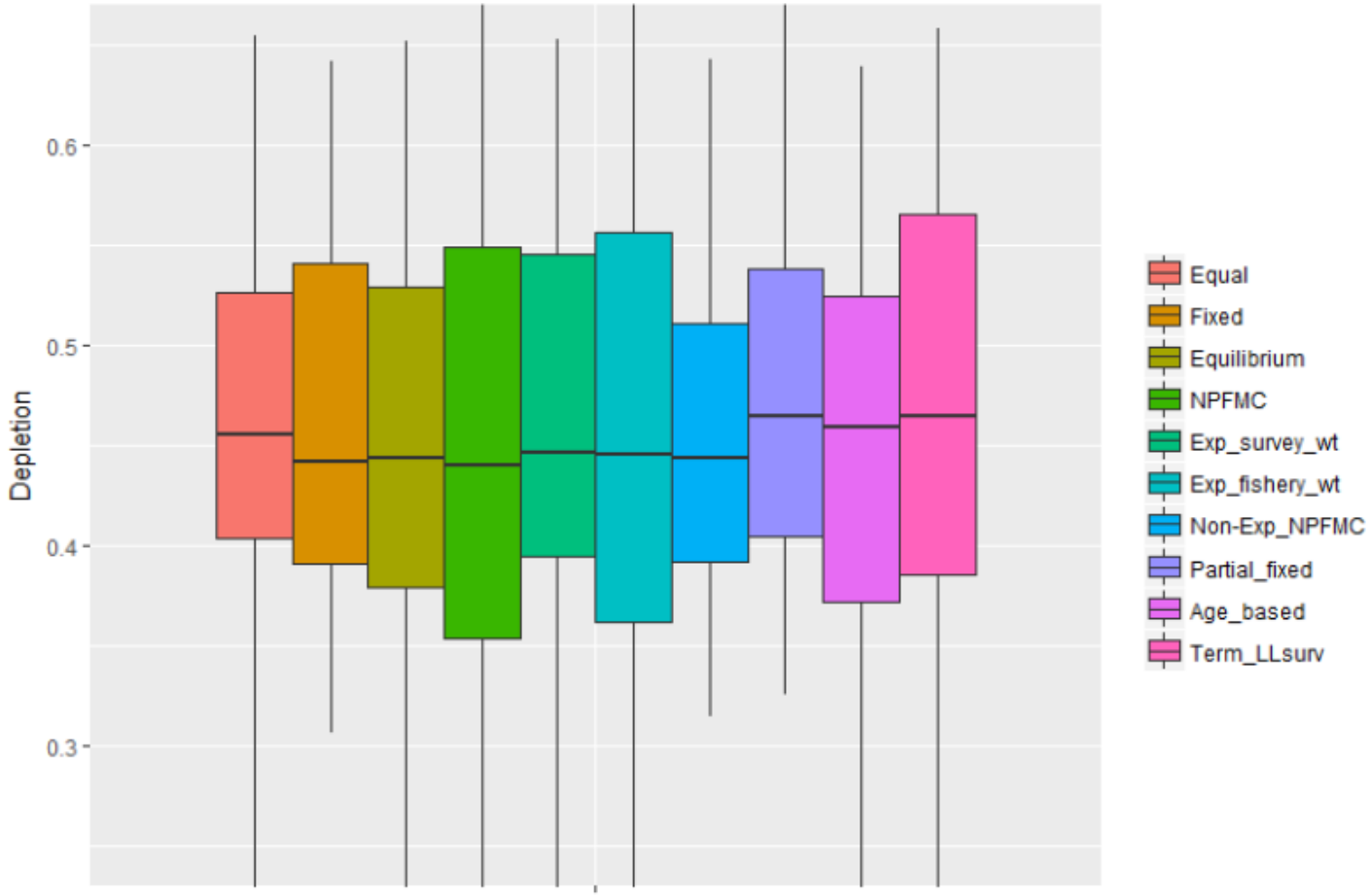
Sablefish assessment (apportionment impacts)

- SB_{2029}/SB_{1977} (results are preliminary, for illustrative purposes only)



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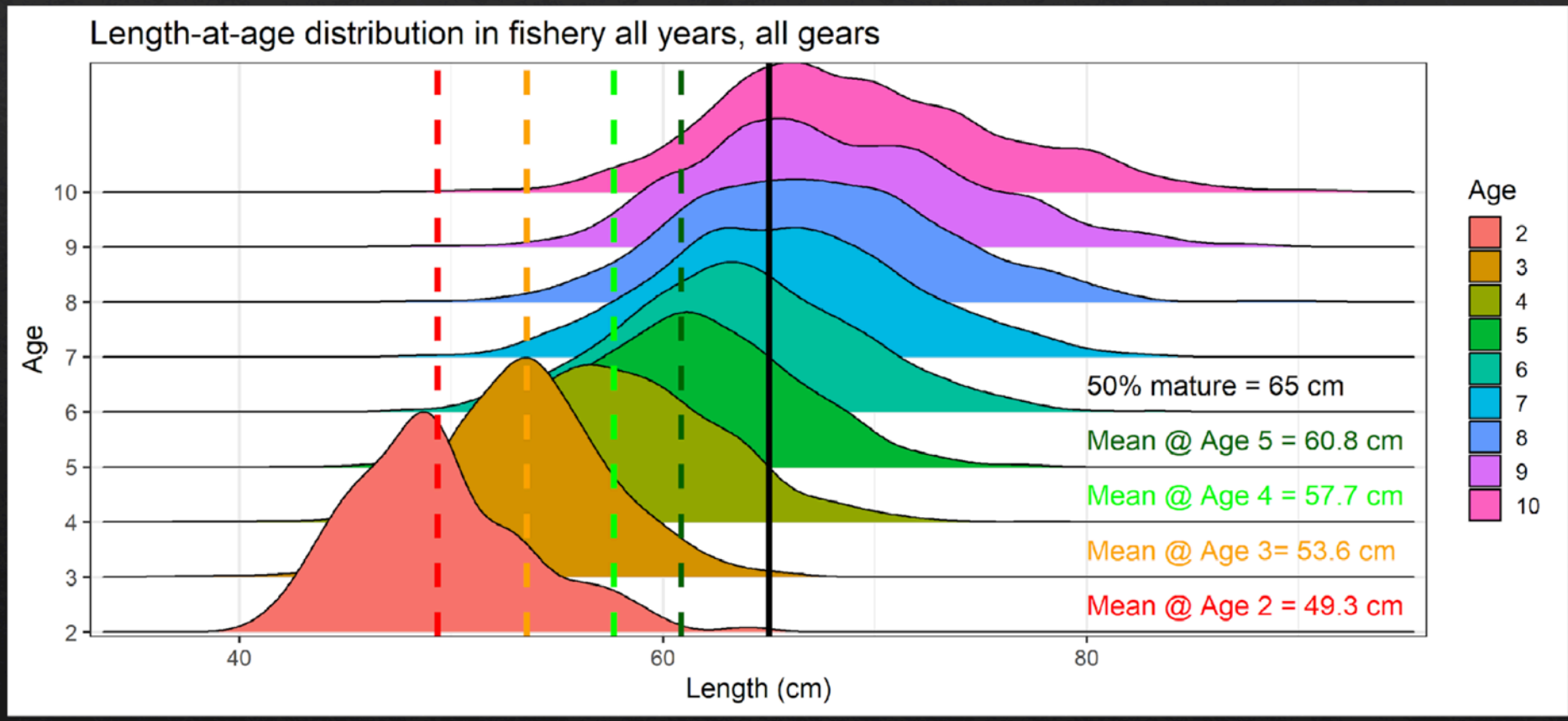
Sablefish discard mortality

Voluntary vs mandatory release



Sablefish discard mortality

Voluntary versus mandatory release of sablefish

Single size limits versus area specific size limits

Implications on stock abundance and allocations

Sablefish discard mortality…

1. Voluntary vs mandatory: essential to have accurate discard rates
2. The implementation of Electronic Monitoring (EM) and changes in IFQ observer coverage]affects discard rates estimation, currently inadequate
3. The Teams encourage further exploring existing programs (e.g., ADFG)
4. Sablefish value is size-based so voluntary release may lead to high-grading
5. Proponents of a discarding allowance wish to minimize impact on incoming year classes–lag
6. Three options for estimating discards were presented:
    - survey catch at length,
    - observer/EM estimated discard rates, or
    - Logbooks

7. Topic has repercussions on multiple levels of management including observer coverage, enforcement, catch accounting, and stock assessment

Risk table

Designed to track considerations impacting ABC recommendation

In December 2018, the SSC recommended:

- Adding column addressing fishery behavior and performance
- Completion of RTs in all full assessments in 2019
- Reductions (by authors and Teams) optional

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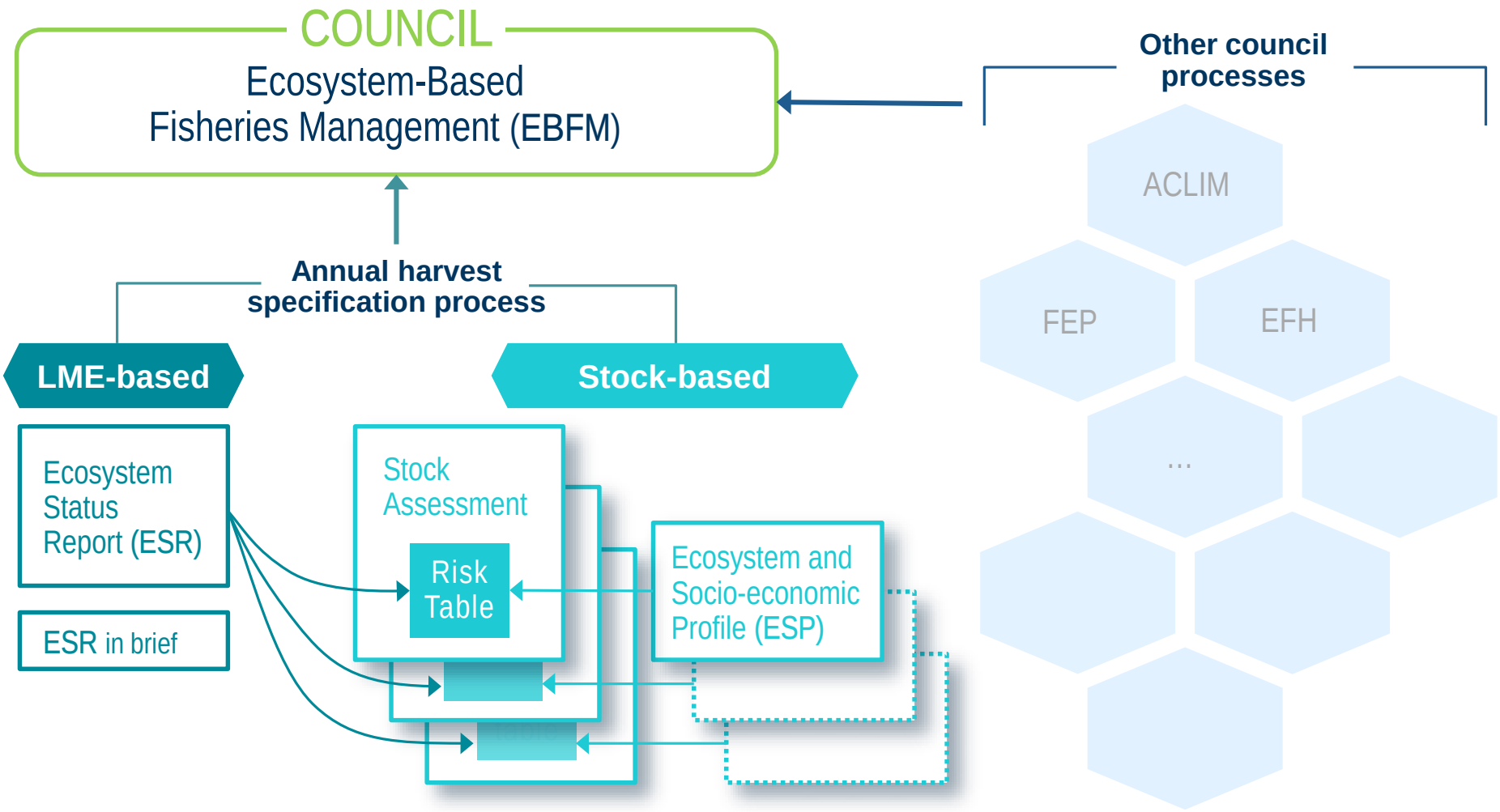
Risk table



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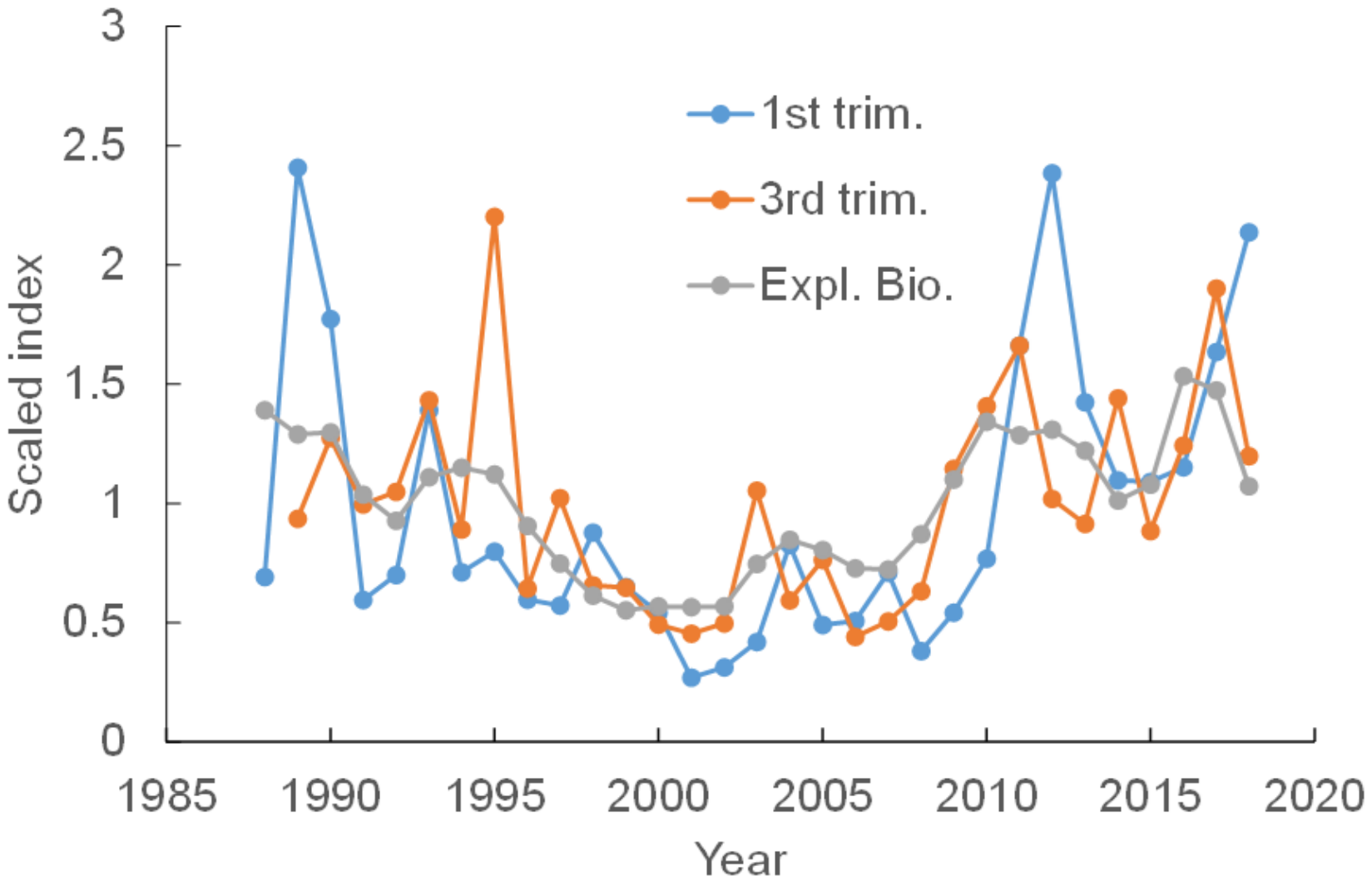
Risk table

	Assessment-related	Population dynamics	Ecosystem	Fishery Performance
Level 1: Normal	Typical to moderately increased uncertainty/minor unresolved issues in assessment	Stock trends are typical for the stock; recent recruitment is within normal range.	No apparent environmental and/or ecosystem concerns	No apparent fishery/resource-use performance and/or behavior concerns
Level 2: Substantially increased concerns	Substantially increased assessment uncertainty/ unresolved issues.	Stock trends are unusual; abundance increasing or decreasing faster than has been seen recently; or recruitment pattern is atypical.	Some indicators showing adverse signals for the stock, but the pattern is not consistent across all indicators.	Some indicators showing adverse signals but the pattern is not consistent across all indicators.
Level 3: Major Concern	Major problems with the stock assessment; very poor fits to data; high level of uncertainty; strong retrospective bias.	Stock trends are highly unusual; very rapid changes in stock abundance; or highly atypical recruitment patterns.	Multiple indicators showing consistent adverse signals a) across the same trophic level as the stock, and/or b) up or down trophic levels from the stock	Multiple indicators showing consistent adverse signals a) across different sectors, and/or b) different gear types
Level 4: Extreme concern	Severe problems with the stock assessment; severe retrospective bias; assessment considered unreliable.	Stock trends are unprecedented; More rapid changes in stock abundance than ever seen previously, or very long stretch of poor recruitment compared to previous	Extreme anomalies in multiple ecosystem indicators that are highly likely to impact the stock; potential for cascading effects on other ecosystem components	Extreme anomalies in multiple performance indicators that are highly likely to impact the stock.

Risk table

- Fishery behavior and performance (GOA pollock: CPUE and biomass)