



**NOAA
FISHERIES**

**Alaska Fisheries
Science Center**

Report of the September 2020 Joint Groundfish Plan Team meeting

Grant Thompson
and
Jim Ianelli

September 29, 2020

Meeting overview

Date: September 8-9

Place: Cyberspace

Leaders:

- GOA: Jim Ianelli, Chris Lunsford (co-chairs); Sara Cleaver (coordinator); BSAI: Grant Thompson, Steve Barbeaux (co-chairs); Steve MacLean (coordinator)

Participation:

140+ total, (24 Team members)

Documents and presentation files available on Team agenda site

Link on Council agenda (under item C2)

Agenda (action items in red)

- Administrative/Intro/Council
- Observer Program Updates (COVID-related commendation)
- Ecosystem Status Report (ESR)
- Longline Survey (COVID-related commendation)
- Essential Fish Habitat
- Ecosystem and Socioeconomic Profiles (ESP)
- Economic SAFE
- Ecosystem Surveys: 2020 Recruitment Process Alliance (RPA) surveys
- VAST Applications in Survey Group
- Survey Prioritization Update
- Survey Loss Uncertainty
- Halibut Discard Mortality

Ecosystem & Socioeconomic Profiles (ESPs)

Kalei Shotwell updated Teams on ESP developments, SSC and Team comments, and workshops

- Goal to transition to ecosystem-linked assessments
 - Ecosystem linkages need to be transparent in decision making
 - Avoid lack of testing/scientific review
- Provide a standardized framework for presenting and communicating emerging evidence linking ecosystem processes to stock assessments

Strives to complete the loop between disciplines and allows for a proactive strategy in preparing for extraordinary changes

Ecosystem & Socioeconomic Profiles

Inventory:

- Sablefish
- GOA walleye pollock
- St. Matthew blue king crab
- Bristol Bay red king crab (new this month!)

Planned for November:

- EBS Pacific cod
- GOA Pacific cod

Ecosystem & Socioeconomic Profiles

Response to SSC (6/20) request for further development

ESP workshop (9/25)

- Review/feedback on the annual cycle
- Intent is to streamline the review process and reporting templates to help with increasing efficiency in producing the annual ESPs

ESP facilitators / ESR editors

- coordinating indicator contributions between the ESPs, ESRs, and Economic SAFE to avoid redundancy

Ecosystem & Socioeconomic Profiles

Stage 1 of proposed 3-stage indicator analysis (sablefish example):

- Traffic Light Score
 - Evaluate for the current year
 - Use +1, -1, 0 to count G/P/S then / by total indicators
 - Evaluate for all categories and provide total ecosystem and socioeconomic score
- Potential Use of Score
 - Evaluate ESP considerations section, risk table, SSC

Category	Good	Poor	Stable	Score
Physical	3		1	0.75
Zooplankton			1	0
Larval & YOY	1			1
Juvenile	1	1	1	0
Adult	2	1	3	0.17
Total (8 NA)	7	2	6	0.33

Ecosystem & Socioeconomic Profiles

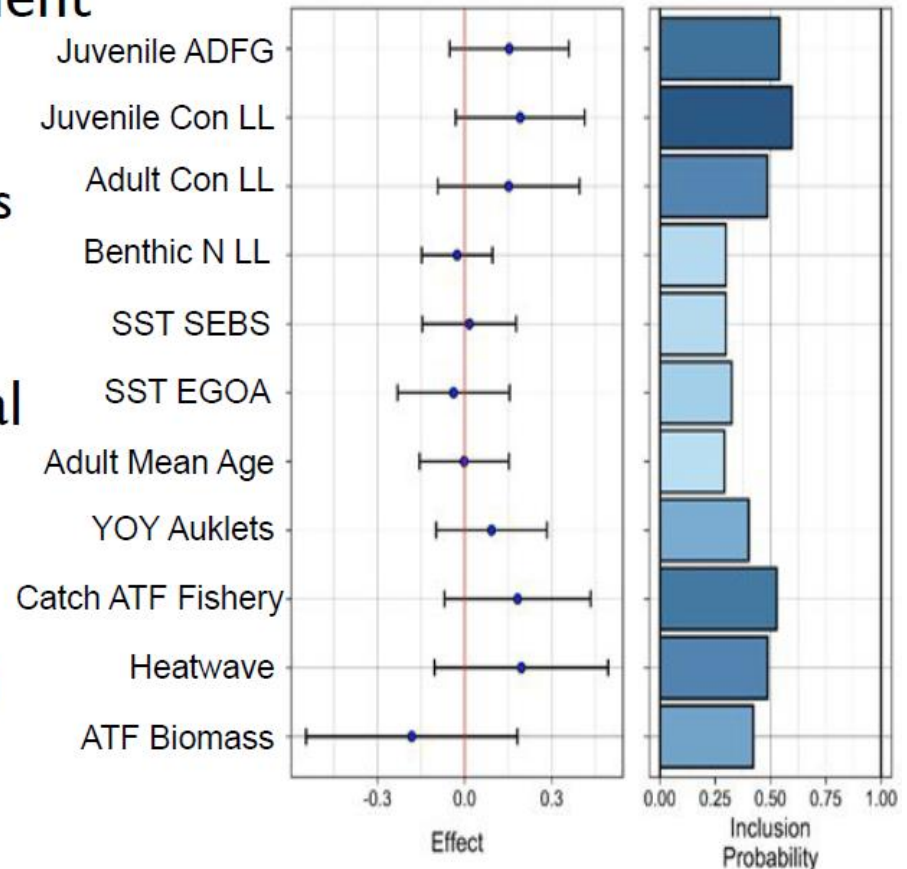
- Stage 2 of proposed 3-stage indicator analysis (sablefish example):

- Modeling outside assessment

- Inclusion probabilities
- Weighting in stage 1 scores
- Priorities for assessment

- 5 indicators have potential

- Juvenile index stand alone
- Use together to inform recruitment deviations and lower uncertainty



Ecosystem & Socioeconomic Profiles

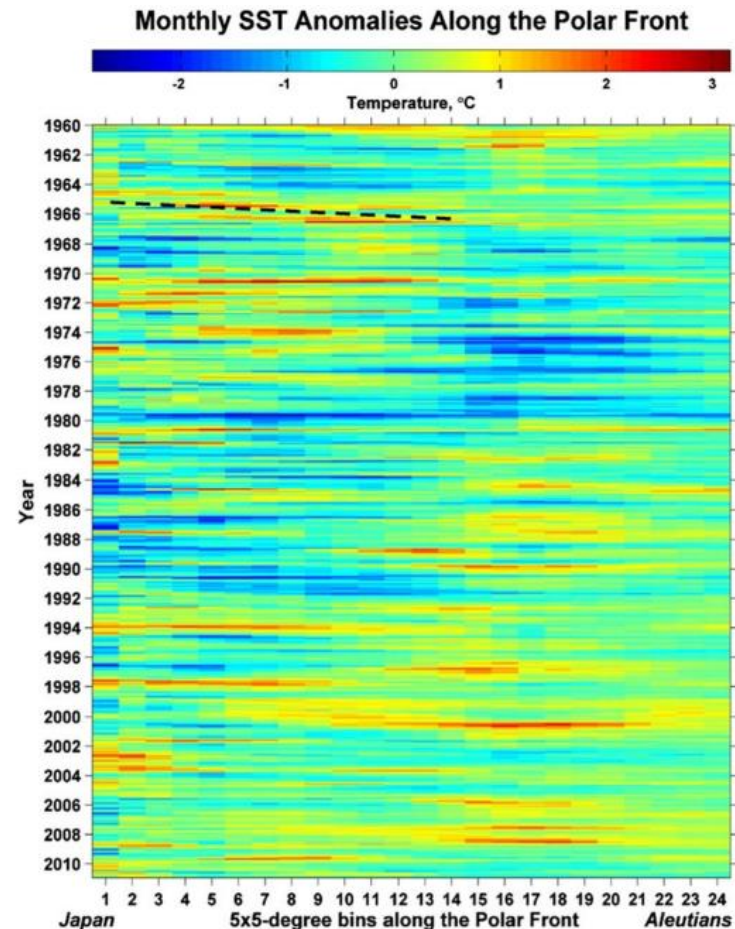
- Stage 3 of proposed 3-stage indicator analysis (sablefish example):

- Modeling within assessment

- Improve model parameters
- Improve forecasting
- Provide decision tables

- Polar Front example

- Wintertime conditions in central NP important
- Improvement in medium-term
- Compare with current model



Ecosystem & Socioeconomic Profiles

Question 1: “Do the Teams support the 3-stage indicator analysis concept and scoring methods?”

- Concern on equal weighting on the first stage
- Recommended to be aware equal weighting issues when selecting indicators
- Consider appropriately caveating the indicators to ensure they are interpreted species-specific (not necessarily general)
- Supported continuing with the current 3-stage indicator analyses for now
 - Re-evaluate as ESP process develops,
 - Actual value of the integrated index is yet to be clearly demonstrated
 - As high-level summary statistic still has some value

Ecosystem & Socioeconomic Profiles

Agenda for the September 25 workshop:

1. Review March workshop
2. Metric and indicator scoping, testing and validation method
3. Socioeconomics in the ESPs: what to use and how
4. Indicator analyses and transfer to/from SAFE report
5. Coordinating between ESP, ESR, Econ. SAFE, and SAFE chapters

Question 2: “Are the one-day discussion topics sufficient?”

- The Teams supported proposed one-day ESP agenda
- Requested linkages to EFH be included in the last two discussion topics planned: Coordinating data and Indicator Analyses

Ecosystem & Socioeconomic Profiles (9 of 12)

- ESP “dashboard” on AKFIN

ESP Data

This page contains data of interest to generate Ecosystem and Socioeconomic Profiles (ESP's) for groundfish and crab stocks of Alaska.

Ecosystem

Oceanographic

MUR Temperature

[Open](#) Queries for downloading Multi-Resolution sea surface temperature by station and management areas.

CRW Temperature

[Open](#) Queries for downloading Coral Reef Watch, sea surface temperature, anomaly and marine heatwave by station and management area.

BASIS Ocean - Chlorophyll

[Open](#) A query of the BASIS OCEAN database that summarizes average chlorophyll pivoted by CTD filter size.

BASIS Ocean - Surface Nutrients

Socioeconomics

Fishery Performance

CPUE

[Open](#) Queries for downloading catch-per-unit-effort from fishery dependent sources.

Effort

[Open](#) Queries for downloading effort from fishery dependent sources.

Condition

[Open](#) Queries for downloading fish condition by sector.

Economics

Value

[Open](#) Queries for downloading price, revenue, and value by sector.

Exploratory

Surveys

BASIS Fish Catch All 0

[Open](#) A query of the BASIS FISH database that includes all stations sampled for a given year for all species juvenile catch records. The empty records are then filled in for all species with 0 catches. Catch includes fish from all life history stages.

BASIS Fish and Ocean

[Open](#) A combination of the BASIS FISH and OCEAN databases that reports on catch with average temperature and salinity along with average nutrients for the first 10 depths. Pivoted by all species.

Laboratory

RECA Energetics

Ecosystem & Socioeconomic Profiles

- The Teams fully support the development of the ESP dashboard hosted on AKFIN with the following considerations (continued):
 - The ESP dashboard can either mirror or link to the data source, as per the preferences of the data provider
 - Indicators that are still in development, those that are “for use with permission only” indices are important for authors to be able to access and providing those indices on AKFIN would be helpful
 - However, until ready for public distribution, the ESP and assessment authors should work with the index developers
 - Thus, for those indices, AKFIN may need to only list and describe the index with contact information

Ecosystem & Socioeconomic Profiles

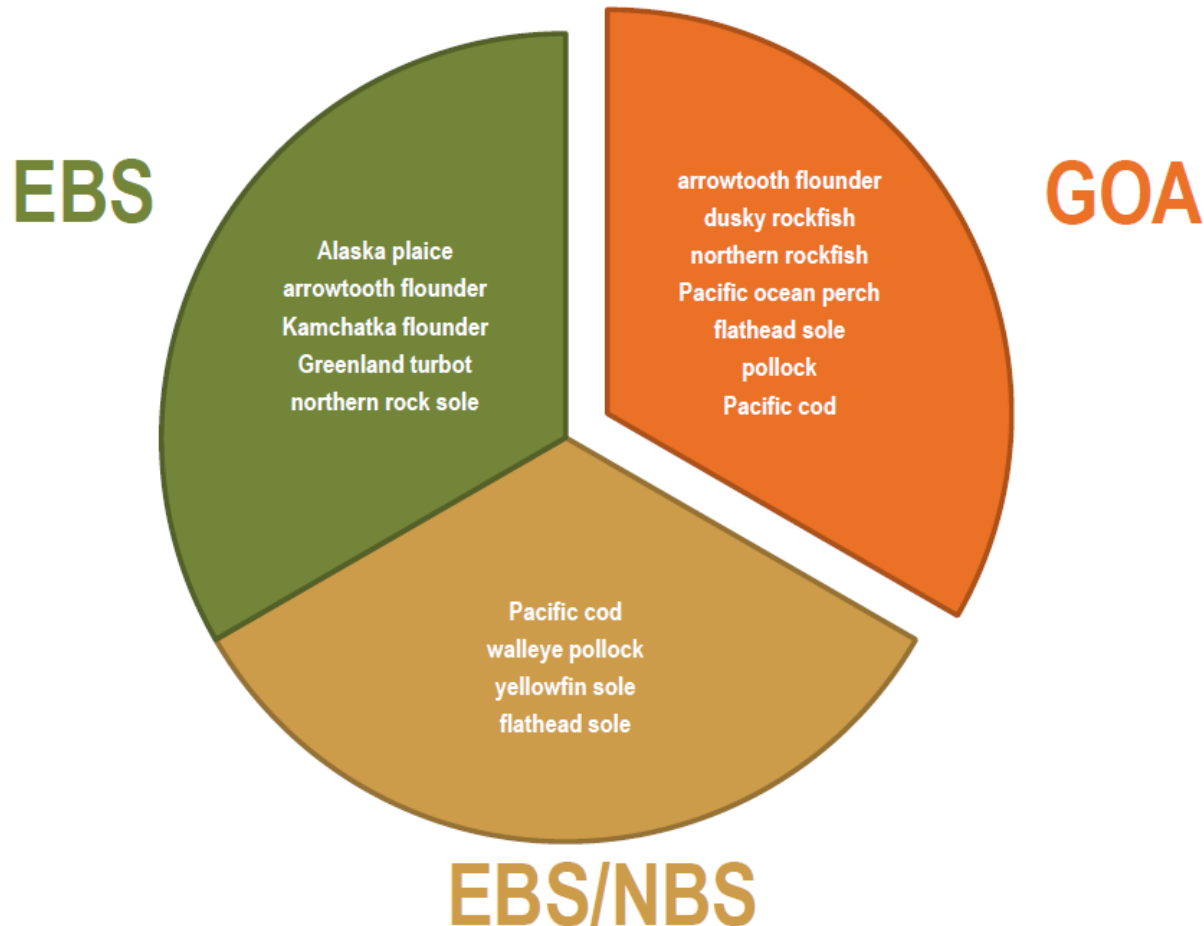
- ESP formats
 - Standard template: full (ESP appears as appendix to SAFE chapter)
 - Introduction: justification, data
 - Metrics assessment: baseline, processes
 - Indicators assessment: time series, analysis
 - Recommendations: data gaps, future priorities
 - Standard template: partial
 - Based on SAFE chapter “partial update” template
- *Question 4*: “Do the Teams support the existing standard template formats for both full and partial ESP; is the timing of reports reasonable?”
- The Teams support the current formats and timelines for now
 - This question may need to be revisited as the ESP process develops

Ecosystem (RPA) Surveys

- Other Team discussion:
 - There will likely be a larger number of surveys next year, and the current format of the presentation may preclude showing results of them all in the time available
 - Options include defining a set of “core” surveys that should be reported every year, and identifying “hot topics” that might vary
 - The Teams also discussed the possibility of providing a set of predictive performance measures to determine whether an indicator is a candidate for inclusion in the ESP, but no specific alternatives were suggested and the Teams took no action on this
- The Teams recommended that the Ecosystem Status Report (ESR) and Ecosystem and Socioeconomic Profile (ESP) committees provide a prioritized list of ecosystem information to be reported to the Teams for the September meeting

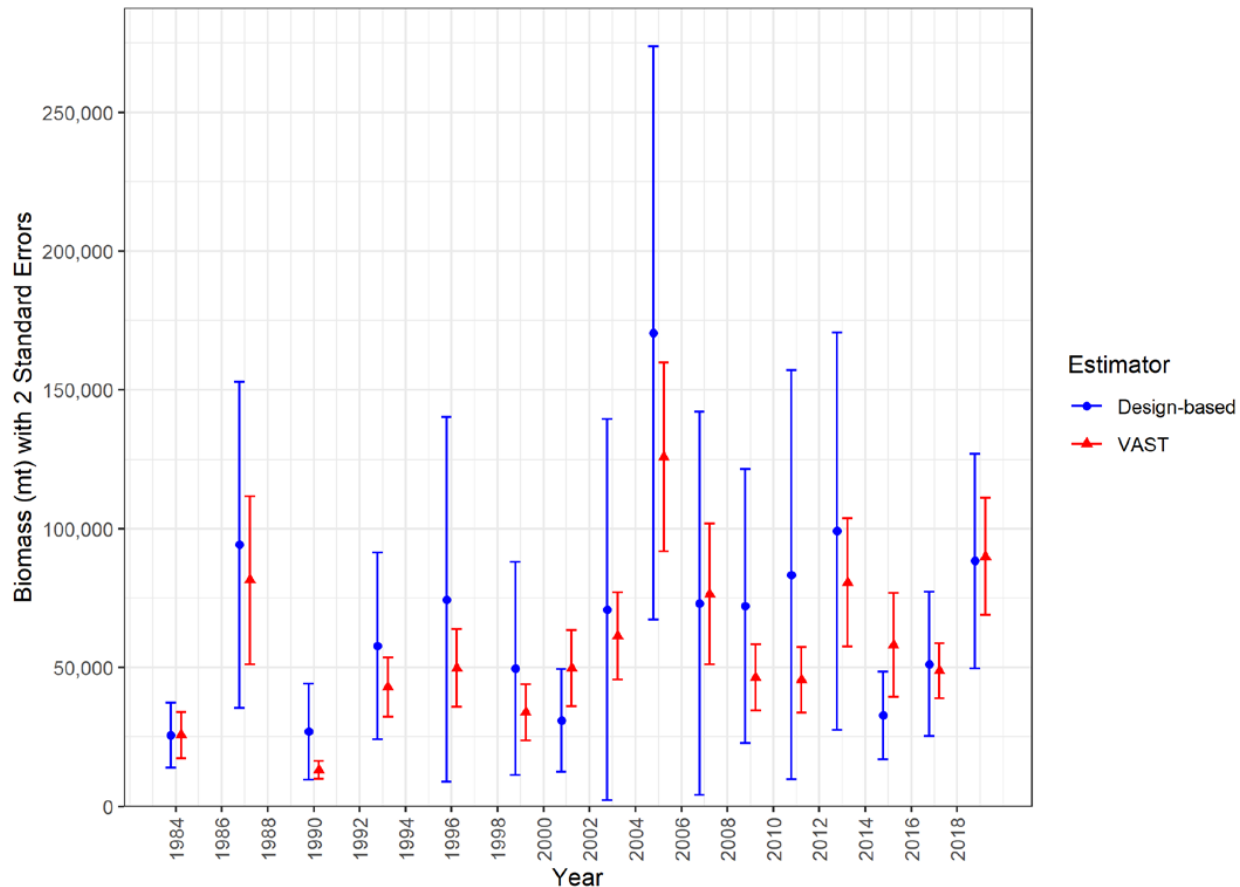
VAST Applications in Survey Group

- Stocks for which VAST survey time series are currently available



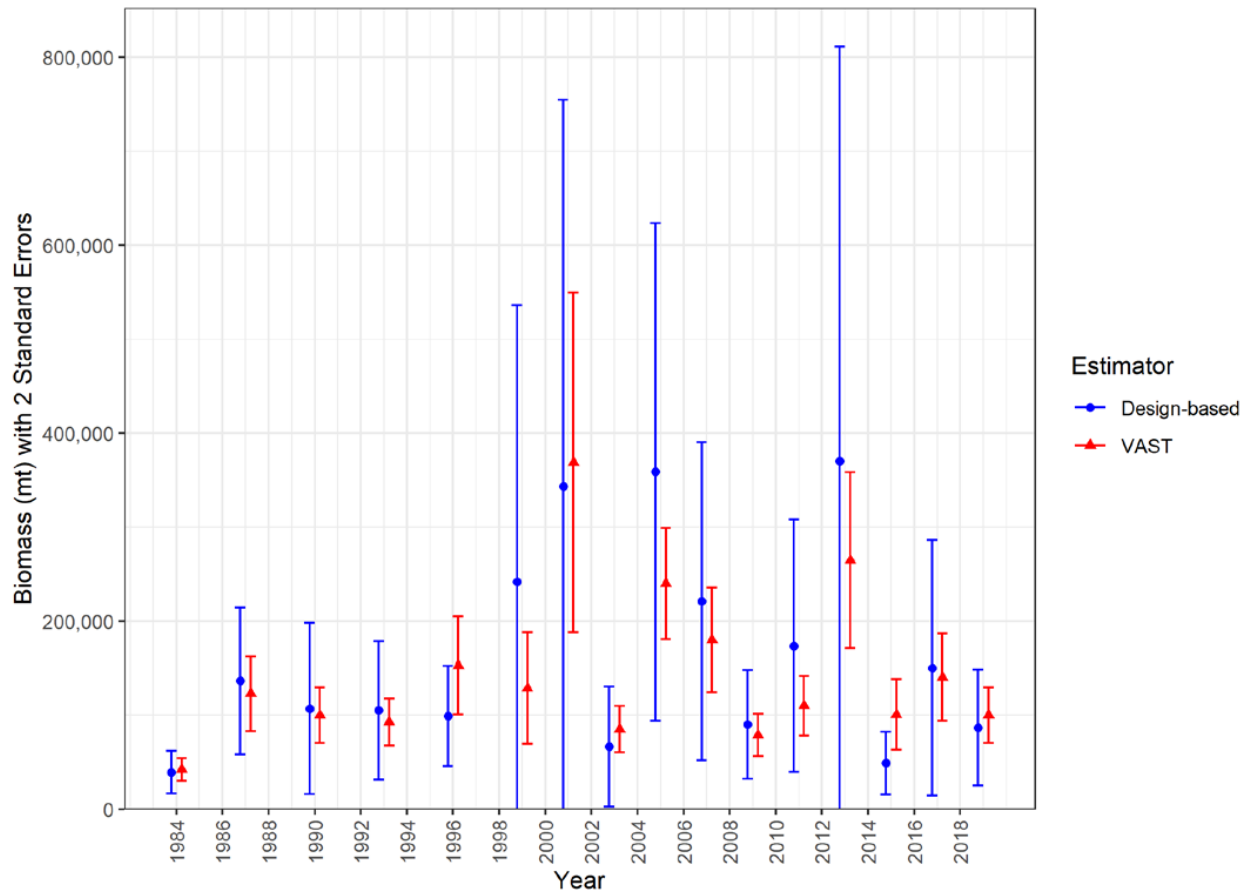
VAST Applications in Survey Group

- Example: GOA dusky rockfish (combined with dark prior to 1993)



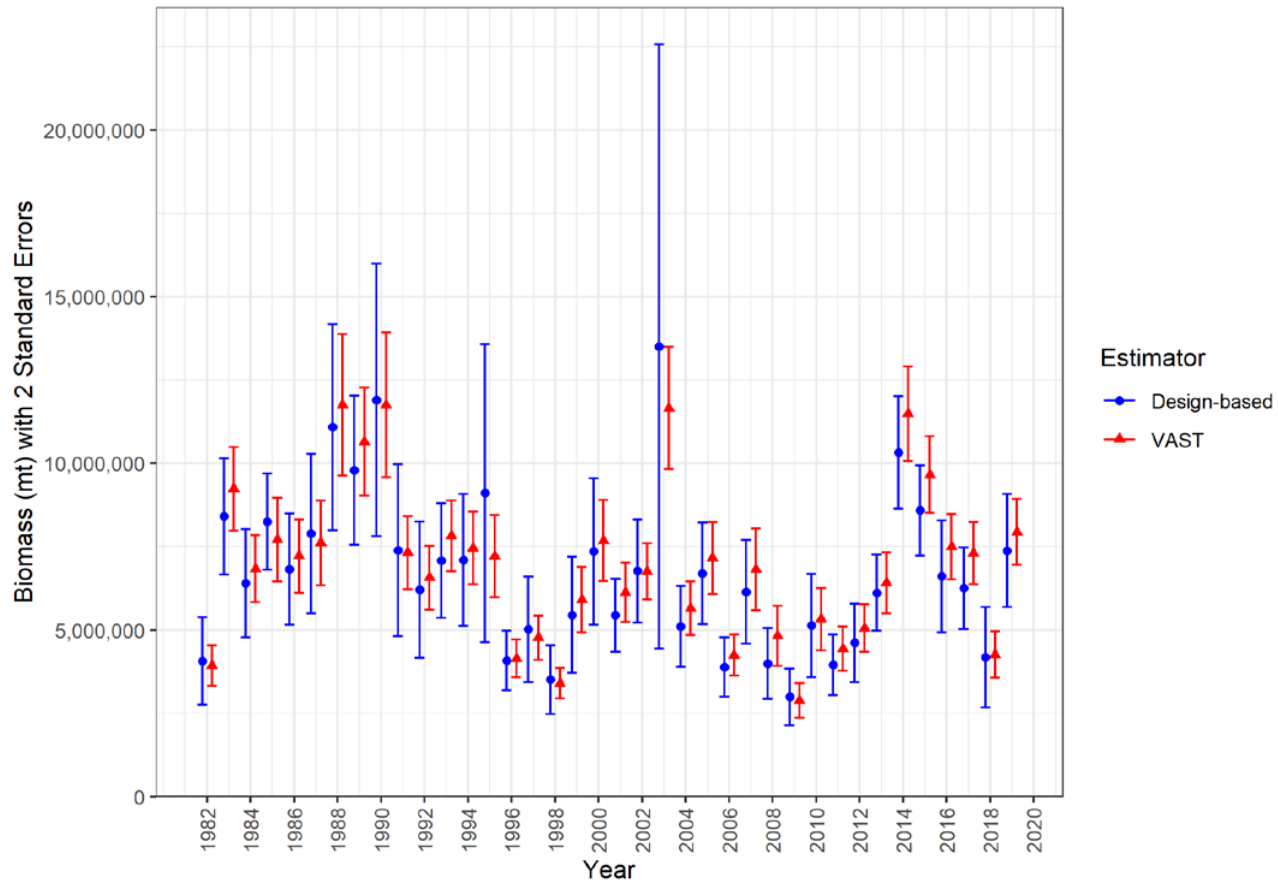
VAST Applications in Survey Group

- Example: GOA northern rockfish



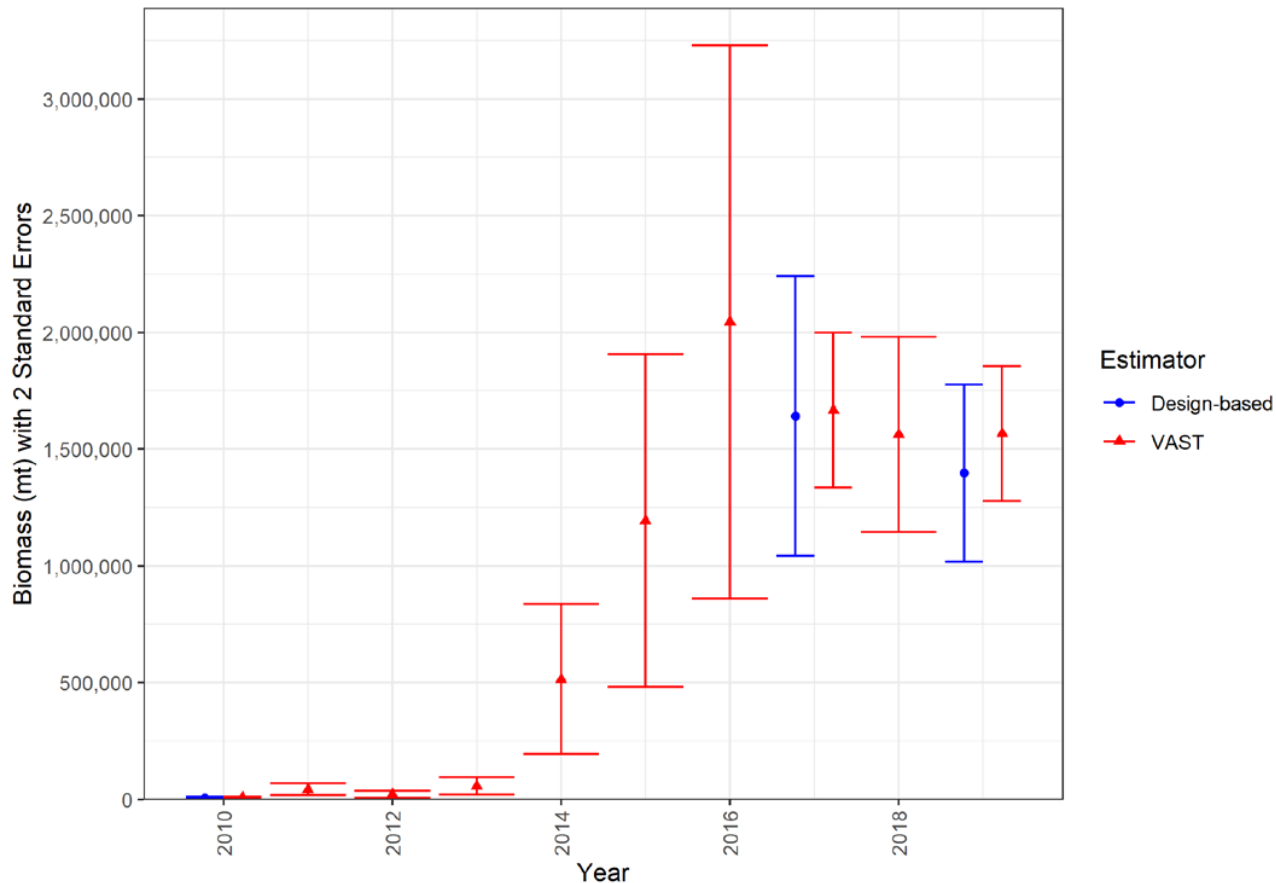
VAST Applications in Survey Group

- Example: EBS pollock



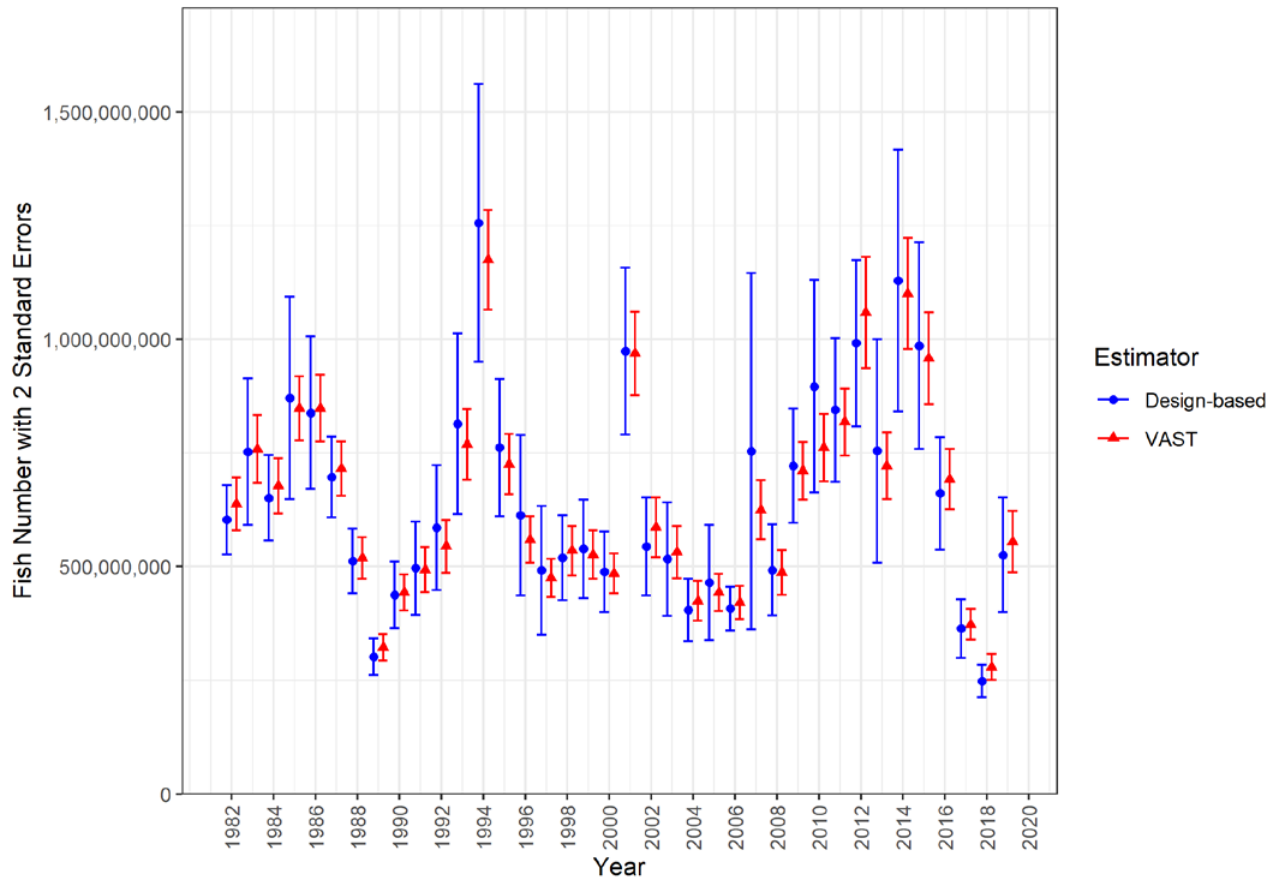
VAST Applications in Survey Group

- Example: NBS pollock



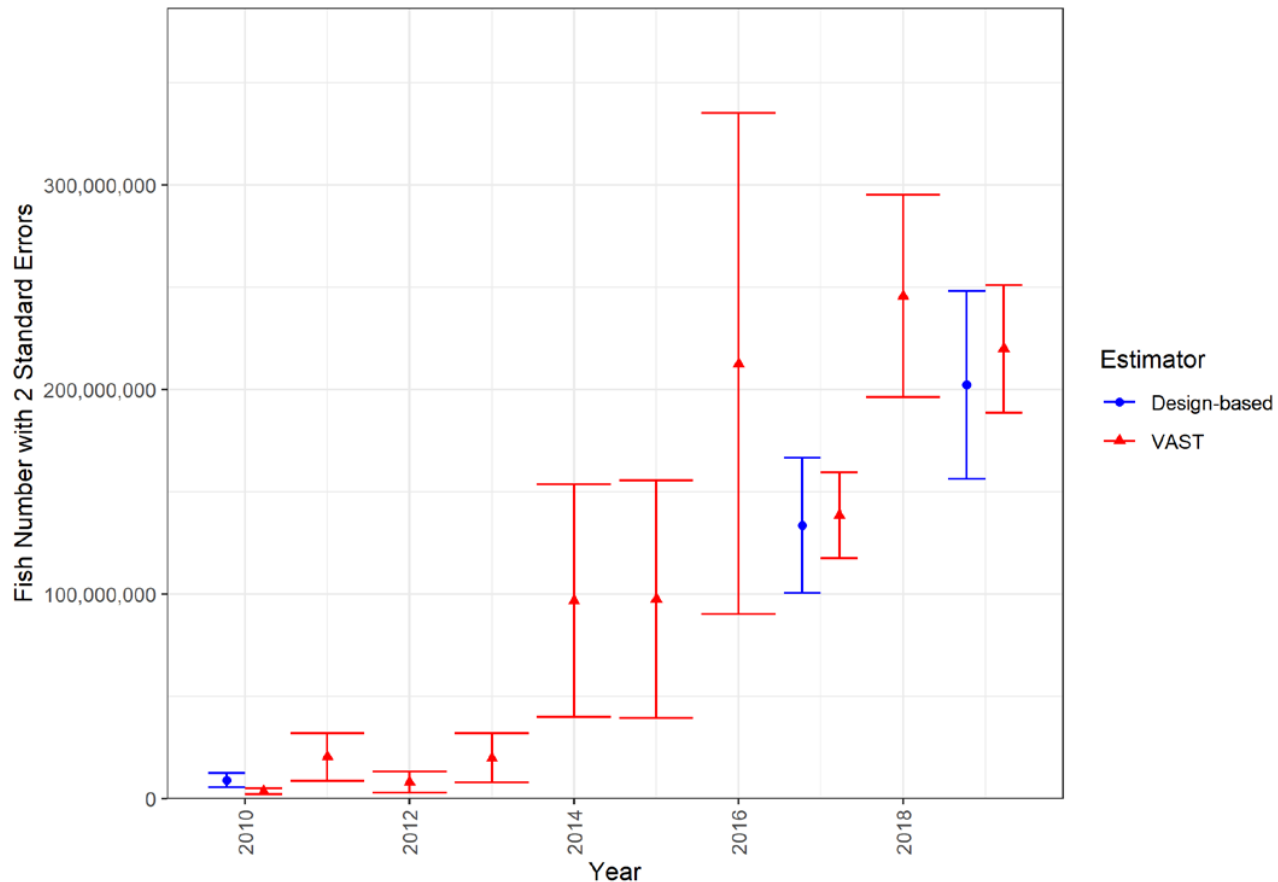
VAST Applications in Survey Group

- Example: EBS Pacific cod



VAST Applications in Survey Group

- Example: NBS Pacific cod



VAST Applications in Survey Group

- Do the Teams want indices extrapolated to deep stations in the GOA?
 - The Teams support extrapolating indices to deep strata (>700m) in the GOA and recommend exploring the sensitivity of using depth as a covariate
 - However, the Teams also recommend that authors use discretion when extrapolating to deep strata as life history characteristics of some species may not support this (e.g., northern rockfish)
- What other products should be developed based on these fits?
 - The Teams support development of a suite of standardized outputs (e.g., center of area, effective area occupied) for use in ESPs and recommend that auxiliary products selected for inclusion be discussed in more detail at the 2021 Hindcast Meeting (Feb 2021)
 - The Teams also recommend that developing a more streamlined process for uploading results into AKFIN be discussed at the 2021 Hindcast Meeting

VAST Applications in Survey Group

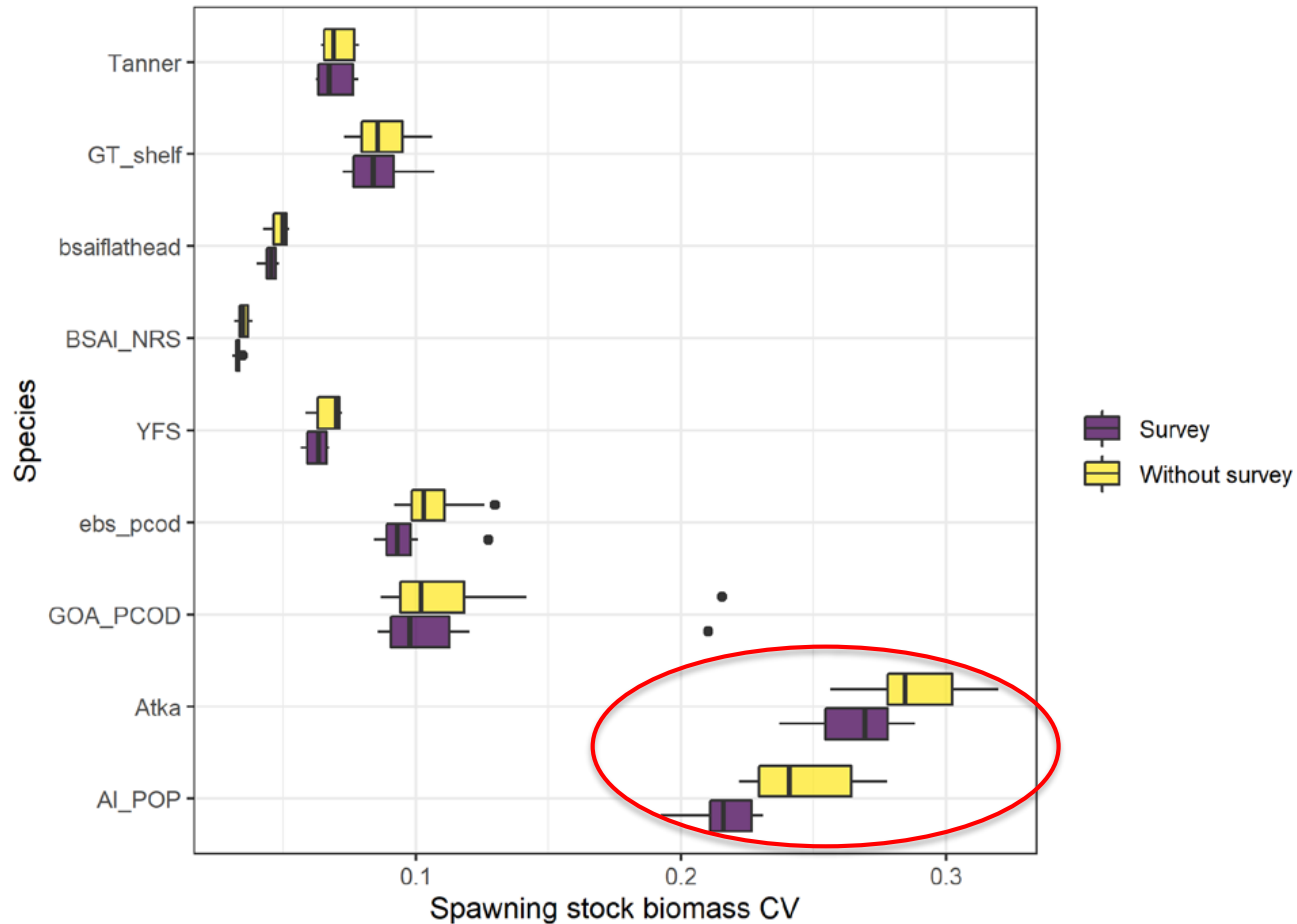
- Are there specific research questions the Teams would prioritize to support stock assessments?
 - The Teams support the progress of GAP staff in developing new facilities in VAST to better evaluate model fit for a given data set (i.e., proxies for cross validation)
 - There is a plan in process to have this ready prior to the 2021 Hindcast Meeting (Feb 2021)
- General Joint Team recommendation:
 - The Teams are encouraged by the standardizations in VAST indices that have occurred across species and support the continuation of that effort

Survey Loss Uncertainty

- Meaghan Bryan conducted an evaluation of the impacts of a lack of recent survey data in AFSC groundfish and crab stock assessments
- Objectives:
 - Better understand the expected uncertainty with the loss of the most recent survey data for a number of groundfish and crab species
 - Identify species that would be more sensitive to the loss of data
- Tools:
 - Standard retrospective analysis
 - Alternative retrospective analysis, with survey data in the terminal year heavily down-weighted
- Statistics calculated to assess uncertainty were: model estimated CV, Mohn's ρ , the "Ralston sigma," and an "additional variance" term

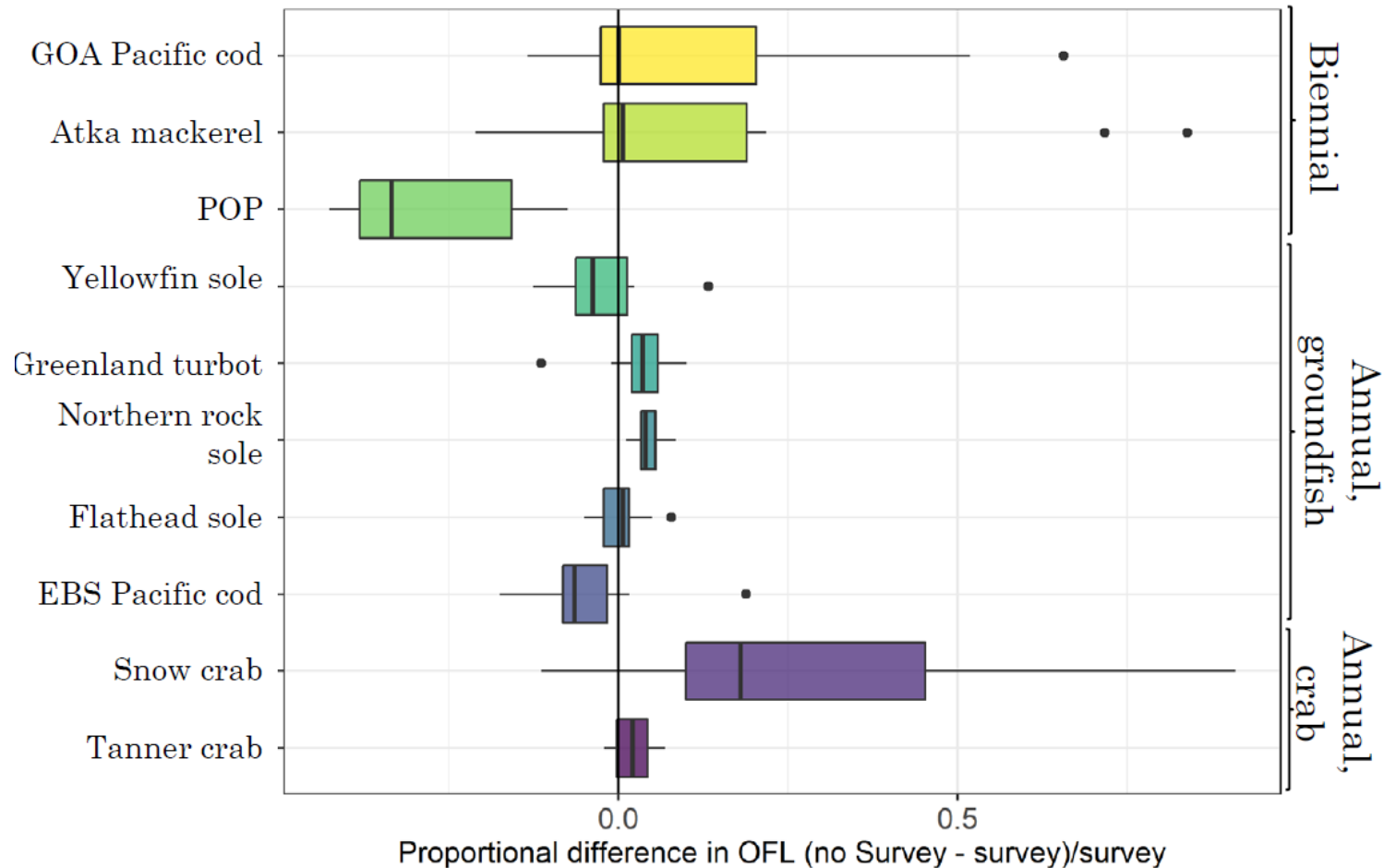
Survey Loss Uncertainty

- Figure 1: distribution of CVs across peels (snow crab not available)



Survey Loss Uncertainty

- Figure 13: distribution of proportional OFL differences across peels



Survey Loss Uncertainty

- Discussion comments with respect to the risk table, continued:
 - A public comment letter referred to SSC guidance stating that the risk tables are intended to capture uncertainty outside of the assessment (i.e., what is not quantitatively accounted for)
 - Both the magnitude and direction of changes in ρ are important
 - Should the authors of the included assessments be asked to re-do Meaghan's analysis with updated data, or all authors be asked to conduct similar analyses?
- The Teams recommend that, to the extent practicable, authors consider these analyses, or analyses like them, for incorporation in the risk table
- The Teams also discussed the possibility of prescribing a formulaic reduction from maxABC based on analyses such as this, but no specific alternatives were suggested and the discussion ended without any further action by the Teams

Halibut Discard Mortality

- The Teams approved the Halibut Discard Mortality Rate (DMR) Working Group recommendations for in-season management of BSAI and GOA Groundfish fisheries for 2021-2022