NOAA FISHERIES

Northeast Fisheries Science Center

Industry Based Survey (IBS) White Paper

Kathryn Ford, PEMAD Director

MAFMC February 7, 2024

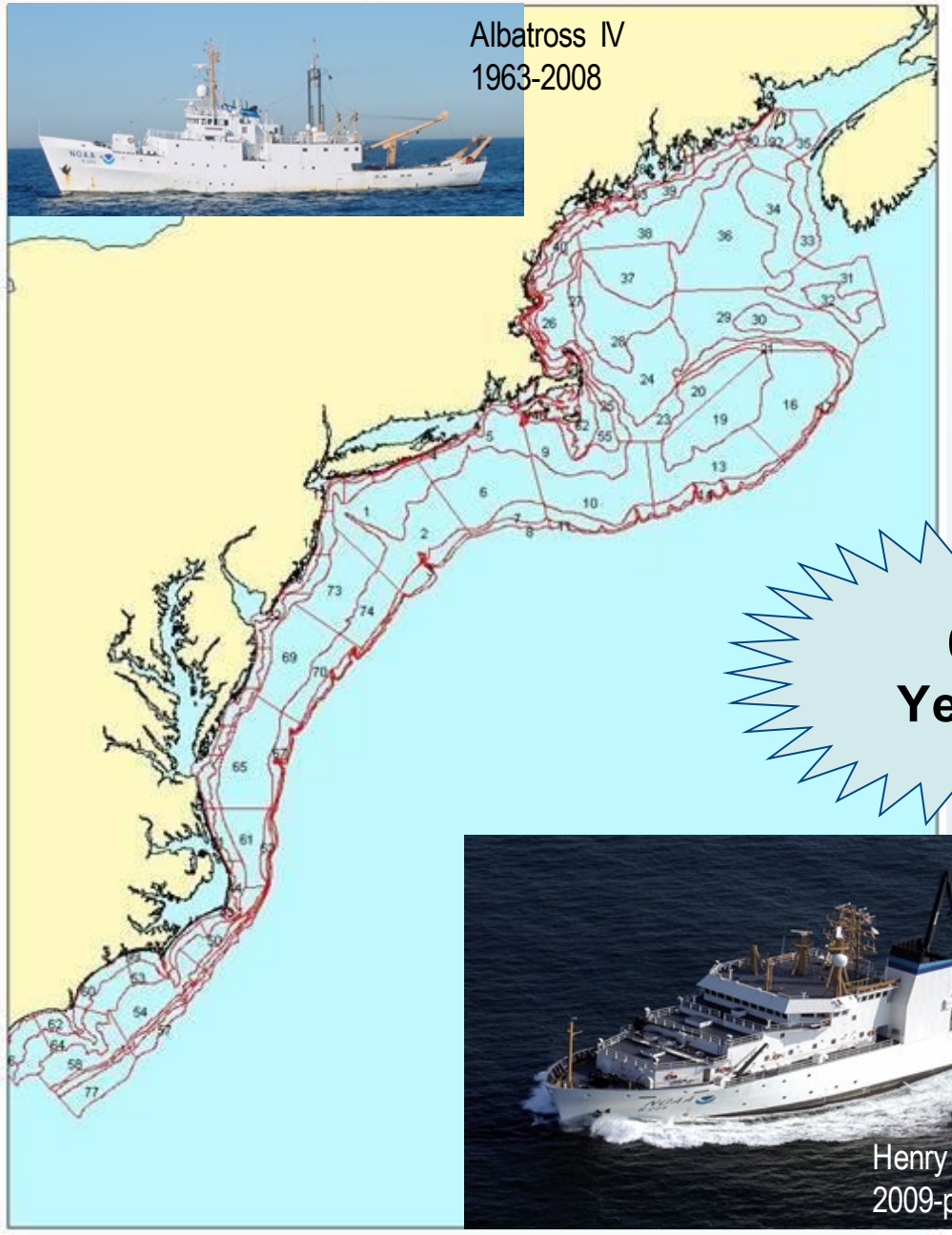
Council motions

NEFMC and MAFMC passed motions (supported by ASMFC) in Sep/Oct 2023:

The Council request the Northeast Fisheries Science Center (NEFSC) to develop a white paper to be submitted to the New England Fishery Management Council by January 12, 2024, outlining an industry-based survey that is complementary to the spring and autumn Bottom Trawl Survey.

NEFSC Multispecies Bottom Trawl Survey (BTS)

- Monitor ecosystem changes and trends in abundance, distribution, and life history for demersal fish - information for 63 stocks and collects more than 600 species - shelf scale
- Informs status of ecosystem reports, stock assessments and climate assessments
- 120 survey days per year (60 each in fall and spring)
- Uses the **Bigelow** which has a sister ship, **Pisces**, both run by NOAA-OMAO
- Trawl gear designed with NTAP and is also used on SNE/MidA NEAMAP, ChesMMAP, and is expanding to other surveys



60 Years!

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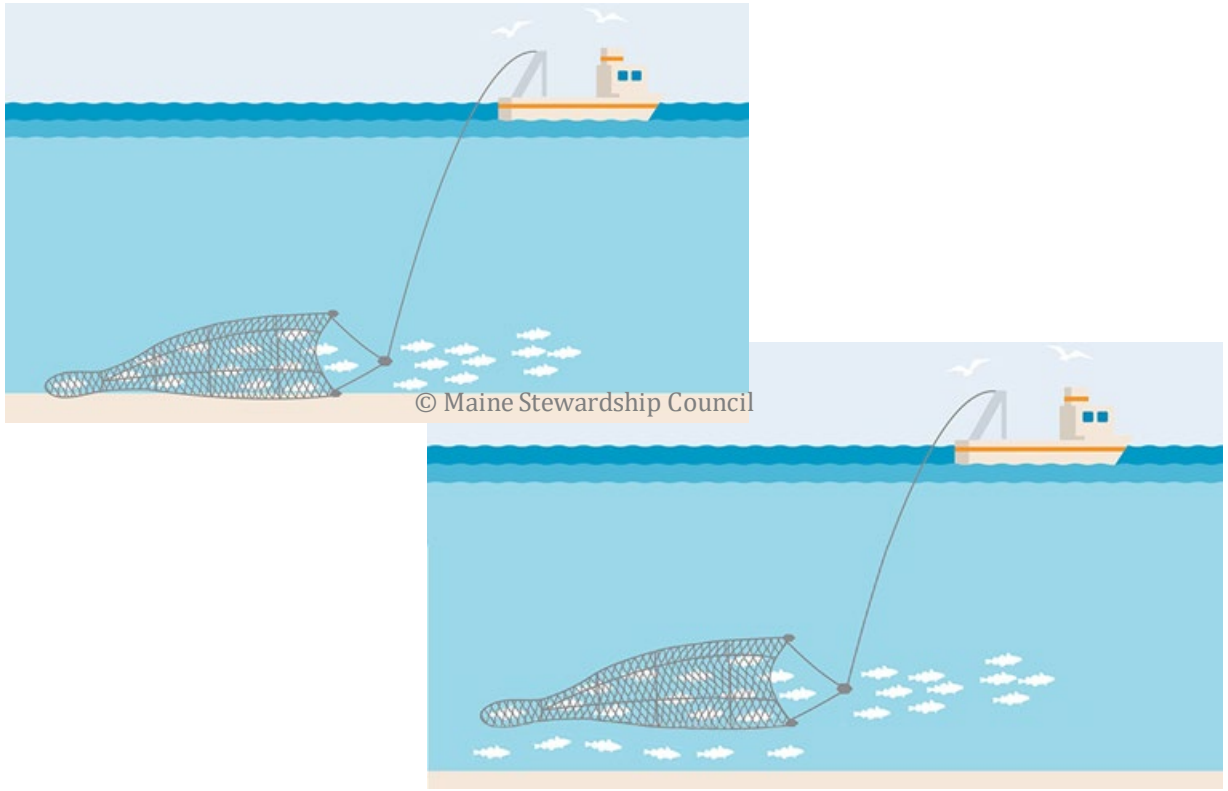
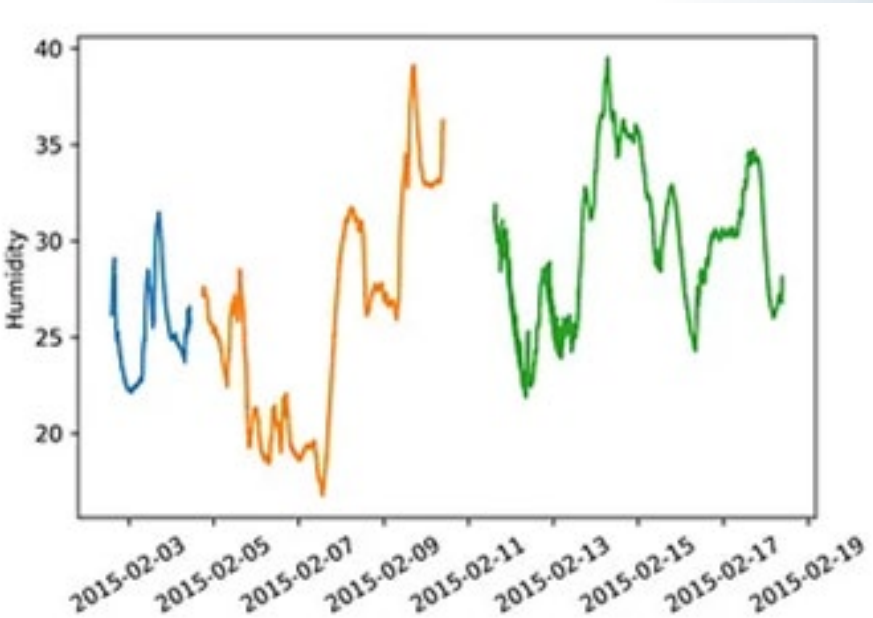
Why is consistency so important?

Consistent trawl performance
=
consistent catchability, less uncertainty



Consistent time series
=
less extrapolation, less uncertainty



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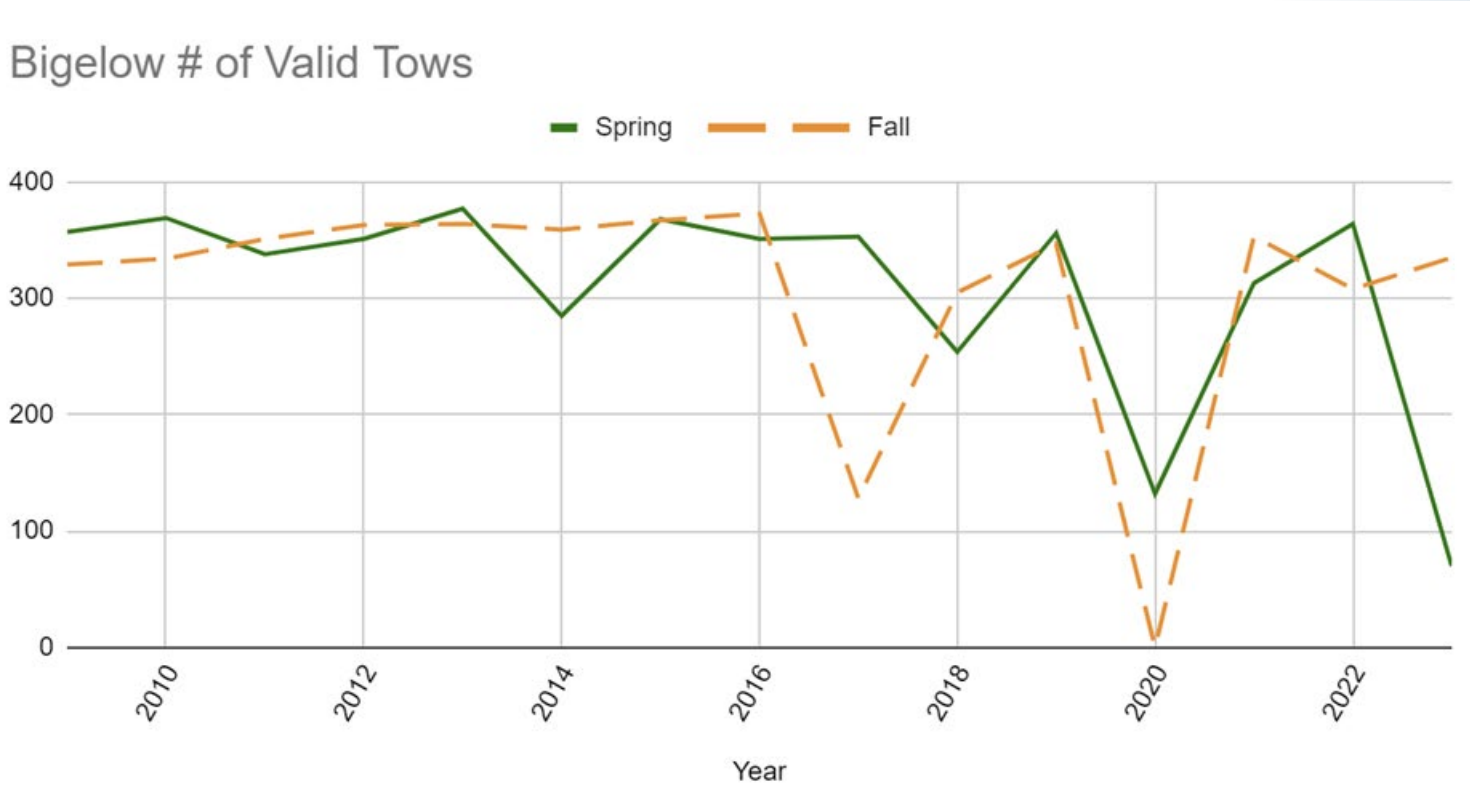
Concerns about Bigelow performance

2009-2015	351 stations (n=15)
2016-2023	266 stations (n=15)*

**295 with COVID impact removed (n=13)*

30 surveys
9 (30%) with <320 stations

3 late spring starts
3 COVID
2 staffing limitations
2 ship repairs



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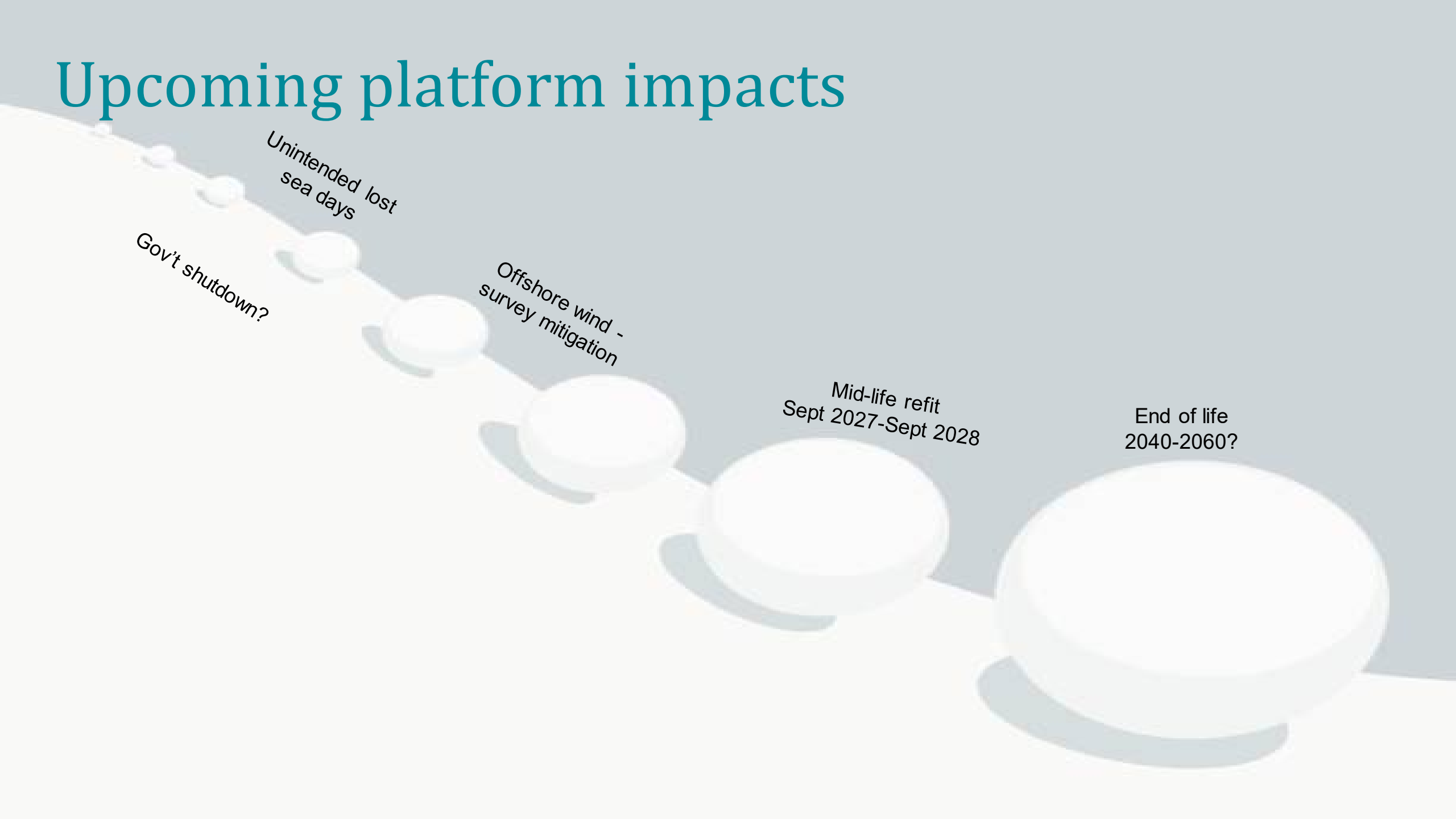
Upcoming platform impacts



Contingency planning

NTAP working group to develop a plan - kickoff Sep 2023

Members: Terry Alexander, Dan Salerno, David Goethel, Vito Giacalone, Eric Reid, Jim Gartland, Kathryn Ford, Anna Mercer, Phil Politis, Tim Miller (with additional NMFS and OMAO support as needed)

TOR:

Describe vessel platforms that can support completing the NEFSC spring and fall BTS when the Bigelow is unavailable. *Assess the viability of the platform(s) and platform deployment needs from logistical and scientific perspectives and identify where additional information is needed to fully develop a given option. Consider options that at a minimum meet stock assessment needs. This effort should produce a relatively high level overview of options and identify information gaps.*

Bigelow Contingencies Options

1. Pisces
2. NEFSC vessel calibrated to Bigelow
3. Industry based vessel(s) calibrated to Bigelow
4. Industry based survey (IBS) not calibrated to Bigelow (parallel, separate survey)

Bigelow Contingencies Options

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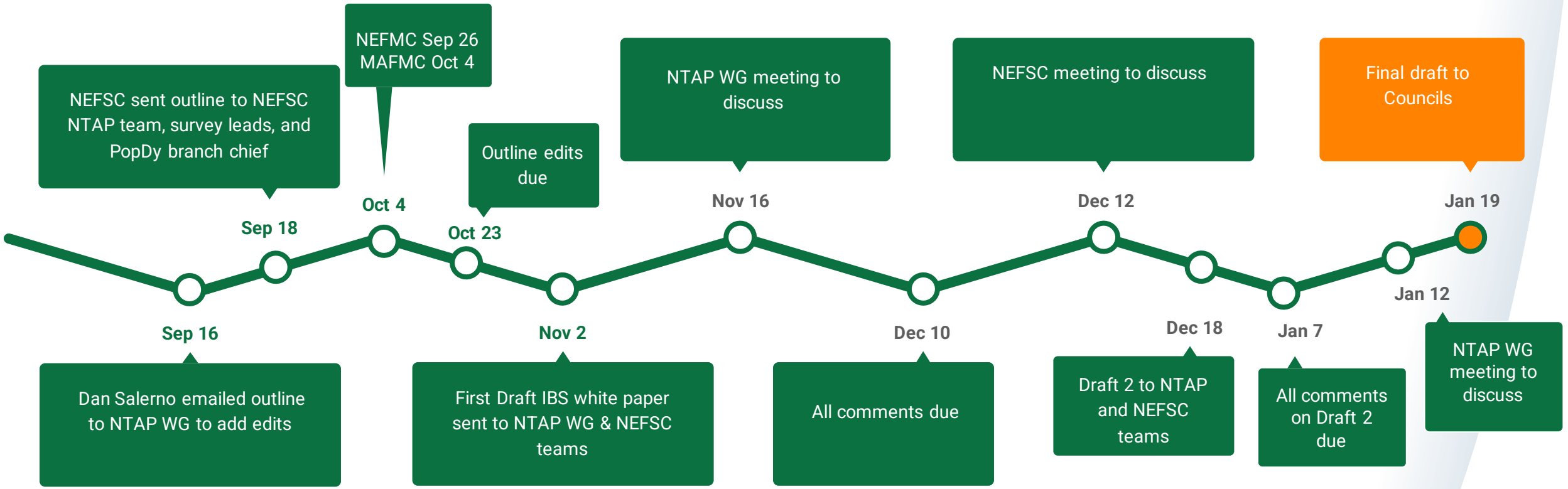
NEFSC Goals for this project

Science for management	Improve data products by improving survey data consistency
Operations	Be consistent, add resilience to existing NEFSC multispecies bottom trawl survey
Industry involvement	Have sound science, be transparent, and improve trust through collaboration

IBS white paper development



Basic description of the proposed IBS

- Design
  - Same geographic range, seasons, strata, and station allocation as NEFSC survey
  - Aim for 24 hour sampling, determine if 12 hour per vessel is feasible
- Gear
  - Same gear as NEFSC survey (flexibility on doors, no autotrawl)
  - Net mensuration for tow evaluation
- Sampling
  - Station data, water quality data, gear performance & net spread
  - Catch - total number, biomass, composition; age, sex, maturity, stomach contents (preserved)
  - Determine additional biological sampling of catch during pilot survey

Basic description of the proposed IBS

- Vessels
  - Appropriate length and horsepower to sample in open ocean conditions and tow gear at 3 knots for 20 minutes
  - Sufficient winch capabilities for towing the standardized gear package across the survey area
  - Necessary deck space for processing stations and catch processing
  - Capacity for CTD casts to 200 fm (365 m). Placement of the CTD on the trawl net would be considered.
  - Appropriate vessel crew for the length of the sampling day
  - Space for 1 spare net (2 or 3 may be needed if multi-week surveys legs are being done)
  - Capable of using appropriate doors
  - If 24-hour operations are being done, appropriate number of bunks for vessel and science crews

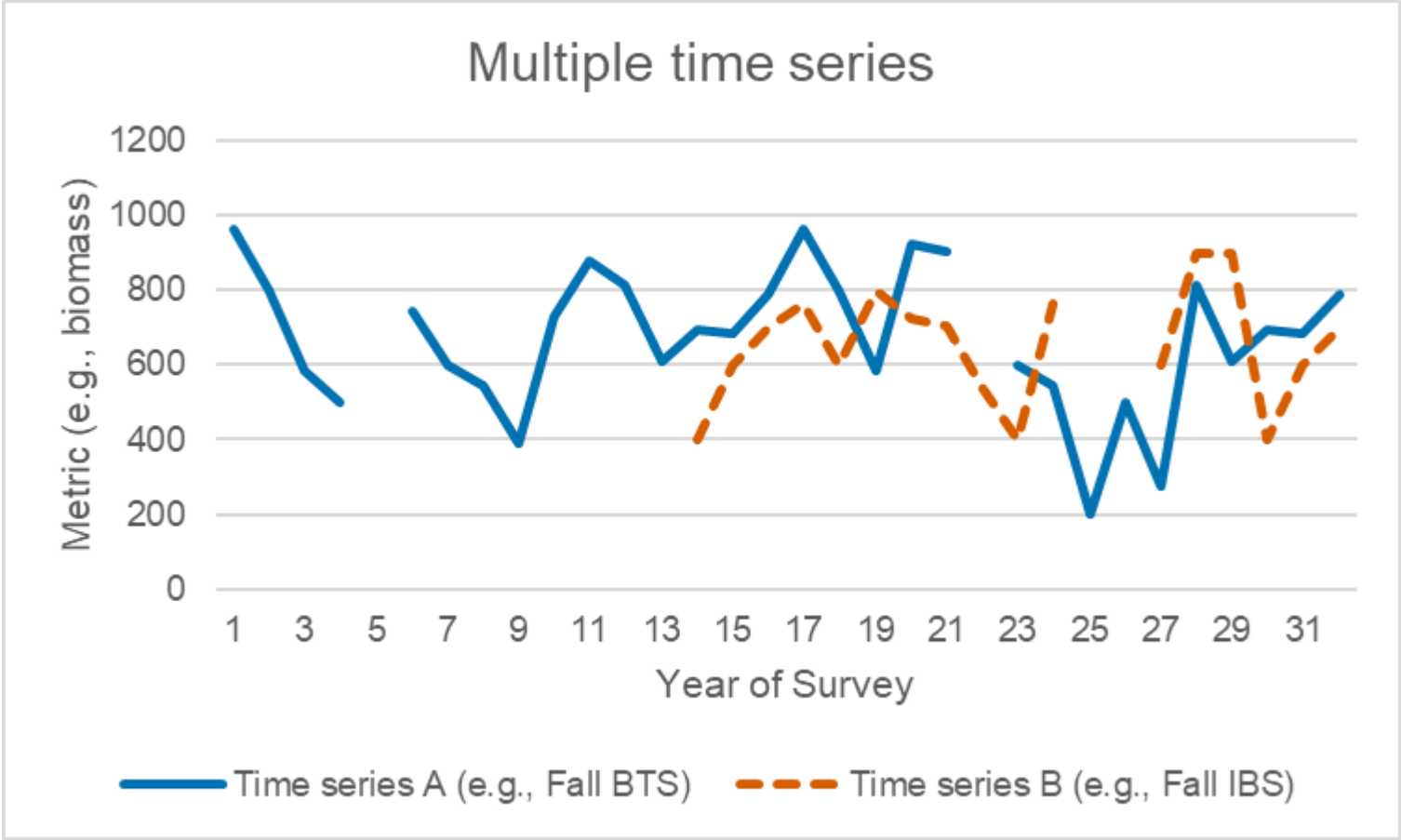
Basic description of the proposed IBS

- Data management
  - Electronic data collection and management
  - Availability to stock assessments 4 weeks after survey concludes
  - Data available for use in stock assessments after 3-10 years of survey effort
- Program management
  - Third party operated as starting point BUT other options described

Differences between IBS & BTS

- Program management relies on a third party (not NEFSC)
- Potential use of multiple vessels
- Potential use of different doors
- Smaller wire diameter
- No autotrawls
- Specific towing protocols may need to differ (have to determine during pilot study)
- Potentially less biological sampling of fishes (potentially less age, sex, or maturity; no or less stomach contents; no or fewer special sampling requests)
- Plankton sampling to be determined
- No acoustic sampling (no ADCP, no EK80)
- 12/24 hour day

Sample data product



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What goals does IBS address?

Theme	Goal	Impact of IBS on goal
Science for management	Improve data products by improving survey consistency	Increases resilience of primary time series for many assessments
Operations	Be consistent, add resilience to existing NEFSC multispecies bottom trawl survey	Potential replacement if Bigelow can't survey
Industry involvement	Have sound science, be transparent, and improve trust through collaboration	Industry is providing input to design and operations, industry vessels could be used as platforms

Next steps

1. Finish the contingency plan
   - Flesh out options 1, 2, and 3
2. Explore connections with offshore wind – work with NEFSC survey & assessment working group
3. Plan out a pilot survey to be on the water in FY2025

Questions & Discussion

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ASMFC Motion 1/25/2024

Move to recommend to task NTAP and the NTAP Industry Based Survey (IBS) Working Group to develop an outline detailing a proposal to conduct an IBS Pilot Program to test the viability of the program as presented in the "Proposed Plan for a Novel Industry Based Bottom Trawl Survey" white paper with a particular focus on adapting Section 2 "Survey Design Elements" to current Industry platform capabilities. Delivery date for the outline should be in time for further discussion at the Spring 2024 meeting cycle for the Commission and both the Mid-Atlantic and New England Councils in April 2024.

Motion made by Mr. Reid and seconded by Mr. Keliher. Motion passes by consent.

There are many ways to improve fisheries data

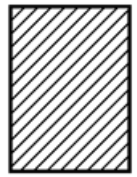
Add data

Survey where/how Bigelow can't:

- *finer scale*
- *hard bottom*
- *shallow water*
- *target 1 species*

BTS

Some stations



All stations

Add resilience

Contingencies

- *Sister ship Pisces*
- *Other ships*

Reduce uncertainty

Gear research

- *catchability studies*
- *restrictor rope*

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