Welcome! Say hello + work out your technology

Tips for Using Zoom

✔ If you don’t have optimal internet connection, join the meeting via computer for video & opt to dial in via phone for audio.
  ○ When you are dialing in, please be sure to enter your participant ID.

✔ Mute when not speaking.

✔ Rename yourself in the Participants tab with First & Last Name, Your Affiliation.
  In front of your name:
  ○ Team members: put * // Alternates: put *ALT

✔ Bring a tech-adaptive mindset as we work to maximize engagement in this online setting!

…We’ll formally begin the meeting at 2 PM
Attendee Controls

- Turn your camera on or off
- Chat host only
- Raise hand for questions/comments
- Mute and unmute yourself
- Direct your chat to a specific person
- Open Participants tab
- Change your screen name to First name Last Name, Affiliation

If you have any tech issues, contact Cam Hager in chat or through e-mail at chager@cbi.org

* Note- you will have to remember to put your hand down after you have spoken or it will remain up.
Atlantic Large Whale Take Reduction Team
November/December 2022 Meeting

Day 1: November 14, 2022
Nov/Dec 2022 Meeting Goal
Create Team recommendations to NMFS to reduce M/SI of right whales in U.S. commercial fisheries to below the Potential Biological Removal Level (PBR: 0.7/year): An additional 41 to 46% risk reduction

Objectives for Nov 14-18:
- Develop the outlines of a team recommendation to NMFS
  - Refine up to three coast-wide packages that reflect the team’s analysis and discussion in service of meeting the required risk reduction
  - Capture other points of advice and guidance the Team would like transmit to NOAA as it advances rulemaking
  - Emphasize areas of team alignment and note areas of differing views, if needed

Objectives for Dec 1 & 2:
- Refine and confirm the team’s recommendation
  - Agree on a short summary document that synthesizes the team’s key considerations, and describes one or more packages that reflect the team’s best thinking. The document can include differing viewpoints, if those exist.
Team Materials for this Meeting

There is a new folder with materials for Team members and alternates in the Google Drive entitled “2022 November Meeting Materials.” We currently have several documents in here and will be adding more throughout the meeting.

ALWTRT Informational Webinar: DST Analyses for November 2022 presented on Nov 9, 2022 recorded webinar registration link

ALWTRT Informational Webinar: In-Depth Right Whale Habitat Model Webinar (Jason Roberts, Duke University) presented on Nov 10, 2022 recorded webinar registration link
Overview for this Week

- **Day 1: Monday, Nov 14**
  - Welcome, meeting goals, and process
  - Summary of scoping, entanglement updates and package analyses discussion

- **Day 2: Tuesday, Nov 15**
  - Discussion on various measures - strengths, considerations, concerns, etc.
  - Opportunity to discuss related measures

- **Wednesday, Nov 16 - NO MEETING**

- **Day 3: Thursday, Nov 17**
  - Further discussion on modeling results and small group work

- **Day 4: Friday, Nov 18**
  - Discussion of informal caucus results and next steps into December meetings

- **Day 5: Thursday, Dec 1**

- **Day 6: Friday, Dec 2**
Today’s Agenda (Monday, Nov 14)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 p.m.</td>
<td>Session 1: Introduction and Setting the Stage (Plenary)</td>
</tr>
<tr>
<td></td>
<td>● Purpose, agenda and ground rules review</td>
</tr>
<tr>
<td>2:20 p.m.</td>
<td>Session 1: Introduction and Setting the Stage (Plenary)</td>
</tr>
<tr>
<td></td>
<td>● Scoping Summary</td>
</tr>
<tr>
<td></td>
<td>● Entanglement Updates and Recent Gear Marks</td>
</tr>
<tr>
<td>2:55 p.m.</td>
<td>Session 2: Review and Discuss Package Analyses</td>
</tr>
<tr>
<td>4:15 p.m.</td>
<td>Stretch Break</td>
</tr>
<tr>
<td>4:30 p.m.</td>
<td>Session 2: Resolving Remaining Questions on the Way Forward</td>
</tr>
<tr>
<td>5:30 p.m.</td>
<td>Public Comment</td>
</tr>
<tr>
<td>5:45 p.m.</td>
<td>Wrap-Up and Next Steps</td>
</tr>
</tbody>
</table>
A Word About Meeting Structure

- Aiming for mix of plenary and small cross-caucus breakouts
- Providing templates as way to track & focus individual and group discussions
- Capturing evolving discussion through working document

Note: Agenda times may shift slightly later in the week
Ground Rules for Team Members

Discussion protocols:
• Contribute - need to build shared understanding
• Make room for others - need to hear from all
• Ask questions of one another - no easy answers
• Make good faith effort to collaborate - patience, open ears and minds
• Not seeking consensus this week

To contribute to the discussion:
• Primary members
  ○ **Encouraged** to keep your cameras on and stay on mute unless speaking
  ○ Raise a virtual “hand” (remember to put it down after)
  ○ Chat to host only with issues (emoji reactions available)
• Alternates
  ○ In plenary, engage as public unless sitting in for primary
  ○ In cross-caucus breakouts, alternate generally in the same room as primary

Agency not recording to encourage candor; media may be present
Ground Rules for Public Attendees

Public welcome to attend all plenary sessions

Comment protocols - opportunity each day
- **Input welcome during public comment portion**
  - Share thoughts in chat or via comment during that time
  - Please keep all comments on-point and respectful
- **Please remain on mute and video off at other times**
- Intent is to **manage public input as if we were all in room together**

To contribute during Public Comment period
- Raise a virtual “hand” or signal interest in chat
Tips for Using Zoom

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✔ Bring a tech-adaptive mindset as we work to maximize engagement in this online setting!
These slides provide a high level summary of public comments on measures that are related to risk reduction. A slide deck and table providing detailed summaries of all public comments collected during the 2021 and 2022 scoping periods linked in the 2022 November Meeting Materials/2021 and 2022 Scoping Summaries folder.
2021 and 2022 Public Comment Periods

Round 1 of Scoping Comments
- NMFS hosted 7 virtual public comment scoping meetings in addition to presenting/receiving comments at the NE Fishery Management Council, Mid-Atlantic Fishery Management Council, South Atlantic Fishery Management Council, and Atlantic States Marine Fisheries Commission. There were also 3 call in days where NMFS accepted comments via phone.
- NMFS received 1,314 comments via email, 31 comments via virtual scoping meetings, and 9 comments via the phone
- A summary of the scoping comments submitted during the first public comment period was presented to the Take Reduction Team on Jan 18, 2022* (Recording for webinar that includes a summary of 2021 comments here).

Round 2 of Scoping Comments
- Comment Period: Sept 9, 2022–Oct 11, 2022
- NFMS hosted a virtual scoping meeting on September 27, 2022 attended by 581 people and an in-person scoping meeting in Portland, Maine on October 5, 2022 attended by more than 500 people
- NMFS received 10,380 comments (566 unique comments) via regulations.gov, 59 comments during the virtual scoping meeting on Sept 27, ~40 comments during the in-person scoping meeting on Oct 5

Detailed summaries of all public comments collected during the 2021 and 2022 scoping periods provided in the 2022 November Meeting Materials folder
Line Reduction

● Removing Buoy Lines
  ○ Remove vertical buoy lines from the water, comments included:
    ■ In large areas used by right whales for feeding, breeding, and migration
    ■ Across entire Atlantic
    ■ Eliminate 50 percent of all vertical lines in federal and state waters
  ○ Allow one buoy line for trawls in offshore waters, remaining line can be full strength rope

● Trawling Up
  ○ Gillnets
    ■ Could increase number of nets in a set in Southern New England
  ○ Minimums related to vessel size
  ○ Minimums based on distance from shore

● Line Caps
  ○ Cap endlines and minimum traps per trawl based on distance from shore
  ○ Suggested areas: LMA 2, LMA 3
  ○ Provide tags for lines to implement line caps

Detailed summaries of all public comments collected during the 2021 and 2022 scoping periods provided in the 2022 November Meeting Materials folder
Effort Reduction

- Reduce trap cap
  - Suggested numbers: 700, 600, 450-475
  - Incrementally reduce trap cap by a set amount (Suggested 100, 50) each year to lessen initial financial impact
  - Set limit based on historical landings data for each vessel (when available) or distance from shore
- Reduce soak time for gillnets to 24 hours and require tending for all anchored nets
- Reduce effort through permit buyouts, permit buybacks, and/or permit stacking
- Close recreational fishing before implementing regulations on commercial fleet
- Remove latent effort

Detailed summaries of all public comments collected during the 2021 and 2022 scoping periods provided in the 2022 November Meeting Materials folder
Weak Line or Inserts

- Apply weak rope/insert requirements in Phase 1 to other trap/pot and gillnet fisheries
  - Suggested 1700 pound breaking strength or equivalent insertions in top 75%
  - 100% weak rope
- Reduce the breaking strength of inserts and rope to less than 1700 pound breaking strength for calves, juveniles, or otherwise weakened whales
- Re-implement the 600 pound breakaway for all buoys and markers in fixed gear fisheries and provide risk reduction credit
- Weak rope cannot withstand depths and weather conditions needed in LMA 3
  - Maximum breaking strength waters 50-100 fa should be closer to 2000 lb using a 9/16” or 5/8” diameter rope
  - No form of weak rope operational beyond 100 fa at the current moment (others suggest operability limited beyond 100 m)
  - Allow hybrid trawls of one end full strength and the other end weak rope offshore

Detailed summaries of all public comments collected during the 2021 and 2022 scoping periods provided in the 2022 November Meeting Materials folder
Seasonal Closures - Current Closures

- Apply existing closures to all fixed gear fisheries
- Give risk reduction credit to Massachusetts for Massachusetts Restricted Area
- Identify increased risk reduction value of Massachusetts Restricted Area since first closed
- Extend LMA 1 Restricted Area
  - To include February
  - To include Stat Area 515
- Extend Massachusetts Restricted Area
  - December - May 15
  - To include Jeffreys Ledge, Stat Area 514
  - To include “gap” area closed last year
- Extend South Island Restricted Area
  - Year Round
  - To include LMA 2, LMA 2/3, Stat Area 537, Stat Area 526

Detailed summaries of all public comments collected during the 2021 and 2022 scoping periods provided in the 2022 November Meeting Materials folder
Seasonal Closures - New Closures

- Implement seasonal closures previously rejected in Phase 1
- Establish new closure
  - Downeast Maine restricted area from May 1/June 1-Aug 31 (Aug 1-Oct 31 also suggested) and include all waters around Mount Desert Rock
  - Migratory corridor between Georges Bank and MRA and Gulf of St. Lawrence
  - Closure in Maine with dates based on distance from shore
  - Mid-Atlantic closures from Dec 1-May 30 inside 50 fa line from NY/CT to Cape Hatteras
  - South Atlantic closures from Dec 1 to Mar 31 inside 50 fa line from Cape Hatteras to tip of FL
- Dynamic management schemes
  - Remove regulatory obstacles to dynamic management
  - Begin working with state agencies for support for near-real time monitoring (including aerial and passive acoustics)
  - Develop framework for triggering and ending dynamic closure response
  - Consider gillnet sectors ability to develop and enforce dynamic management with 48 hour response by fleet

Detailed summaries of all public comments collected during the 2021 and 2022 scoping periods provided in the 2022 November Meeting Materials folder
Rope Type and Marking Requirements

- Restrict fishing rope diameter to no greater than 0.5 inch (1.27 cm) to distinguish it from offshore Canadian gear
- Transition industry back to a biodegradable rope made of hemp, sisal, or manila
- Extend use of gear marking across U.S. Atlantic fisheries to include other trap pot and gillnet fisheries
  - Manufactured, integrated marking solutions preferred to paint, tape, etc.
  - Extend gear marking scheme to be more nuanced in Maine and include marks specific to exempted waters, state waters, and federal waters
  - Require marks that distinguish between state and federal waters without burdening those who fish in both

Detailed summaries of all public comments collected during the 2021 and 2022 scoping periods provided in the 2022 November Meeting Materials folder
Ropeless & On-Demand Fishing

- Allow ropeless fishing in seasonal restricted areas
- Implement mandatory ropeless fishing for the lobster and crab pot fishing industries, either ASAP or with accommodating a 12-24 month ramp up
- Streamline permitting process for on-demand fishing trials
- Require interoperability between tracking systems
- Require ropeless offshore (comments included beyond 100 fa, beyond 100 m, in LMA3)
- Ropeless fishing is not ready
  - Not scalable across the fisheries
  - Does not make sense for singles or in areas of dense fishing effort
  - Will cause or increase gear conflict and gear loss/ghost gear

Detailed summaries of all public comments collected during the 2021 and 2022 scoping periods provided in the 2022 November Meeting Materials folder
Other Themes

- Measures should be implemented in tandem with an increase funding for research and monitoring of whales and their prey
  - Increase aerial and acoustic surveys in Gulf of Maine; extend to include Labrador, Newfoundland, and Greenland
  - Fund surveys on *C. finmarchicus*
- Risk reduction target should be higher than 90% (suggested target of 95%)
- Risk reduction credit be given back for the Massachusetts Restricted Area Closure
- Maintain Maine exemption waters
- Enact emergency regulations; implement emergency interim rule
- Concern about changing social dynamic of fishing industry, particularly for coastal and island communities with significant economic dependency on fishery
- Impacts to safety where fishermen have to compensate by increasing effort, reduce maneuverability, require to be on deck for longer periods of time, particularly for those working without crew, in small vessels, offshore, or in inclement weather

Detailed summaries of all public comments collected during the 2021 and 2022 scoping periods provided in the 2022 November Meeting Materials folder
Updates on Entanglements and Recent Gear Marks
2020 Entanglement Summary

27 new reported entanglements and preliminary gear analysis

4 right whales:
- 3 entangled, unknown gear;
- 1 dead - consistent with Canadian snow crab (Canada orange; Canada disagrees)

15 humpback whales:
- 7 entangled - 1 unk. mesh, 6 unknown gear;
- 1 partial disentanglement - U.S. lobster (red);
- 1 gear shed - U.S. monofilament;
- 1 monitor - U.S. monofilament;
- 2 dead - 1 U.S. gillnet (striped bass), 1 unknown;
- 3 disentangled - 1 U.S. trap (red), 1 U.S. trawl, 1 Canadian lobster
2020 Entanglement Summary

27 new reported entanglements and preliminary gear analysis

7 minke whales:
- 1 entangled, unknown mesh
- 1 disentangled - U.S. lobster (purple)
- 5 dead -
  - 1 U.S. lobster (purple);
  - 1 U.S. gillnet (striped bass);
  - 1 U.S. fish weir;
  - 1 unknown U.S.;
  - 1 unknown

1 unknown whale:
- unknown gear
2021 Entanglement Summary

30 new reported entanglements and preliminary gear analysis

3 right whales:
- 2 entangled - 1 unknown gear, 1 unknown Canadian;
- 1 partial disentanglement (monitor) - unknown

4 minke whales:
- 1 entangled - unknown gear;
- 1 disentangled - U.S. lobster (purple);
- 2 dead - 1 unknown mesh, 1 U.S. lobster (purple and green)

2 finback whales:
- 2 entangled - 1 unknown gear, 1 navigational buoy
2021 Entanglement Summary

30 new reported entanglements and preliminary gear analysis

21 humpback whales:
- 6 entangled - 1 unknown mesh, 1 unknown gillnet, 4 unknown gear;
- 2 disentangled - 1 monofilament, 1 U.S. lobster (purple and green);
- 5 gear shed - 2 monofilament, 2 unknown gear, 1 U.S. lobster (red);
- 8 monitor - 1 unknown mesh, 6 monofilament, 1 U.S. monofilament
2022 Entanglement Summary

27 new reported entanglements and preliminary gear analysis

5 right whales:
- 4 entangled - unknown gear
- 1 monitor - unknown gear

6 minke whales:
- 4 entangled - unknown gear
- 1 disentangled - U.S. lobster (red)
- 1 dead - unknown gear
2022 Entanglement Summary

27 new reported entanglements and preliminary gear analysis

16 humpback whales:
- 6 entangled - 5 unknown gear, 1 U.S. lobster (purple);
- 3 disentangled - 2 unknown, 1 U.S. lobster (purple);
- 1 gear shed - unknown;
- 6 monitor - 5 monofilament, 1 monofilament and lures

Credit: CCS
## 2020-2022 Color Mark Entanglement Summary

<table>
<thead>
<tr>
<th>Year</th>
<th>Species</th>
<th>Total #</th>
<th>Total w/ color mark</th>
<th>Color</th>
<th>1st sighting location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>Right</td>
<td>4</td>
<td>1</td>
<td>Orange - Canada (1)</td>
<td>Massachusetts</td>
</tr>
<tr>
<td></td>
<td>Humpback</td>
<td>15</td>
<td>2</td>
<td>Red - MA (1), 1 unknown</td>
<td>Massachusetts</td>
</tr>
<tr>
<td></td>
<td>Minke</td>
<td>7</td>
<td>2</td>
<td>Purple - ME (2)</td>
<td>Maine</td>
</tr>
<tr>
<td></td>
<td>Unknown</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>Right</td>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Humpback</td>
<td>21</td>
<td>2</td>
<td>Red - MA (1), Purple &amp; Green - ME Fed. (1)</td>
<td>Massachusetts</td>
</tr>
<tr>
<td></td>
<td>Minke</td>
<td>4</td>
<td>2</td>
<td>Purple - ME (1), Purple &amp; Green - ME Fed. (1)</td>
<td>Maine</td>
</tr>
<tr>
<td></td>
<td>Finback</td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>Right</td>
<td>5</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Humpback</td>
<td>16</td>
<td>2</td>
<td>Purple - ME (2)</td>
<td>Massachusetts</td>
</tr>
<tr>
<td></td>
<td>Minke</td>
<td>6</td>
<td>1</td>
<td>Red - MA (1)</td>
<td>Massachusetts</td>
</tr>
</tbody>
</table>

- 84 new reported entangled whales with gear present since 2020.
  - 12 right whales, 52 humpback, 17 minkes, 2 fin, and 1 unknown whale
- Reported entanglements represent the minimum number of occurrences. This does not include cases with new entanglement trauma but no gear documented.
Report Back on Analyses

Review and Discuss Package Analyses
Back to Basics: Short DST Recap

● Team requested a risk reduction target and method to compare risk reduction among proposals at October 2018 ALWTRT Meeting

● Built the DST in Spring of 2019
  ○ An expansion of the previously-used “Co-occurrence Model” from Industrial Economics (IEc), which used whale sightings per unit effort (SPUE) to model whale density
  ○ Duke Habitat Density Model improved upon incomplete SPUE model
  ○ Limited in scope to lobster and crab vertical lines in the northeast U.S., used 2017 line model from original IEc Co-occurrence Model

● Reviewed by the Center for Independent Experts in 2019
Quantifying Risk


\[
\text{RISK} = \text{WHALES} \times \text{GEAR DENSITY} \times \text{SEVERITY}
\]

- Calculated for each month and area
- Summed across all months and locations


Current DST Layers: Most Recent Data Available

- Fishery layers:
  - Built new layers based on updated methods and data (buoy lines, groundline, and gillnet profiles)
  - Includes all ALWTRP fisheries coastwide
  - Worked closely with team, states, and other experts to refine
  - Will be reviewed by the Atlantic Scientific Review Group on Dec 12-14


ALWTRT Informational Webinar: In-Depth Right Whale Habitat Model Webinar (Jason Roberts, Duke University) presented on Nov 10, 2022.
What makes a good baseline model for ALWTRT?

- Appropriate timeframe reflecting whale and fishery distribution
  - Long enough to capture variability
  - Short enough to reflect more recent trends

- The 2010–2019 right whale habitat density model was recommended for management
  - Enough data to produce a quality model
  - Captured the ecological shift

- Right whales have experienced major shifts and are known to revisit areas

- Right whales are very cryptic, not always reliably sighted when detected acoustically (e.g. Murray et al. 2022)

Why do some areas appear more or less risky than expected?

<table>
<thead>
<tr>
<th>Area</th>
<th>Pre/Post Phase 1</th>
<th>Mean Rope Strength</th>
<th># VBLs / nm²</th>
<th># Whales / nm²</th>
<th>Risk / nm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maine Zone A</td>
<td>Pre</td>
<td>2191</td>
<td>377</td>
<td>0.006</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>2039</td>
<td>328</td>
<td>0.006</td>
<td>5.9</td>
</tr>
<tr>
<td>Maine Zone G</td>
<td>Pre</td>
<td>2184</td>
<td>255</td>
<td>0.04</td>
<td>9.3</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>2034</td>
<td>223</td>
<td>0.04</td>
<td>6.8</td>
</tr>
<tr>
<td>LMA 2</td>
<td>Pre</td>
<td>2418</td>
<td>13</td>
<td>0.06</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>2227</td>
<td>12</td>
<td>0.06</td>
<td>0.8</td>
</tr>
</tbody>
</table>

- 10 times fewer whales in Maine zone A than LMA 2 but 25 times more lines
- To get risk reduction, need to modify gear layer because we can’t modify whale layer
Overview of Our Risk Reduction Goals

- We need to reduce mortality and serious injury of North Atlantic right whales to a level below PBR (i.e. 0.7 whales a year)

- We recently updated the estimated risk reduction needed to achieve this goal
  - Total estimated mortality data 2016 - 2020
  - Observed mortality and serious injury from 2017 - 2021
  - Need an estimated 88 to 93 percent risk reduction to get below PBR

- What risk reduction was achieved in Phase 1?
  - Minor tweaks to the model and shapefiles since September
  - Now rounding up to 47% risk reduction from Phase 1 measures
  - A 41 to 46 % reduction is still needed, depending on country apportionment
Developing and Testing Ideas

Ideas refined and aggregated from team breakouts, team requests, caucus meetings, and scoping
Developing a Menu of Measures

- Measures analyzed in September were used to create initial Menu of Measures for the team
- Modelers from the DST Team met with various caucus groups to discuss measures put forth for preliminary analyses.
  - **Caucus Meetings Held in October**:
    - Oct 3 in Gloucester MA with lobster fishers from NH and Massachusetts LMA1
    - Oct 4 in Plymouth MA with lobster fishers from Massachusetts LMA1 and OCC
    - Oct 5 hybrid in New Hampshire with gillnet fishers from Gulf of Maine
    - Oct 5 in New Bedford MA with lobster fishers from SNE LMA2 and LMA3
    - Oct 6 in New Bedford MA with gillnet fishers from SNE LMA2 and LMA3
    - Maine DMR and Zone Council caucuses
  - **Produced Requests From**: Massachusetts Division of Marine Fisheries, New Hampshire, Northeast Gillnet, Rhode Island Department of Environmental Management, Atlantic Offshore Lobstermen’s Association
  - **Informal Drop-in Caucus Nights**: Oct 14, 17, 20
- Maine DMR presented some general ideas received from industry on Wednesday Nov 9, similar to measures already captured in menu and Draft Packages
- Review [November 9 presentation](#) for more detail
Menu of Measures

- Three tabs dividing individual measures into measure type
  1. Line / Gear Reduction (ex. trawling up, 1 end ropeless, etc)
  2. Weak Rope
  3. Closure (gear moves and lines out closures)
- Items within the same individual menu tab are somewhat interchangeable
Menu of Measures

- Final two tabs with combinations of measures and draft package results
- Review measures thoroughly, use them for crafting new requests or package modifications.

<table>
<thead>
<tr>
<th>Package Measures</th>
<th>Total Risk Reduction (With Phase 1)</th>
<th>Risk Reduction Points (Contributions to the Total After Phase 1)</th>
<th>Requested By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft Package 2 - Sept 22 version</td>
<td>92</td>
<td>45</td>
<td>Illustrative Example</td>
</tr>
<tr>
<td>Draft Package 3 - Sept 29 version - add ropeless &gt; 100 fathoms</td>
<td>91</td>
<td>44</td>
<td>Illustrative Example</td>
</tr>
<tr>
<td>Draft Package 3 Modifications from Group 3:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Line Cap of 10 lines per permit in Gillnet fishery (GOM-MATL and NC Non-Exempt Waters)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Paneling up to minimum of 25 panels per string in gillnet fishery (GOM-MATL and NC Non-Exempt Waters)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>- Top 75% of VBL with 1700 lb max breaking strength and headrope fully weak with 1,100 lb max breaking strength in gillnet fishery (GOM-MATL and NC Non-Exempt Waters)</td>
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</tr>
<tr>
<td>- One end ropeless, the other end tended by the vessel for Smooth dogfish, spiny dogfish, bluefish medium mesh anchored gillnet in MATL including NJ and NC</td>
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<td></td>
</tr>
<tr>
<td>- Max tie-down height set to 4ft for Monkfish fishery</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>- Close to buoys lines for all Trap Pot anywhere that rope with max breaking strength of 1700</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Draft Package 3 - Sept 29 version - add ropeless &gt; 100 fathoms</td>
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<tr>
<td>- Paneling up to minimum of 25 panels per string in gillnet fishery (GOM-MATL and NC Non-Exempt Waters)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Top 75% of VBL with 1700 lb max breaking strength and headrope fully weak with 1,100 lb max breaking strength in gillnet fishery (GOM-MATL and NC Non-Exempt Waters)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- One end ropeless, the other end tended by the vessel for Smooth dogfish, spiny dogfish, bluefish medium mesh anchored gillnet in MATL including NJ and NC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Max tie-down height set to 4ft for Monkfish fishery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Close to buoys lines for all Trap Pot anywhere that rope with max breaking strength of 1700</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Full series of changes suggested by Group 3 on Package 3 requested on Sept 22 by [Name]
Risk Universe = 100 pts

- 100 Risk Points are assigned to Coastwide Risk
- After Phase 1 Measures, 53 Risk Points
- All Individual Menu Measures are Reported as Risk Reduction Points—Contribution to Coastwide Risk Reduction After Phase 1
Risk Universe = 100 pts

Phase 1 reduction in Lobster/Jonah Crab

Remaining Lobster/Jonah Crab

OTP\nGN

47

2.5
3.5

Remaining risk after Phase 1

Fed NE Lobster
Fed OTP
State OTP
State Gillnet
Fed Gillnet
State NE Lobster
Risk Universe = 100 pts

Remaining Lobster/Jonah Crab

Phase 1 reduction in Lobster/Jonah Crab

Remaining risk after Phase 1
Key Management Measures in the Menu that Decrease Risk

- These measures are *NOT* proposals
- Examples showing individual measures that provide particularly valuable risk reduction
- Analyses results are in high resolution with risk reduction values added on top of Phase 1 measures (unless otherwise noted)
## Line Reduction: Trap Caps

<table>
<thead>
<tr>
<th>Measure</th>
<th>Fishery</th>
<th>Region</th>
<th>Applied to ME Exempt Y/N</th>
<th>Risk Reduction Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trap Cap of 150 traps</td>
<td>Lobster</td>
<td>LMA1,2,2-3 overlap, OCC</td>
<td>Yes</td>
<td>25</td>
</tr>
<tr>
<td>Trap Cap (400 Traps / Permit)</td>
<td>Lobster</td>
<td>Northeast</td>
<td>Yes</td>
<td>17</td>
</tr>
<tr>
<td>Trap Cap (300 Traps / Permit)</td>
<td>Lobster</td>
<td>LMA 1, 2, 2-3, OCC</td>
<td>Yes</td>
<td>16</td>
</tr>
<tr>
<td>Trap Cap of 400 traps</td>
<td>Lobster</td>
<td>LMA 1</td>
<td>Yes</td>
<td>10</td>
</tr>
<tr>
<td>Reduce traps by 50% (225 traps/vessel)</td>
<td>All Trap/Pot</td>
<td>LMA 1</td>
<td>Yes</td>
<td>19</td>
</tr>
</tbody>
</table>
## Line Reduction: One Endline

<table>
<thead>
<tr>
<th>Measure</th>
<th>Fishery</th>
<th>Region</th>
<th>Applied to ME Exempt Y/N</th>
<th>Risk Reduction Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce 1 Endline All Fisheries Coastwide</td>
<td>All</td>
<td>Coastwide (State and Federal Waters)</td>
<td>Yes</td>
<td>22</td>
</tr>
<tr>
<td>Reduce 1 Endline, Coastwide Lobster</td>
<td>Lobster</td>
<td>Coastwide</td>
<td>Yes</td>
<td>20</td>
</tr>
<tr>
<td>One buoy line in non-exempt waters in GOM</td>
<td>All Trap/Pot</td>
<td>GOM</td>
<td>No</td>
<td>15</td>
</tr>
<tr>
<td>Remove 1 Endline</td>
<td>Lobster</td>
<td>LMA 1</td>
<td>Yes</td>
<td>14</td>
</tr>
<tr>
<td>One buoy line in non-exempt waters in SNE</td>
<td>All Trap/Pot</td>
<td>SNE</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>Remove 1 Endline</td>
<td>All</td>
<td>Coastwide (State Waters, NonExempt)</td>
<td>No</td>
<td>3</td>
</tr>
</tbody>
</table>
### Line Reduction: General Reductions

<table>
<thead>
<tr>
<th>Measure</th>
<th>Fishery</th>
<th>Region</th>
<th>Applied to ME Exempt Y/N</th>
<th>Risk Reduction Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>60% gear reduction in coastwide waters for all gear</td>
<td>All</td>
<td>Coastwide</td>
<td>Yes</td>
<td>30</td>
</tr>
<tr>
<td>50% Lobster &amp; TrapPot gear removed from LMA1</td>
<td>All Trap/Pot</td>
<td>LMA 1</td>
<td>Yes</td>
<td>17</td>
</tr>
<tr>
<td>50% Gear Reduction</td>
<td>All</td>
<td>LMA 3</td>
<td>No</td>
<td>6</td>
</tr>
<tr>
<td>50% Gear Reduction</td>
<td>All Trap/Pot</td>
<td>-LMA2, LMA2/3Overlap, LMA3 in SNE -StatArea 613</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>50% Gear Reduction</td>
<td>All Trap/Pot</td>
<td>LMA 3</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>40% Gear Reduction</td>
<td>All Trap/Pot</td>
<td>LMA 3</td>
<td>No</td>
<td>4</td>
</tr>
<tr>
<td>30% Gear Reduction</td>
<td>All Trap/Pot</td>
<td>LMA 3</td>
<td>No</td>
<td>3</td>
</tr>
</tbody>
</table>
### Closures: Lines Relocated

<table>
<thead>
<tr>
<th>Measure</th>
<th>Fishery</th>
<th>Region</th>
<th>Time Constraint</th>
<th>Applied to ME Exempt Y/N</th>
<th>Risk Reduction Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closure</td>
<td>Lobster</td>
<td>Maine Zone A</td>
<td>May - July</td>
<td>Yes</td>
<td>12</td>
</tr>
<tr>
<td>Closure</td>
<td>Lobster</td>
<td>Maine Zone G Outside of 8 Miles</td>
<td>Nov - Feb</td>
<td>No</td>
<td>9</td>
</tr>
<tr>
<td>Closure</td>
<td>Lobster</td>
<td>Mass LMA1: Restricted Area &amp; StatArea 514</td>
<td>Dec - May</td>
<td>No</td>
<td>9</td>
</tr>
<tr>
<td>Closure</td>
<td>Lobster</td>
<td>SNE - LMA 3</td>
<td>Jan - May</td>
<td>No</td>
<td>8</td>
</tr>
<tr>
<td>Closure</td>
<td>Lobster</td>
<td>Maine LMA 1, 3 Miles - 40 Miles</td>
<td>July - Nov</td>
<td>No</td>
<td>8</td>
</tr>
<tr>
<td>Close Federal Waters Greater than 100m Depth</td>
<td>All</td>
<td>Federal Waters Deeper than 100 Meters</td>
<td>Year-Round</td>
<td>No</td>
<td>8</td>
</tr>
<tr>
<td>Closure</td>
<td>All</td>
<td>Stat Area 514 extended to Maine Zone F-G border</td>
<td>Dec - May</td>
<td>Yes</td>
<td>8</td>
</tr>
<tr>
<td>Expansion of MRA through hotspot in the Western Gulf of Maine</td>
<td>All Fisheries</td>
<td>MRA expanded north into the Western GOM</td>
<td>Dec-May</td>
<td>No</td>
<td>8</td>
</tr>
<tr>
<td>Close LMA 2 and the 2/3 overlap, expand into 537,526</td>
<td>All Fisheries</td>
<td>A2, 2/3 overlap 537, 526</td>
<td>Dec-May</td>
<td>No</td>
<td>8</td>
</tr>
</tbody>
</table>
## Closures: Lines Removed

<table>
<thead>
<tr>
<th>Measure</th>
<th>Fishery</th>
<th>Region</th>
<th>Time Constraint</th>
<th>Applied to ME Exempt Y/N</th>
<th>Risk Reduction Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove all Gear from LMA 3 (or all ropeless)</td>
<td>All</td>
<td>LMA 3</td>
<td>Year-Round</td>
<td>No</td>
<td>11</td>
</tr>
<tr>
<td>100% Lines Out</td>
<td>OTP, Lobster</td>
<td>LMA1, Maine, Non-Exempt only</td>
<td>Oct - Jan</td>
<td>No</td>
<td>10</td>
</tr>
<tr>
<td>100% Lines Out</td>
<td>Lobster</td>
<td>GOM_GBK (Non-Exempt only)</td>
<td>May - Jun</td>
<td>No</td>
<td>7</td>
</tr>
<tr>
<td>100% Lines Out</td>
<td>OTP, Lobster</td>
<td>LMA 1, Massachusetts</td>
<td>Jan - May</td>
<td>No</td>
<td>5</td>
</tr>
</tbody>
</table>
## Weak Line

<table>
<thead>
<tr>
<th>Measure</th>
<th>Fishery</th>
<th>Region</th>
<th>Applied to ME Exempt Y/N</th>
<th>Risk Reduction Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% Weak Rope in Federal Waters out to 100m Depth</td>
<td>All</td>
<td>Coastwide Federal Waters to 100 Meters</td>
<td>No</td>
<td>10</td>
</tr>
<tr>
<td>50% Weak Rope</td>
<td>Lobster</td>
<td>LMA 1, 2, 2-3, OCC</td>
<td>Yes</td>
<td>8</td>
</tr>
<tr>
<td>Weak rope in top 75% of all trap/pot gear within 50 fa GOM-MAB</td>
<td>All Trap/Pot</td>
<td>Within 50 fathoms</td>
<td>Yes</td>
<td>8</td>
</tr>
<tr>
<td>50% Weak Rope</td>
<td>Lobster</td>
<td>LMA 3</td>
<td>No</td>
<td>7</td>
</tr>
<tr>
<td>75% Weak Rope to 50 fathoms in Federal Waters</td>
<td>All</td>
<td>Coastwide Federal Waters to 50 Fathoms</td>
<td>No</td>
<td>6</td>
</tr>
<tr>
<td>75% Weak Rope</td>
<td>All</td>
<td>Coastwide Waters to 12 nmi</td>
<td>Yes</td>
<td>6</td>
</tr>
<tr>
<td>Weak rope in top 50% of all trap/pot gear 50 to 100 fa, GOM-MAB</td>
<td>All Trap/Pot</td>
<td>50 to 100 fathoms</td>
<td>No</td>
<td>5</td>
</tr>
</tbody>
</table>
Two Example Packages

NOT proposals; run in high resolution

Further modified two packages to illustrate how to build a package between the risk reduction range (88 to 93%)
Modified Draft Package 3

Elements of Caucus requests
- trap caps
- one buoy line
- soak time
- closures: modified from Packages 3 & 4
- weak rope
Draft Package #3: elements of caucus/team analysis requests, modified
Phase 1 for all trap/pot + trap caps + one buoy line + closures + weak rope

Closures:

1. Expand LMA 1 RA into February and LMA 3
2. 514 Closure Dec - May from Package 4 Dec - May
   ○ Initial proposal was Jan-May
3. Closure of Jeffreys Ledge from Package 4: Nov - Feb
4. LMA 2, 2/3 overlap, and 3 closure in SNE, Dec - May
   ○ Assume lobster gear removed from LMA 2, all other areas/gear moves.
5. Closure in Downeast Maine Zone A, June - July
   (dropped August and May)

- Existing closures in black. New closures in package in pink.
Draft Package #3: elements of caucus/team analysis requests, modified
Phase 1 for all trap/pot + trap caps + one buoy line + closures + weak rope

Line Reduction Measures:

1. Trap/pot
   - NE lobster trap caps (includes Maine Exempt) ~ 28% to 44% line reduction
     - LMA 1, LMA 2, LMA 2/3 overlap, OCC: 400
     - LMA 3: 1000
   - One buoy line in all NON-exempt waters for all Trap/Pot

2. Gillnet
   - Net caps (implementation of paneling up an issue) ~ 50% line reduction
     - GOM - 30
     - SNE - 60
   - Soak time limit for gillnet: 12 hrs in State waters, 3 days in Fed waters
   - One gillnet endline attached to the boat in MATL (tending, underestimate)
Weak Line Measures:

1. Trap/pot weak line:
   - Coast to 50 fa, GOM-MATL: weak in top 75%
   - 50 to 100 fa, GOM-MATL: weak in top 50%
   - No weak line outside of 100 fa (implementation concerns)
   - SE: 100% weak (Florida state 1,500)

2. Gillnet weak line:
   - Top 75% weak everywhere (minimum anchor weight modified to 16lbs)

Approximate Risk Reduction Points \(\sim 89\%\)

Package Measure Name: Draft Package 3 - Nov 14
## Analyzing Packages with Different Whale Maps

<table>
<thead>
<tr>
<th>Whale Map</th>
<th>% Co-occurrence Reduction</th>
<th>%Δ Co-occurrence Reduction (vs. Base Whale Map)</th>
<th>% Risk Reduction</th>
<th>%Δ Risk Reduction (vs. Base Whale Map)</th>
</tr>
</thead>
<tbody>
<tr>
<td>v10_0309</td>
<td>74%</td>
<td>-11%</td>
<td>81%</td>
<td>-8%</td>
</tr>
<tr>
<td>v11_0309</td>
<td>74%</td>
<td>-11%</td>
<td>81%</td>
<td>-8%</td>
</tr>
<tr>
<td>v12_0309</td>
<td>83%</td>
<td>-2%</td>
<td>87%</td>
<td>-2%</td>
</tr>
<tr>
<td>v10_0318</td>
<td>77%</td>
<td>-8%</td>
<td>84%</td>
<td>-5%</td>
</tr>
<tr>
<td>v11_0318</td>
<td>77%</td>
<td>-8%</td>
<td>84%</td>
<td>-5%</td>
</tr>
<tr>
<td>v12_0319</td>
<td>84%</td>
<td>-1%</td>
<td>88%</td>
<td>-1%</td>
</tr>
<tr>
<td>v10_1018</td>
<td>83%</td>
<td>-2%</td>
<td>89%</td>
<td>0%</td>
</tr>
<tr>
<td>v11_1018</td>
<td>82%</td>
<td>-3%</td>
<td>88%</td>
<td>-1%</td>
</tr>
<tr>
<td>Baseline (v12_1019)</td>
<td>85%</td>
<td>NA</td>
<td>89%</td>
<td>NA</td>
</tr>
</tbody>
</table>

Range= -11% to -1%
Mean = -6%

Range= -8% to 0%
Mean = -4%
### Regional Breakdown of Risk-Reduction for Modified Package 3

<table>
<thead>
<tr>
<th>Region</th>
<th>Risk Reduction Points</th>
<th>Regional % Risk Reduction from Phase 1</th>
<th>Regional % Risk Reduction (with Phase 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOM</td>
<td>31</td>
<td>50%</td>
<td>91%</td>
</tr>
<tr>
<td>SNE</td>
<td>10</td>
<td>38%</td>
<td>86%</td>
</tr>
<tr>
<td>MATL</td>
<td>0.6</td>
<td>0%</td>
<td>40%</td>
</tr>
<tr>
<td>SE</td>
<td>0.4</td>
<td>0%</td>
<td>66%</td>
</tr>
<tr>
<td>Coastwide</td>
<td>42</td>
<td>47%</td>
<td>89%</td>
</tr>
</tbody>
</table>

**Target:** 88 - 93
Modified Draft Package 5
Modifications to Gear Configuration and Reduction Measures of the Marine Mammal Commission Analysis Requests
Draft Package #5: Marine Mammal Commission Analysis Requests

1. 60% reduction in endlines coastwide, excluding exempt waters
2. 100% weak rope coastwide
3. 100% ropeless in LMA 3 & waters > 100fa
4. Package 1 time-area closures
   a. Seasonal LMA closures (assumes lobster gear removed to shore, other gear can relocate)
5. Package 3 gear modifications
   a. NE lobster trap caps (includes Maine Exempt) ~ 28% to 44% line reduction
   b. One buoy line in all NON-exempt waters for all Trap/Pot
   c. Net caps ~ 50% line reduction
   d. Soak time limit for gillnet
   e. One gillnet endline attached to the boat in MATL

<table>
<thead>
<tr>
<th>Area</th>
<th>J</th>
<th>F</th>
<th>M</th>
<th>A</th>
<th>M</th>
<th>J</th>
<th>A</th>
<th>S</th>
<th>O</th>
<th>N</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMA 1: MA, NH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>LMA 1: ME</td>
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<td>LMA 2</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Outer Cape</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>SNE Restricted Area +</td>
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<tr>
<td>overlap</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>LMA 4 &amp; 5</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Approximate Risk Reduction Points ~95
1. 60% reduction in endlines coastwide, excluding exempt waters
2. 100% weak rope coastwide
3. 100% ropeless in LMA 3 & waters > 100fa
4. Package 1 time-area Closures
   a. Seasonal LMA closures (assumes lobster gear removed to shore, other gear can relocate)
5. Package 3 gear modifications
   a. NE lobster trap caps (includes Maine Exempt) ~ 28% to 44% line reduction
   b. One buoy line in all NON-exempt waters for all Trap/Pot
   c. Net caps ~ 50% line reduction
   d. Soak time limit for gillnet
   e. One gillnet endline attached to the boat in MATL

Target: 88 - 93
Approximate Risk Reduction Points ~ 90
### Analyzing Packages with Different Whale Maps

<table>
<thead>
<tr>
<th>Whale Map</th>
<th>% Co-occurrence Reduction</th>
<th>%Δ Co-occurrence Reduction (vs. Base Whale Map)</th>
<th>% Risk Reduction</th>
<th>%Δ Risk Reduction (vs. Base Whale Map)</th>
</tr>
</thead>
<tbody>
<tr>
<td>v10_0309</td>
<td>68%</td>
<td>-7%</td>
<td>83%</td>
<td>-7%</td>
</tr>
<tr>
<td>v11_0309</td>
<td>68%</td>
<td>-7%</td>
<td>83%</td>
<td>-7%</td>
</tr>
<tr>
<td>v12_0309</td>
<td>74%</td>
<td>-1%</td>
<td>87%</td>
<td>-3%</td>
</tr>
<tr>
<td>v10_0318</td>
<td>71%</td>
<td>-4%</td>
<td>86%</td>
<td>-4%</td>
</tr>
<tr>
<td>v11_0318</td>
<td>72%</td>
<td>-3%</td>
<td>87%</td>
<td>-3%</td>
</tr>
<tr>
<td>v12_0319</td>
<td>75%</td>
<td>0%</td>
<td>88%</td>
<td>-2%</td>
</tr>
<tr>
<td>v10_1018</td>
<td>75%</td>
<td>0%</td>
<td>90%</td>
<td>0%</td>
</tr>
<tr>
<td>v11_1018</td>
<td>79%</td>
<td>+4%</td>
<td>92%</td>
<td>+2%</td>
</tr>
<tr>
<td>Baseline (v12_1019)</td>
<td>75%</td>
<td>NA</td>
<td>90%</td>
<td>NA</td>
</tr>
</tbody>
</table>

Range = -7% to +4%  
Mean = -2%

Range = -7% to +2%  
Mean = -3%
## Regional Breakdown of Risk-Reduction

<table>
<thead>
<tr>
<th>Region</th>
<th>Risk Reduction Points</th>
<th>Regional % Risk Reduction from Phase 1</th>
<th>Regional % Risk Reduction (with Phase 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOM</td>
<td>29</td>
<td>50%</td>
<td>88%</td>
</tr>
<tr>
<td>SNE</td>
<td>12</td>
<td>38%</td>
<td>95%</td>
</tr>
<tr>
<td>MATL</td>
<td>1.5</td>
<td>0%</td>
<td>92%</td>
</tr>
<tr>
<td>SE</td>
<td>0.6</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>Coastwide</td>
<td>43</td>
<td>47%</td>
<td>90%</td>
</tr>
</tbody>
</table>

Target: 88 - 93
Assessing the Value of the MRA Towards Phase 1 Risk Reduction

- In 2019 the team voted to include the MRA in risk reduction measures, which NMFS provided in the FEIS, along with the risk reduction without it

- The Issue: mortality and serious injury (M/SI) used to calculate our risk reduction needed to get below PBR represents post-MRA years (2016-2020)
  - While M/SI was likely lower in the MRA area, we still have to bring M/SI below PBR across all U.S. waters (requires an estimated 88-93%)
  - NMFS has to demonstrate that our next rule brings M/SI below PBR within 6 months

- We have had several requests to reconsider the value of the MRA, which was implemented in 2015 within the 2021 rule

- We are providing two estimates of the value of the MRA for the team to discuss
Assessing the Value of the MRA Towards Phase 1 Risk Reduction

- Data produced by MA DMF suggest a 20% increase in the percent of the whale population protected within Cape Cod Bay.
- We used 2014 fishing effort provided by Mass DMF to estimate the total fishing pressure inside the MRA during 2014 and added this to existing fishery input to the DST.
- The value of the MRA alone, absent Phase 1 measures, was about 14% of all risk on the East Coast. However, in the presence of Phase 1 measures, the value is less due to non-additive effects.

We analyzed the value of this area with the 2021 rule in two ways:

1. To look at total pre-2015 value, we analyzed the total risk reduction using pre-2015 fishing effort: 55%, an additional 8%
2. To look at increase in value after 2015, we analyzed the risk reduction using 20% of pre-2015 fishing effort: 49%, an additional 2%

Our mandate is to reduce M/SI to a level below PBR

Analysis conducted by Burton Shank
Team discussion on analyses & where we are

Given all of this material – individual measures and permutations of packages:

• How has your thinking developed/changed?

• How has it informed your thinking about our pathways as a Team to achieve the risk reduction goal?

• Are there other specific measures / packages that any Team members want to add to the table at this point?
The Team is taking a stretch break!
Meeting will resume at 4:25 PM ET
Plenary Discussion of the Charge & Outstanding Questions
Key considerations and questions from Team members around risk and evaluating measures

• In the Sept 2022 meeting and October cross-caucuses, frequently we heard questions from the Team about:
  ○ In addition to the risk reduction calculated by the DST, how to draw on other data or justifications?
  ○ How to consider measures that aren’t easily quantified in the DST?
The DST is Built With the Best Available Information

- We are asking you to draft recommended modifications to the TRP using the DST to meet the MMPA's PBR standard, which currently requires fewer than approximately 0.7 M/SI per year.
- This requires approximately 88 to 93% risk reduction from the pre-phase 1 baseline.
- The Team can also provide a rationale with supporting information to supplement risk reduction estimates.
- NMFS will carefully consider all of the best available information including any new information provided by the Team.
- If the team does not recommend measures that get M/SI below PBR, NMFS will have to make up the difference.
- If new information becomes available in the future (e.g., for EIS), we will use them in finalizing our measures.
Key feasibility questions brought up by the Team

- Line caps
- Paneling up
- One end ropeless
- Buy Back
- Dynamic Management
Public Comment

Public comments welcome

• Share thoughts in chat or verbally
• To comment verbally, raise virtual “hand” or signal interest in chat
• Limit comments to 2 minutes; may need to adjust if many speakers
• Please keep all comments…
  ▪ *on-point*
  ▪ *respectful*
  ▪ *focused on issues (not individuals)*
• Facilitators will intervene if ground rules are not honored; public member will be asked to leave the meeting
Wrap Up and Next Steps

Three more dates for this meeting:
- Day 2: Tuesday, November 15, 9 AM to 6 PM ET
- No Meeting on Wednesday, November 16
- Day 3: Thursday, November 17, 9 AM to 4 PM ET
- Day 4: Friday, November 18, 9 AM to 2:30 PM ET

Future meeting dates:
- Day 5: Thursday, December 1, 9 AM to 5 PM ET
- Day 6: Friday, December 2, 9 AM to 5 PM ET

Updated Decision Support Tool Peer Review with ASRG: December 12-14
- Monday, December 12, 10 AM to 5 PM ET
- Tuesday, December 13, 10 AM to 5 PM ET
- Wednesday, December 14, 9 AM to 12 PM ET
### Trap/Pot Fisheries Landing Values by State (in 2021 U.S. dollars)

<table>
<thead>
<tr>
<th>State</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME</td>
<td>$481,922,567</td>
<td>$526,576,394</td>
<td>$518,543,222</td>
<td>$429,049,612</td>
<td>$722,824,257</td>
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<tr>
<td>NH</td>
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<td>$44,047,553</td>
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<td>$103,304,304</td>
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<td>$120,752,483</td>
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<tr>
<td>RI</td>
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<td>$14,238,173</td>
<td>$11,553,576</td>
<td>$13,329,278</td>
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<tr>
<td>CT</td>
<td>$1,263,702</td>
<td>$1,107,567</td>
<td>$1,497,034</td>
<td>$1,354,681</td>
<td>$1,468,626</td>
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<tr>
<td>NY</td>
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<tr>
<td>NJ</td>
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<td>$11,737,515</td>
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<td>$12,089,746</td>
<td>$15,329,561</td>
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<tr>
<td>DE</td>
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<tr>
<td>MD</td>
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<td>$26,329,893</td>
<td>$25,161,382</td>
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<tr>
<td>VA</td>
<td>$28,953,638</td>
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<tr>
<td>NC</td>
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<td>SC</td>
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<td>GA</td>
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<tr>
<td>FL</td>
<td>$9,118,474</td>
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<td>$8,815,567</td>
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<td><strong>Total</strong></td>
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<td><strong>$802,386,288</strong></td>
<td><strong>$677,071,583</strong></td>
<td><strong>$1,026,077,132</strong></td>
</tr>
</tbody>
</table>

Data source: ACCSP data warehouse, all numbers are subject to change
### Gillnet Fisheries Landing Values by State (in 2021 U.S. dollars)

<table>
<thead>
<tr>
<th>State</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME</td>
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<td>MA</td>
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<td>$6,073,667</td>
<td>$5,798,994</td>
<td>$4,360,500</td>
<td>$4,655,370</td>
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<tr>
<td>RI</td>
<td>$2,704,191</td>
<td>$2,692,177</td>
<td>$3,142,905</td>
<td>$2,899,734</td>
<td>$2,129,266</td>
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<tr>
<td>CT</td>
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<td>$388,493</td>
<td>$247,789</td>
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<td>$181,099</td>
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<tr>
<td>NY</td>
<td>$2,367,032</td>
<td>$994,582</td>
<td>$1,033,096</td>
<td>$1,063,840</td>
<td>$887,528</td>
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<tr>
<td>NJ</td>
<td>$3,073,223</td>
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<td>$2,487,947</td>
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<td>$2,623,217</td>
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<tr>
<td>DE</td>
<td>$544,669</td>
<td>$651,232</td>
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<tr>
<td>MD</td>
<td>$4,969,454</td>
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<td>$3,591,416</td>
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<tr>
<td>VA</td>
<td>$10,109,639</td>
<td>$8,193,495</td>
<td>$8,537,729</td>
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<tr>
<td>NC</td>
<td>$12,177,500</td>
<td>$9,994,189</td>
<td>$10,301,277</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$45,958,034</strong></td>
<td><strong>$38,427,362</strong></td>
<td><strong>$38,306,560</strong></td>
<td><strong>$32,440,578</strong></td>
<td><strong>$34,717,064</strong></td>
</tr>
</tbody>
</table>

Data source: ACCSP data warehouse, all numbers are subject to change.