

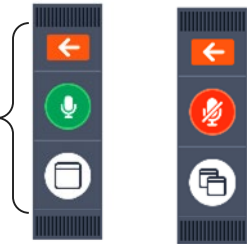
ALWTRT Informational Webinar: DST Analyses Results for November Take Reduction Team Meeting

The meeting will begin at 6:00 p.m.

For technical support:
Type your issue into the Questions box or
raise your hand.

Unmuted
(green)

Muted
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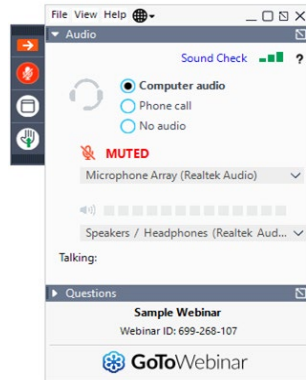



*This is the
control panel*

Find the **Control Panel** and open it by clicking the orange arrow. You can usually find this on the right hand side of your screen. You can expand the gray option bars by clicking the triangle on the left hand side of “Audio” and “Questions.”

The **Control Panel** also allows you to mute/unmute by clicking the microphone symbol.

Computer Audio
(Preferred)

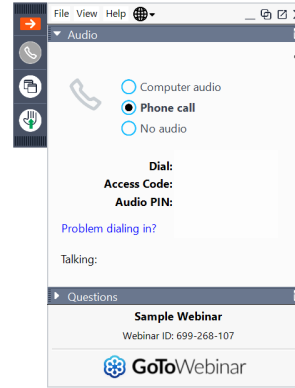


Make sure you can see a red microphone symbol  next to your name in attendees. If you cannot, you will not be able to speak.

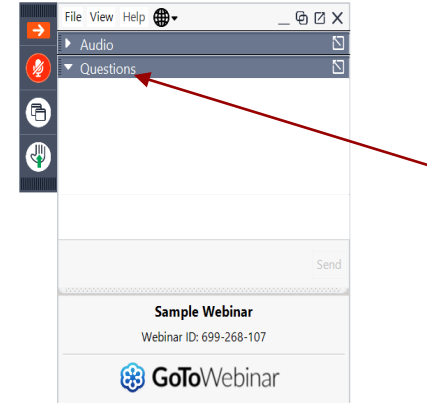
Select your **audio settings**. Computer audio is recommended. If you dialed in on your phone and did not enter your audio pin, please dial and enter your audio pin.

Access the audio options by clicking on the gray bar that says “Audio.”

Cell phone for audio
(limited internet)



This is the questions box

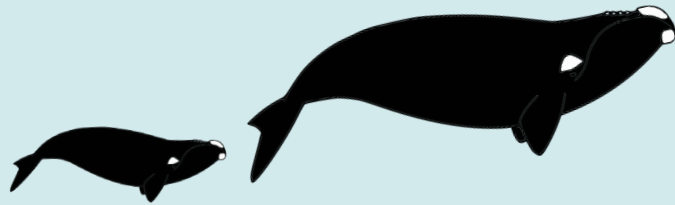


This is the **Questions box**, you will use this to get in line for the Q&A.

Access the questions box by clicking the gray bar that says “questions.”

Include the slide number if relevant to the question.

ALWTRT Informational Webinar: DST Analyses Results for November Meeting



November 9, 2022



TRT Members: Participating in Today's Webinar

Please Note: *Today's event is being recorded* (including anything typed into the questions box) and will be available through the event registration page after the meeting.

Reminders for Team Members:

- Please direct questions to the presenters
- Please hold questions until the end UNLESS quick clarification on information presented
- Type QUESTION in the questions box to get in line.
- Include the slide number or topic of your question or type in your question into the questions box
- When you are called on, we will un-mute you, and then you will need to un-mute yourself to ask your question
- If you change your mind, say or type pass when your name is called
- A PDF of today's slides will be sent to the team following today's presentation

Non-Team Members: You are welcome, but Q&A time is reserved for Team members.

Recordings of past webinars are available on Atlantic Large Whale Take Reduction Team web page under "Team Meetings." Follow the registration link of the under the recent team meeting and the recording will begin.



Agenda

Update on Sharing the Decision Support Tool

Overview of Menu of Measures

- Demonstrate how individual measures work together

Updates to Ongoing DST Preliminary Analyses

- Information on Caucus meetings
- Update on Draft Package Analyses
- Key management measures that decrease risk

Wrap up & Review of upcoming ALWTRT meeting dates

Time for Q&A will be available after each presentation



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

Update on Sharing the Decision Support Tool

- State agencies in Maine and Rhode Island have received the DST, allowing them to run their own analyses.
- Maine currently has a version that includes all gear types in the Gulf of Maine.
 - Thanks to Maine DMR staff who provided a couple code upgrades to speed up the model. Benefits of sharing!
- Rhode Island has a version with all gear types in Southern New England off Rhode Island and Massachusetts.

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

High Resolution Menu of Measures: November 8, 2022 ☆ 🗑️ 🔄

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🖨️ ▾ 100% ▾ View only ▾

	A	B	C	D	E	F	G
1	Measure	Fishery	Region	Time Constraint	Applied to ME Exempt Y/N	Risk Reduction Points (Contributions to the Total After Phase 1)	Requested By
2	60% gear reduction in coastwide waters for all gear	All	Coastwide	Year-Round	Yes	30	MMC- Sept 30 Measure 1
3	TrapCap: 150 traps	Lobster	LMA1,2,2-3overlap,OCC	Year-Round	Yes	25	Anonymous
4	Reduce 1 Endline All Fisheries Coastwide	All	Coastwide (State and Federal Waters)	Year-Round	Yes	22	Science Caucus- Requested Sept 21
5	Reduce 1 Endline, Coastwide Lobster	Lobster	Coastwide	Year-Round	Yes	20	NGO Caucus- Requested Sept 22
6	60 line cap per vessel for all trap/pot fisheries coastwide	All Trap/Pot	Coastwide	Year-Round	Yes	19	Exploratory Measure
7	Reduce traps by 50% in LMA1 (implemented as 225 traps/vessel)	All Trap/Pot	LMA 1	Year-Round	Yes	19	NGO Caucus- Requested Sept 22

☰ Line/Gear Reduction Menu ▾ Weak Rope Menu ▾ Closure Menu ▾ Combo Measures ▾ Coastwide Package Menu ▾

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.

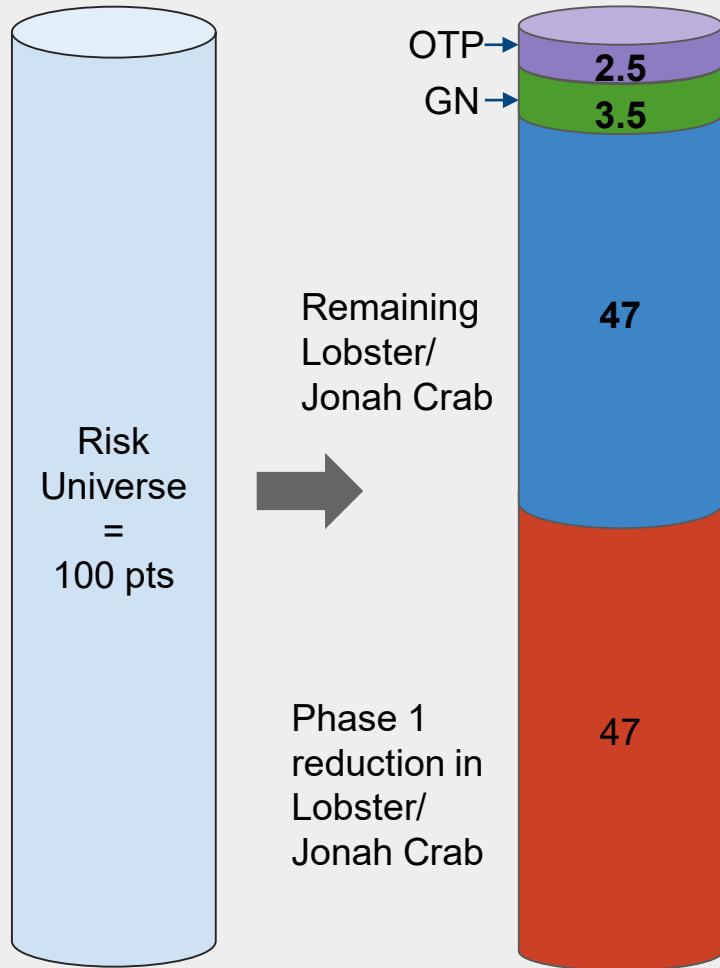
High Resolution Menu of Measures: November 8, 2022

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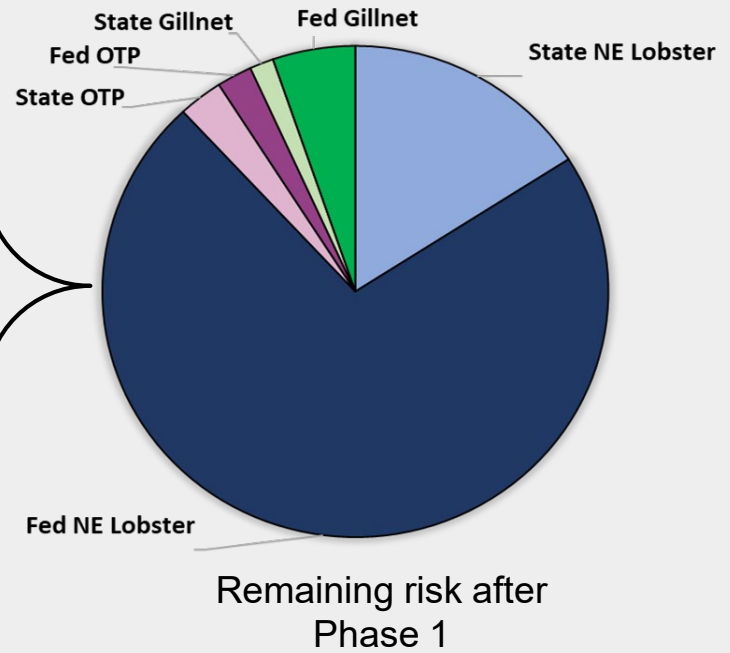
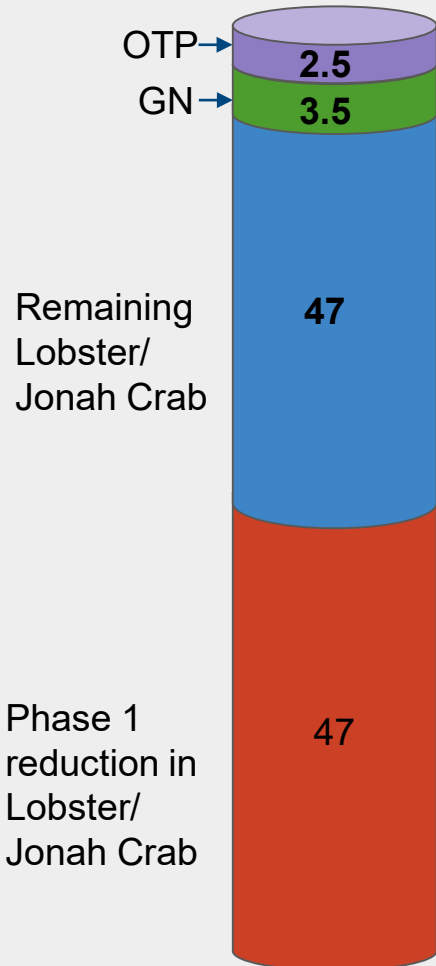
	A	B	C	D
1	Package Measures	Total Risk Reduction (With Phase 1)	Risk Reduction Points (Contributions to the Total After Phase 1)	Requested By
2	Draft Package 2 - Sept 22 version	92	45	Illustrative Example
3	Draft Package 3 - Sept 29 version - add ropeless > 100 fathoms	91	44	Illustrative Example
4	Draft Package 3 Modifications from Group 3: - Line Cap of 10 lines per permit in Gillnet fishery (GOM-MATL and NC Non-Exempt Waters) - Paneling up to minimum of 25 panels per string in gillnet fishery (GOM-MATL and NC Non-Exempt Waters) - 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) - 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 - Max tie-down height set to 4ft for Monkfish fishery - Close to buoylines for all Trap Pot anywhere that rope with max breaking strength of 1700	91	44	Full series of changes suggested by Group 3 on Package 3 requested on Sept 22 by

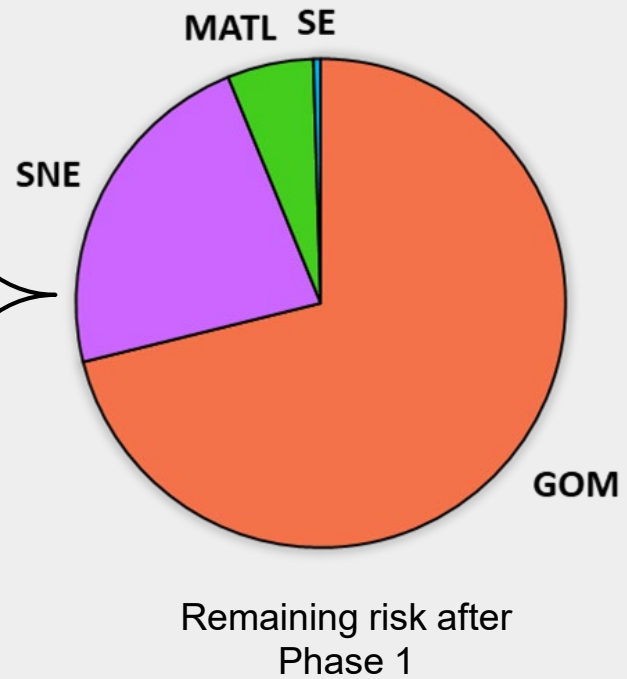
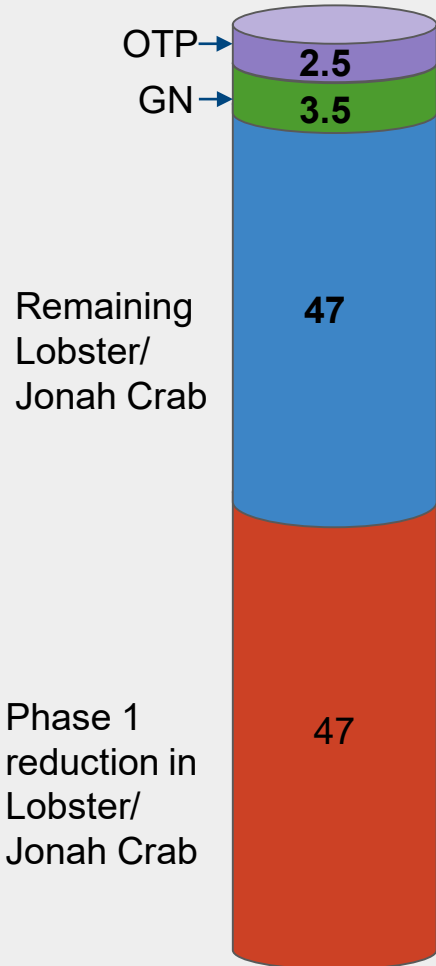
+ Search Reduction Menu Weak Rope Menu Closure Menu Combo Measures Coastwide Package Menu



Coastwide Distribution of Risk

- 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



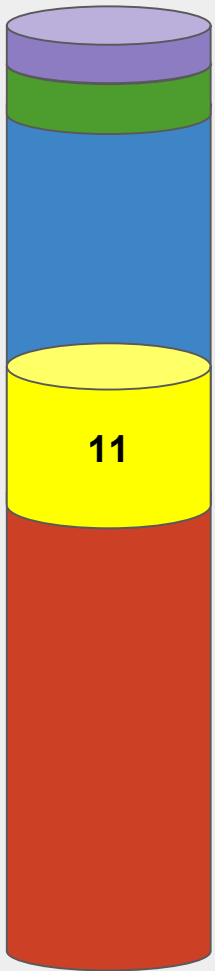


Using the Menu of Measures

- Measure below is an example from the Line/Gear Reduction Menu
- Measure applies 400 Trap/Permit Cap to all LMA 1 Lobster Vessels, and is applied to Maine Exempt waters

Measure	Fishery	Region	Time Constraint	Applied to ME Exempt Y/N	Risk Reduction Points (Contributions to the Total After Phase 1)	Requested By
400 Trap Cap in LMA 1	Lobster	LMA 1	Year-Round	Yes	11	Draft Package 3 (Measure 11) - Presented Sept 22

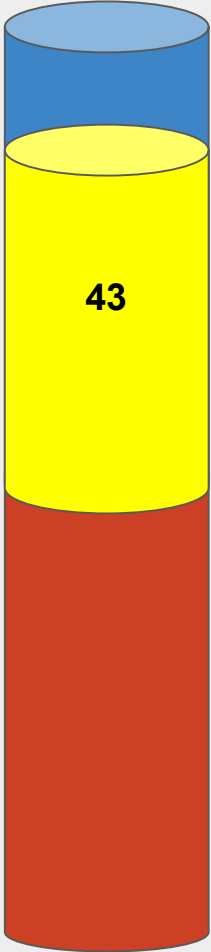
Using the Menu of Measures



- Measure applies 400 Trap/Permit Cap to all LMA 1 Lobster Vessels, and is applied to Maine Exempt waters
- Individually, this measure contributes 11 Risk Reduction Points
- The individual contribution of Draft Package 3 measures can also be found in the menu, located by the “Requested By” column
- Measures are not additive

Measure	Fishery	Region	Time Constraint	Applied to ME Exempt Y/N	Risk Reduction Points (Contributions to the Total After Phase 1)	Requested By
400 Trap Cap in LMA 1	Lobster	LMA 1	Year-Round	Yes	11	Draft Package 3 (Measure 11) - Presented Sept 22

Using the Menu of Measures



Measure	Total Risk Reduction	Risk Reduction Points (Contributions to the Total After Phase 1)	Requested By
Draft Package 3	90	43	Draft Package 3 Presented Sept 22

- In the “Coastwide Package Menu” tab, the total risk reduction from Draft Package 3 is shown
- The Risk Reduction Points AFTER Phase 1 measures are applied is also shown

Questions

Use the 'Questions' box to get in line



Updates to Ongoing DST Preliminary Analyses

- 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
 - 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
- The measures and packages produced during and following these discussions are exploratory and are **NOT** intended to be viewed as proposals.

Massachusetts Division of Marine Fisheries (MA DMF)

Massachusetts Department of Marine Fisheries, New Hampshire Fish and Game, and Rhode Island Department of Environmental Management coordinated four in-person meetings with members of the fishing industry.

- 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 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

Meetings results in three currently developing exploratory packages:

1. Massachusetts LMA1 and OCC Lobster
2. SNE LMA2 and LMA3 Lobster and Other Trap Pot
3. SNE LMA2 and LMA3 Gillnet

Packages are being examined by MA DMF and will be discussed with industry for further development.

MA DMF Exploratory Pkg 1: Mass LMA1 and OCC Lobster

Already has a 71% risk reduction from Phase 1 measures for the region and 86% in state waters.

Original credit for MRA closure currently not included.

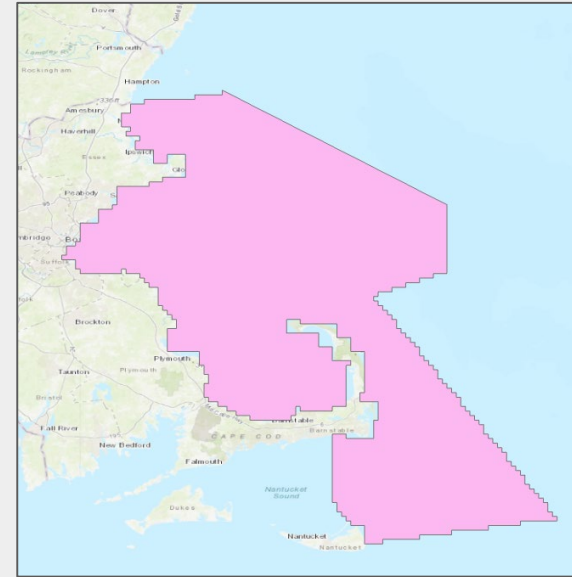
Additional measures under consideration:

- Added weak rope
- Further trawling-up
- Additional trawling up or closure of state waters during high risk periods.
- Seasonal closure of OCC

Current “most ambitious” combination scores 84% risk reduction to the region and >90% reduction in state waters and includes:

- Added weak rope: 75% weak rope in all waters.
- Further trawling-up: 15 pots in 3-6 miles from shore, 20 pots for 6-12 miles from shore.
- Seasonal trawling up to 10 pots in Dec-Jan in state waters.
- Advance closure of state waters back to Jan 15.
- Seasonal closure eastern Cape Cod Bay Dec-May.

- Exploring seasonal closure of StatArea 514 for additional risk reduction credit.



MA DMF Exploratory Pkg 2: SNE LMA2 and LMA3 Lobster and OTP



Region already has 46% risk reduction credit from Phase 1 and 53% in state waters.

Already implemented closure of OTP fisheries Dec 15-April 15 in state waters.

Additional measures under consideration:

- Added weak rope
- Line reductions through Line Caps
- Seasonal closures of LMA2 and LMA3

Current “most ambitious” combination scores 84.6% risk reduction for the region, 86.2% in LMA2 and includes:

- Added weak rope: 75% weak rope in all areas.
- 50% line reduction in LMA2 through a line cap of 28 lines.
- 50% line reduction in LMA3 and 2-3 overlap through a line cap of 30 lines.
- Closure of LMA2 Feb 1-May 15, with dynamic opening.
- Exploring seasonal closure of portions of LMA3 for additional risk reduction credit.

Note significant spatial overlap with AOLA / LMA3 package discussed below. Potential to reconcile / merge packages in this area.

MA DMF Exploratory Pkg 3: SNE LMA2 and LMA3 Gillnet

Already implemented closure of gillnet fisheries Jan-May 15 in state waters (not included in Phase 1 regulations).

Additional measures under consideration:

- Added weak rope
- Line reductions through “paneling up”
- Line reductions through line caps
- Expansions of existing seasonal closures



Current “most ambitious” combination scores 73% risk reduction to the region and includes:

- Added weak rope: 75% weak rope in all areas.
- Cap of 10 endlines for monkfish / skate gillnet fishery (primary fishery in the region)
- Expansion of South of Islands Restricted Area inshore to cover adjacent federal waters.

New Hampshire Lobster Requests

Found in Menu “Requested By”
Column: NH Caucus, October 11

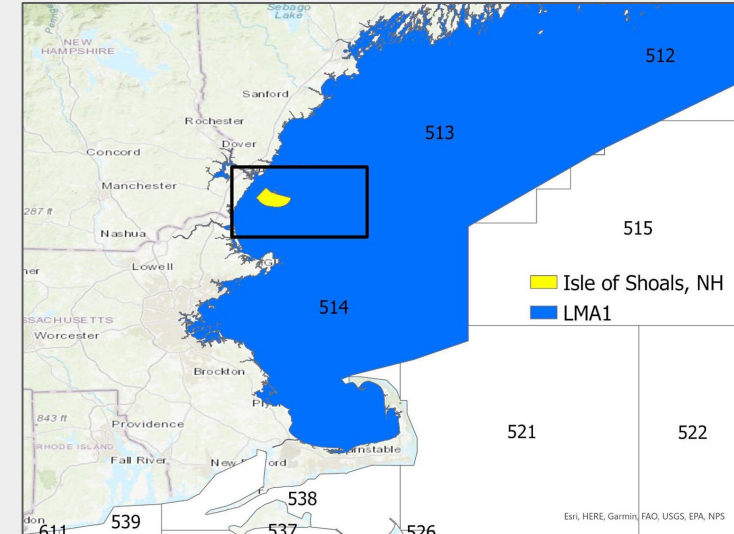
From Oct 3 Caucus meeting in Gloucester MA with lobster fishers from NH and Massachusetts LMA1

Part 1: Similar management actions as Massachusetts were analyzed for NH lobster fishery:

1. Weak Rope (75% or 100%) in LMA1
2. Weak Rope (75 %) + Trawling up (min 15 traps) in 3-6 n.mi. in LMA1
3. Weak Rope (75 %) +Trawling up (min 15 & 20 traps) in 3-6n.mi and 6-12 n.mi. in LMA1
4. Weak Rope (75%) + Trawl up (min 15 & 20 traps) + 100% gear removed (Feb-May) in Massachusetts Restricted Area
5. 100% gear removed in Stat Area 514 in a) Jan-Feb, b)Mar-April, c) Feb-May

Part 2: Measures applied to NH Lobster:

6. 75% weak rope in all NH state waters
7. Trawling up (min 3 traps) in state waters around Isle of Shoals
8. 100% gear removed (March-April) in Stat Area 514 to Maine Zone G
9. 100% gear removed (April-May) in 514 to Maine Zone G







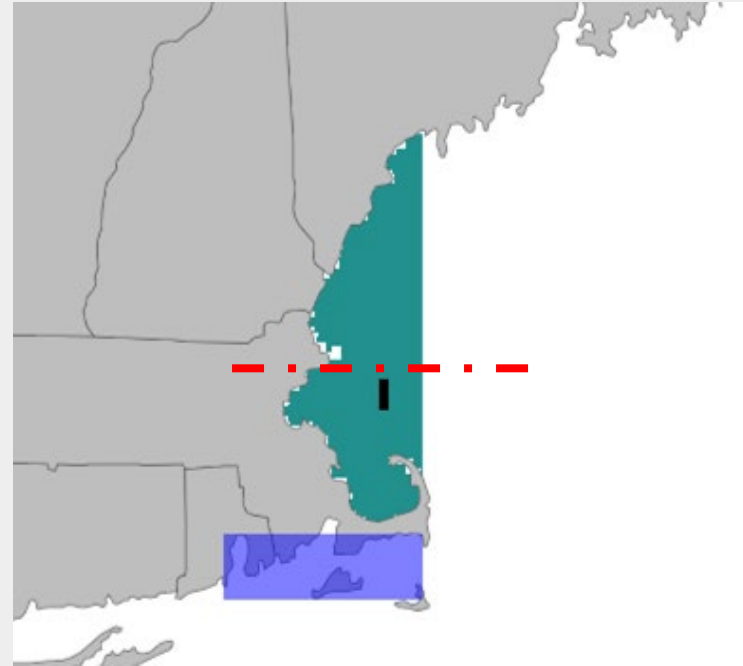
Map includes: Isle of Shoals (NH), Stat Area 513-514 and LMA1

New Hampshire Lobster Results




Measure	Risk Reduction
100 % Weak Rope in LMA1	0.76
75% Weak Rope in LMA1	0.54
Weak Rope (75 %) + Trawling up (min 15 traps) in 3-6 n.mi. in LMA1	0.01
Weak Rope (75%) +Trawling up (min 15 & 20 traps) in 3-6 n.mi and 6-12 n.mi. in LMA1	0.56
Weak Rope (75%)+ Trawl Up 15 (3-6nm) + Trawl Up 20 (6-12nm) + 100% Gear Reduction MRA Gap Feb-May	0.56
100% gear removed in Stat Area 514 in: a) Jan-Feb b) Mar-April c) Feb-May	a) 0 b) 0 c) 0
75% Weak Rope in State Waters	0.1
Trawling up (min 3 traps) in state waters around Isle of Shoals	0
Gear Reduction 100% Stat Area 514 (March-April)	0
Gear Reduction 100% Stat Area 514 (April-May)	0

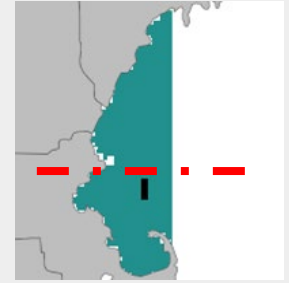
Northeast Gillnet

- Request explored seasonality of gillnet risk in Gulf of Maine, with attention towards closures and trawling up
 - Areas of interest
 - GOM West of 70° 
 - GOM West of 70° split at 42.5°N 
 - NE segment of LMA 2 
 - Open segment in GOM West of 70° 
 - Measures of Interest
 - Lines out closures
 - Panelling up- 22 nets/trawl
 - 10 Endline Cap
 - Focussed on April/May



Northeast Gillnet (GOM)


- GOM West of 70° 
- GOM West of 70° split at 42.5°N 
- Open segment in GOM West of 70° 



Measure	Risk Reduction Points	GOM Gillnet Risk Reduction
1. 100% Gillnet lines out West of 70°W and North of 42.5°N, April & May	0	4%
2. Min. 22 Gillnet Nets/Trawl West of 70°W and South of 42.5°N April & May	0.2	22%
3. 10 Endline Cap in GOM Gillnet Year-Round	0.2	22%
Measures 1-2	0.2	26%
Measure 1-3	0.3	41%
Measure 1-3, but allow gillnet in GOM segment during closures*	0.3	40%

* Assumes no additional gear moves from closed area into this segment

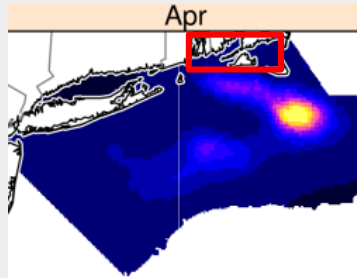
Northeast Gillnet (SNE)

- NE segment of LMA 2 

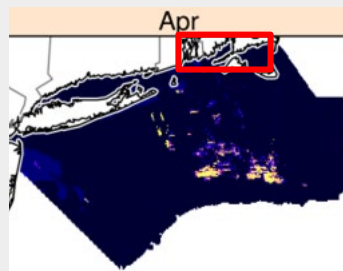


Measure	Risk Reduction Points	SNE Gillnet Risk Reduction
1. 100% Gillnet lines out in NE segment of LMA 2 in February	0	3%
2. 100% Gillnet lines out in NE segment of LMA 2 in March	0	0%
3. 100% Gillnet lines out in NE segment of LMA 2 in April	0	1%

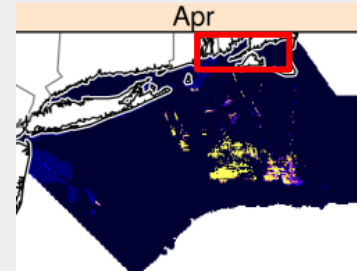
Why so little risk reduction?



Whale Density



Line Density



Co-Occurrence

Rhode Island Department of Environmental Management

- Considered vertical line allocations by permit for lobster and crab fisheries in LMA 2
 - Assumed a gear configuration of
 - 15 Traps/Trawl
 - 450 Traps/Permit
 - 2 Endlines/Trawl
 - 60 Endlines/Permit
 - Generated a baseline risk estimate from this gear configuration
 - Incrementally changed configuration to see where that risk was reduced by 50%

Measure	Risk Reduction Points
1. Exactly 15 Traps/Trawl in LMA 2	0.1
2. 450 Trap Cap per permit in LMA 2	0.5
3. 60 Endline Cap per permit in LMA 2	0.6
Measures 1-3	0.8

Rhode Island Department of Environmental Management

- When constrained to LMA 2 & LMA 2/3 overlap, risk reduction of these measures is 10%

	Measure	Risk Reduction Points	LMA 2 Risk Reduction (On top of Phase 1 Measures)
Package	RI DMF Measures 1-3 (Line Cap 60)	0.8	10%
1b.	Line Cap 100	0.2	6%
1c.	Line Cap 30	1.1	16%
1d.	Line Cap 15	1.7	23%

- If 450 Traps/Permit were still employed, fishing a line cap of 15 lines would assume 60 traps/trawl-Scenario is unlikely.

Rhode Island Department of Environmental Management

- Why aren't these measures contributing more Risk Reduction Points?
 - Gear in LMA 2 and LMA 2/3 overlap represents ~ 8% of remaining coastwide risk- Which is why 1.7 Risk Reduction Points equates to 23% of Post-Phase 1 LMA 2 Risk
 - Whales are present in LMA 2 year-round- Gear modifications that keep line in the water continue to contribute risk year-round.
 - For comparison, other scenarios that reach similar risk reduction in LMA 2 are below.

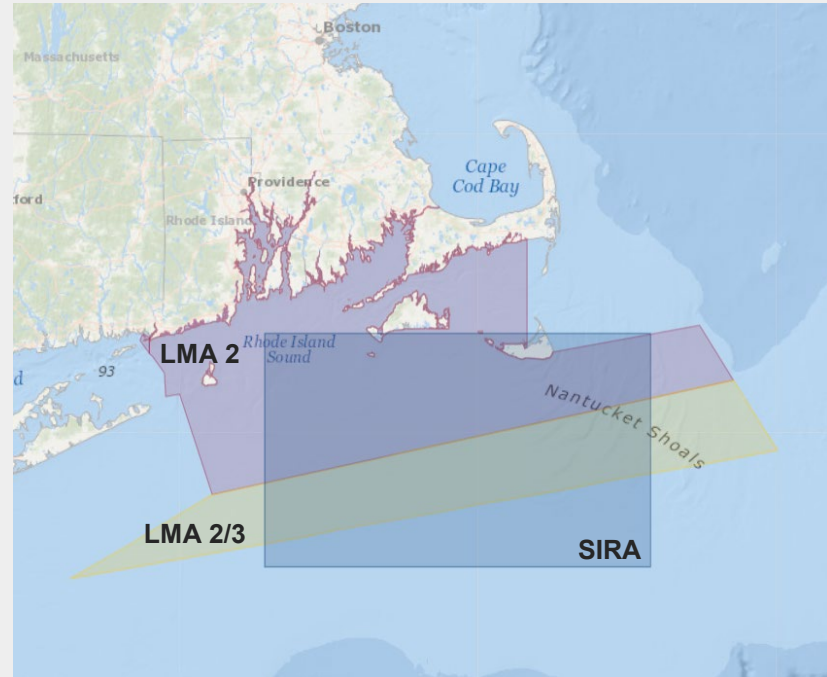
	Measure	Risk Reduction Points	LMA 2 Risk Reduction (On top of Phase 1 Measures)
1d.	Line Cap 15	1.7	23%
2	Require 30 Traps/Trawl in LMA 2 and $\frac{2}{3}$ Overlap	1.6	22%
3	100% Weak Rope	1	14%
4	Lines Out from Jan - May	1.9	26%

Rhode Island Department of Environmental Management Request

Found in Menu “Requested By” Column:
RI DEM, October 11

Trap/Pot Measures:

1. 20%-50% vertical line reduction by month
2. Seasonal closure - February–April all State and Federal waters of Area 2
3. Seasonal closure - January–April all State and Federal waters of Area 2
4. Seasonal closure – January–May, all State and Federal waters of Area 2
5. Seasonal closure – January–May, South Island Restricted Area (SIRA)
6. 100% weak line (1700 lb) or top 75% weak line year round
7. Trawling up of singles to pairs of OTP, lobster
8. Trawling up for larger vessels as a permit option



Rhode Island Department of Environmental Management Results

	Measure type	Risk Reduction
1.	20%-50% vertical line reduction by month for SNE Trap/Pot	→
2.	Seasonal closure (lines out): Feb–April all State and Federal waters of Area 2 (including 2/3 overlap)	0.9
3.	Seasonal closure (lines out): Jan–April all State and Federal waters of Area 2 (including 2/3 overlap)	1.4
4.	Seasonal closure (lines out): Jan–May all State and Federal waters of Area 2 (including 2/3 overlap)	2.0
5.	Seasonal closure (lines out): Jan–May South Island Restricted Area (SIRA)	1.8
6a.	All OTP and Lobster vertical lines will be full weak line of 1700 lbs. (100%)	1.2
6b.	All OTP and Lobster vertical lines will be full weak line of 1700 lbs. (75%)	0.9
7.	Trawling up of singles to pairs in both OTP and lobster fisheries	0.3
8a.	Trawling up to 10 trap minimum in Fed SNE waters	0.2
8b.	Trawling up to 20 trap minimum in Fed SNE waters	0.2

	50%	40%	30%	20%
Jan	0.7	0.6	0.4	0.3
Feb	0.8	0.7	0.5	0.3
Mar	0.8	0.7	0.5	0.4
Apr	1	0.8	0.6	0.4
May	0.7	0.6	0.4	0.3
Jun	0.3	0.3	0.2	0.1
Jul	0.2	0.1	0.1	0.1
Aug	0.1	0.1	0.1	0.1
Sep	0.2	0.2	0.1	0.1
Oct	0.2	0.2	0.2	0.1
Nov	0.4	0.3	0.2	0.2
Dec	0.4	0.4	0.3	0.2

Atlantic Offshore Lobstermen's Association Requests

Found in Menu “Requested By” Column:
AOLA exploratory request

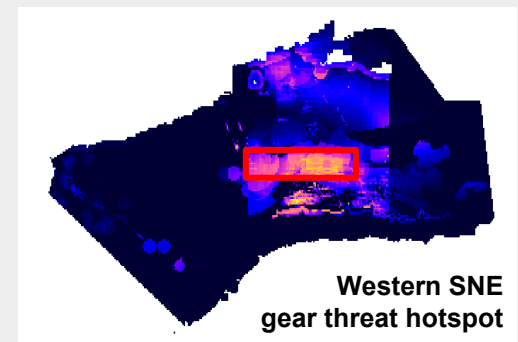
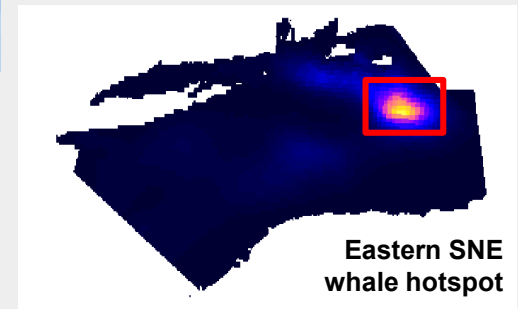
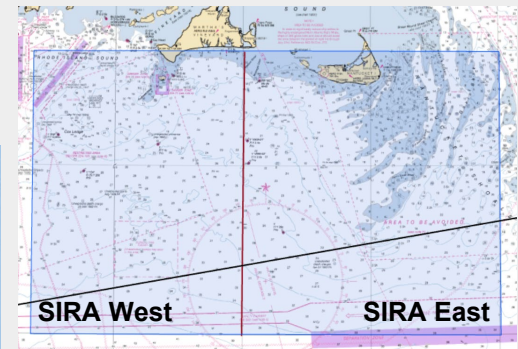
Area Management

- Monthly credit for a LMA3 closure of NE multispecies Cashes Ledge Groundfish Closure Area
- Southern New England*
 - SIRA West/East: Nov–Jun all single endlines monthly
 - SIRA West/East: Nov–Jun closure to all endlines monthly
 - SIRA East closure + SIRA West single endlines monthly Nov–Jun
 - Single endlines or closure in eastern SNE whale habitat hotspot monthly Nov–Jun
 - Single endlines or closure in western SNE gear threat hotspot monthly Nov–Jun

Gear Modifications

- Trawl up to 50, 70, 90 traps per trawl in LMA3 north of the 50 fathom line
- Vertical line cap of 60 per vessel in LMA3 applied to 25%, 50%, 75%, and 100% of the lobster fleet

* SNE Measures replaces the Phase 1 SIRA closure



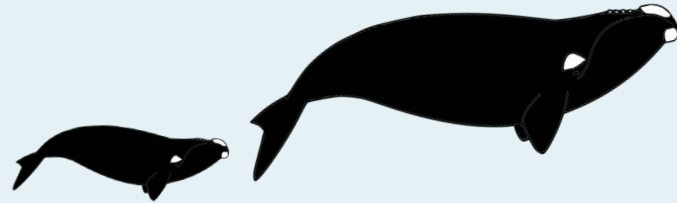
Atlantic Offshore Lobstermen's Association Results (1 of 2)

	Measure type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Monthly closure to lobster in NE multispecies fisheries in Cashes Ledge Closure Area	0.1	0	0	0	0	0	0	0	0	0	0	0.1
2a1	SIRA West: Nov–Jun all single endlines monthly (all fisheries)	0.2	-0.1	0	0	0.2	0.1					0.1	0.1
2a2	SIRA East: Nov–Jun all single endlines monthly (all fisheries)	0.2	0	0	0	0.2	0.1					0.1	0.1
2b1	SIRA West: Nov–Jun all fisheries closure monthly (all fisheries)	0	-0.2	-0.1	-0.1	0.1	0					0.1	0
2b2	SIRA East: Nov–Jun all fisheries closure monthly (all fisheries)	0.1	0	0	-0.1	0.2	0.1					0.1	0.1
2c	SIRA East closure + SIRA West single endlines monthly Nov-Jun	0.3	0.1	0.1	0.1	0.4	0.1					0.2	0.2
3a	Single endlines in eastern SNE whale habitat hotspot monthly Nov–Jun	0.1	-0.1	-0.1	-0.1	0.1	0.1					0.1	0.1
3b	Closure in eastern SNE whale habitat hotspot monthly Nov–Jun	0.1	0	-0.1	-0.1	0.1	0.1					0.1	0.1
4a	Single endlines in western SNE gear threat hotspot monthly Nov–Jun	0.3	0.2	0.3	0.4	0.3	0.1					0.1	0.1
4b	Closure in western SNE gear threat hotspot monthly Nov–Jun	0.3	0.2	0.4	0.5	0.4	0.1					0.1	0.1

Atlantic Offshore Lobstermen's Association Results (2 of 2)

	Measure type	Total Risk Reduction
5a.	50 traps per trawl minimums in LMA3 north of the 50 fathom line	0.5
5b.	70 traps per trawl minimums in LMA3 north of the 50 fathom line	2.3
5c.	90 traps per trawl minimums in LMA3 north of the 50 fathom line	3.3
6a.	Vertical linecap of 60 per vessel applied to 25% of LMA3 lobster fishers	0.7
6b.	Vertical linecap of 60 per vessel applied to 50% of LMA3 lobster fishers	1.1
6c.	Vertical linecap of 60 per vessel applied to 75% of LMA3 lobster fishers	1.4
6d.	Vertical linecap of 60 per vessel applied to 100% of LMA3 lobster fishers	1.7

Updates on Draft Packages Analyses



Updates on Draft Package Analyses

GARFO edited or compiled 4 different draft packages of measures and presented the preliminary analyses to the TRT on Sept 22*

- Various caucus groups opted to amend or add measures to these draft packages
- These are **NOT** proposals
- Examples showing how different measures work together to achieve close to 90 risk reduction points
- Analyses results are in high resolution with risk reduction values added on top of Phase 1 measures (unless otherwise noted)
- Mix of line reduction, weak rope, and closures

Draft Package #1: Re-analysis of rolling LMA closures

~~**Draft Package #2:** Seasonal fishery closure~~

Draft Package #3: Mix of measures proposed by Team members, modified based on remaining risk

Draft Package #4: Examination of broad effort reductions and weak rope combined with surgical closures

Draft Package #5: Marine Mammal Commission Analysis Requests & Modifications

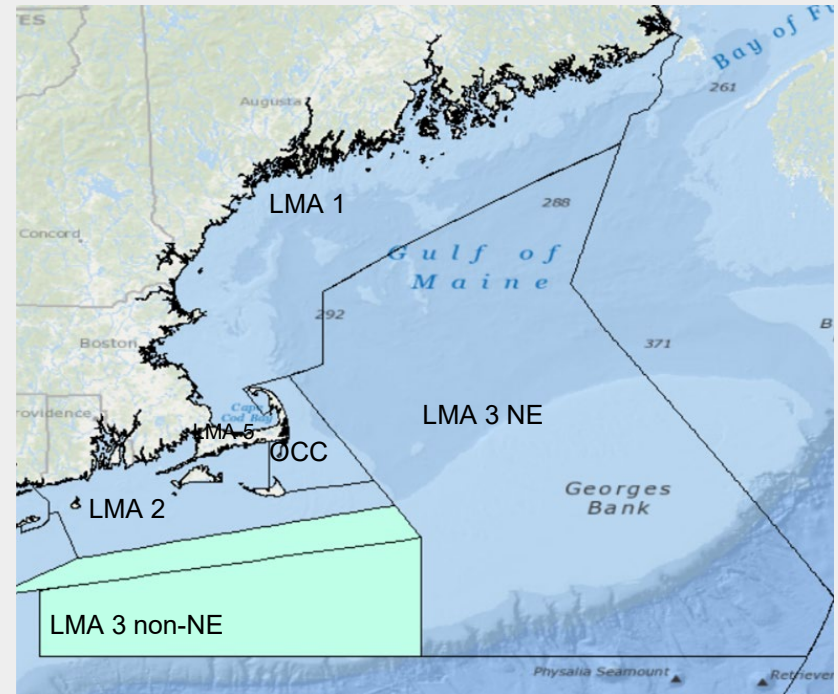
* A copy of the Sept 22 presentation slides that include the four draft package analyses is linked [here](#).

Draft Package 1

Lines Out Seasonal LMA Closures + Broad Line Reduction & Weak Rope

Draft Package #1: Seasonal LMA Closures + Broad Line Reduction & Weak Rope

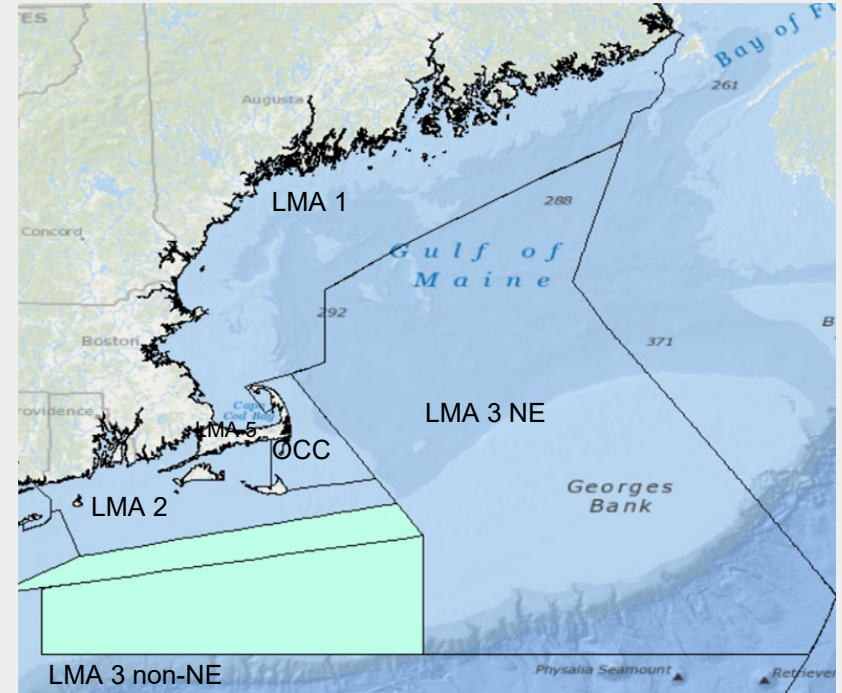
1. Phase 1 measures for all trap/pot (except modified weak line, see below)
2. Weak line in top 75% on gillnet and trap/pot outside of NE inside 12 nmi
3. Weak line in top 33% on all gillnet and trap/pot outside of NE outside 12 nmi
4. Additional 50% line reduction outside of SE (state & fed)
 - a. 400 trap cap in LMA 1 with one endline
 - b. Unspecified 50% line reduction elsewhere
5. Seasonal LMA closures (assumes lobster gear removed to shore, other gear can relocate)



Draft Package #1: Seasonal LMA Closures + Broad Line Reduction & Weak Rope

Seasonal LMA/State closures (lobster removed to shore, all other gear moves)

Area	Months Considered For Closures											
	J	F	M	A	M	J	J	A	S	O	N	D
LMA 1: MA, NH	■	■	■	■	■							
LMA 1: ME	■									■	■	■
LMA 2	■		■	■	■							■
Outer Cape	■	■	■	■	■							
LMA 3 NE				■	■	■						
SNE Restricted Area + $\frac{2}{3}$ overlap	■	■	■	■	■							■
LMA 4 & 5	■		■	■								■



Approximate Risk Reduction Points ~89

Package Measure Name: Draft Package 1 - Sept 22 version

Not a proposal

Draft Package #1: Seasonal LMA Closures + Broad Line Reduction & Weak Rope

Seasonal LMA/State closures (lobster removed to shore, all other gear moves)

Approximate Risk Reduction Points for Different Versions of Package 1

- September 22 Version ~ 89
- Half a day soak time ~ 90
- Allow Gillnets in closures ~ 87

Note: to find these measures in the menu, look for the draft package number and modification in the package measures column

Draft Package 3

Elements of Caucus requests

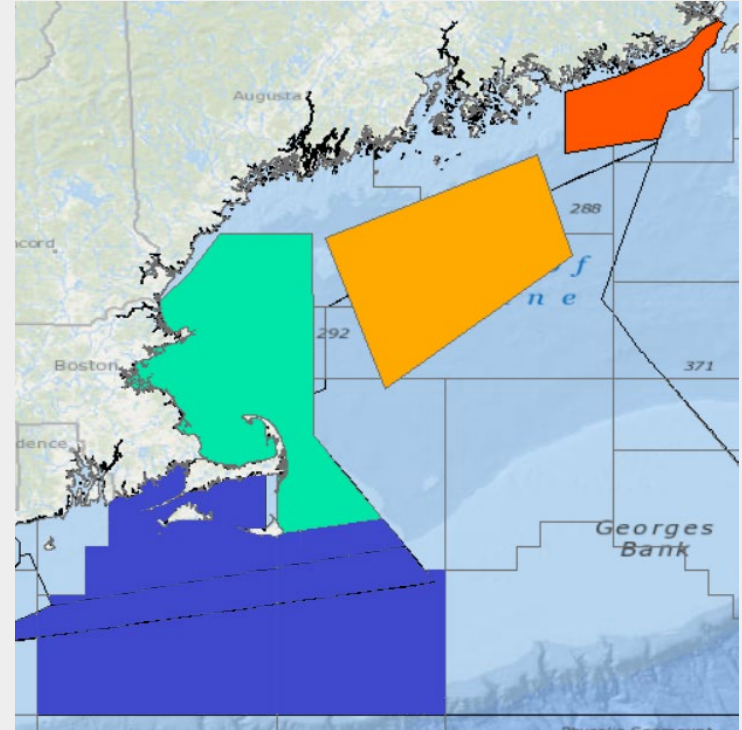
Trap caps + one buoy line + closures +
weak rope

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. Modified 514 Closure Dec - May
 - Initial proposal was Jan-May
 - Modified MRA to include western Gulf of Maine (Jeffreys Ledge)
3. LMA 2, 2/3 overlap, and 3 closure in SNE, Dec - May
 - Assume lobster gear removed from LMA 2, all other areas/gear moves.
 - Removed 80 fathom limit to address risk just south
 - Added 537, 526 to fully capture risk hotspot
4. Added downeast Maine, June - August



Not a proposal

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

1. 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)

Draft Package #3: elements of caucus/team analysis requests, modified

Phase 1 for all trap/pot + trap caps + one buoy line + closures + weak rope

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

Approximate Risk Reduction Points ~87

Package Measure Name: Draft Package 3 - Sept 22 version

Draft Package #3: Incorporating Suggestions from September

Phase 1 for all trap/pot + trap caps + one buoy line + closures + weak rope

Approximate Risk Reduction Points for Different Versions of Package 3

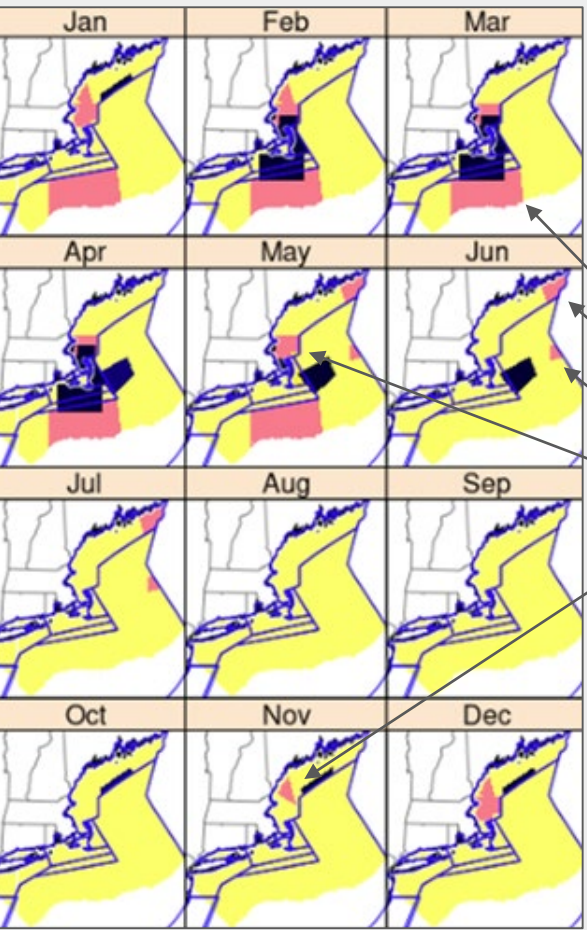
- September 22 Version ~ 87
- Adding ropeless > 100 fathoms ~ 91
- Add weak rope > 100 fathoms ~ 89
- Exclude gillnet from SNE closures ~ 89
- Increase state gillnet soak times from 12 hours to 24 hours ~ 88
- Modifications from Breakout Group 3 ~ 91

Note: to find these measures in the menu, look for the draft package number and modification in the package measures column

Draft Package 4

“Model Led Approach”- Broadscale Weak Rope, Gear Caps, Iterative Closures

Draft Package #4: Broadscale Weak Rope, Gear Caps, Iterative Closures



Measure #	Management Measure	When	Region
1	50% Weak Rope @ 2,000 lbs	Year round	LMA3
2	50% Weak Rope @ 1,700 lbs	Year round	LMA1, 2, 2-3, OCC
3	Trap cap @ 1,000	Year round	LMA3
4	Trap cap @ 300	Year round	LMA1, 2, 2-3, OCC
5	Closure	Jan - May	SNE - LMA3
6	Closure	May - July	Maine Zone A (50% Lines Out Assumed)
7	Closure	May - July	Georges Basin
8	Closure	Dec - May	Mass LMA1: RA @ Fed 514
9	Closure	Nov - Feb	Maine Zone G >8 Miles

Existing closures shown in black, explorative closures shown in pink.

All "closures" merit review and / or revision to increase effectiveness.

Risk Reduction Points ~87% of NE Lobster

- Risk reduction can reach 88% by decreasing the trap cap (measure 4) to 275 traps.

Not a proposal

Draft Package #4: Broadscale Weak Rope, Gear Caps, Iterative Closures

TRT members were asked to propose alternatives or substitutions to individual actions in this package that provide an equivalent risk reduction. Alternatives and modifications that were identified:

- An alternative to the trap cap of 1,000 in LMA3 is for LMA3 to switch to a minimum trawl length of 55 pots.
- An alternative to the gear cap of 300 traps in LMA1, 2, 2-3 overlap and OCC would be an endline cap of 75 lines.
- An alternative to the gear cap of 300 traps in LMA1, 2, 2-3 overlap and OCC would be to trawl up to 2.5 times current trawl length (i.e. 10 pot trawls become 25 pot trawls, etc.).
- An alternative to the seasonal closure in Maine Zone A would be to trawl up to 10 times current trawl length.

Not a proposal

Draft Package 5

Modified 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

Area	Months Considered For Closures											
	J	F	M	A	M	J	J	A	S	O	N	D
LMA 1: MA, NH	■	■	■	■	■							
LMA 1: ME	■									■	■	■
LMA 2	■	■	■	■	■							■
Outer Cape	■	■	■	■	■							
LMA 3 NE				■	■	■						
SNE Restricted Area + 2/3 overlap	■	■	■	■	■							■
LMA 4 & 5	■	■	■	■								■

Approximate Risk Reduction Points ~95

Not a proposal

Draft Package #5b: Marine Mammal Commission Analysis Revised

1. ~~60%~~ **30 % 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 line caps (includes Maine Exempt)- 100 lines / permit in all LMAs**
 - 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

Area	Months Considered For Closures											
	J	F	M	A	M	J	J	A	S	O	N	D
LMA 1: MA, NH	■	■	■	■	■							
LMA 1: ME	■									■	■	■
LMA 2	■	■	■	■	■							■
Outer Cape	■	■	■	■	■							
LMA 3 NE				■	■	■						
SNE Restricted Area + $\frac{2}{3}$ overlap	■	■	■	■	■							■
LMA 4 & 5	■	■	■	■								■

Approximate Risk Reduction Points ~ 94

Not a proposal

Key Management Measures that Decrease Risk

Reminders:

- **These measures are *NOT* proposals**
- Examples showing risk reduction from individual measures and how different measures work together to achieve close to 90 risk reduction points
- Analyses results are in high resolution with risk reduction values added on top of Phase 1 measures (unless otherwise noted)

Line and Gear Reduction Measures

Measure	Fishery	Region	Applied to ME Exempt Y/N	Risk Reduction Points
60% gear reduction in coastwide waters for all gear	All	Coastwide	Yes	30
TrapCap: 150 traps	Lobster	LMA1,2,2-3 overlap,OCC	Yes	25
Reduce 1 Endline All Fisheries Coastwide	All	Coastwide (State and Federal Waters)	Yes	22
Reduce 1 Endline, Coastwide Lobster	Lobster	Coastwide	Yes	20
60 line cap per vessel for all trap/pot fisheries coastwide	All Trap/Pot	Coastwide	Yes	19
Reduce traps by 50% in LMA1 (225 traps/vessel)	All Trap/Pot	LMA 1	Yes	19
50% Lobster & TrapPot gear removed from LMA1	All Trap/Pot	LMA 1	Yes	17
Trap Cap (400 Traps / Permit)	Lobster	Northeast	Yes	17
Trap Cap (300 Traps / Permit)	Lobster	LMA 1, 2, 2-3, OCC	Yes	16
One buoy line in non-exempt waters in GOM	All Trap/Pot	GOM	No	15
Remove 1 Endline	Lobster	LMA 1	Yes	14
100 line cap per vessel for all trap/pot fisheries coastwide	All Trap/Pot	Coastwide	Yes	12
Trap Cap (400 Traps / Permit)	Lobster	LMA 1	No	10
400 trap cap in LMA 1	Lobster	LMA 1	Yes	10

Closures

Measure	Fishery	Region	Time Constraint	Applied to ME Exempt Y/N	Risk Reduction Points
Closure	Lobster	Maine Zone A	May - July	Yes	12
Remove all Gear from LMA 3 (or all ropeless)	All	LMA 3	Year-Round	No	11
100% Lines Out	OTP, Lobster	LMA1, Maine, Non-Exempt only	Oct - Jan	No	10
Closure	Lobster	Maine Zone G Outside of 8 Miles	Nov - Feb	No	9
Closure	Lobster	Mass LMA1: Restricted Area & StatArea 514	Dec - May	No	9
Closure	Lobster	SNE - LMA 3	Jan - May	No	8
Close Maine LMA1 extent of GOM_GBK Non-Exempt waters from 3-40 Miles Offshore	Lobster	Maine LMA 1, 3 Miles - 40 Miles	July - Nov	No	8
Close Federal Waters Greater than 100m Depth	All	Federal Waters Deeper than 100 Meters	Year-Round	No	8
Closure	All	Stat Area 514 extended to Maine Zone F-G border	Dec - May	Yes	8
Expansion of MRA through hotspot in the Western Gulf of Maine	All Fisheries	MRA expanded north into the Western GOM	Dec-May	No	8
Close LMA 2 and the 2/3 overlap, expand into 537,526	All Fisheries	A2, 2/3 overlap 537, 526	Dec-May	No	8
Closure based on presence of whales in LMA2	All Trap/Pot	Close LMA2, LMA2/3, SNE LMA3 year round and Area 613 Oct-Jun	Year-Round / Oct-June	No	8

Weak Line Measures

Measure	Fishery	Region	Applied to ME Exempt Y/N	Risk Reduction Points
100% Weak Rope	All	Coastwide	Yes	24
100% Weak Rope in Federal Waters out to 100m Depth	All	Coastwide Federal Waters to 100 Meters	No	10
50% Weak Rope	Lobster	LMA 1, 2, 2-3, OCC	Yes	8
Weak rope in top 75% of all trap/pot gear within 50 fa GOM-MAB	All Trap/Pot	Within 50 fathoms	Yes	8
50% Weak Rope	Lobster	LMA 3	No	7
75% Weak Rope to 50 fathoms in Federal Waters	All	Coastwide Federal Waters to 50 Fathoms	No	6
75% Weak Rope	All	Coastwide Waters to 12 nmi	Yes	6
Weak rope in top 50% of all trap/pot gear 50 to 100 fa, GOM-MAB	All Trap/Pot	50 to 100 fathoms	No	5
Full Weak Rope in Coastwide, Non-Exempt State Waters	All	Coastwide State Waters (Non-Exempt only)	No	3
75% Weak Rope, Gillnet & OTP	OTP, Gillnet	Coastwide	Yes	2
33% Weak Rope	All	Coastwide Waters Over 12 nmi	No	2

Combined Measures

Measure	Risk Reduction Points
MA State Caucus Menu Measures	10
Close to buoylines for all Trap Pot anywhere that rope with max breaking strength of 1700 lbs can't be used. Trap/Pot Weak Line (instead of Phase 1 WR requirements) Coast to 50 fa, GOM-MATL: weak in top 75% 50 to 100 fa, GOM-MATL: weak in top 50% Closure past 100 fa GOM-SE year round SE: 100% weak (Florida state 1,500)	10
Phase 1 + 60 Line Cap / Vessel for All Trap/Pot Gear in A2, 450 Gear Cap / Vessel for All Trap/Pot Gear in A2, and Exactly 15 Traps Per Trawl for All Trap/Pot in A2	3
Remove 1 Endline & 100% Weak Rope in Gillnet in Southern New England	2
Applied to Gillnet from GOM to North Carolina (Non-Exempt waters only)- Top 75% of VBL with 1700 lb max breaking strength and headrope fully weak with 1,100 lb max breaking strength	2
Applied to Gillnet from GOM to North Carolina (Non-Exempt waters only)- Top 75% of VBL with 1700 lb max breaking strength and headrope 50% weak rope with 1,100 lb max breaking strength	2
Applied to Lobster in LMA 3 Northeast- This replaces 1700 lb regs in Phase 1. <50 Fa – all endlines weak (≤2000 lbf in the top 75%) 51-100 Fa – 1 weak (as defined above), 1 strong (existing rope) per trawl >100 Fa – all endlines strong (existing rope) *no changes	2

Package Model Runs

Package Measures	Total Risk Reduction	Risk Reduction Points
Draft Package 2 - Sept 22 version	92	45
Draft Package 3 - Sept 29 version - add ropeless > 100 fathoms	91	44
Draft Package 3 Modifications from Group 3	91	44
MMC Proposal Sept. 30, Package 3	95	48
Draft Package 2 - Allow Gillnet in Closures	90	43
Draft Package 3 - add weak rope > 100 fathoms	89	43
Draft Package 1 - Sept 22 version	89	43
Draft Package 3 - exclude gillnet from SNE closures	89	42
Draft Package 3 -increase state gillnet soak times from 12 hours to 24 hours	88	42
Phase 1 + 50% endline reduction + 75% weak rope + LMA2,LMA2/3 NVL Lobster (Jan-April), Gillnet (Jan-Apr), OTP (Jan-Apr) + NVL Lobster, Gillnet, and OTP in state waters	88	41
Phase 1 + 50% endline reduction + 75% weak rope + LMA2,LMA2/3 NVL Lobster (Jan-Apr), Gillnet (Feb-Apr), and OTP (Feb-Apr) + NVL Lobster, Gillnet, and OTP in state waters	88	41
Phase 1 + 50% endline reduction + 75% weak rope + SIRA NVL Lobster (all year), Gillnet (Jan-Apr), OTP (Jan-Apr) + NVL Lobster, Gillnet, and OTP in state waters	88	41
Phase 1 + 50% endline reduction + 75% weak rope + SIRA NVL Lobster (Jan-Apr), Gillnet (Feb-Apr), and OTP (Feb-Apr) + NVL Lobster, Gillnet, and OTP in state waters	88	41

Where we are and what we have learned

- 41% to 46 % reduction is needed to reduce mortality and serious injury of North Atlantic right whales to a level below PBR (i.e. 0.7 whales a year)
- To keep the fishery operating while reaching this mandate will requires some big measures
 - We cannot reach our goals without addressing substantial risk in the Gulf of Maine and Southern New England (though the entire coast is important)
 - Removing lines from the water is best to avoid moving risk around
 - Larger closures are key to risk reduction for any closures that move lines. Avoids creating new hotspots
 - Various measures to reduce line, for example: using one buoy line instead of two, trap or line caps, trawling up
 - Broad use of weak line to the extent feasible

Questions

Use the 'Questions' box to get in line



Wrap Up and Upcoming ALWTRT Meeting Dates

Date	Event
November 10, 2-4 PM	In-Depth Right Whale Habitat Model Webinar (Dr. Jason Roberts, Duke)
November 14-18	Full Team TRT Meeting (Virtual)– Registration Link <ul style="list-style-type: none"> ○ Day 1: Monday, Nov 14, 2 - 6 PM ○ Day 2: Tuesday, Nov 15, 9 AM - 5 PM ○ <i>No Meeting on Wednesday Nov 16</i> ○ Day 3: Thursday, Nov 17, 9 AM - 4 PM ○ Day 4: Friday, Nov 18, 9 AM - 2:30 PM
December 1-2	Full Team TRT Meeting (Virtual) – Registration Link Provisional times: <ul style="list-style-type: none"> ○ Day 5: Thursday, Dec 1, 9 AM - 5 PM ○ Day 6: Friday, Dec 2, 9 AM - 5 PM
December 12-14	DST to undergo peer-review by the Atlantic Scientific Review Group (ASRG)



Past ALWTRT Informational Webinars

It is important for the November and December meetings to have attended or watched the following webinars

These informational webinars function as extensions of our meeting materials, and they include important information on the Decision Support Tool, current fishery regulations relevant to Phase 2, and right whale population and mortality estimates. To watch these recordings, follow and fill out the registration links below.

- DST Analyses Results for November Meeting (this webinar) [Link](#)
- Coastwide Baseline DST Fishery Updates (Aug 25, 2022) [Link](#)
- Phase 1 Update (Aug 18, 2022) [Link](#)
- Update on Large Whale Population and Mortality Estimates (Nov 2021) [Link](#)
- Decision Support Tool Update (Mar 2022) [Link](#)
- Decision Support Tool Model Run Demonstration (Apr 2022) [Link](#)
- Overview of current coastwide regulations relevant to Phase 2 (Mar 2022) [Link](#)
- You may also find webinars from our Spring 2021 Informational Webinar Series, including Entanglement Summaries, Calving Updates, and Right Whale Monitoring, [here](#)

Questions

Use the 'Questions' box to get in line

