



NOAA
FISHERIES

Greater Atlantic Regional
Fisheries Office

Right Whale Management February 2021 Update

Mid-Atlantic Fishery Management Council

MMPA:

Atlantic Large Whale Take Reduction Plan

- Proposed Rule
- Draft Environmental Impact Statement

ESA:

Section 7 Consultation

- Batched Fisheries Biological Opinion



Photo Credit: GADNR No. 15488



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Proposed Rule and Draft Environmental Impact Statement



Take Reduction Plan: April 2019 Team Direction



Develop recommendations to reduce mortalities and serious injuries of right whales in U.S. fisheries by 60% to 80% to below the potential biological removal level

- Assumes mortalities and serious injuries of unknown origin occur equally in U.S. and Canada
- Decision Support Tool (DST) used to compare/evaluate measures
 - [CIE Peer Review late 2019](#)
- Start with northeast lobster and Jonah crab fisheries (93% of vertical lines where right whales occur)



A.Henry, Permit No. 17355



Basic Principles for Alternative Development

Risk reduction of 60% or greater as assessed with Decision Support Tool

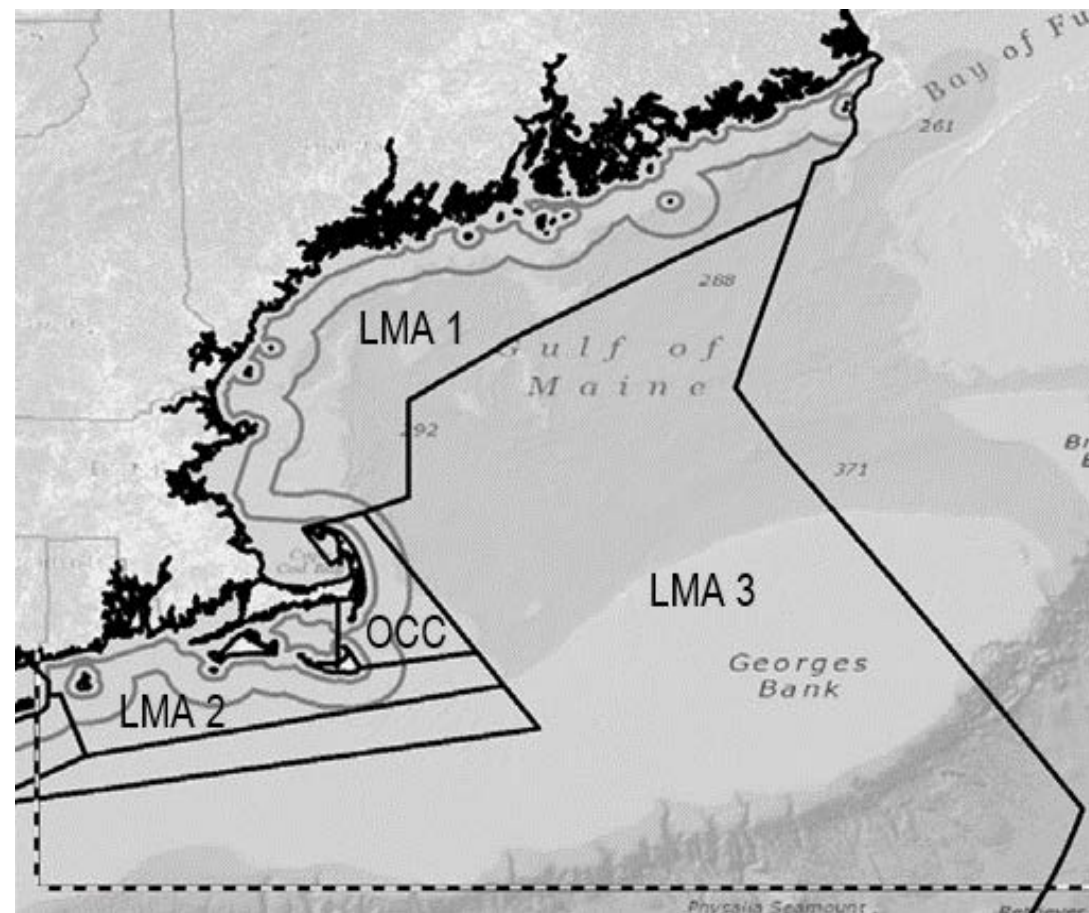
Apply April 2019 TRT Recommendations

- Include broad application of reduced line and weak rope across jurisdictions

State and Federal Scoping

NMFS Approach

- Jurisdictional approach: State proposals, American Offshore Lobster Association for LMA3
- Direct the most protection to areas of predictable high seasonal aggregations
- Substantial risk reduction across areas of co-occurrence
- Precautionary measures everywhere





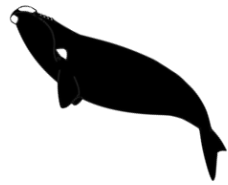
Near-Consensus Recommendation

- Approach:
 - Achieve at least 60% risk reduction (DST)
 - Spread risk reduction across jurisdictions

- Results:
 - Broad application of reduced line and weak rope

State/Jurisdiction	Vertical Line Reduction	Gear Modification	Est. % Risk Reduction
Maine permitted vessels through LMA1	50% vertical line reduction through LMA1 (50% risk reduction)	LMA 1 - Weak rope outside of 3 miles on ¾ length of buoy line (toppers) (11.6% risk reduction)	61.6%
NH LMA1	30% vertical line reduction (30% risk reduction)	1700 lb breaking strength or sleeves (28.5 % risk reduction)	58.5%
Massachusetts LMA1 and Outer Cape	Mass Bay Restricted Area Closure (24% risk reduction)	Sleeves or 1700 lb breaking strength or equivalent (11% risk reduction)	60%
	30% vertical line reduction, not including MBRA fishermen (-5%) (25% risk reduction)		
LMA 2 - Massachusetts and Rhode Island	18% (2018 - 2020) vertical line reduction (18% risk reduction)	1700 lb or equivalent (42% risk reduction)	60%
LMA 2 / 3 Overlap – Massachusetts, Rhode Island	Trawling up to 30 traps (from 20) (30% risk reduction for that area)		
LMA 3	Accelerate planned line reduction 18% by 2020	Rapid research on alternatives to introduce weak rope or weak link elements in to offshore line	18% + TBD Commitment to 60%

What tools were used: how and why



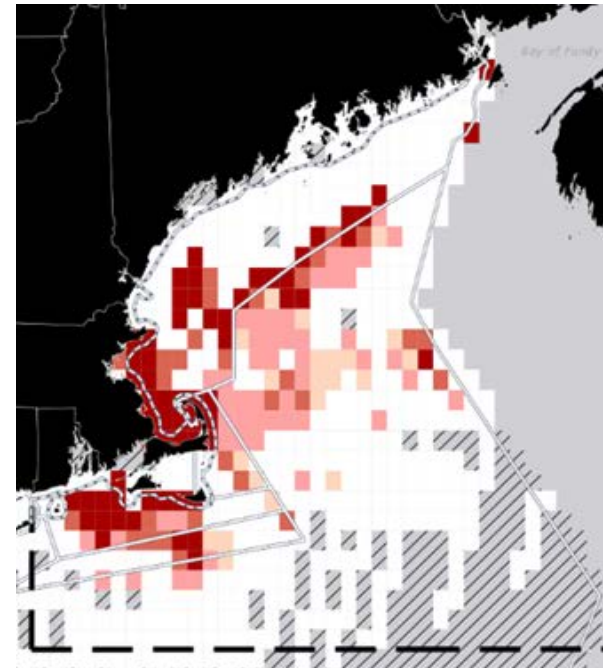
To select measures and estimate risk reduction:

- Decision Support Tool (spring 2020)
 - Whales + vertical lines + strength of gear
- [CIE Peer Review late 2019](#)

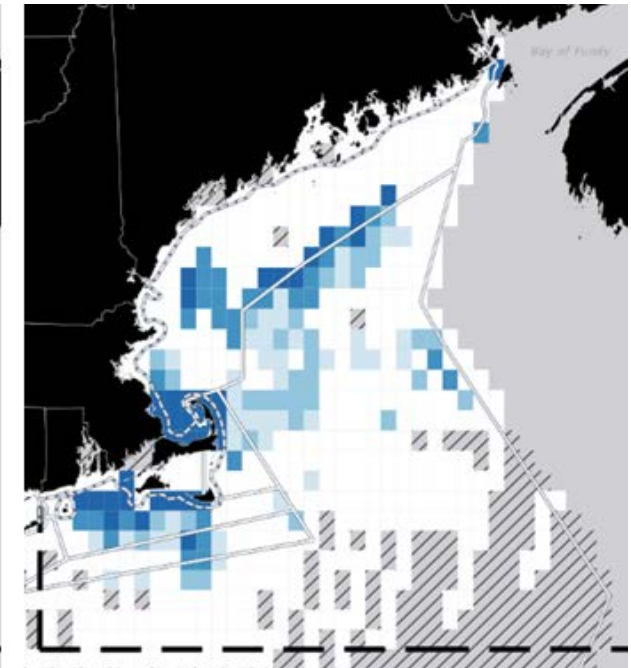
To assess the potential biological impacts:

- Percent co-occurrence reduction: IEC/NMFS co-occurrence model
 - Whales + vertical lines
- Percent line reduction
- Percent total line weakened

Baseline Co-occurrence



Preferred Alternative- Change



Darker red cells represent areas of high co-occurrence

Darker blue cells represent areas with greater decrease in co-occurrence

White cells represent low to no co-occurrence

Grey cells represent area where we have insufficient data for co-occurrence

PREFERRED ALTERNATIVE / PROPOSED RULE



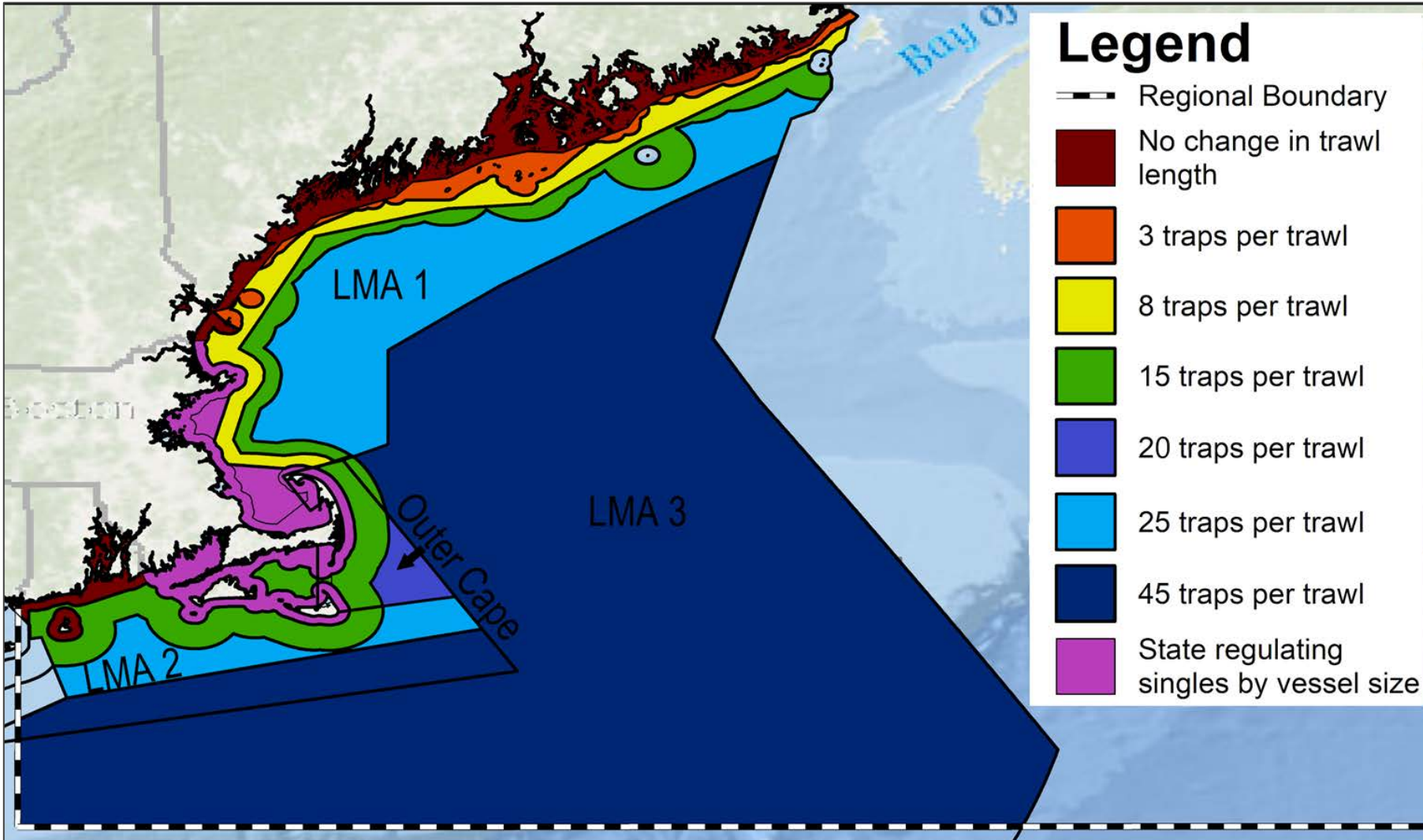
ALWTRP Measures

- Trawl up by distance from shore (outside of exempt or state waters)
- Restricted areas changed from closure to closed to buoy lines
- Two new restricted areas:
 - South Island Restricted Area Feb -Apr
 - LMA 1 Restricted Area
 - **Analyzed:** restricted area Oct - Jan
 - **Co-proposal 1-A:** no restricted area
 - **Co-proposal 1-B:** restricted area Oct-Jan based on future determinations
- Region-wide conversion to weaker line
 - LMA1, 2 and Outer Cape: Minimum number of Insertions based on distance from shore
 - LMA3: full weak line or equivalent top 75% of one of the two buoy lines

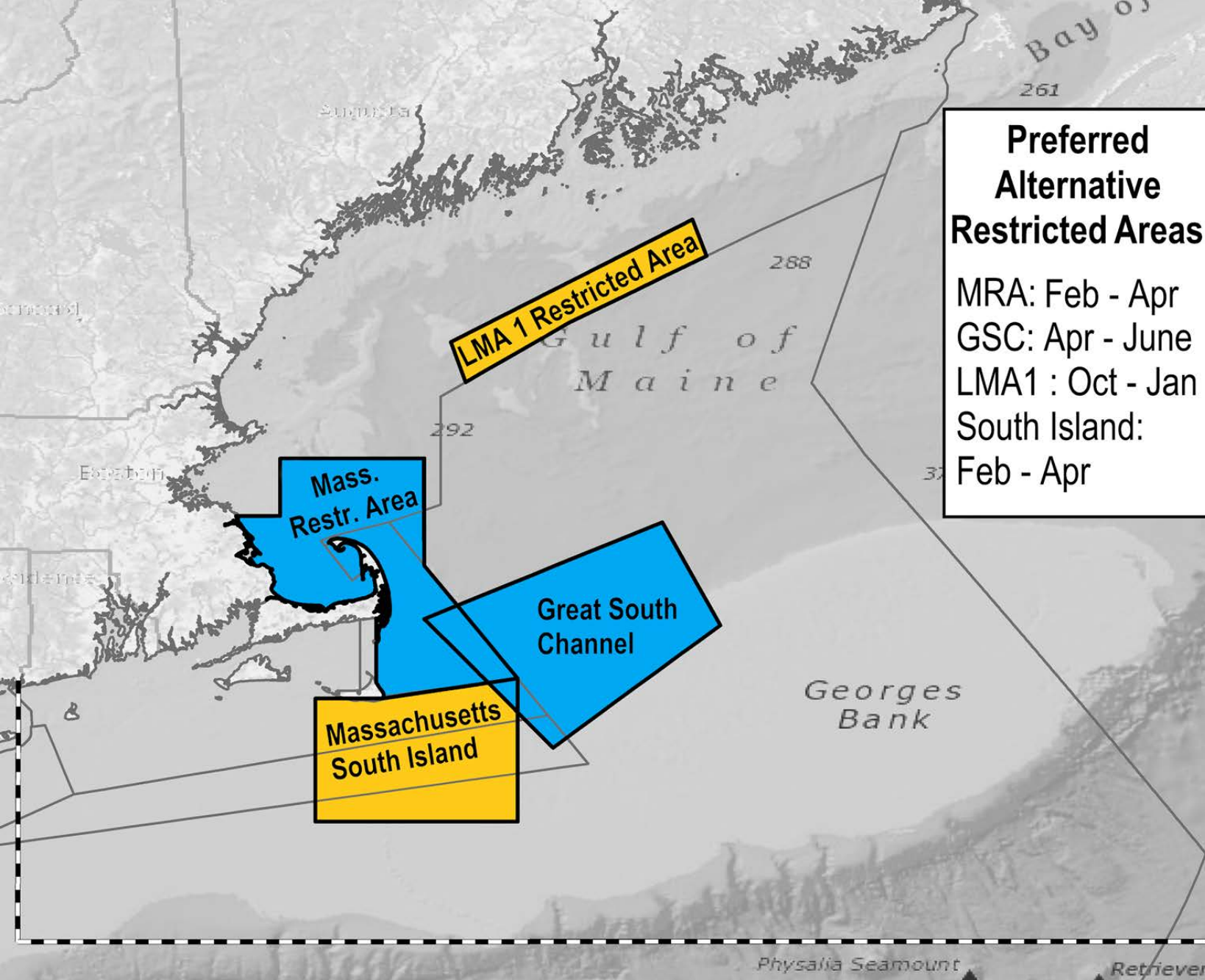
Other State or Fishery Management Measures

- Ongoing and planned line reduction in LMAs 2 & 3
- No singles on MA vessels larger than 29 ft permitted
- Credit for the Massachusetts Restricted Area (MRA) from Feb - Apr
- Delayed open of MRA state waters until surveys confirm whales have left

Preferred Alternative/Proposed Rule: Line Reduction Measures



Preferred Alternative: Seasonal Restricted Areas



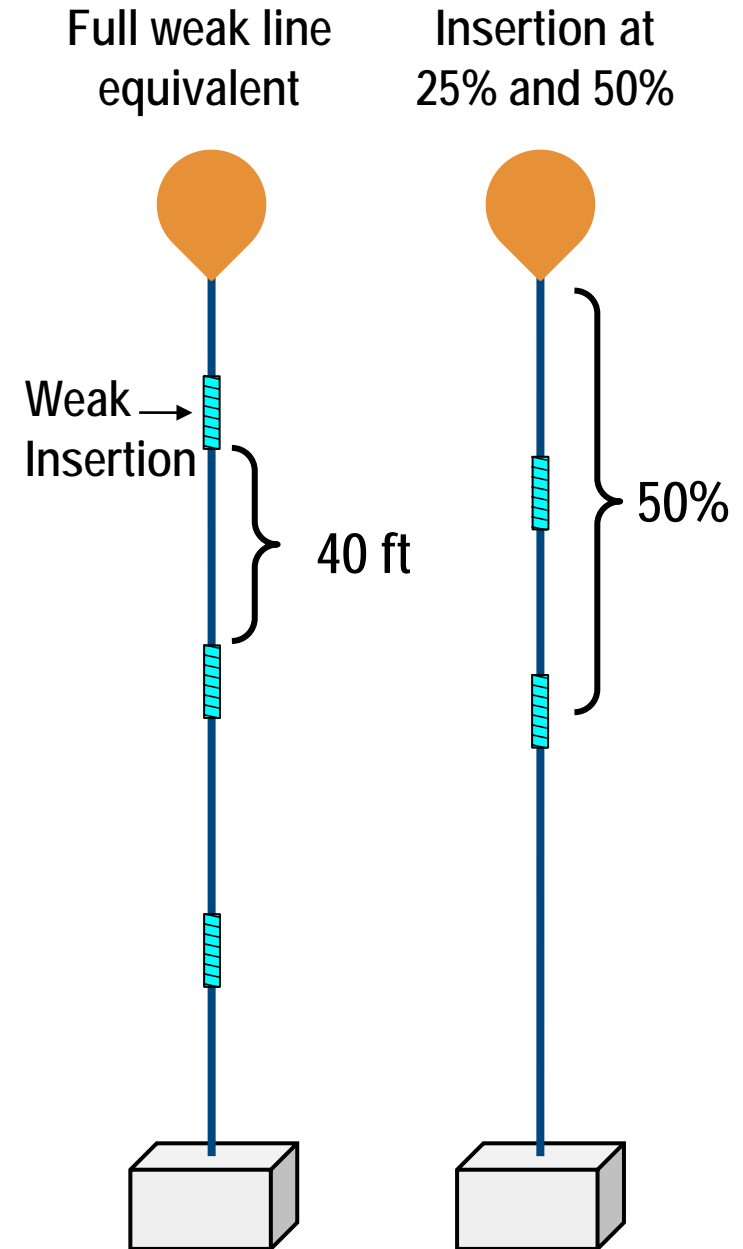
- Existing restricted areas (in blue) modified to allow ropeless (with Exempted Fishing Permit)
- State waters of MRA would be closed by MA in May unless whales leave the area
- Up to two new seasonal ropeless areas proposed (in yellow)



Preferred Alternative: Weak Line Measures

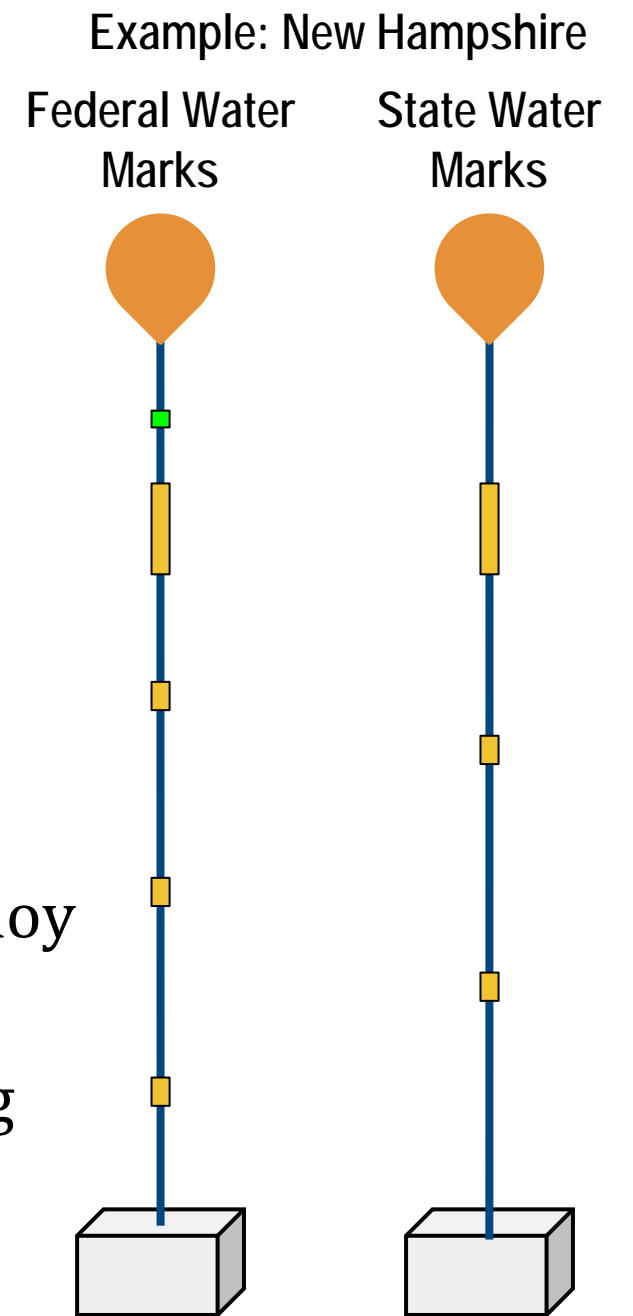
$$\text{Risk Reduction} = \frac{\# \text{ of inserts} \times 40\text{ft}}{\text{depth} \times \text{scope ratio}} \times \text{risk reduction for full weak line}$$

Area	Insertion % from the top	Source
State waters	1 weak insertion at 50%	ME, MA
Maine state waters outside exemption area and all northeast 3 to 12 nm	2 weak insertions at 25% and 50%	ME, MA
12 nm to border (all northeast)	1 weak insertion at 33%	ME, MA
LMA3-weak line (75%)	One full weak line top 75%, standard line on the other end	AOLA



Preferred Alternative: Gear Marking

- **State specific colors (new and existing marks):**
 - **Maine = Purple** (already implemented through state regs)
 - **New Hampshire = Yellow**
 - **Massachusetts = Red**
 - **Rhode Island = Silver/gray**
 - **LMA3 = Black**
- **New three-foot long mark** within two fathoms of surface system
- **State waters:** two one-foot marks, top and bottom half of buoy line
- **Federal waters:** six-inch **green** mark within one foot of long mark



Summary of Risk Affects Analysis



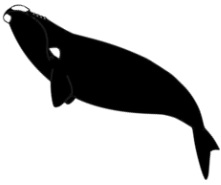
Preferred Alternative Selection:

- Risk reduction estimated by Decision Support Tool ~64%

Draft Environmental Impact Statement Analysis:

- Reduction in right whale/buoy line co-occurrence ~69%
- Proportion of rope in buoy lines weakened ~30%

Summary of Compliance Costs



Measures	Proposed Measures Costs (in millions \$)		
	First Year	6 Years	Vessels Affected
Gear marking	\$2.0	\$12.0	3,970
Weak rope	\$2.2	\$2.2	2,855
Trawling up	\$2.7 - \$11.0	\$13.2 - \$45.0	1,712
Restricted Areas	\$0.1 - \$0.3	\$0.6 - \$1.9	55
Line cap	-	-	-
Total Cost	\$6.9 - \$15.4	\$28.0 - \$61.0	
Total Value of Fisheries	> \$600 million per year		

Data from Chapter 6 of the DEIS



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Batched Fisheries Biological Opinion



Endangered Species Act, Section 7

ESA section 7(a)(2) requires federal agencies to ensure that any action by a federal agency is not likely to jeopardize the continued existence of listed species or destroy or adversely modify critical habitat



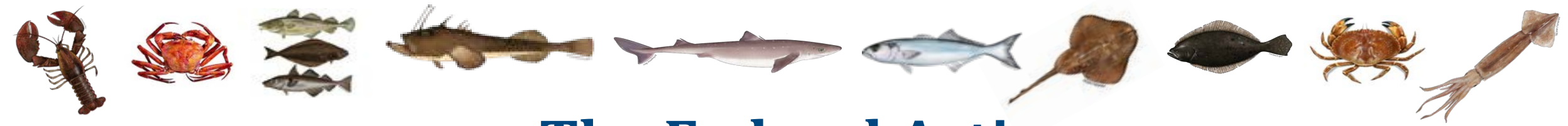
A.Henry, Permit No. 17355

Definitions

“Jeopardize the continued existence of”: Engage in an action that reasonably would be expected to reduce appreciably the likelihood of the survival and recovery of a species in the wild by reducing the reproduction, numbers, or distribution of that species.

Destruction or adverse modification of critical habitat: direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species

Biological Opinion: Conclusion of formal consultation documenting the consulting agency’s analyses and determinations



The Federal Action

Authorization of the fisheries:

- Lobster
- Red Crab
- Multispecies
- Monkfish
- Dogfish
- Bluefish
- Skates
- Mackerel/Squid/Butterfish
- Summer flounder/Scup/Black sea bass
- Jonah crab (no prior consultation)

NEFMC's Omnibus Habitat Amendment 2

Right Whale Conservation Framework for Federal Fisheries in the GAR

The Action Area

Maine through Key West, Florida

Species Likely to Be Adversely Affected



Large Whales

- Fin
- North Atlantic right
- Sei
- Sperm



Sea Turtles

- Green, North Atlantic DPS
- Kemp's ridley
- Leatherback
- Loggerhead, Northwest Atlantic DPS



Fish

- Atlantic salmon
- Atlantic sturgeon
- Giant manta ray

Determination in the Draft Opinion

The proposed action is not likely to jeopardize any listed species or destroy or adversely modify any critical habitat.

Incidental Take Statement:

- Lethal and non-lethal take: loggerhead, Kemp's ridley, green, and leatherback sea turtles; Atlantic sturgeon, Atlantic salmon, and giant manta rays
- Non-lethal take: fin, sei, sperm, and North Atlantic right whales
- Zero lethal take of large whales authorized

North Atlantic Right Whale Analysis

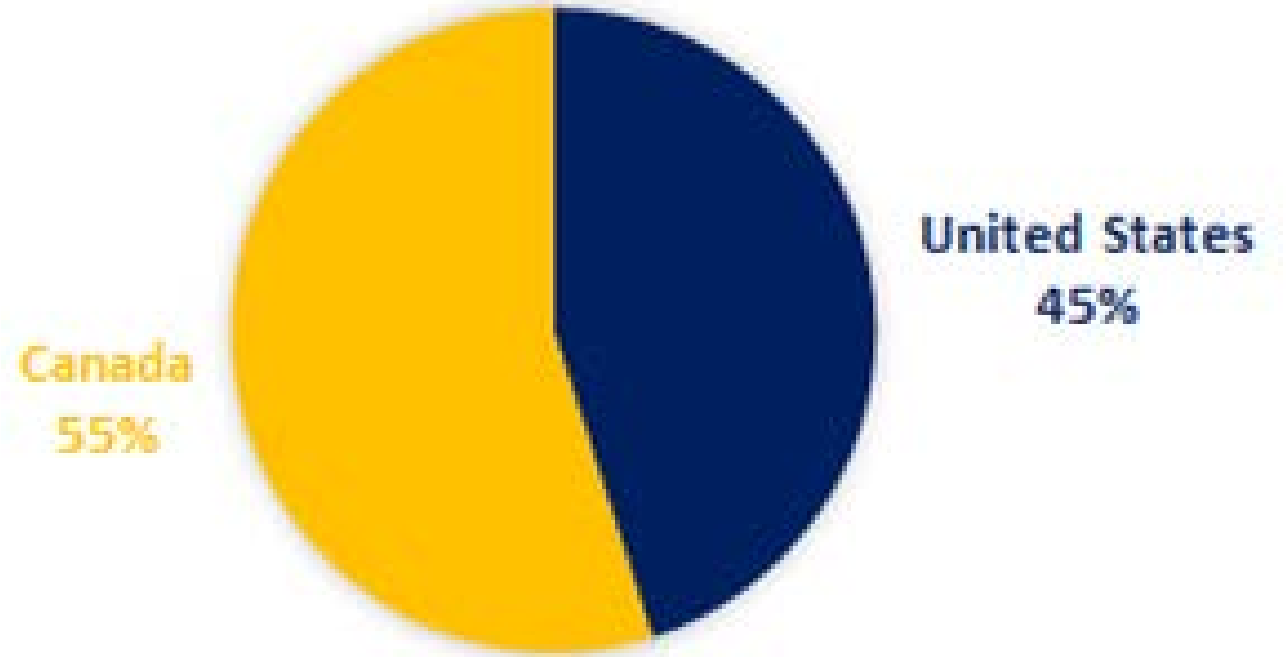
- Estimated M/SI (overall, assigned to U.S. fisheries)
- Estimated interactions, including non-lethal
- Conservation Framework (need to reduce M/SI further)
- Analysis of the likelihood of jeopardy (population projections and qualitative analysis)
- Determination in the Draft Opinion
- Other Considerations



NOAA/NEFSC/Lisa Conger

Estimated M/SI (Vessel Strikes and Entanglements) by Country 2010-2019

	Average Annual
Estimated M/SI	20.1
Estimated U.S.	9.05
Estimated CAN	11.05



M/SIs Assigned to U.S. Entanglements

Cause of M/SI was entanglement?	Confirmed to Country?	Assumption	Attributed to U.S. fisheries?	Average Annual M/SI
Yes	U.S.	Uses observed number	100%	0.2
Yes	Unknown	Uses 50:50 split with Canada	50%	1.9
Unknown (observed)	U.S.	Uses observed entanglement:vessel strike ratio	74%	0.07
Unknown (observed and unobserved)	Unknown	Use observed entanglement: vessel strike ratio; 50:50 split with Canada	37%	4.55
Total				6.7

M/SIs (Entanglements) Assigned to U.S. Federal Waters

Fishey	Assumption	Average annual M/SI
Total U.S.		6.72
Federal Pot/Trap	73% risk in federal waters (DST)	4.82
Federal Gillnet	Gillnet takes occurred in federal waters	0.125
Total Federal		4.94

Total Estimated Entanglements (Lethal and Non-lethal)

Fishey	Assumption	% Population Estimated Entangled Annually
Total	Used scarring rates from Hamilton et al (2019)	30.25%
U.S. fixed gear	Applied 50:50 U.S./Canada split	15.125%
Fixed Gear in U.S. federal waters	Applied 73% risk in federal waters (DST)	11.04%



Photo credit: NEFSC/Christin Khan
Image taken under MMPA research permit #17335

Analysis Conducted to Determine Necessary M/SI Reduction

- Additional reductions in M/SI are needed to ensure the fisheries are not likely to appreciably reduce survival and recovery
- To assess the level needed, projected the female population over 50 years
 - Proposed ALWTRP risk reductions implemented at year 1
 - Additional M/SI reductions of 0, 25, 50, 75, 95, 100% implemented year 10
- Data available at time of assessment
 - M/SI estimates from 2010-2018
 - Population estimate of 412
- 95% reduction at year 10 was needed

Conservation Framework - Overview

- What it Is
- What it Includes
- Phased Approach
- Evaluation
- Adaptive Management



Note: The recent population estimate triggered a reevaluation. In this reevaluation, the overall additional reduction of 95% remained the same, but the timing of reductions under the Conservation Framework was adjusted

Photo credit: Florida Fish and Wildlife Commission Image taken under NOAA Research Permit 665-1652.

Conservation Framework

What it is

- Outlines NMFS' commitment to implement measures in federal fixed gear fisheries necessary for the recovery of right whales
- Provides a phased approach and flexibility to the fishing industry
- Does not specify particular measures, but sets target reductions in M/SI

What it includes

- Four phased approach
- Assumes no reduction in M/SI from vessel strikes or in Canadian waters
- Adaptively manages through periodic evaluations
 - Measures can be scaled back based on changes in the population or risk reduction from other sources

Conservation Framework - The Details

Phase	Year	Conservation Framework Action Description	Reduce M/SI to
	Annually	Annual updates, as appropriate, to interested parties	
1	2021	ALWTRP rulemaking in Northeast lobster and Jonah crab trap/pot fisheries	2.2
2	2023	Rulemaking to reduce M/SI in gillnet and other pot/trap (i.e., those not included in Phase 1) fisheries	2.13 (60% reduction)
Evaluate	2023-2024	Review data on right whale population and threats to assess progress; assess measures taken by Canada	
3	2025	Rulemaking to further reduce M/SI in fixed gear fisheries in federal waters	0.85 (60% reduction)
Evaluate	2025-2026	Comprehensive evaluation and determination of extent to which further measures are needed	
4	2030	Rulemaking to further reduce M/SI in fixed gear fisheries as determined in the 2025-2026 evaluation	Goals identified in 2025-2026 (up to 87% or 0.11 M/SI)

Conservation Framework - The Evaluations

- After phases 2 and 3, evaluate information on:
 - Population status, distribution, and habitat use
 - Calving and survival rates
 - Entanglements and vessel strikes in U.S. and Canadian waters
 - Changes to the federal fisheries (e.g., changes in co-occurrence due to shifts in where the fishery operates or changes in effort/operation)
 - Apportionment of M/SI to country (U.S., Canada) and cause (entanglement, vessel strike)
- After phase 3, rerun population projections with most recent data

Conservation Framework - Adaptive Management

- Will evaluate significant new information (e.g., population status, risk reduction) when available to determine whether changes to the Framework are needed
- Includes the scheduled evaluations after phases 2 and 3
- Target reduction will be adjusted if M/SI from other sources is reduced
 - Reduction in one M/SI every two years (i.e., 0.5 M/SIs per year) would reduce phase 4 from 87% to 28%
 - Reduction in one or more M/SI each year would trigger a determination of whether measures in phase 4 are needed

Assessing the likelihood of jeopardy

Theoretical Population Trajectories

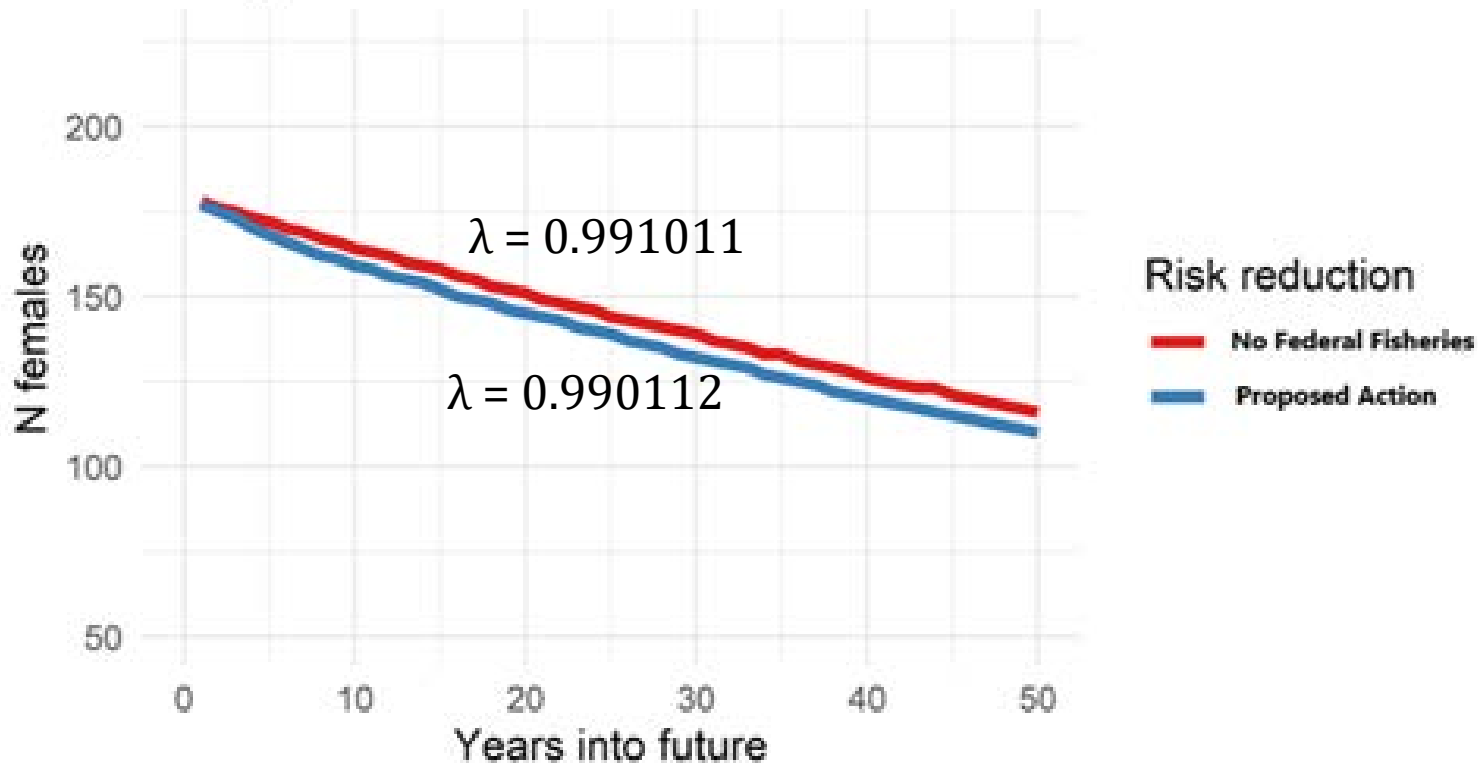


- **Scenario without the action:** No federal fishery
- **Scenario with the proposed action:** Fisheries under 10 FMPs with measures implemented under the Conservation Framework

Assessing the Likelihood of Jeopardy Projection Models

NARW population projections

Risk reduction in a given set of fisheries;
calving data from 2010-2019



- Compare female population under two scenarios
- Difference of 5 females at year 10
- With the exception of 1 year, the difference in females remains 5-6 for years 11-50
- 96% of the simulations show a declining trend with no federal fishery; 97% with the proposed action

Assessing the Likelihood of Jeopardy

Qualitative Analysis

Sublethal Effects

- Confounded by sublethal effects from other sources (e.g., prey availability, climate variation, vessel strike), but sublethal effects will be reduced under the Framework
- Would result in improved trajectories under both scenarios

Genetics Analysis

- Not expected to result in a genetic bottleneck

Determination in Draft Opinion

Based on our analysis, the proposed action -- which includes the Conservation Framework -- will not appreciably reduce the likelihood of survival and recovery of North Atlantic right whales compared to the no action scenario

The proposed action **is not likely to jeopardize** any listed species or destroy or adversely modify any critical habitat



Other Considerations

- Even with a very high level of risk reduction in U.S. fisheries, the trajectory will not increase if M/SIs continue to occur at current levels in Canadian waters
- Trajectories projected if Canada were to reduce M/SI at same times and levels as the United States
- Trajectory turns positive if both countries take actions to reduce M/SI
- Committed to continue to work with Canada through bilateral forums

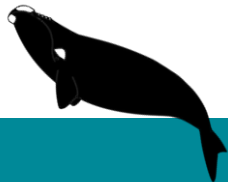
NARW Public Input Opportunities

ALWTRP Proposed Rule and Draft Environmental Impact Statement

- Comments due March 1, 2021
- Use [Regulations.gov](https://www.regulations.gov), search for NOAA-NMFS-2020-0031.
- Four remote public hearings Feb 16, 17, 23, 24; 6:30 pm ET each night
- See [fisheries.noaa.gov/ALWTRP](https://www.fisheries.noaa.gov/ALWTRP) for documents and additional information

Draft "Batched" Biological Opinion

- Feedback due February 19, 2021
- Email feedback to nmfs.gar.fisheriesbiopfeedback@noaa.gov
- See <https://www.fisheries.noaa.gov/resource/document/draft-biological-opinion-10-fishery-management-plans> for additional information
- Court-ordered deadline to complete BiOp – May 31, 2021



Questions?



Credit: Photo by Sea to Shore Alliance; taken under NOAA research permit #15488

Thank you

