IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF COLUMBIA

CENTER FOR BIOLOGICAL DIVERSITY, <i>et al.</i> ¹	
Plaintiffs,	
V .	
WILBUR ROSS, in his official capacity as Secretary of Commerce, <i>et al.</i> ²	
Federal Defendants,	
and	
MAINE LOBSTERMEN'S ASSOCIATION,	
Defendant-Intervenor,	Civil Action No. 1:18-cv-00112-JEB
and	
MASSACHUSETTS LOBSTERMEN'S ASSOCIATION, INC.	
Intervenor-Defendant.	

DECLARATION OF DAVID BORDEN

I, David Borden, depose and state as follows:

Background

1. I am currently the Executive Director of the Atlantic Offshore Lobstermen's Association

(AOLA), a position I've held since 2013. I have been involved in lobster fishing and natural

¹ Defenders of Wildlife, the Humane Society of the United States, and the Conservation Law Foundation.

 $^{^2}$ Chris Oliver, in his official capacity as Assistant Administrator of the NOAA Fisheries, and the National Marine Fisheries Service.

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resource management since 1974. I have held various positions in the State of Rhode Island including, Chief of the Division of Fish and Wildlife, Chairman of the Marine Fishing Council, and Associate Director of Natural Resources for the Rhode Island Department of Environmental Management. A copy of my resume summarizing my background and experience is attached as Exhibit A. AOLA is the sole organized voice for the federal offshore lobster industry, representing a majority of the active fleet with members from New Hampshire to New Jersey. The Association supports the efforts of the offshore lobster industry to develop and maintain a strong, stable, and sustainably minded fishery. Offshore lobster fishing is pursued by a relatively small fleet (approximately 65 active vessels) in Lobster Management Area 3 (LMA 3), which is an area 40-120 miles from shore that spans from the Canadian border to the mid-Atlantic. Offshore vessels are at least 65 feet in length, carry crews of 4-6 fishermen, and operate multi-day trips of 4-12 days in length.

2. The Executive Director of AOLA has held an active seat on the Atlantic Large Whale Take Reduction Team (TRT) since its inception in 1996 and has participated in the development of all Atlantic Large Whale Take Reduction Plan (TRP) conservation provisions since that time, including provisions undertaken since the 2014 Endangered Species Act Biological Opinion (2014 BiOp). As a participant of the TRT, I have intimate knowledge of the entanglement data provided by U.S. and Canadian government agencies. I have read the Declaration of Michael Moore and the Plaintiffs' Opening Brief on Remedy, both of which I will address in this declaration.

Regulations designed to protect North Atlantic Right Whales

3. The U.S. lobster fishery has been protecting North Atlantic Right Whales (NARW) for over 20 years. Since the 2014 BiOp, there have been important regulatory updates

implemented by the TRP, as well as the American lobster state and federal fishery management plans, which have further reduced the risk of NARW entanglements in U.S. lobster fishing gear. Those updates are briefly described below; a more complete listing of all U.S. lobster fishery NARW regulations is attached hereto as Exhibit B.

- **2015** Establishment of a seasonal fixed gear closure of Cape Cod Bay, Massachusetts' Bay, and Outer Cape Cod. At minimum this area, the Massachusetts Restricted Area, is closed February 1 to April 30 annually, but the Massachusetts' Division of Marine Fisheries has extended the closure period in all years since 2017 (50 CFR 229.32(c)(2)(iii))
- **2015** Establishment of vertical line regulations that require a minimum number of traps per trawl based on distance from shore and LMA to limit the number of vertical endlines. 50 CFR 229.32(c)(3), Table 1)
- 2016-2020 Mandatory trap reductions in the lobster management areas in Southern New England (LMAs 2 and 3), to reduce the number of traps and vertical endlines in the water by 25-50% (50 CFR 697.19(g), Figure 1)
- 4. In evaluating the data to determine the current risk of entanglement to whales from the U.S. lobster fishery as it relates to remedy in this case, it is critical to focus on the time period since the 2014 BiOp and the source of fishing gear in which whales have been entangled. This later time period is relevant for two reasons: (1) whale migratory patterns have changed from earlier years, and (2) data from earlier years does not reflect the impact of protective measures that have been in place since 2014. Data from 2015-2018 demonstrates no known fatal whale entanglements from U.S. lobster fishing gear and only one incident of entanglement involving a non-serious injury. By contrast, there were 12 Canadian entanglements in those years (Table 2). Entanglement data for 2019 is pending formal publication, however we do know there were 10 documented deaths and 1 serious injury from all anthropogenic sources; 10 were discovered in Canadian waters, 1 in U.S. waters³.

 $^{^{3}} https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2020-north-atlantic-right-whale-unusual-mortality-event.$

Since 2010 NARWs have increasingly used habitats in Canadian waters. As stated by Dr. Moore there has been an "*increased use by right whales of fixed-gear dense offshore areas of the Gulf of St. Lawrence in Canada (Hayes et al. 2018)*". Unfortunately, it was not until 2017 that Canadian officials established management measures to protect whales in the Gulf of St Lawrence⁴.

5. Although I do not feel that it is appropriate to consider entanglement data averaged over a long period of time, including data prior to the 2014 BiOp, it is important to note that of the 47 entanglement cases cited by Dr. Moore, covering 2000-2018, only 7 were attributed to the U.S. lobster fishery, with no known serious injuries or mortalities in U.S. lobster gear since 2002. Conversely, 15 of those cases were attributed to Canadian snow crab or lobster gear⁵. These data demonstrate that that the current regulatory framework is working to dramatically reduce risk to right whales in American water.

Management Area	Minimum traps/trawl
LMAs 1, 2, OC (0-3 miles from shore)	1-2 depending on location
LMA 2 (3-12 miles from shore)	10
LMA 2 (12+ miles from shore)	20
LMA 2/3 overlap and LMA 3	20

Table 1. Summary of Trap per Trawl TRP Provisions.

⁴ Special Brief (1st section) Right Whales: A Look Back on the Summer of 2017, Fisheries and Oceans Canada, https://www.qc.dfo-mpo.gc.ca/infoceans/en/infocean/special-brief-1st-section-right-whales-look-back-summer-2017 ⁵ NOAA Fisheries' 2000-2018 Right Whale Incident Data Spreadsheet.



Figure 1. Reduction in gear in relevant LMAs since 2014. A: LMA2 vertical endline (otherwise called buoy lines), source: Massachusetts Division of Marine Fisheries 2020 submission to NOAA. B: LMA2 vertical end lines, source: Rhode Island Dept. of Environmental Management 2020 submission to NOAA. C: LMA 3 trap reductions, as a proxy for endlines, source: H. Henninger, AOLA using NOAA permit data.

Table 2. 2015-2018 Entanglements in Identified Gear. Severity codes are as follows: NS - nonserious, SI - serious, MT - mortality. Country codes are: US - United States, CN - Canada. Source: NOAA Fisheries' 2000-2018 Right Whale Incident Data Spreadsheet.

Date	Severity	Fishery	Country
18-Jul-15	NS	Snow crab	CN
13-Aug-16	SI	Snow crab	CN
31-Aug-16	MT	Snow crab	CN
22-Sep-16	NS	Lobster	US
23-Sep-16	MT	Snow crab	CN
05-Jan-17	NS	Snow crab	CN
21-Jun-17	MT	Snow crab	CN
05-Jul-17	NS	Snow crab	CN
08-Jul-17	NS	Snow crab	CN
09-Jul-17	NS	Snow crab	CN
19-Jul-17	SI	Snow crab	CN
15-Sep-17	MT	Snow crab	CN
22-Jan-18	MT	Snow crab	CN

2015-2018 Entanglements with Identified Gear

Logic for the SNE closed area (protected area), and why it might make matters worse.

6. Dr. Moore makes repeated suggestions that nearly 5,000 squares miles of Southern New England (SNE) waters in LMA 2 and 3 (Figure 2) be declared a protected area and closed to the use of static vertical lines as a mitigation step to protect NARWs. Since there is no technically or economically feasible "ropeless" lobster fishing gear available, Dr. Moore's suggestion is, in effect, a request for a total year-round closure of lobster fishing in the area. Although ropeless technology is in the early stages of development and testing in the U.S., we do know that the existing technology is extremely expensive, and most likely cost prohibitive. As an example, Robert Glenn, Chief Marine Scientist for the Massachusetts Division of Marine Fisheries estimates that at current prices it would cost \$100 million dollars to convert the Massachusetts inshore fishery to ropeless technology. It is my

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professional opinion, based upon my many years of experience in the industry, that if the court grants the Plaintiffs' request, the closure may very well have the opposite impact, and increase risk to right whales. I have outlined my rational below.



Figure 2. Plaintiffs' proposed restricted area (red) and existing seasonal restricted areas.

- 7. First the scientific information, and uncertainty contained therein, does not validate a closure. The assessment and management of NARWs is a complicated and technical process with considerable nuances in data collection and interpretation processes. To understand my concerns, the Court needs to know that the only systematic long-term survey for NARWs in U.S. waters is of the South Atlantic calving grounds. Along the rest of the coast, including in SNE, a mix of opportunistic and fixed pattern surveying is used, the location and amount of which varies annually as sampling effort intentionally focuses on areas of high NARW density and multiple samples are taken in areas once whales are sighted. These data should not be utilized as a proxy for NARW abundance in their current format.
- 8. Dr. Moore's declaration specifically acknowledges this weakness in the survey methodology for the "protected area" when he states:

"Although using opportunistic sightings data can present challenges (no area is systematically surveyed, effort is not corrected for, and there is potential to count an individual whale more than once), it is an excellent proxy for habitat used by right whales... Survey effort in Southern New England is sporadic but demonstrates high use in Southern New England for certain months."

9. Further, the NARW distribution model (Duke University, Dr. Jason Roberts, originally developed for the U.S. Navy) being used by NOAA Fisheries to support the forthcoming Atlantic Large Whale Take Reduction Plan (TRP) proposed rule excludes many of these surveys. As noted by a Center for Independent Experts peer review in 2019⁶:

"Acoustic detection data, opportunistic sightings and right whale satellite-tag tracking data have not been incorporated into the model of right whale habitat use. Although it is

⁶ Center for Independent Experts Peer Review Summary Report: Review of the North Atlantic Right Whale Decision Support-Tool, December 2019.

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not clear how these sources of information can be used in the surface density model, as they differ fundamentally from the systemic surveys used to estimate that model..."

- 10. The Plaintiffs' have submitted evidence of NARW use of the proposed protected area, but that is not enough basis to impose a year-round closure. It is well known that NARWs migrate annually between the Florida coastline and the Gulf of Saint Lawrence, Canada using any number of U.S. waters locations along the way. As noted by Dr. Moore, "[*i*]*n the last decade, right whales have shifted their geographic range due to climate change*" and there is no assurance they will continue to aggregate in SNE in the future given continued global warming. As NOAA Fisheries noted in their Draft Environmental Impact Statement public scoping presentation: "Predicting right whale distribution will become more challenging with increasing environmental variability"⁷.
- 11. I do not dispute that right whales use the proposed protected area, but given the opportunistic nature of surveying; regular changes in area covered, days of effort, and transect pattern; and the possibility of counting the same individual on multiple sequential surveys, the data should not be used to quantify changes in abundance over time. These data are valuable as a snapshot of an area on a given day, but they have major deficiencies as an abundance time series, as noted by Dr. Moore: "*no area is systematically surveyed, effort is not corrected for, and there is potential to count an individual whale more than once.*" At a minimum, these data need to be corrected for effort (sightings per unit of sampling effort) before they are used for management purposes. For example, 99 NARWs were sighted in 2010, compared to 484 in 2018, however those 99 sightings were counted

⁷ Slide 10 of 39 from NOAA Fisheries' August 2019 presentation given during Draft Environmental Impact Statement public scoping hearings.

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over the course of 5 days (19.8 sightings per day) versus over the course of 40 days in 2018 (12.1 sightings per day)⁸. Standardization of the data for effort, area covered, and consideration of double counting can be done, but it will take NOAA time to review and reformat the historic information. Further, standard fishery practice would dictate that the analysis undergo an external peer review before use in management.

- 12. Next, Dr. Moore offers stranding information as support for the proposed protected area. A list of whale strandings from Georgia to Cape Cod Bay and out to Georges Bank is not evidence of a need for the proposed Southern New England closure area. Dr. Moore notes that these strandings "...do not necessarily establish that the entanglements were due to gear set in proposed protected area..." In fact, two of the strandings he presented were confirmed vessel strikes, and a third was a confirmed entanglement in Canadian gear that was carried by the whale all the way to the south Atlantic⁹. There is no evidence that the remaining six mortalities cited by Dr. Moore (his Figure 7) were caused by entanglements in US fishing gear. The stranding information is simply irrelevant evidence to support a closure.
- 13. Finally, the unintended consequences of a closure need to be fully analyzed before implementation. The primary question to address is where will the displaced fishing effort go and how will that impact the surrounding habitat, and co-occurrence of whales and endlines? If the Plaintiffs proposed year-round closure was implemented, the fishing fleet would have only two options: fish somewhere else or go out of business. In contrast to the

⁸ Chart developed by H. Henninger, Atlantic Offshore Lobstermen's Association. Derived from North Atlantic Right Whale Consortium sightings database. Data requests made 11/2018 and 5/2020. Sightings data, as provide by the NARW Consortium, excludes survey efforts with zero sightings.

⁹ NOAA Fisheries' 2000-2018 Right Whale Incident Data Spreadsheet.

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existing seasonal Massachusetts Restricted Area where the coastal lobster fleet removes gear from the water and doesn't fish for three months, the vessels operating in the proposed closure are generally larger and typically year-round operations. LMA 3 lobster vessels specifically are 70-90 feet long and support a crew of 4-5 individuals. These vessels specialize in moving lobster gear, as they seasonally move between shallow and deep waters. One logical fishing strategy for the displaced vessels would be to reposition around the periphery of the proposed closure area potentially creating more concentrated risk for whales on their way into and out of the closure.

14. Another important question to resolve before implementation is how many fishing vessels operate in the area and what are the economic impact of a closure on the fishing community? Anecdotally, since the Plaintiffs' brief was made public, I have heard concerns from 20 fishermen hailing from ports in MA and RI who fish lobster pots in this area, but certainly there are others. As a proxy, if we look to the federal MA/RI wind energy lease area, which lies within the western portion of the proposed protected area, we can get a sense of the potential economic impacts. To date only one of the seven lease holder companies has set up a mitigation fund to compensate displaced fisherman working all gear types. That fund is valued at close to \$40 million¹⁰. We expect similar mitigation funds to be established when other lease holders near the industrial construction and operational phases.

¹⁰<u>https://www.southcoasttoday.com/news/20190225/rhode-island-fishermen-accept-vineyard-wind-mitigation,</u> https://www.wind-watch.org/news/2020/06/10/fishermen-say-massachusetts-oregon-fail-in-offshore-wind-planning/

- 15. NOAA has stated publicly that they plan to analyze closure options as part of the Environmental Impact Statement for the forthcoming Atlantic Large Whale Take Reduction Plan modification, because closures were proposed by the Commonwealth of Massachusetts and one of the Plaintiffs to this legal action. Since these analyses have not been done, and since no one can predict how and where the gear will move, it is impossible to say if the Plaintiffs' proposed mitigation will reduce the risk of right whale entanglements in lobster endlines as Dr. Moore asserts.
- 16. In conclusion, I believe the court should not substitute its judgement for the NOAA public process and National Environmental Policy Act analysis, as too many small companies are at risk. I urge the court to reject the mitigation strategy and allow the transparent NOAA process to proceed, which includes public hearings, and development of a detailed impact analyses.

Signed under the penalties of perjury this 18th day of June, 2020.

/s/ David Borden
David Borden

EXHIBIT A

DAVID V.D. BORDEN_

41 Old Harbor Road, Little Compton, RI 02837, 401-451-9312 (cell)

EDUCATION

University of Rhode Island, M.S Animal Science focus Wildlife and Marine Science 1974

Roger Williams College, B.S. Degree, 1971, Business Administration Major,

Currently: Executive Director of the Atlantic Offshore Lobster Association (AOLA). AOLA currently represents the majority of the offshore lobster vessels in the fishery. Formulate all policies for the Association, which includes risk reduction strategies to protect large whales. Represent the Association on the NOAA Large Whale Take Reduction Team (TRT) and other fishery issues. Been involved in lobster management since 1978, including numerous terms as Chairman of the lobster Board of the Atlantic States Marine Fishery Commission (ASMFC) and New England Fishery Management Council (NEFMC) lobster committees. As such very familiar with the lobster regulations and whale risk reduction measures that have been implemented by all agencies.

The Executive Director of AOLA has had an active seat on the Atlantic Large Whale Take Reduction Team (TRT) since its inception in 1997 and has participated in the development of all Take Reduction Plan conservation provisions since that time, including provisions undertaken since the 2014 ESA Biological Opinion. As a participant of the TRT, I have intimate knowledge of the entanglement data provided by US and Canadian government agencies

AOLA is the sole organized voice for the federal offshore lobster industry, representing a majority of the active fleet with members from New Hampshire to New Jersey. The Association supports the efforts of the offshore lobster industry to develop and maintain a strong, stable, and sustainably minded fishery. Offshore lobster fishing is persecuted by a relatively small fleet (approximately 65 active vessels) in Lobster Management Area 3 (LMA 3), which is an area approximately 40-120 miles from shore that spans from the Canadian border to the mid-Atlantic. Offshore vessels are at least 65 feet in length, carry crews of 4-6 fishermen, and operate multi-day trips of 4-12 days in length.

Of note AOLA is also working with a number of conservation organizations, State and Federal agencies to test various concepts to reduce risk to right whales. Agencies include Conservation Law Foundation, Maine DMR, FB Environmental Associates, and University of Maine, Blue Water Concepts, NOAA bycatch engineering program and New England Aquarium. Multiple projects involving modeling entanglement risk, rope cutters, deployment of buoyless gear, safe load line testing, etc. I have read the Affidavit of Michael Moore and the Plaintiffs' Opening Brief on Remedy, both of which I will be speaking to in this declaration.

Employment since retirement

Active Area 2 lobsterman

Work as a part time policy analyst/ meeting facilitator for Mass Marine Fisheries/ Mass Fisheries Institute, SMAST graduate program, with primary work focused on lobster, groundfish, monkfish, and skates 2007-2013.

Policy adviser URI Fisheries Program in regards various researches set aside and marine programs. University has received 12 competitive RSA grants since 2004 -2013.

State of Maine/DMR program review- Part of a three member panel that met to review the DMR marine and enforcement program and provide policy advice to the Governor and DMR Commissioner

Past Professional Experience 1974- 2004:

Associate Director Natural Resources, RI Department of Environmental Management 2002-2004 Supervised all of the Natural Resource Divisions in the Department including Divisions of Fish and Wildlife(which includes Marine Fisheries), Enforcement, Forestry, Coastal Resources, Agriculture, Parks and Recreation. Served as the Chairman of the RI Marine Fishery Council and represented RI on a number of state and federal committees including ASMFC, NERFMC, NMFS HMS, ICCAT, and the US/Canada committee on herring and groundfish. Chairman of NE Council committee that negotiated the groundfish sharing agreement with Canada, which was subsequently approved by the US Senate. Chairman / Vise Chairman / and or Member of Executive Committee of the Atlantic States Marine Fishery Commission 1996 to 2004

Assistant Director RI Department of Environmental Management 1994-2002. Supervised three Divisions within the Natural Resource Bureau including the Division of Fish and Wildlife (which includes Marine Fisheries), Division of Enforcement, and Division of Coastal Resources. Responsible for marine policy formulations for the State of RI, including representing the State at the NE Regional Fishery Management Council, Mid Atlantic Fishery Management Council, Atlantic States Marine Fishery Commission, NMFS Highly Migratory Committee, ICCAT Advisory Committee, Chairman of US/Canada committees on herring, groundfish, and lobster. During 2002 served as Chairman of the NE Fishery Management Council, and received the Captain David H. Hart award from ASMFC for dedicated service to the conservation and management of Atlantic Coast fisheries. Served on the URI Sea Grant Advisory Board, and Chaired the RI Marine Fishery Council that regulated all fisheries within State waters. Accomplishments included the acquisition of a new one million dollar research vessel, consolidated the marine staff at a new four million dollar research facility in Jamestown, and cochaired a committee that implemented a new nationally recognized environmental monitoring program for Narragansett Bay. Designed and implemented a no discharge program for RI marine waters.

Chief, R.I. Division of Fish & Wildlife_and Estuarine Resources 1992-1994

The Division is a multi-faceted resource management agency administering programs in marine fisheries, freshwater fisheries, wildlife management, freshwater hatchery operations, handgun safety, hunter safety, and estuarine sanctuary protection.

1987 to 1992:

Deputy Chief, Marine Fisheries, RI Division of Fish and Wildlife

Coordinated activities between and among various programs to assure compatibility with marine management and enforcement at both state and federal level. Represented the State of Rhode Island at approximately 100 state, federal, and international meeting per year during which the Division and R.I. State policies are established governing research priorities for marine management, enforcement, program administration, and research.

Appointed by the Governor in 1984, as the principal state marine fisheries official, to the N.E. Regional Fishery Management Council (the "NERFMC"). In that capacity, formulated State and Department policies at a federal level for all marine species. Elected Chairman of the NERFMC Council annually from 1986 to 1989. Served as Chairman and a member of the Executive Committee for six years. Coordinate, administer, and supervise the functions of the R.I. Marine Fishery Council. The R.I. Council is composed of key commercial and recreational fishing representatives, in addition to leading marine scientists from the University of Rhode Island. The R.I. Council exercise authority over all marine fishery matters within the territorial waters of R.I.

Principal Marine Fishery Biologist, RI Division of Fish and Wildlife

Acted as assistant to the Chief of the R.I. Division of Fish and Wildlife by administering the mandates of the Magnuson Fishery Conservation and Management Act of 1976.

Senior Marine Biologist/Marine Fisheries Biologist, R.I. Division of Fish and Wildlife

OTHER TYPES OF EMPLOYMENT

Member of the URI faculty 1986-1992. Taught a graduate course in Marine Policy and Law in the Marine Affairs Program

EXHIBIT B

U.S. Lobster Fishery Whale Protection Actions – History

1. The following are U.S. American lobster fishery Marine Mammal Protection Act Atlantic Large Whale Take Reduction Plan (ALWTRP) regulations, unless otherwise noted in bold font.

- 1997 Establishment of the Atlantic Large Whale Take Reduction Plan.
- **1997** -<u>Established Universal Gear Requirements</u> to 1) eliminate the use of floating line at the surface, 2) keep ropes as knot-free as possible, 3) prohibit wet storage of gear for more than 30 days.
- **1997** <u>Weak links</u> having a maximum breaking strength of 1,100 lbs. in LMAs 1, 2, OC, 4, 5 and 6, and 3,780 lbs. in LMA 3 must be used to attach surface buoys to end lines. Weak links are designed to break a short portion of the rope away from the rest of the gear when under pressure, such as during an entanglement.
- **2001** <u>Initial gear marking regulations</u>. While gear marking does not reduce the risk of entanglement, it does provide a means to identify gear sighted or removed from whales and determine which areas pose the greatest risk.
- 2002 <u>Great South Channel Seasonal Management Area</u> designated as a 3,230 square mile area closed to lobster gear April 1 June 30 annually (Figure 1).
- 2002 <u>Dynamic Area Management (DAM)</u> implemented requiring lobster and gillnet gear to be removed from an area for at least two weeks if three or more right whales were sighted.
- 2002 <u>600 lb weak links</u> replaced 1,100 lb weak links in most areas of LMAs 1, 2, OC, 4, 5 and 6. <u>2,000 lb weak links</u> replaced 3,780 lb weak links in LMA 3.
- 2004 Requirement that all Massachusetts state waters lobstermen use sinking groundlines year-round in Cape Cod Bay (proactive MA Division of Marine Fisheries regulation).
- 2007 Requirement that lobstermen use sinking groundlines year-round in all Massachusetts state waters (proactive MA Division of Marine Fisheries regulation).
- 2007 <u>1,500 lb weak links</u> replaced 2,000 lb weak links in LMA 3; <u>600 lb weak links</u> replaced 1,100 lb weak links in remaining areas of other LMAs.
- **2009** <u>Sinking groundline</u> requirement. Rule passed in 2007, but implementation was delayed until 2009 (except in MA state waters) to allow for the development of a buyback program to facilitate logistics of switching an industry from floating to sinking line and help defray initial costs. Sinking groundlines have added a continued expense to lobster fishing, as they need to be replaced regularly because of chafing and sand intrusion. According to NOAA this requirement removed 27,000 miles of rope from the ocean.
- **2009** <u>Sinking groundline</u> requirement replaced Dynamic Area Management and Seasonal Area Management programs.

- 2015 <u>Vertical line regulations</u> established minimum traps per trawl requirements based on distance from shore and LMA to limit the number of vertical endlines. According to NMFS this rule removed 2,740 miles of vertical lines from the ocean.
- **2015** Expanded Gear Marking requirements mandating three 12" marks on buoy line located at the top, middle and bottom of the line.
- 2015 <u>Massachusetts Restricted Area</u> was designed as a 3,000 square mile area spanning Cape Cod Bay, Massachusetts Bay and Outer Cape Cod closed to lobster gear from February 1 – April 31 annually (Figure 1). (The state waters portion of this closure was designated and is managed by MA Division of Marine Fisheries).
- 2017-2019 <u>Annual extension of the Massachusetts Restricted Area</u> gear prohibition into May to protect right whales present in the area. (MA Division of Marine Fisheries action).
- 2020 <u>Unique and Expanded Gear Marking</u> requiring Maine lobstermen to mark endlines with three 12" purple marks at the top, middle and bottom of the line, and an additional 36" purple mark plus a 6" green mark in the top 2 Fathoms of the endlline. Gear inside Maine exemption line is required to have a 36" purple mark in the top 2 Fathom of the buoy line and a 12" purples mark in the middle at bottom of the line (proactive Maine Department of Marine Resources regulation).

2. In addition to the ALWTRP provisions, the lobster fishing industry and state and federal fisheries managers have advocated for and enacted fishery management plan regulations that reduce the amount of gear in the water, therefore reducing the co-occurrence of North Atlantic right whales (NARWs) and lobster gear. NOAA calculates the risk to NARWs as the product of whale occurrence and density, endline presence and density, and endline breaking strength. The actions described below have reduced entanglement risk by reducing the number of endlines.

For Federal LMA 3 coastwide:

In the 1990s, limited entry was enacted, meaning no new permits have been issued to fish in Area 3 since that time. The fishery was further limited by a historic participation process in 2002 in which NOAA qualified vessels into the fishery and established per permit trap limits called, trap allocations. This process was based on qualifying criteria which included evidence of past several years' fishing effort of at least 200 traps and landings of at least 25,000 lbs. 139 permits with a total of 211,408 traps qualified into the fishery; some previously active LMA 3 vessels did not qualify and were retired from the fishery.

In 2002, NOAA established a maximum number of traps allowed to be fished by any permit (see Table 1). That trap cap as well as individual permit trap allocations were reduced annually from 2003-2010, removing 2.5-12% per year. Individual permit trap allocations were further reduced by 5% each year between 2016-2020.

Since 2016 a trap transfer program has allowed permitted entities to buy and sell traps amongst each other. Each transaction is charged a 10% conservation tax, which removes 10% of the traps for the fishery permanently (i.e. buy 100 traps – 90 can fish, 10 are retired).

Presently, there are 129 permits with a total of 109,078 traps currently permitted in the fishery and these numbers cannot increase under current regulations. This is a 48% reduction in gear since historic participation (Table 1). There are approximately 5,000 end lines¹ fished by less than 70 active vessels; the current average trawl length, based on NOAA vessel trip report data, is 35 traps/trawl. LMA 3 is 127,130 square miles in size, spanning from the Canadian border to Virginia. This equates to a line density of 1 endline per 20 square miles.

Looking ahead, NOAA has published an advanced notice of proposed rulemaking related to the trap cap. The proposed rule is expected this summer and will likely propose reducing the federal (NOAA) trap cap of 1,945 traps to align with the Atlantic States Marine Fisheries Commission's recommended trap cap of 1,548 traps, as advocated for by LMA 3 fishermen. This rule could remove 8,000 additional traps from the fishery.

For MA vessels operating in LMAs 1, 2, 3, and OC²:

MA Division of Marine Fisheries (DMF) has proactively managed lobster fishing effort in the Massachusetts lobster fishery. There has been a moratorium on the issuance of new coastal lobster fishing permits since 1988 and a moratorium on the issuance of LMA 1 lobster landing permits since 2003. This has resulted in a long-term reduction in the number of participants and the amount of fishing effort in the MA lobster fishery (Table 2 and 3).

All Massachusetts fishermen who fish in LMAs 1, 2, and OC, have been subject to a maximum trap limit of 800 since 1992. In addition to this LMAs 2 and OC were subjected to a historically based trap allocation plan in 2004 and 2007 respectively. These plans allocated individual transferable trap allocations based on historical participation and include a 10% trap tax on any partial trap allocation transfers. LMA 2 (MA and RI) also underwent five years of annual trap allocation reductions from 2016-2020 that reduced traps by nearly 50%. The implementation of the effort capping and effort reduction measures in Massachusetts have greatly contributed to the observed reduction in traps and vertical endlines.

¹ Industrial Economics, Incorporated end line model, 2017 data. "VL Model Results 2017 Baseline Draft Final V2 11062019"

² Information provided by Robert Glenn, MA DMF

For Maine vessels operating in LMA 1³

The Maine Legislature established a Lobster Zone Council system in 1997 which divided the Maine coast into seven lobster management zones in recognition of the shared responsibility among lawmakers, Maine Department of Marine Resources (DMR) and lobster harvesters for conserving the lobster resource. Each lobster zone council has the authority to set trap limits more restrictively than the state limit, further limit the legal hours of fishing, and limit entry into the zone. All seven of Maine's lobster zones have limited entry which requires from one to five lobstermen to retire before a new entrant can obtain a license to fish in that zone. The program has been effective in reducing the number of lobster licenses issued from 6,389 in 1997 down to 4,830 in 2018.

A unique feature of Maine's lobster zone management program is that it significantly limits where individual lobster harvesters can fish. Lobstermen must declare a home zone where they are required to fish a majority of their lobster traps. Maine's zone management system makes it illegal for a lobsterman to move all of his or her lobster gear outside of a home zone limiting the spatial footprint of the Maine fishery. Any lobster gear fished outside of a home zone must contain a second tag to declare that it is being fished outside the home zone.

Maine also requires completion of an apprentice program to become eligible for a commercial Maine lobster license. Apprentices must be sponsored by a licensed lobstering Captain, and apprentice for two years during which s/he must log 1,000 hours of fishing and gear work. Apprentice hours must be signed by a local Marine Patrol Officer. Once an Apprentice has completed this training program, s/he is eligible for a lobster license. Due to limited entry, however, apprentices who have completed the program are placed on a waiting list and can only obtain a license when the required number of lobstermen retire from the fishery.

As required under the Atlantic States Marine Fisheries Lobster Management Plan, Amendment 3, as part of Area 1, Maine lobstermen are limited to a maximum allocation of 800 traps. There are a few areas in Maine that have implemented a lower trap limit, namely Zone E and Swans Island which have each adopted a 600 trap limit, and Monhegan Island has adopted a 400 trap limit.

3. In addition to the regulatory history described above, the MA lobster industry and DMF² have engaged in survey, and research efforts to monitor the right whale population and develop alternate gears. Below is a non-exhaustive list.

• **1998 - present** – DMF partners with Center for Coastal Studies (CCS) in Right Whale Surveillance and Habitat Monitoring Program.

³ Information provided by Patrice McCarron, Maine Lobstermen's Association

- 2000 present Ghost gear removal in Cape Cod Bay. Ghost gear is lost, derelict gear.
- **2004** DMF collaborated with the International Fund for Animal Welfare and lobstermen on floating groundline buyback program.
- **2005** DMF and the Atlantic Offshore Lobstermen's Association (AOLA) collaborated to test the durability of various sinking groundlines.
- 2005 DMF conducted scale modeling of various vertical end line and groundline profiles.
- 2005 2010 DMF collaborated with academic institutions to acoustically monitor NARWs.
- 2007 DMF study evaluated the profile of floating groundlines in the lobster fishery.
- **2008 present** DMF partners with CCS on large whale disentanglement program in Massachusetts coastal waters.
- 2009 DMF collaborated with CCS on the potential use of coded wire gear marking tags.
- **2018 2020** AOLA and Maine Department of Marine Resources collaboration to test the functional breaking strength of vertical endlines currently in use in LMA 3.
- **2019 present** AOLA and Maine Department of Marine Resources collaboration to test the operational feasibility of Time Tension Line Cutters as an endline weak contrivance.
- **2020** AOLA, collaboration with Conservation Law Foundation, NOAA, and others to test the operational feasibility of "ropeless" gear systems.

4. In addition to the regulatory history described above, the Maine lobster industry and DMR have engaged in a variety of research efforts to monitor the right whale population and develop alternate gears³. Below is a non-exhaustive list.

- **1998-1999-** Maine Lobstermen's Association (MLA) worked with NMFS gear team to assess profile of lobster gear and develop weak link prototypes.
- **2000** Maine DMR worked with Maine lobstermen to develop viable gear marking methods and options to achieve weak links.
- **2000-2004** DMR collaborated with Maine lobstermen to test hundreds of coils of neutrally buoyant rope. DMR collaborated with MLA to conduct underwater observations of rope profiles and bottom types using a remotely operated vehicle (ROV).
- **2005-2006** DMR collaborated with the Gulf of Maine Lobster Foundation to test low profile ropes and deploy pressure sensors to measure rope profiles of control versus experimental groundlines.
- 2005-2008 MLA collaborated with the Consortium for Wildlife Bycatch Reduction to test a variety of experimental ropes to be deployed as vertical lines and groundlines. Lobstermen deployed experimental vertical lines including weak rope, glow rope, stiff rope and time tension line cutters. Lobstermen deployed experimental groundlines including barium sulfate and polyethelene ropes.

- **2007-2011** Gulf of Maine Lobster Foundation conducted float rope buy-back program for Maine.
- 2008-2012 MLA partnered with the Bycatch Consortium and Woods Hole Oceanographic Institute to document lobster gear configurations in Maine, NH and Mass published as Lobster Pot Gear Configurations in the Gulf of Maine (2012), document where, when and how Maine lobster gear is fished and developed a fishing gear/whale risk model; documented chaffing problems with sinking groundlines and explored best fishing practices to protect right whales.
- **2010-present** Gulf of Maine Lobster Foundation conducts derelict fishing gear removal of ghost gear through at sea clean-ups and community clean-ups on shore.
- **2014** MLA partnered with the New England Aquarium to test red ropes based on emerging research that right whales may avoid this color rope.
- **2018 present** MLA partnered with Maine Department of Marine Resources to test the functional breaking strength of vertical endlines currently in use in Maine, the operational feasibility of Time Tension Line Cutters as an endline weak contrivance and explore additional methods to incorporate weak points into endlines.



Figure 1. Existing and Proposed Lobster Fishery Closure Areas. The green bordered area is the Great South Channel Restricted Area. The blue bordered area is the Massachusetts Restricted Area.

Fed. Fishing	NOAA Trap	ASMFC Trap	# Total Trans	Cumulative	Per Yr
Year (May 1)	Сар	Сар	# Total Haps	Reduction	Reduction
2002	3,250	3,250	211,408	-	
2003	2,656	2,656	187,287	11.4%	11.4%
2004	2,493	2,493	180,980	14.4%	3.4%
2005	2,351	2,351	175,909	16.8%	2.8%
2006	2,267	2,267	172,627	18.3%	1.9%
2007	2,154	2,154	164,006	19.6%	1.5%
2008	2,046	2,046	155,810	26.3%	8.3%
2009	1,995	2,000	151,902	28.1%	2.5%
2010	1,945	2,000	148,108	29.9%	2.5%
2011	1,945	2,000	148,108	29.9%	0%
2012	1,945	2,000	148,108	29.9%	0%
2013	1,945	2,000	148,108	29.9%	0%
2014	1,945	2,000	148,108	29.9%	0%
2015	1,945	2,000	148,108	29.9%	0%
2016	1,945	1,900	136,868	35.3%	7.6%
2017	1,945	1,805	128,901	39.0%	5.8%
2018	1,945	1,715	121,797	42.4%	5.5%
2019	1,945	1,629	115,479	45.4%	5.2%
2020	1,945	1,548	109,078	48.4%	5.5%

Table 1. Area 3 Fishery Management Plan Trap History. Source: H. Henninger, AOLA based on NOAA permit data.

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LMA	2011	2012	2013	2014	2015	2016	2017	2018*
LMA1	669	650	628	624	627	627	634	651
LMA2	77	78	73	64	71	78	73	71
LMA3	21	26	25	28	25	26	26	27
OCLMA	69	67	71	67	65	61	60	63
Total	836	821	797	783	788	792	793	812

Table 2: MA Lobster-pot Fishery, Active Permit Count by LMA and Year, 2011-2018

Data Source: MA Trip-level reports and NOAA Fisheries VTRs

*Preliminary, subject to change

Table 3: MA Lobster-pot Fishery, Issued Permit Count by Permit type and Year,2011-2018

2011 2010								
Issued Permits	2011	2012	2013	2014	2015	2016	2017	2018
Coastal Lobster	1,245	1,214	1,188	1,170	1,139	1,116	1,088	1,081
Offshore Lobster	189	175	161	163	159	154	171	156
Seasonal Lobster	98	78	79	76	86	88	96	100
Total	1,532	1,467	1,428	1,409	1,384	1,358	1,355	1,337

Data Source: MA Permitting

database