



ME DMR Lobster Bait Safety



Presented to ASMFC Lobster
Management Board
October 21, 2018

Bait Safety Concerns Raised



- Bait was being imported domestically and from abroad, bringing with it a risk of viral agents, parasites and nuisance species.
- DMR convened a meeting of staff, bait dealers, lobstermen, and fish health experts from the University of Maine.
- The consensus: If left unchecked, imported bait was a vector that could endanger the lobster resource and/or Maine's other wild and farmed resources.



Change in Law



- 2012, DMR passed legislation giving the Commissioner authority to create “approved” and “prohibited” lists of freshwater and marine baits.
- 2013 Rules were adopted governing the review process.
- In Maine it is unlawful to sell a bait that had not been reviewed, or was on the prohibited list. Following a second law change in 2017, it became unlawful to use such a bait.



Process



- Following an RFP, Kennebec River Biosciences conducted a qualitative and quantitative data driven risk assessment and provided the results to DMR in 2015.
- DMR engaged a USDA epidemiologist working in ME in the design of the risk evaluation process.
- Since the initial review, DMR has used a committee of governmental, university, and private industry aquatic animal health professionals to conduct risk assessments and provide recommendations to the Commissioner.



Process



- Prospective bait sources are assessed in regards to their risk for introducing pathogens using a multi-point assessment process, after which a recommendation for approval/disapproval is presented to the Commissioner.
- Risk factors utilized in the current assessment model include:
 - Climate match
 - Species susceptibility
 - Presence of susceptible species or hosts in the GOM
 - Pathogen status in the source region and the GOM
 - Source proximity and migratory connectivity to the GOM
 - Bait treatment



Current Status



- Our existing process is challenging, but better than the alternative.
- Review requests come in from many sources.
- DMR has little ability to evaluate the feasibility or the likelihood that it will be of interest to the fishery (i.e. the Department could devote significant time to an analysis, for little benefit).
- Significant time commitment to research on often obscure species and accessible information is often limited.
- The review committee is mainly composed of non-DMR and non-State employees, who are providing the risk evaluation as a courtesy.



Ways to Move Forward



- **Develop a Resolution**
 - Agreement by the Board outlining a policy statement
 - Can provide a recommended action for states to enact (not a compliance criteria)
 - Ex: Horseshoe Crab Board resolution to ban import and use of Asian Horseshoe crabs as bait
- **States Independently Develop Plans and Use ASMFC as a Forum**
 - ASMFC acts as a moderator
 - Provides states higher level of flexibility
- **Incorporate Into Management Plan**
 - Would require an Amendment
 - Needs to address an issue of concern impacting multiple states
 - Large amount of work and long time frame
 - Binding (if included as compliance measure)



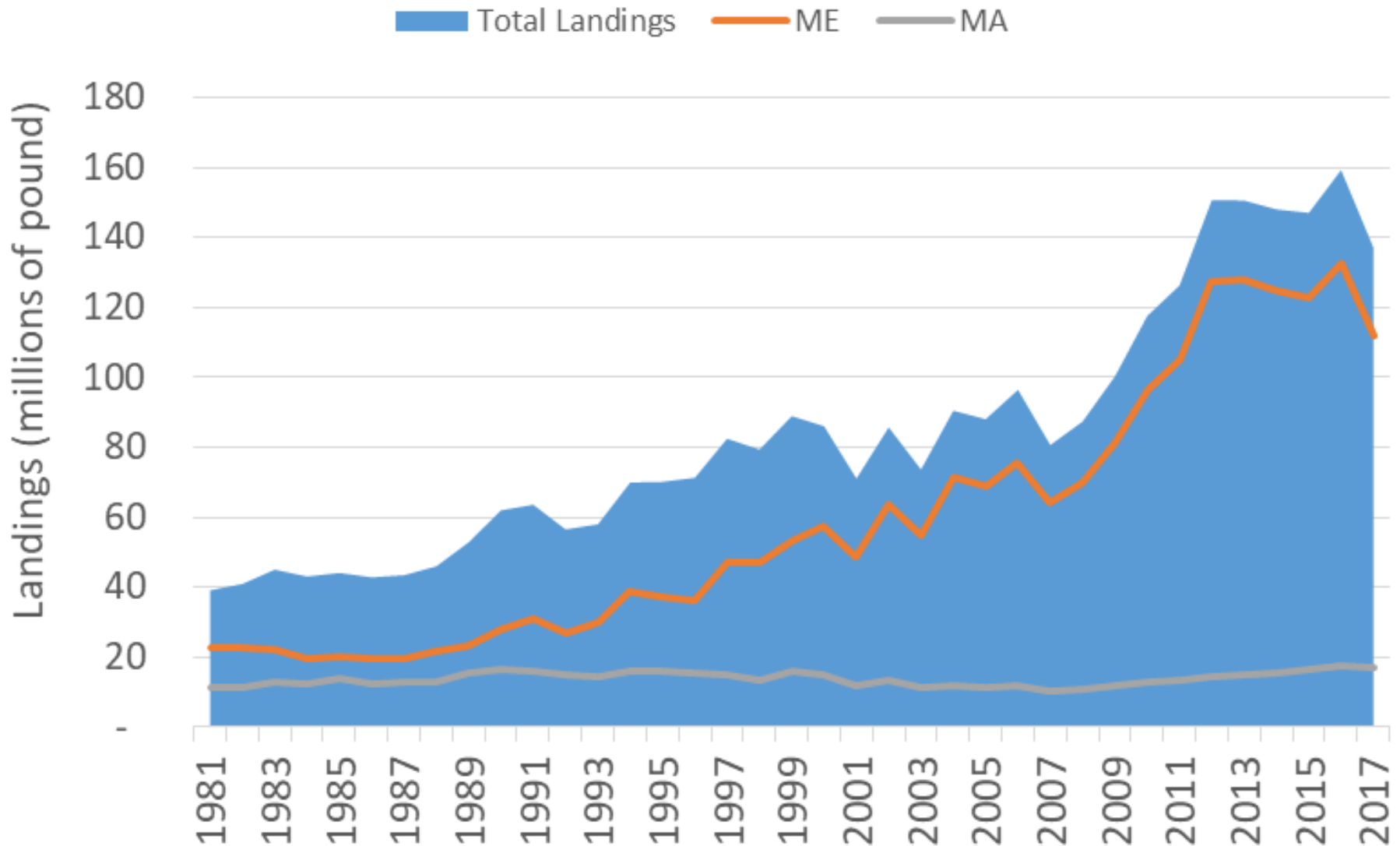


American Lobster 2018 FMP Review



American Lobster Management Board
October 22, 2018

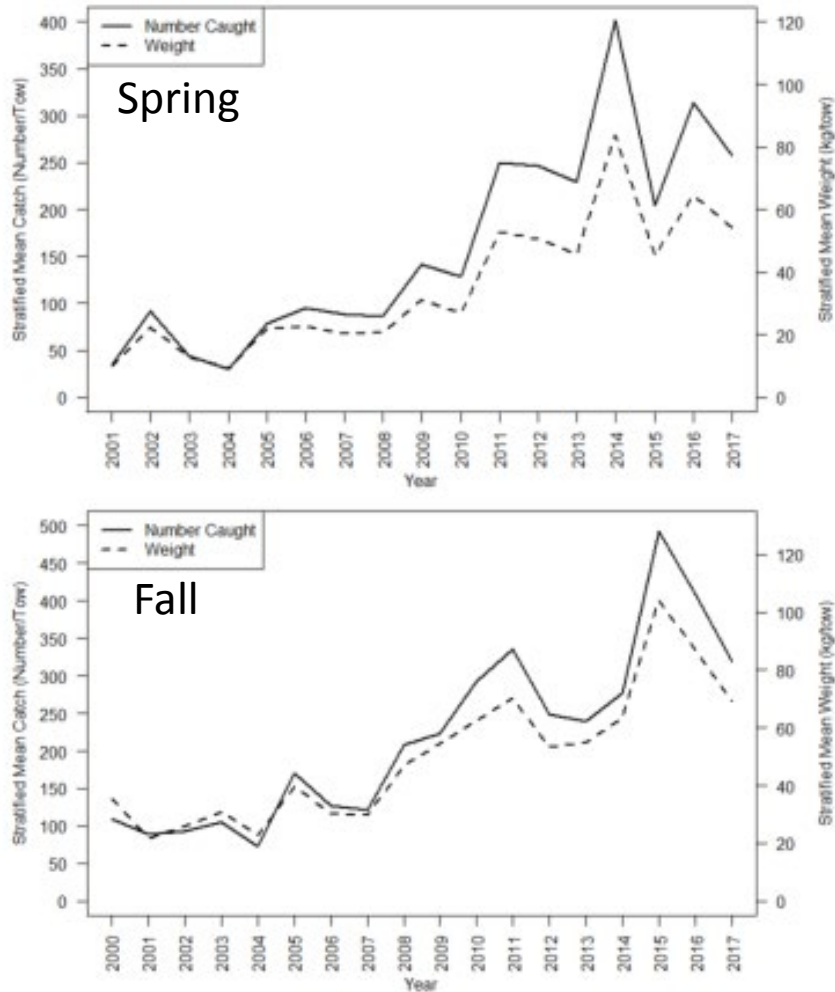
Commercial Landings



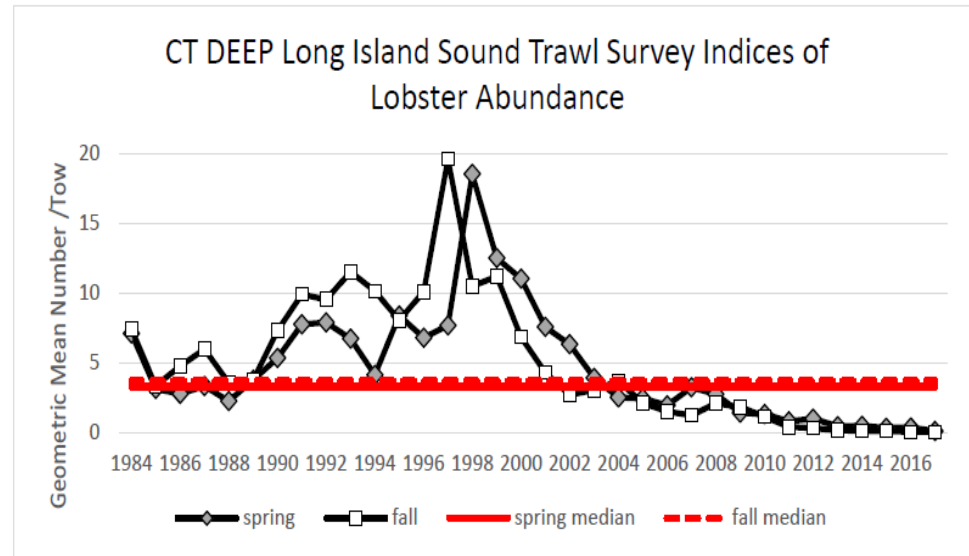
Fishery Monitoring – Trawl



ME/NH Trawl Survey



LIS Trawl Survey



Fishery Monitoring – VTS

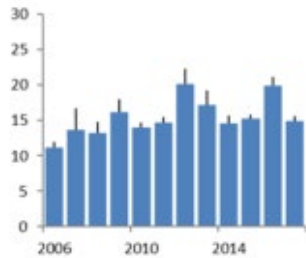


ME VTS

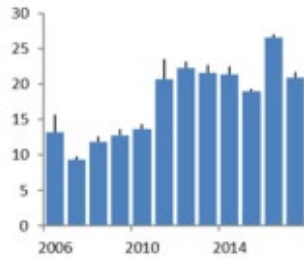
MA VTS – in GOM

A. Suglegal Stratified Mean CPT

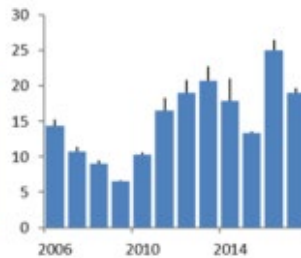
**NH-Friendship
513**



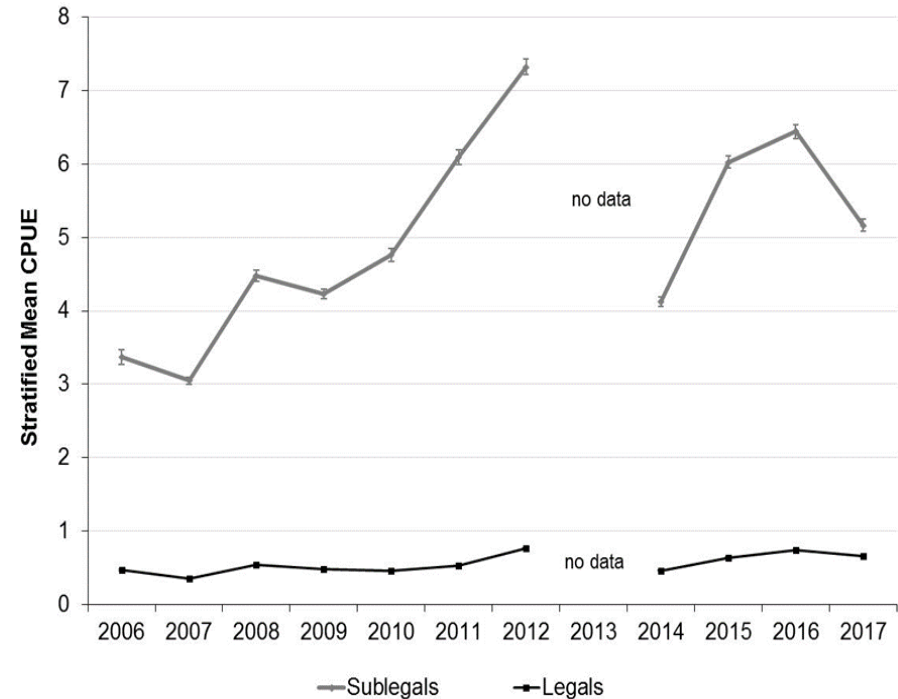
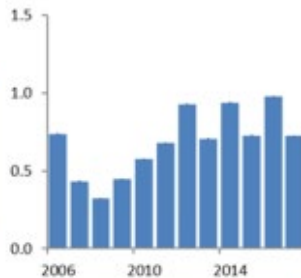
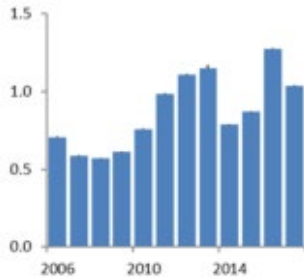
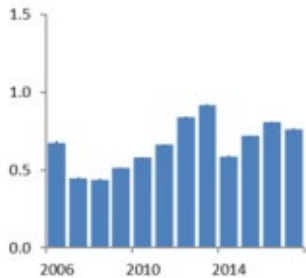
**Friendship-Schoodic
512**



**Schoodic Pt -Cutler
511**



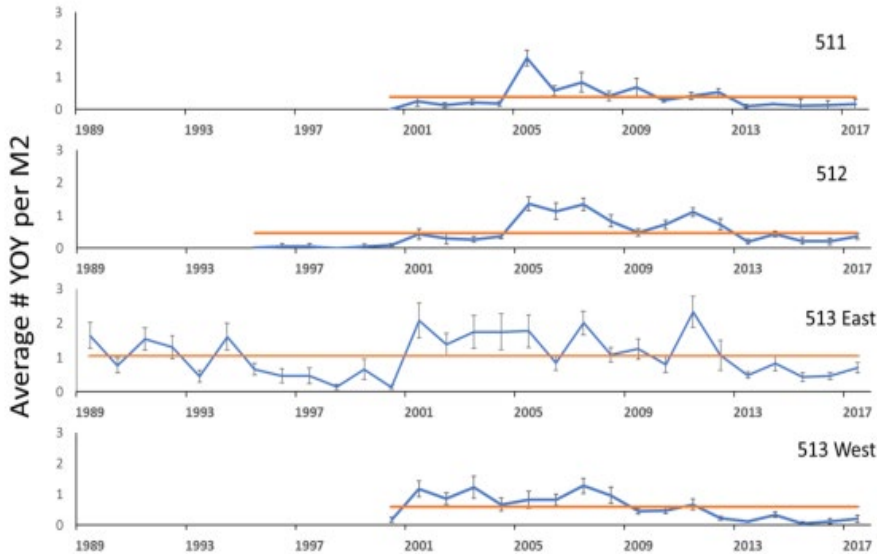
B. Legal Stratified Mean CPT



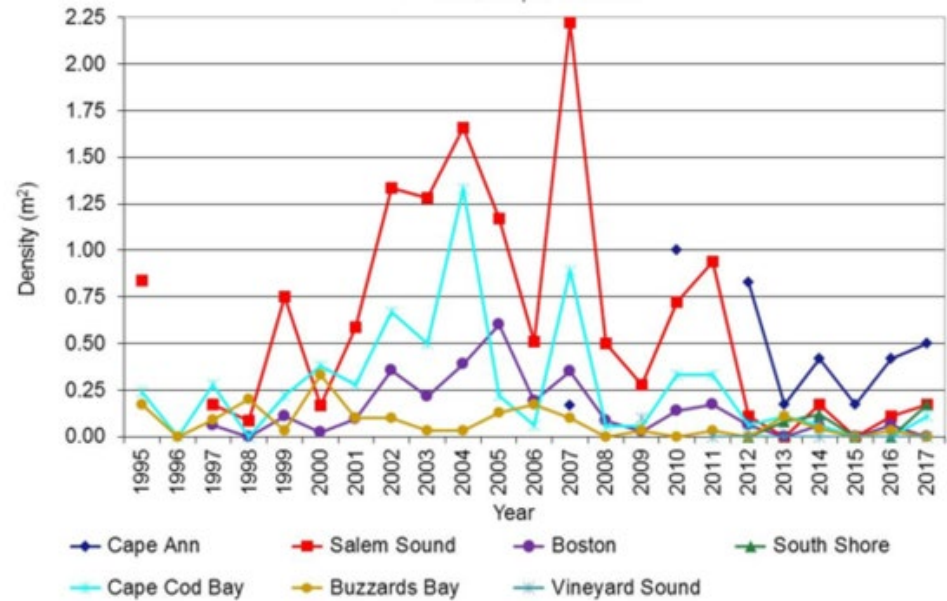
Fishery Monitoring – YOY



ME YOY Survey



MA YOY Survey



Stock Assessment Update



- Next Benchmark Stock Assessment scheduled for August 2020
 - Data Workshop occurred in May 2018
 - Assessment Workshop I scheduled for January 28-31, 2019 in New Bedford, MA
 - Assessment Workshop II in Fall 2019
 - Peer Review Workshop in early Summer 2020

Status of Management



Addendum XXVI

- Original implementation deadline was January 1, 2019
- Implementation deadline delayed to January 1, 2020 for *Section 3.1.3: Harvester Reporting Data Components* and *Section 3.1.4. Spatial Resolution of Harvester Data*
 - Due to concerns from states about ability to meet implementation deadline
 - This does not delay implementation of fishery independent/dependent provisions or start of 5 year timeline for 100% harvester reporting

State Compliance



Compliance

- RI and CT did not conduct any sea sampling; states noted staffing and budget constraints
- Otherwise, states in compliance with FMP

De Minimis

- Commercial landings, 2 year average, under 40,000 lbs
- Requests: DE, MD, VA
- All three states qualify

PRT Recommendations



- The PRT recommends the Board approve the *de minimis* requests of DE, MD, and VA.
- Given expected changes in bait availability, the PRT recommends the Board consider bait sources
- The PRT recommends research is conducted on lobster growth, maturity, and connectivity.
- The PRT recommends coastwide consideration be given to the transfer of tags between traps to eliminate the issuance of exchange tags
- The PRT recommends the Board investigate the best way to quantify effort in the lobster fishery.

QUESTIONS?

Move to approve the 2018 Lobster FMP Review, state compliance reports, and de minimis status for DE, MD, and VA

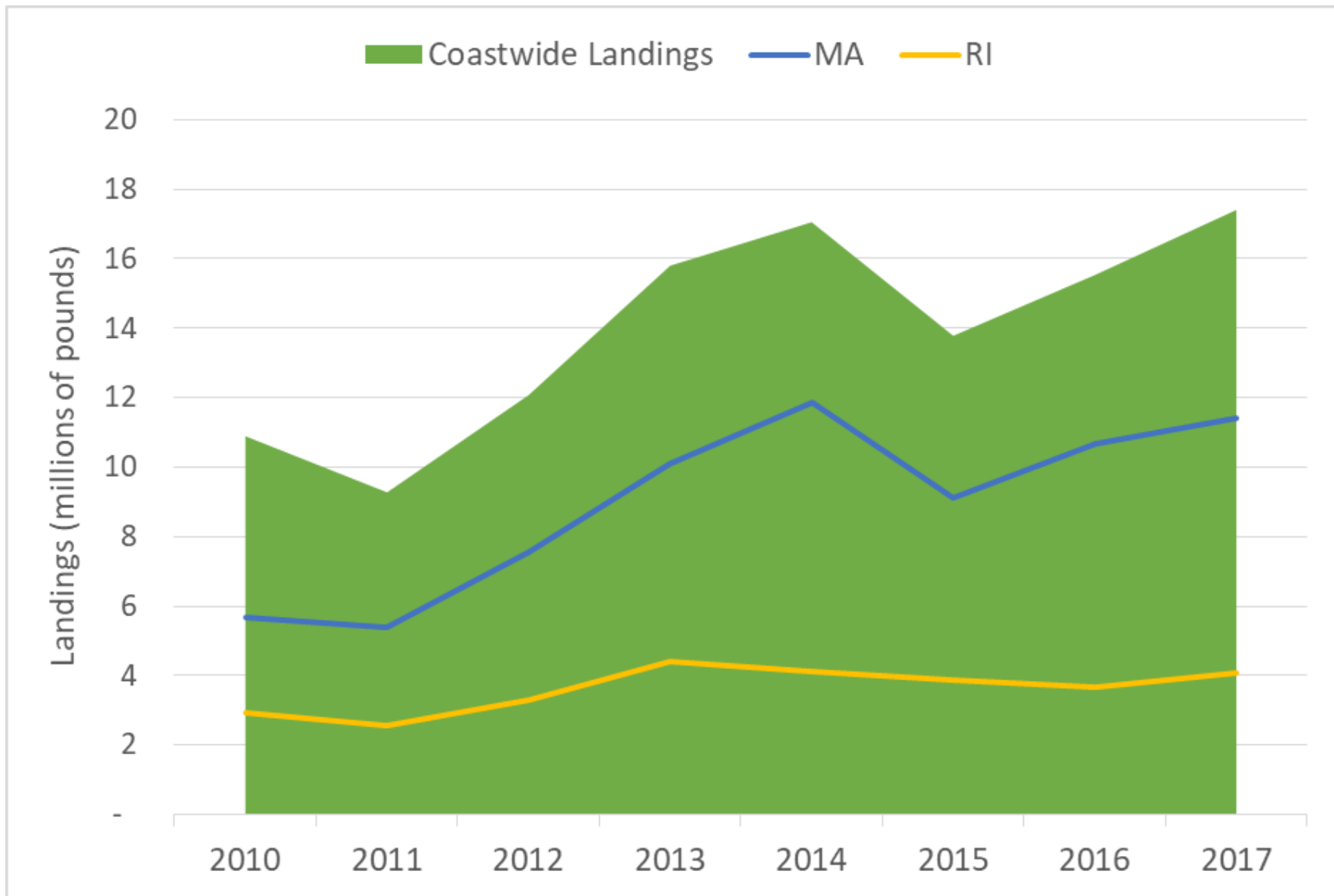


Jonah Crab

2018 FMP Review



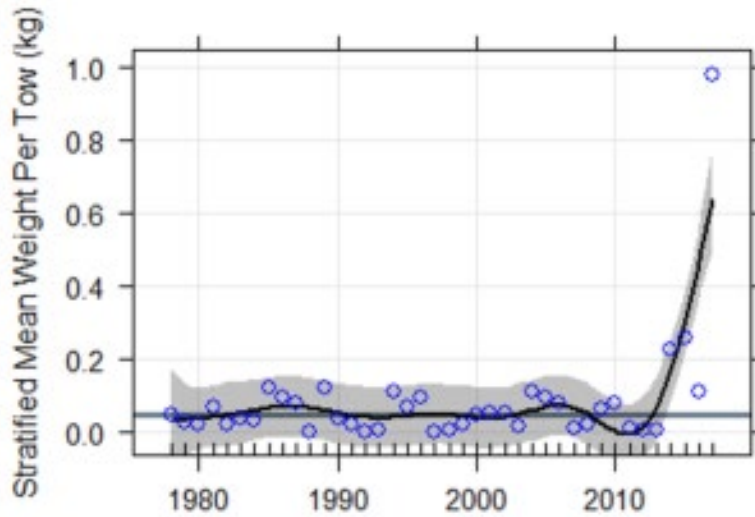
Commercial Landings



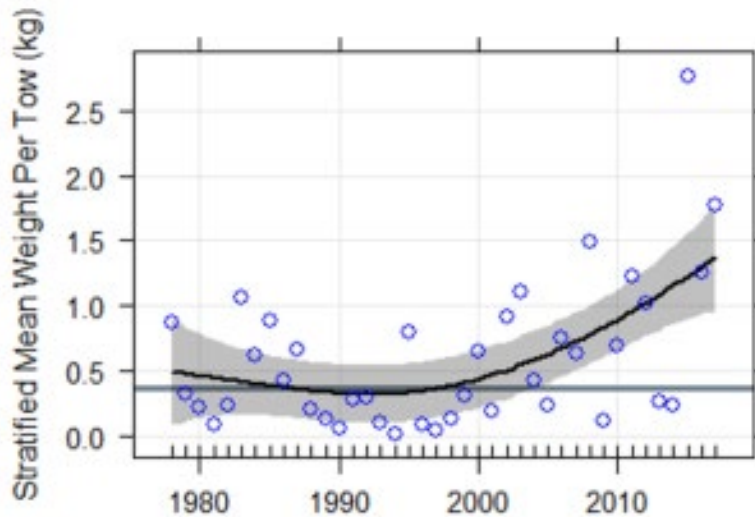
Fishery Monitoring - Trawl



MA Fall Trawl Survey



South and East of Cape Cod



North of Cape Cod

Status of Stock



Status of Jonah crab resource is relatively unknown and no coastwide stock assessment has been conducted

Ongoing studies related to Jonah crab:

- Maturity of males vs. females (MA, CFRF)
- Migrations patterns (MA, NH, ME, AOLA)
- Mortality associated with declawing (NH)
- Growth per molt (URI)
- Reproductive biology (UMES)

Status of Management



FMP

- Permits and participation
- 4.75” minimum size, no tolerance
- Prohibition on retention of egg-bearing females
- 50 whole crab recreational limit

Addendum I

- 1,000 crab bycatch limit for non-trap gear and non-lobster trap gear

Addendum II

- Coastwide standard for claw harvest and definition of bycatch

Addendum III

- Improved harvester reporting and data collection

State Compliance



Two states have not implemented provisions of the Jonah Crab FMP and associated addenda.

- New York has not yet implemented the full suite of measures in FMP, Addendum I, and Addendum II. New York legislation currently prohibits the harvest of female crabs with eggs and the recreational harvest is limited to 50 crabs. The 4.75” minimum carapace width and the 1000 crab bycatch limit for non-trap and non-lobster trap gear not been implemented. In last year’s compliance report it was expected that regulations would be implemented by early 2018.
- Delaware has not yet implemented measures in the FMP, Addendum I, and Addendum II. Promulgation of Delaware’s Jonah Crab regulations have to go through the state legislature and this has yet to occur. In last year’s compliance report it was expected that regulations would be implemented by early 2018.

De Minimis



- States may qualify if, for the 3 preceding years, their average commercial landings constitute less than 1% of average coastwide commercial catch
- DE, MD, and VA apply and meet *de minimis* requirement

PRT Recommendations



- The PRT raises concerns about the lack of Jonah crab regulations in NY and DE, particularly in regard to the lack of minimum carapace width and commercial bycatch limit. Similar issues were raised in the 2017 compliance reports and have not been addressed within the last year.
- The PRT recommends the Board approve the *de minimis* requests
- The PRT recommends that jurisdictions with crab-only fishermen report on their collective effort.
- The PRT recommends continued research of the Jonah crab species so that a coastwide stock assessment can be completed.



Questions?



**NOAA
FISHERIES**

North Atlantic Right Whales: A Summary of Stock Status and Factors Driving Their Decline

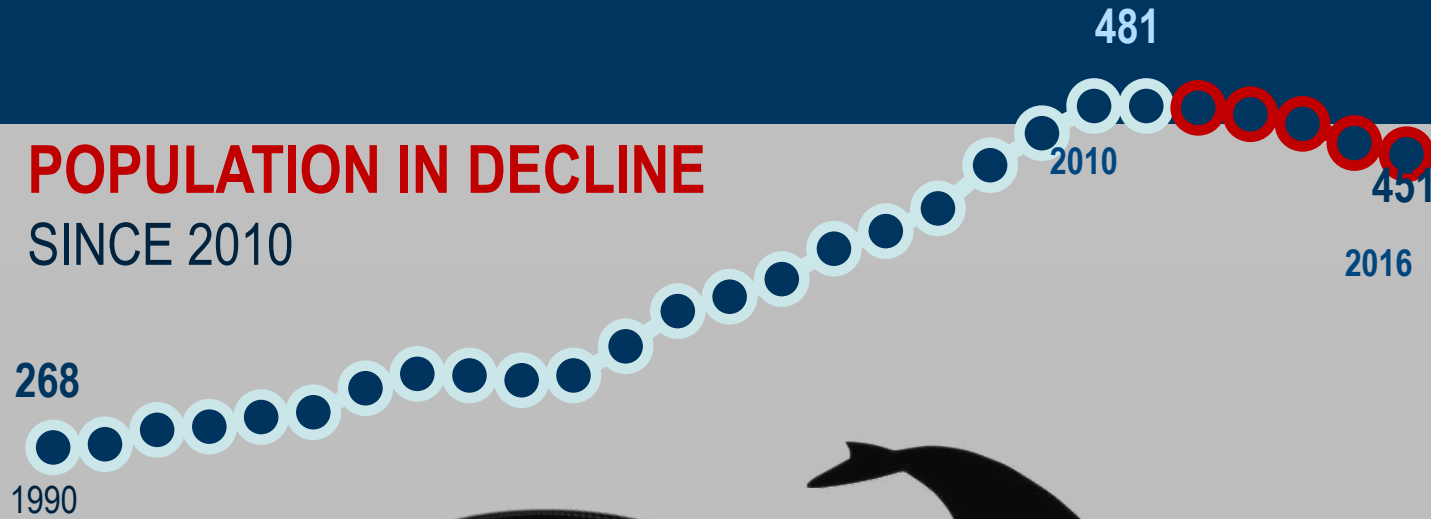
Sean A Hayes, NEFSC Protected Species Branch

Presente to the Atlantic States Marine Fisheries Commission
Lobster Board by Colleen Coogan, GARFO

October 22, 2017

NORTH ATLANTIC RIGHT WHALES

POPULATION IN DECLINE
SINCE 2010



451 WHALES 2016
(**<437** WHALES today?)

100
POTENTIAL
MOTHERS
ESTIMATED
ADULT FEMALES

19
KNOWN
DEAD
SINCE 2017

5 CALVES 2017
0 CALVES 2018

85% HAVE BEEN
ENTANGLED
AT LEAST ONCE



What Happened?

1. Ecosystem shift
2. Fishery behavioral change
3. Whale behavioral change



Today's challenges

Environmental change contributed to increased exposure to

- Changing US fisheries
- Canadian fisheries
- Canadian vessel traffic

Impacts:

1. Increased Serious Injury & Mortality
2. Sublethal entanglement costs
3. Potentially reduced food
4. Increased migration distance/costs



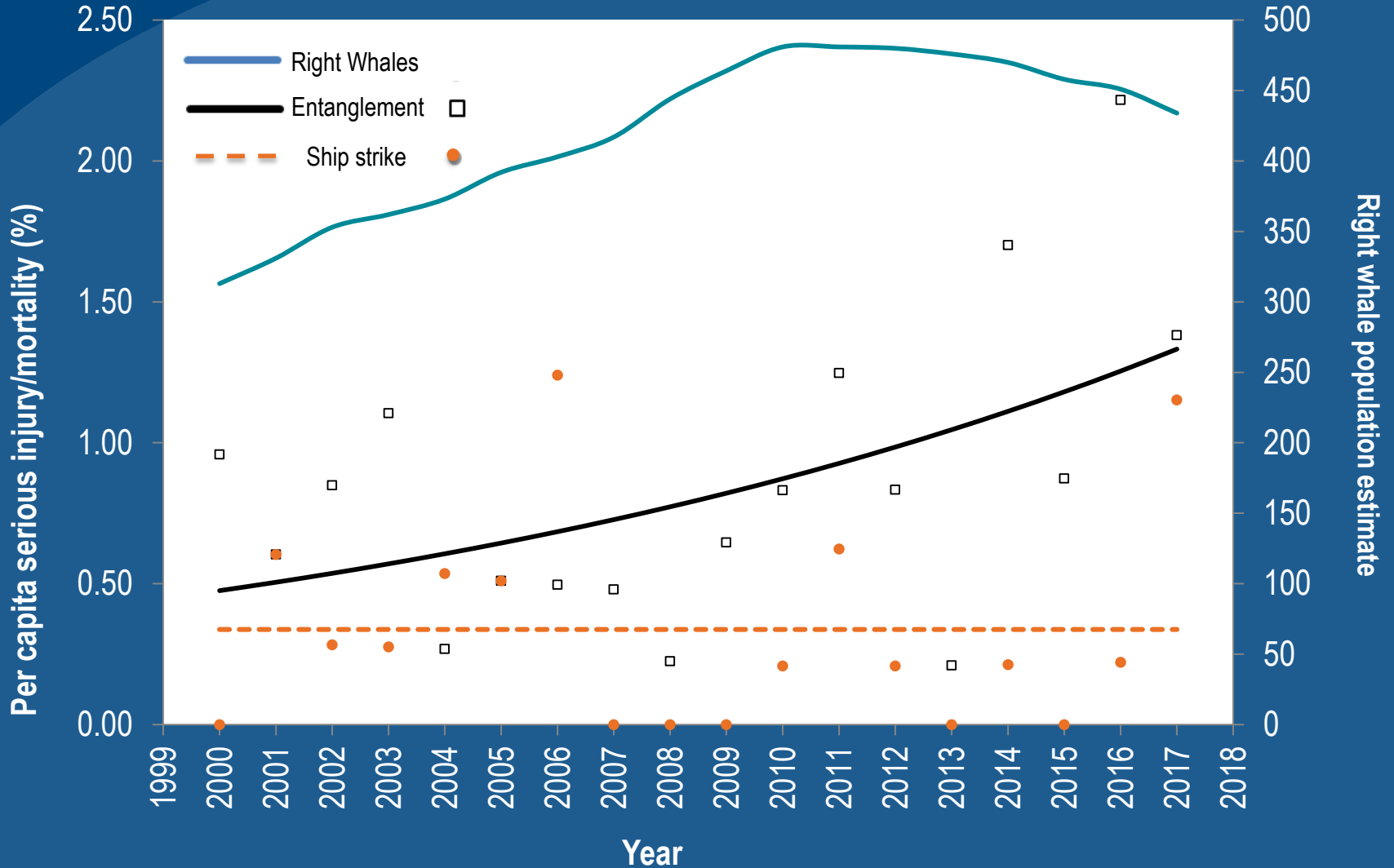
Contributes to reduced calving

Demography at its most basic

If more animals die in a year than are born in a year, a species will decline

Demography is about deaths and births....

Sources of Serious Injury and Mortality



NARW Range pre-2010



Females

- Need 2-3 years to prepare for breeding
- forgo breeding when in poor condition to conserve energy for survival



So what happened to whales?



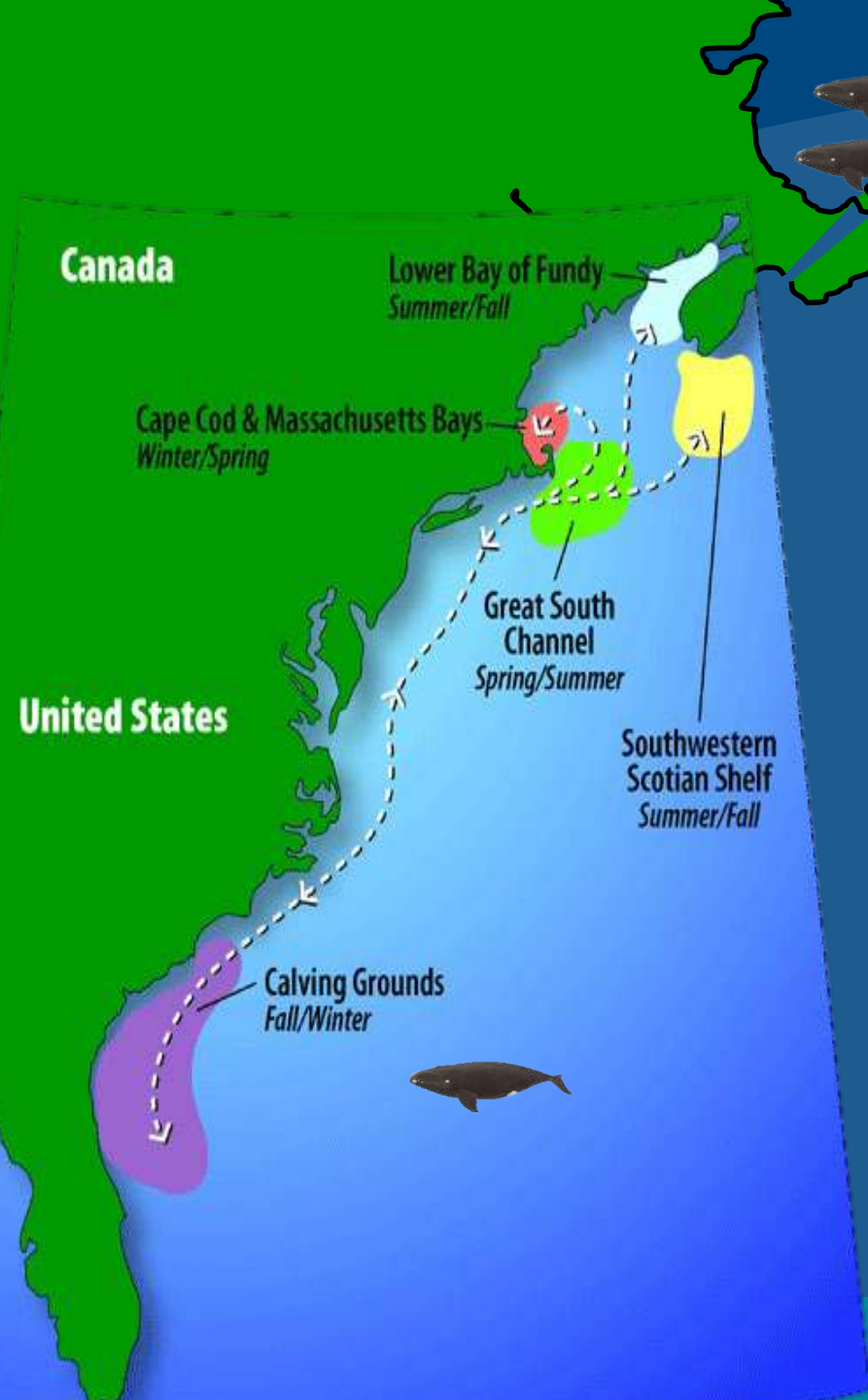
“Distributional shift?”

NARW Atlantis! (?)



Implies a ‘one-way’ trip...

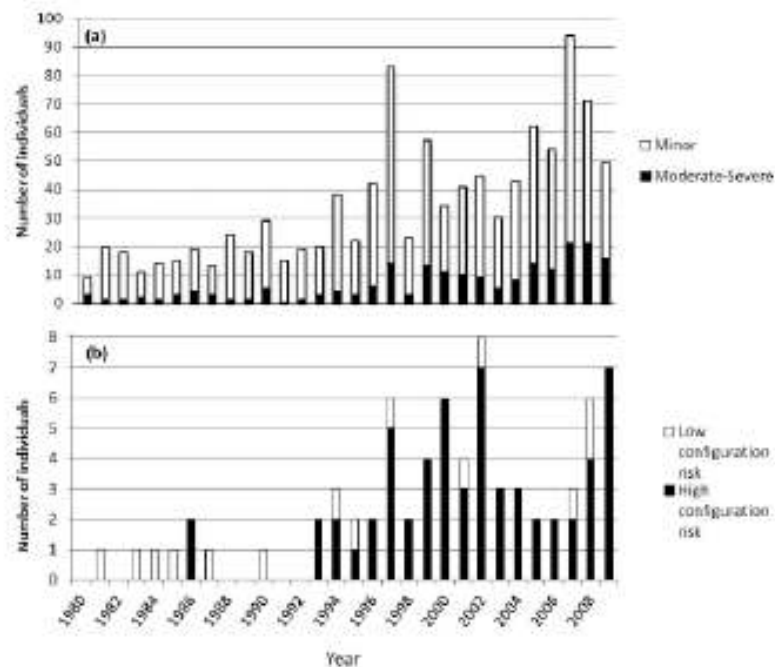
This is not what we are seeing



Like many species in NW Atlantic, NARW are expanding range north

- Historic movement pattern/speed also increases
- Bay of Fundy- Jacksonville FL- ~1250 miles
- Bay of Fundy to GoSL- ~750miles

Entanglements: rope has become stronger



- Knowlton et al 2015 Cons Biol
- 1994-2010
 - Rope got stronger
 - Injury severity got worse

Effects of fishing rope strength on the severity of large whale entanglements

Amy R. Knowlton,¹ * † Jooke Robbins, ‡ Scott Landry, † Henry A. McKenna, ‡ Scott D. Kraus,¹ and Timothy B. Werner[§]

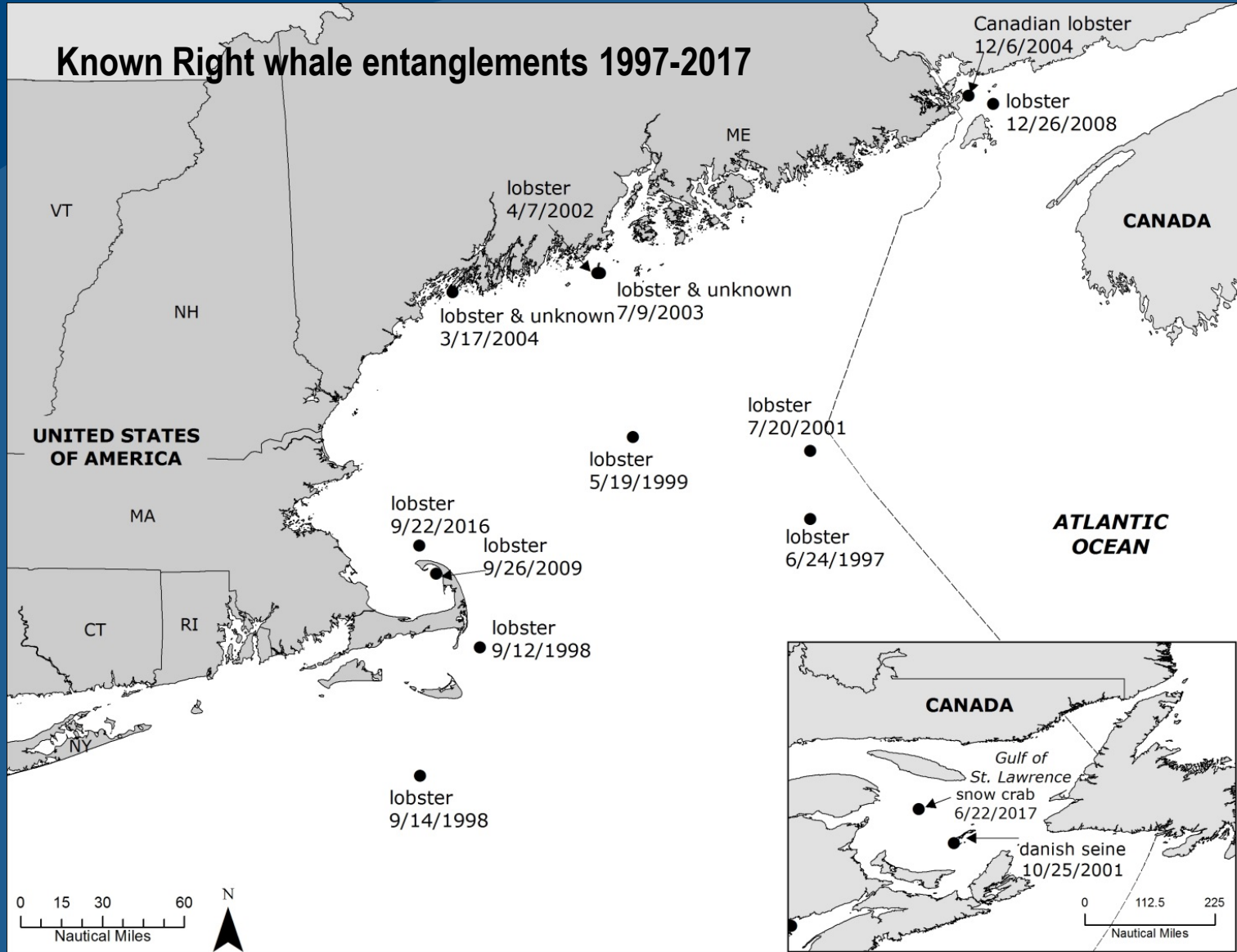
¹New England Aquarium, Central Wharf, Boston, MA 02110, U.S.A.

[†]Center for Coastal Studies, 5 Holway Avenue, Provincetown, MA 02657, U.S.A.

[‡]54 Hubbard Road, Weston, MA 02495, U.S.A.

[§]Department of Biology, Boston University, 5 Cummington Mall, Boston, MA 02215, U.S.A.

Where does entanglement happen?



The lottery...

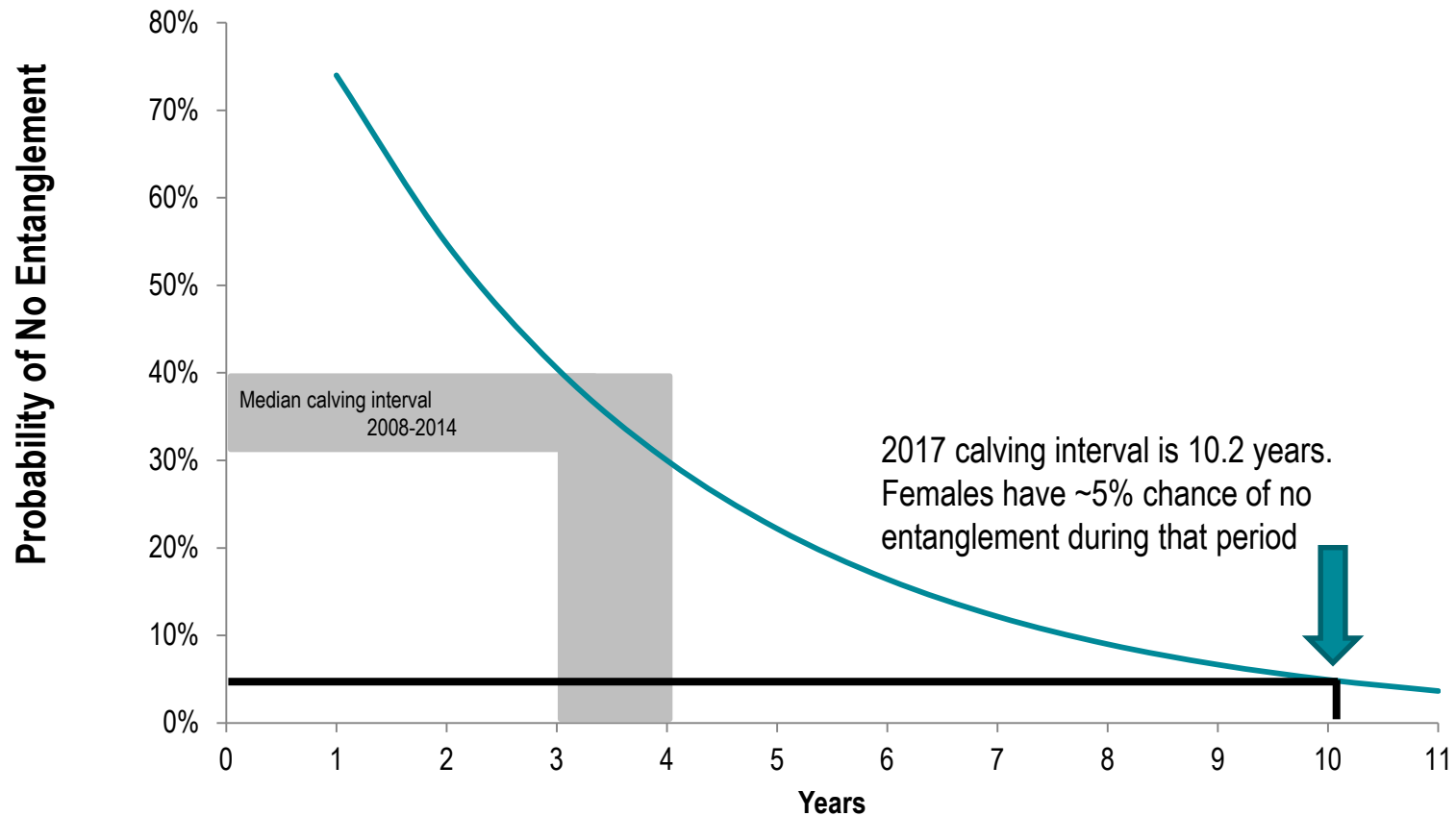
Even though your chances of winning are not high.. Someone always wins...

Sadly- in this analogy, winning is not a good thing..

The chances of any line being involved in an entanglement is very low, but scarring suggests 100 entanglements happen every year. Entanglement can be happening exactly where you fish and odds are you will never see it.

But from the whales perspective...

Cumulative annual probability of no entanglement (annual rate = 74%)



- If a female gets entangled and survives, strong chance she will delay calving several years
- The odds of her not getting entangled again during that delay are low

What could recovery look like?

Corkeron MMC 2017 and Corkeron et al in review

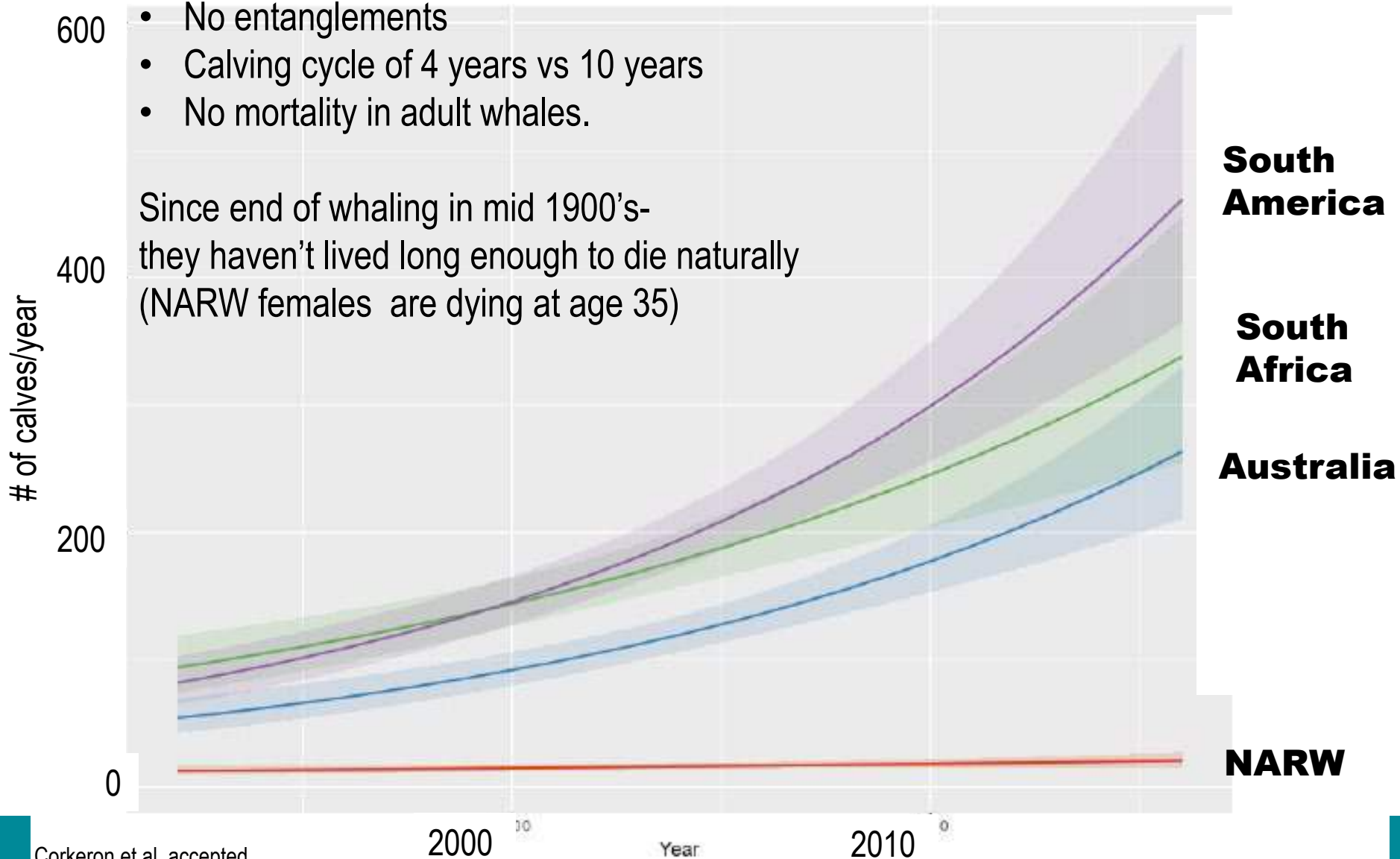
Imagine a world where after decades of recovery
Right whales...

- had not aged long enough to die..
- No ship strike or entanglement..
- They were fat and happy
- Calving rates of 5-7% and hundreds born/year...

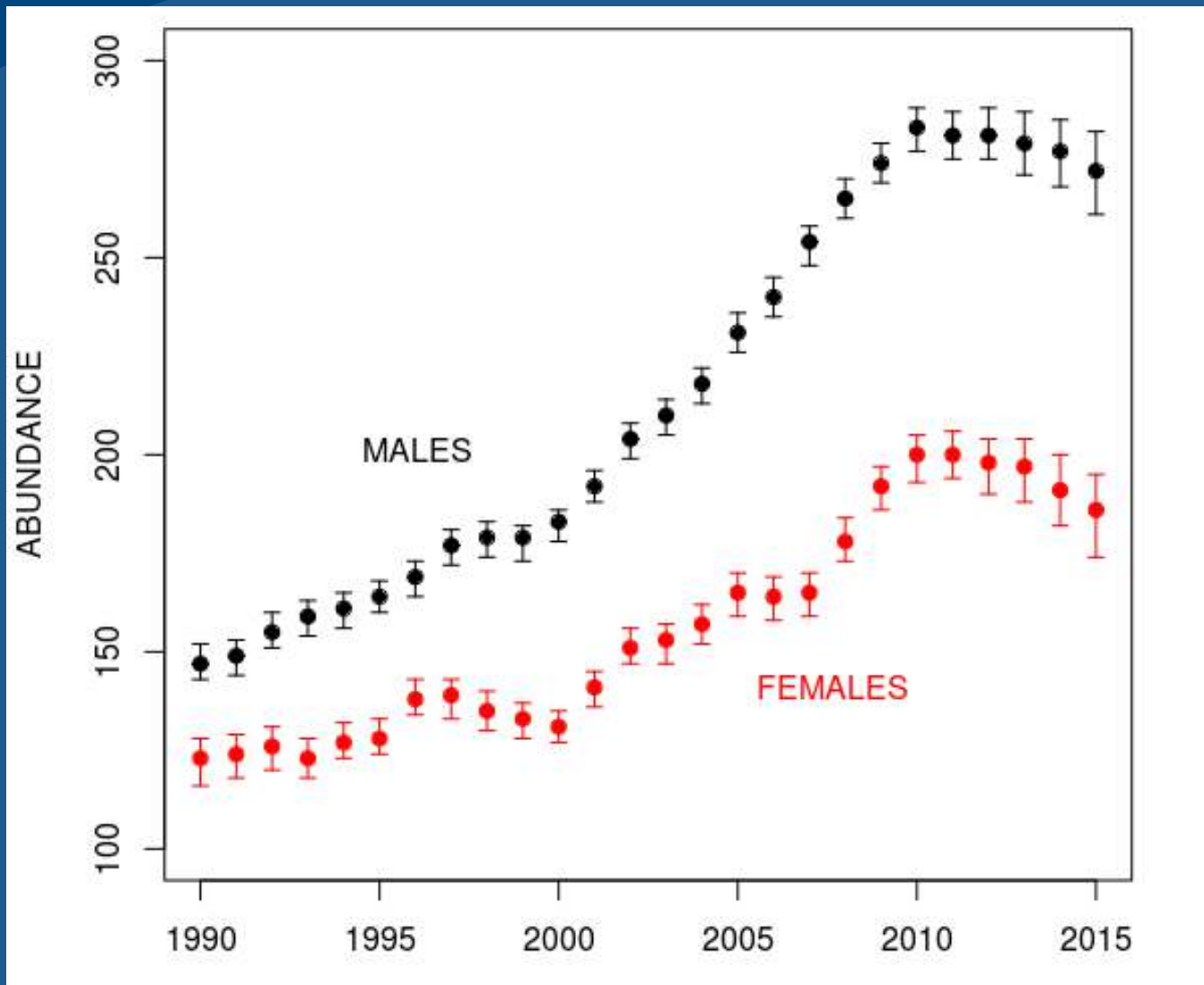
Southern Right Whales- What's different?

- No ship strikes
- No entanglements
- Calving cycle of 4 years vs 10 years
- No mortality in adult whales.

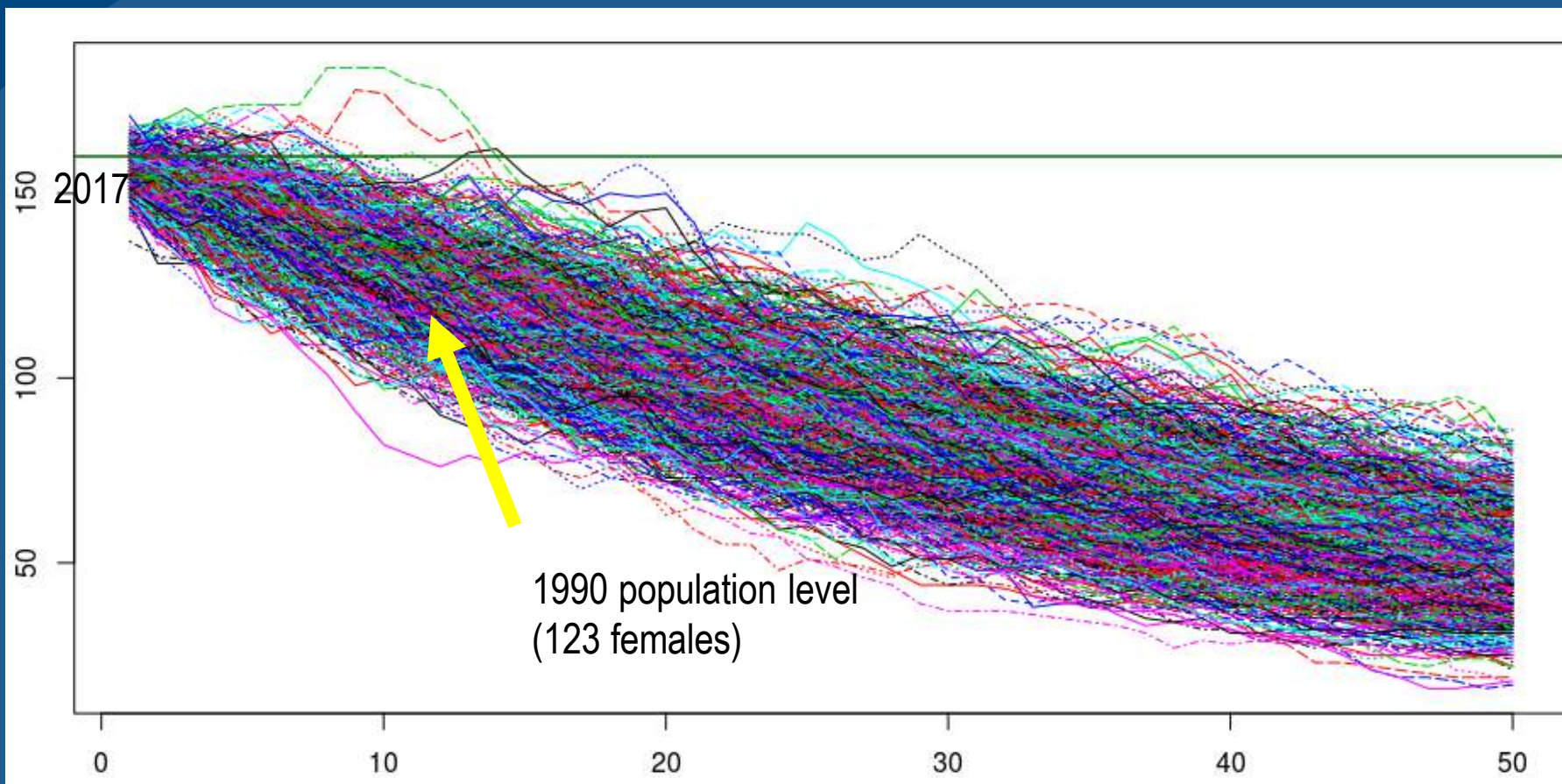
Since end of whaling in mid 1900's-
they haven't lived long enough to die naturally
(NARW females are dying at age 35)



Sex bias- the problem is worse



NARW Females- current rate of decline back to 1990 population in 12 years



Take away...

- There seems to be reduced food- forcing whales to spend more time/energy crossing more space to find it
- This increases whales encounter rates with new (initially unregulated) fisheries and shipping
- Behavior of fisheries in historical whale habitat use areas has changed- potentially increasing interaction rate with whales.



Websites for the paper

<https://www.nefsc.noaa.gov/publications/tm/tm247/>

https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/trt/meetings/September%202018/18_full_trt_webinar_2018.html

Contacts:

Sean Hayes- NEFSC Protected Species Branch Chief

- Sean.Hayes@noaa.gov (508) 495-2347

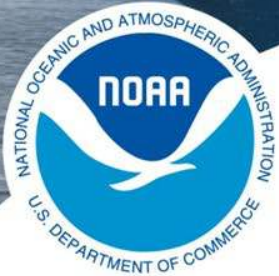
Mike Asaro, GARFO Marine Mammal and Sea Turtle Recovery Coordinator

- Michael.Asaro@noaa.gov (978) 282-8469

Questions?

Image collected under MMPA Research permit number 17355
Photo Credit: NOAA/NEFSC/Christin Khan





NOAA
FISHERIES

**Greater Atlantic
Regional Fisheries
Office**

Atlantic Large Whale Management and Fixed Gear Fisheries

Atlantic States Marine Fisheries Commission

New York City

October 22, 2018

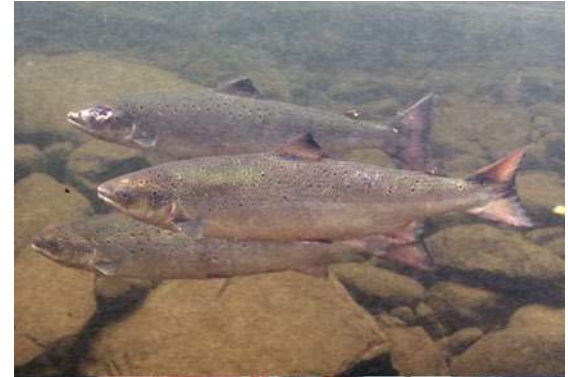
Colleen Coogan

Marine Mammal Take Reduction Team Coordinator

Marine Mammal and Sea Turtle Team

Protected Species Management Overview

- Marine Mammal Protect Act, Take Reduction Process
- Endangered Species Act, Section 7



Marine Mammal Protection Act Take Reduction Program

The MMPA prohibits take of marine mammals - but provides conditional exception for incidental take in commercial fisheries

- Take Reduction Planning: consensus-based process to develop and recommend take reduction measures
- Required if incidental mortality and serious injury (M&SI) in fisheries exceeds Potential Biological Removal (one or less right whale)
- NMFS has the ultimate responsibility to take action

Group	Number of Members
Trap/Pot Fishery	18
Gillnet Fishery	5*
Conservation/ Environmental	6
Academic/ Scientific	9
State Managers	14
Federal Managers	5
Fishery Management Organizations	4
Total	61

Atlantic Large Whale Take Reduction Plan

July 22, 1997

- Establish TRP
- Weak link requirements
- Effective November 15, 1997

January 9, 2002

- Establish SAM and DAM program
- DAM effective February 8, 2002
- SAM effective March 2002

October 5, 2007

- Expand weak link requirements
- Implement sinking groundline requirements
- Effective April 2009
- Replaced SAM and DAM program

December 12, 2014

- Modification to time/area of closure area
- Effective immediately

December 2000

- Gear marking requirements
- Effective February 2001

June 25, 2007

- Seasonal gillnet closures in Southeast
- Effective July 2007

June 27, 2014

- Vertical line rule
- Additional gear marking requirements
- Effective June 2015

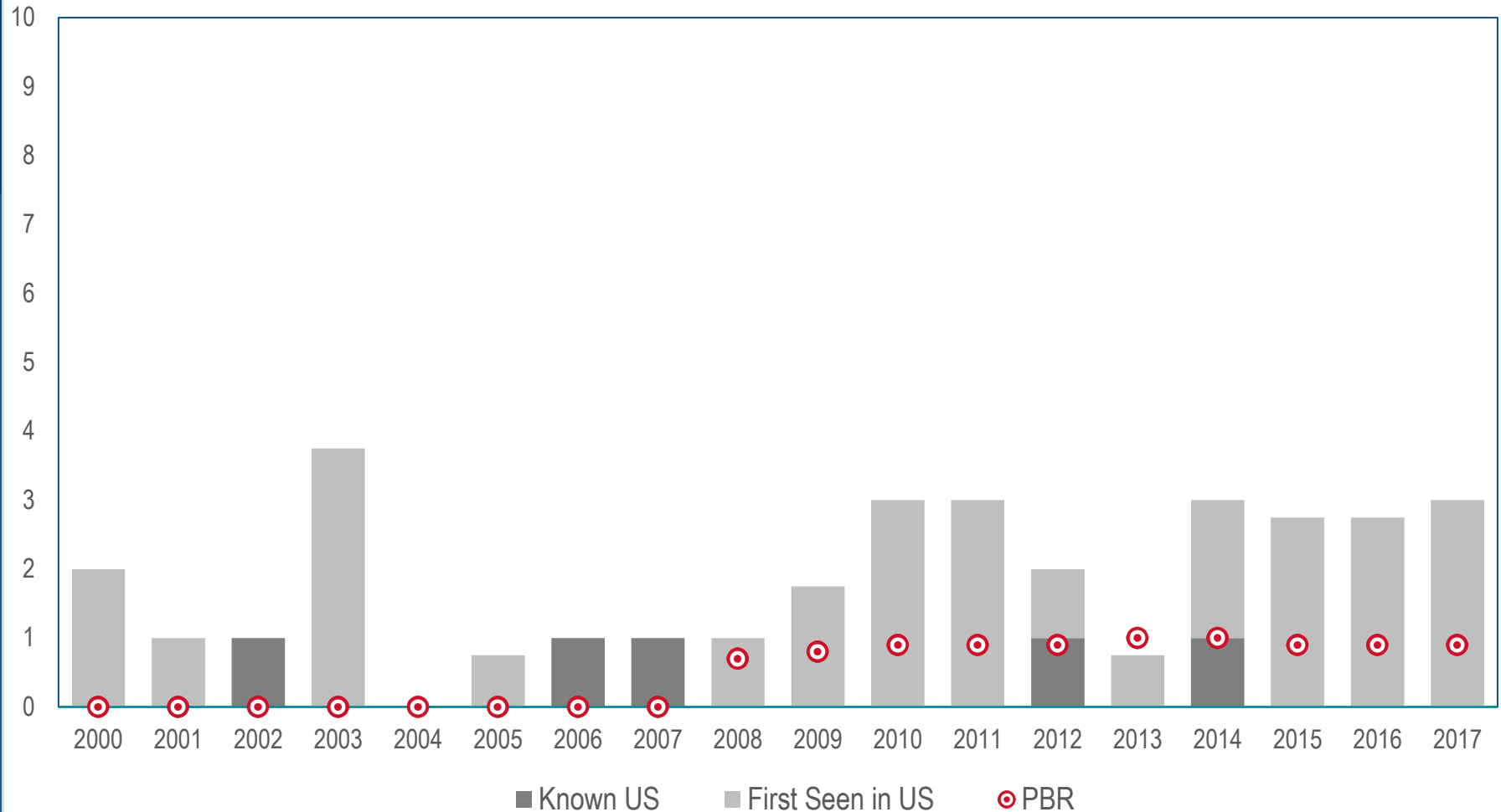
May 28, 2015

- Modification to vertical line rule. Effective immediately
- Additional gear marking requirements

 Beginning of vertical line reduction strategy

Serious Injury and Mortality from Documented Entanglements of Right Whales in US Waters has Exceeded PBR Every Year since 2000 Except for Two

Documented mortalities are based on opportunistic sightings and are a minimum estimate. A preliminary analysis based on mark-recapture-recovery data estimates that realized entanglement-related serious injury and mortality is at least twice what is observed



2018

- Three right whale mortalities, all showing signs of entanglement
- Gear retrieved from January Virginia whale – Canadian snow crab
- No retrieved gear in August (Martha's Vineyard) or October (offshore of Cape Cod) but clear indicators of pre-mortem entanglement



2018 Take Reduction Team Efforts

Spring 2018 Feasibility Subgroups:

Weak rope and gear marking and “Ropeless” fishing

October 2018 Full Group

- Reviewed nine TRT member proposals
- Three work plans developed to direct analysis of risk reduction of proposal and other take reduction elements



General Themes From TRT Proposals

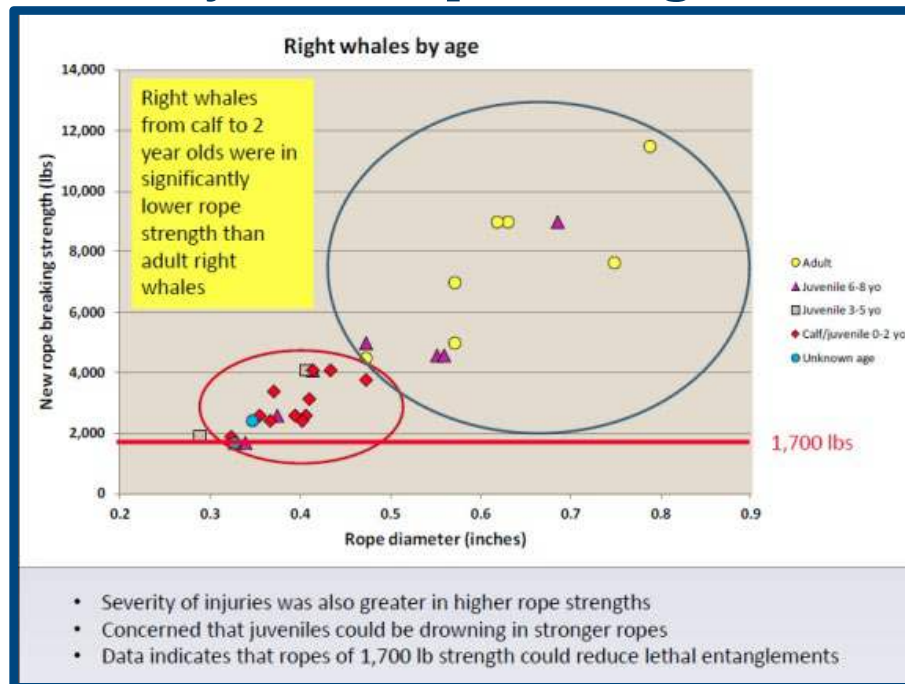
Reduce risk by reducing probability of entanglements

- New and modified seasonal closure areas
- Increase visibility of rope to whales (red line/ red sleeves)
- Continuation of vertical line reduction strategy
 - Trap caps and reductions as proxy for vertical line reduction
 - Ropeless technology in new closure areas or for new fisheries and aquaculture, and for deep trap/pot fisheries
 - Limits on new lines, especially in new closure areas, including aquaculture and experimental fisheries
 - Remove/prevent new floating groundlines

Themes from TRT Proposals (cont.)

Reduce risk by reducing severity of entanglements (serious injury or mortality)

- Reduced breaking strength: 1700 lb breaking strength, rope diameter cap, 3/8 inch rope diameter, SouthShore Sleeves
- Reduce surface system rope configuration



From [Knowlton Presentation to ALWTRT](#)

Additional Themes From Proposals

Inform Future Risk Reduction

- Gear Marking
 - Southshore Sleeve, rope color and painting, improve visibility from aircraft and boats, increase stat/area specific marking, gear or target species marking, coastwide gear marking
- Reporting
 - VTR, VMS/AIS vessels tracking, lost gear reporting
- Research
 - Expansion of area covered by aerial and acoustic surveys, ropeless technology operational research

Work Plans

Guiding analysis of proposal elements for March TRT evaluation, including:

- Evaluate probability reduction options:
 - Work group to develop closed area criteria, triggers, survey needs
 - Consider possible state role in dynamic closures
 - **Work group to consider line reduction options and socioeconomic impacts**
 - Ropeless experimentation planning: allowed in future closed areas, identify mobile gear-less areas, work with mobile gear fishermen

Work Plan Elements (Cont.)

- Evaluate options to reduce severity of entanglements:
 - Work group including rope engineers, fishermen, scientists, to investigate rope (including testing of various proposed options)
- Evaluate options to inform risk reduction efforts:
 - Determine whether manufactured gear marking is possible
 - Calculate baseline vertical line numbers and compile total and latent effort in all states
 - Collaborate with ASMFC reporting and monitoring efforts
 - Investigate Area 3 enforcement, offshore hauling capacity
 - Research whale movement and behavior, evaluate survey strategies
- Canadian collaboration across many of these investigations

Endangered Species Act, Section 7

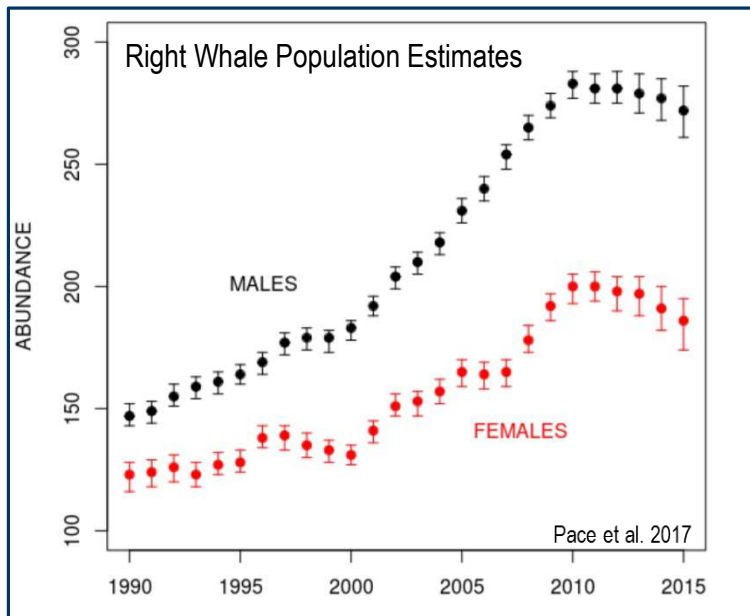
Section 7 of the ESA requires federal agencies to ensure that any action **authorized, funded, or carried out** by a federal agency is not likely to jeopardize the continued existence of listed species or destroy or adversely modify critical habitat – Section 7(a)(2)



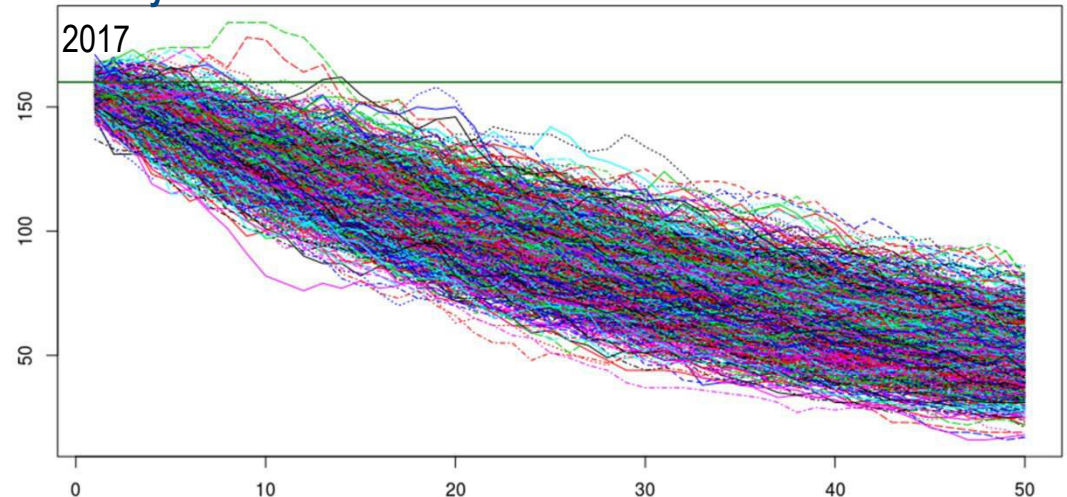
Endangered Species Act, Section 7

Jeopardy:

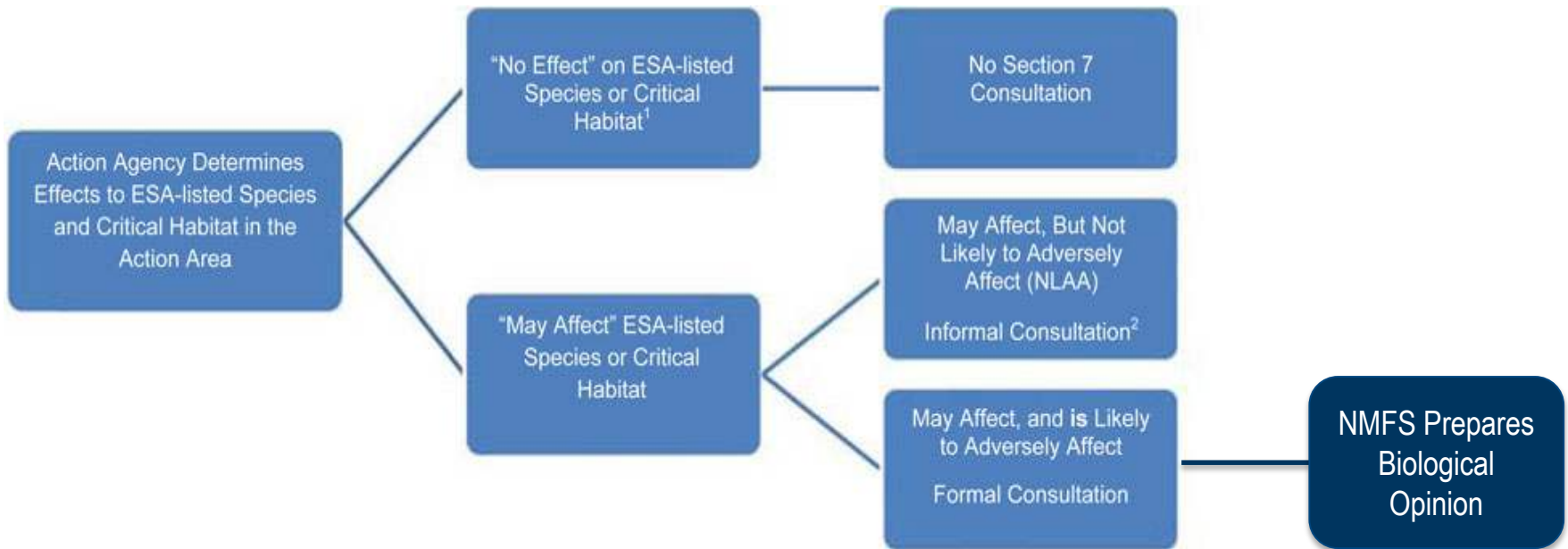
when an action is reasonably expected, directly or indirectly, to diminish a species' numbers, reproduction, or distribution so that the likelihood of survival and recovery in the wild is appreciably reduced



NARW Females- current rate of decline back to 1990 population in 12 years



Overview of Section 7 Process



What is a Biological Opinion?

Formal Consultation Conclusion

Summarizes the effects of a Federal “action” on ESA-listed species and/or designated critical habitat

Provides NMFS conclusion on whether or not the action is likely to jeopardize the continued existence of ESA-listed resources



Two Possible Conclusions

No Jeopardy results in:

- Reasonable and Prudent Measure(s):
 - mandatory terms and conditions necessary to minimize, monitor, and report on the impacts of incidental take
- Conservation Recommendations:
 - Discretionary measures to minimize or avoid adverse effects

Jeopardy results in:

- Reasonable and Prudent Alternative(s) to Current Fishery Operations:
 - Must relieve jeopardy
 - Consistent with the intended purpose of the action and the scope of the action agency's legal authority,
 - Economically and technologically feasible

Consultations reinitiated in 2017

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION BIOLOGICAL OPINION

Action Agency: National Marine Fisheries Service, Northeast Region Sustainable Fisheries Division

Activity: Implementation of the Deep-Sea Red Crab, *Chaceon quinque-dens*, Fishery Management Plan [Consultation No. E/NER/2001/01245]

Consulting Agency: National Marine Fisheries Service, Northeast Region Sustainable Fisheries Division

Date Issued: Feb

Approved by: Dave

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION BIOLOGICAL OPINION

Action Agency: National Marine Fisheries Service, Greater Atlantic Regional Fisheries Office, through its Sustainable Fisheries Division

Activity: Endangered Species Act Section 7 Consultation on the Continued Implementation of Management Measures for the American Lobster Fishery [Consultation No. NER-2014-001]

Consulting Agency: National Marine Fisheries Service, Greater Atlantic Regional Fisheries Office, through its Protected Resources Division

Date Issued: July 31, 2014

Approved by: Handwritten Signature
John K. Bullard
Regional Administrator

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION BIOLOGICAL OPINION

Action Agency: National Marine Fisheries Service, Northeast Region, through its Sustainable Fisheries Division

Activity: Endangered Species Act Section 7 Consultation on the Continued Implementation of Management Measures for the Northeast Multispecies, Monkfish, Spiny Dogfish, Atlantic Bluefish, Northeast Skate Complex, Mackerel/Squid/Butterfish, and Summer Flounder/Scup/Black Sea Bass Fisheries [Consultation No. F/NER/2012/01956]

Consulting Agency: National Marine Fisheries Service, Northeast Regional Office, through its Protected Resources Division

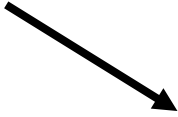
Date Issued: DEC 16 2013

Approved by: Handwritten Signature for John Bullard

What Are We Consulting On?

1. Analysis of fisheries as they are currently operating and managed, or
2. Analysis of fisheries as modified by federal rulemaking following:
 - Take Reduction Team recommendations and subsequent MMPA rulemaking
 - **Anticipated Commission or Council rulemaking**

**ASMFC
Lobster Plan**



**Federal
Rulemaking**



**Federal
Regulations**
Lobster / Jonah
crab

**Take
Reduction
Team**



**Federal
Rulemaking, including**



**ASMFC
Lobster Plan**



**Federal
Rulemaking**



Declining whale population
↓
ESA Review of Federal Actions

Federal Regulations
Lobster / Jonah crab

Whale Deaths / Injuries
Trigger



MMPA Review of ALWTRP

**Take
Reduction
Team**



**Federal
Rulemaking**



What's Next

- Continued collaboration on TRT
- Continued collaboration on data and fisheries characterization information for TRT and Section 7 analyses
- Consider how ASMFC management goals align with protected species risk reduction goals

Questions?

MMPA Take Reduction: Colleen.Coogan@NOAA.gov
978 281-9181

ESA Section 7: Daniel.Marrone@NOAA.gov
978 282-8465

Sustainable Fisheries Collaboration? Peter.Burns@NOAA.gov
978 281-9144
Allison.Murphy@noaa.gov
978 281-9122



Update on Electronic Tracking and Reporting Subcommittees



American Lobster Management Board
October 22, 2018

Overview



- **Addendum XXVI**
 - Established a 1 year pilot program to test tracking devices in the fishery to address spatial resolution of data and enforcement concerns
 - Requires 100% harvester reporting in 5 years, with the prioritization of electronic harvester reporting development during that time
- **To carryout these provisions, Board established two subcommittees**
 - Electronic Tracking Subcommittee
 - Electronic Reporting Subcommittee



Tracking Subcommittee



Purpose of Subcommittee: design and implement the 1 year pilot program

- Identifying device(s) which are available and applicable to the fishery
- Testing multiple tracking devices on lobster and/or Jonah crab vessels in various conditions
- Evaluating and communicating results of pilot program

Membership: includes state reps, law enforcement, industry reps, ACCSP, ASMFC

Subcommittee Work To-Date:

- Reviewed recent and on-going tracking studies in various fisheries
- Investigated several available tracking devices
- Submitted a grant proposal to fund pilot program
- Developed evaluation criteria to measure outcomes of pilot program



Tracking Subcommittee



Grant Proposal Overview

- Submitted as part of ACCSP RFP
- Objectives are to understand which devices are appropriate for use in the fishery and improve resolution of catch and effort data
- Identifies four tracking devices for testing
 - Devices have capacity for fast ping rate and generally rely on cell service (as opposed to satellite) in order to minimize costs of the device
- Proposes six testing regions where:
 - Lobster/Jonah crab is the primary catch
 - Fishermen may not have permits for other species which require VMS
- ACCSP Coordinating Committee will be approving grant proposals at this Annual Meeting



Reporting Subcommittee



Purpose of Subcommittee: Guide the development of electronic harvester reporting in the lobster and Jonah crab fisheries

- Evaluate the needs for an electronic harvester reporting form based on FMP and state requirements.
- Evaluate various electronic reporting software.
- Recommend simple and logical solutions to improve the ease of electronic harvester reporting.
- Outline a timeline for development of electronic harvester reporting in the lobster/Jonah crab fisheries.

Membership: includes state reps, TC members, federal partners, ACCSP, ASMFC



Reporting Subcommittee



Subcommittee has met six times via conference call

- Identified a common set of goals and steps
- Brainstormed a suite of desired features
- Series of calls with reporting software developers

Most recent call discussed pros/cons of identifying a single, preferred software provider vs. developing a list of specifications which allow for multiple software companies

- Don't want to be 'shoed-in' to a single solution
- A single reporting form can lead to complacency, costs
- If there are multiple software, they need to be verified
- Concern about financial incentive for multiple software companies



Reporting Subcommittee



- We're continuing to work...
 - Discussions of Subcommittee continue
 - Focus on balancing desire for flexibility with reality about quality management and costs



Questions?

