

Whelk Fishery Scoping Meetings

September 12 & 14, 2016

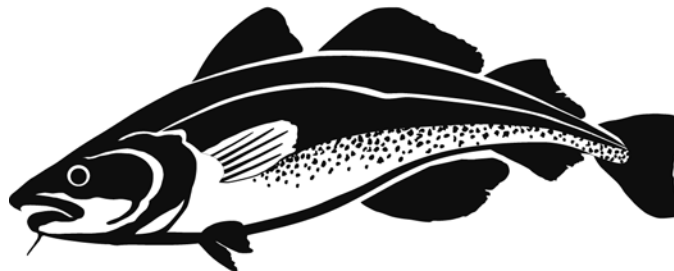
Daniel McKiernan, Deputy Director

Bob Glenn – Assessment and Survey Program

Steve Wilcox – Whelk Biologist

Erin Burke – Protected Species Specialist

Marine Fisheries
Commonwealth of Massachusetts



Background

- One of few fisheries MA manages unilaterally
 - Occurs almost exclusively in state waters
 - No ASMFC or NEFMC plan that we have to comply with
- Fishery is now within the Top 10 in ex-vessel value in the Commonwealth
- Very important source of income for our small vessel fleet (especially in light of the decline of the SNE lobster fishery).



March 19, 2019

© 2010 Division of Marine Fisheries

Slide 2

Marine Fisheries
Commonwealth of Massachusetts



Emerging Issues

- Fishery Profile:
 - Status of Whelk Resource
 - Fishery Performance
- Trap Losses & In-season Trap Tag Replacement
- Size at Maturity and Minimum Size
- Compliance with minimum size and gauge use
- Sea-turtle interactions



March 19, 2019

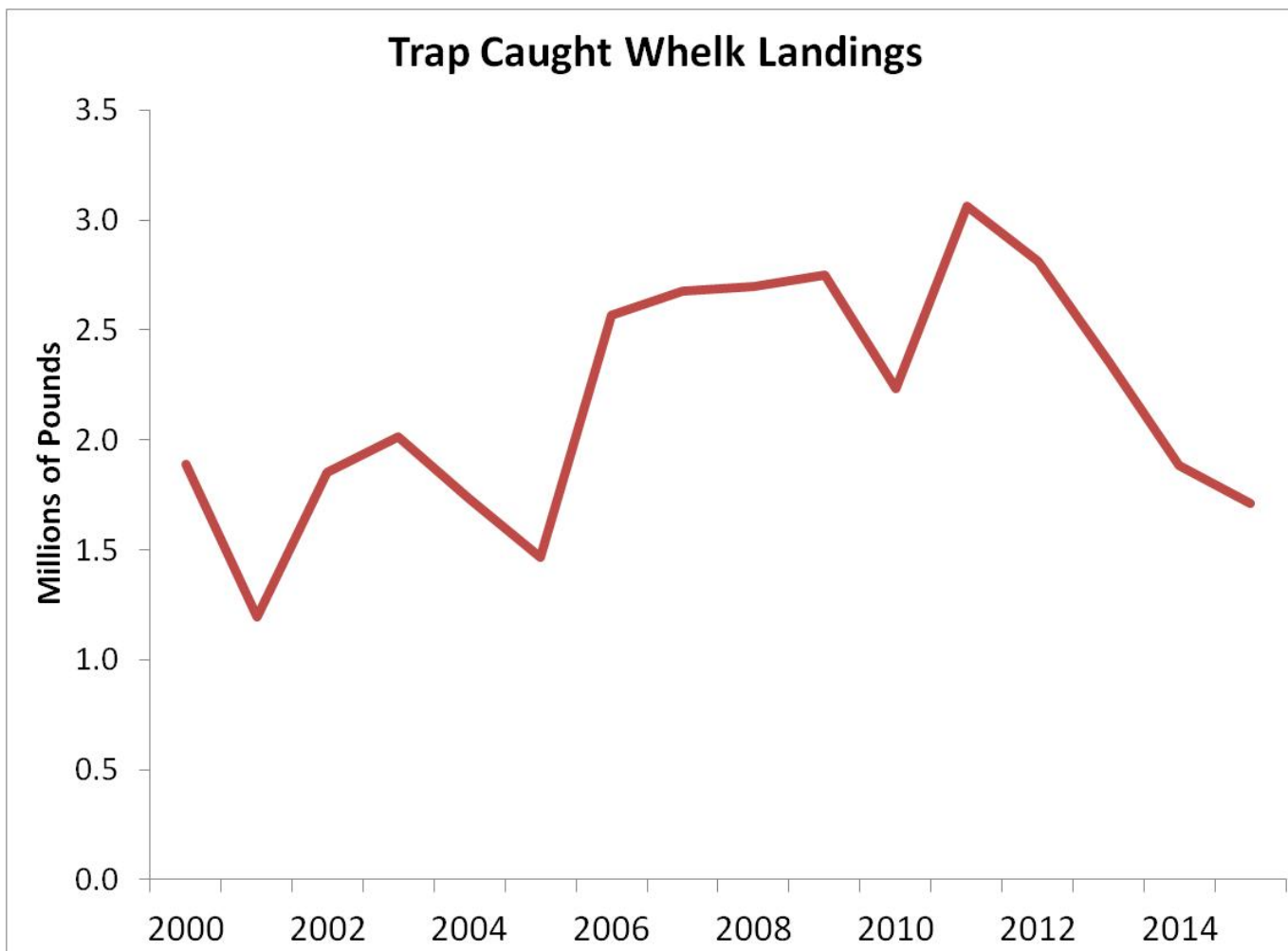
© 2010 Division of Marine Fisheries

Slide 3

Marine Fisheries
Commonwealth of Massachusetts



Fishery Profile



March 19, 2019

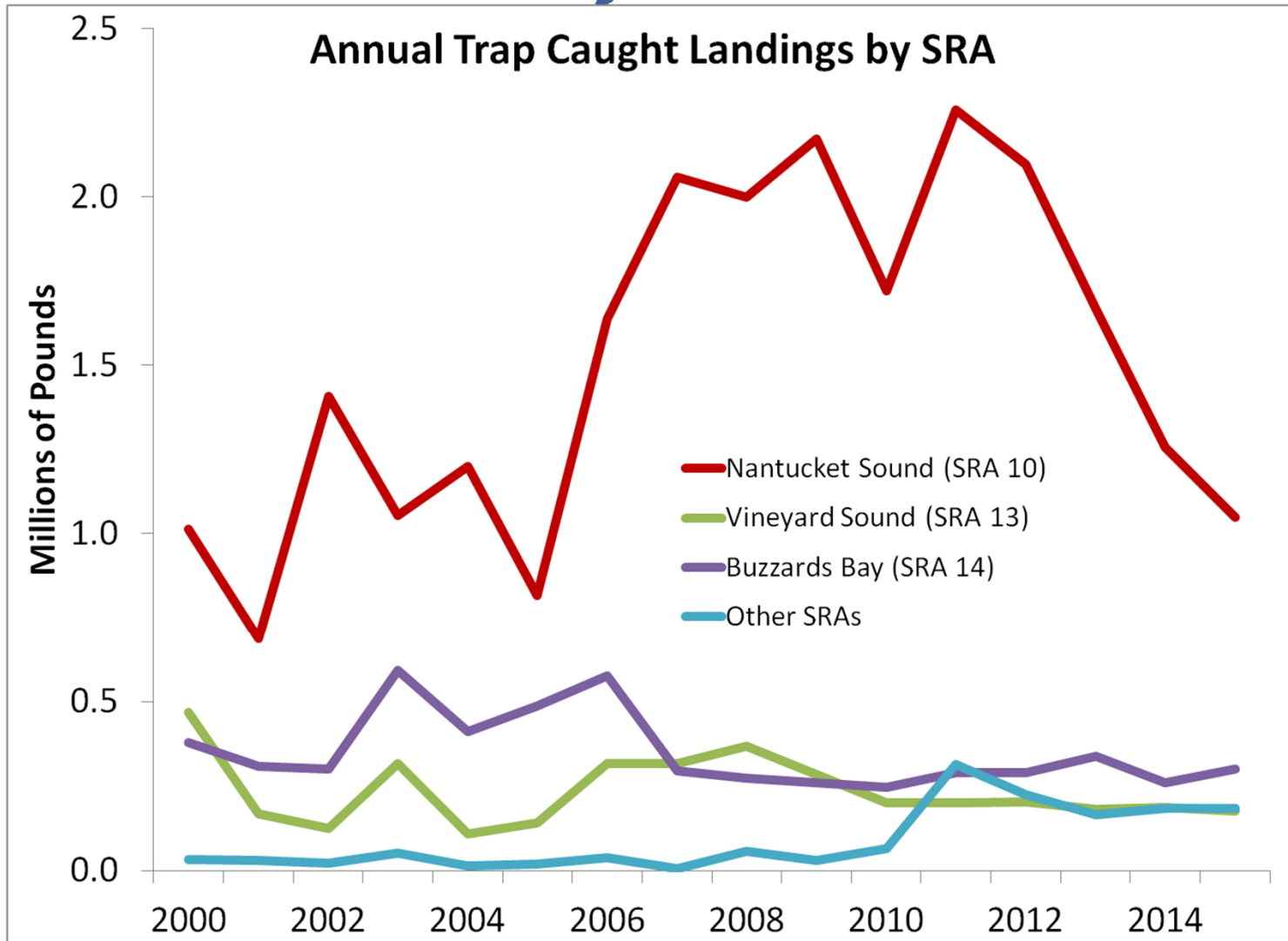
© 2010 Division of Marine Fisheries

Slide 4

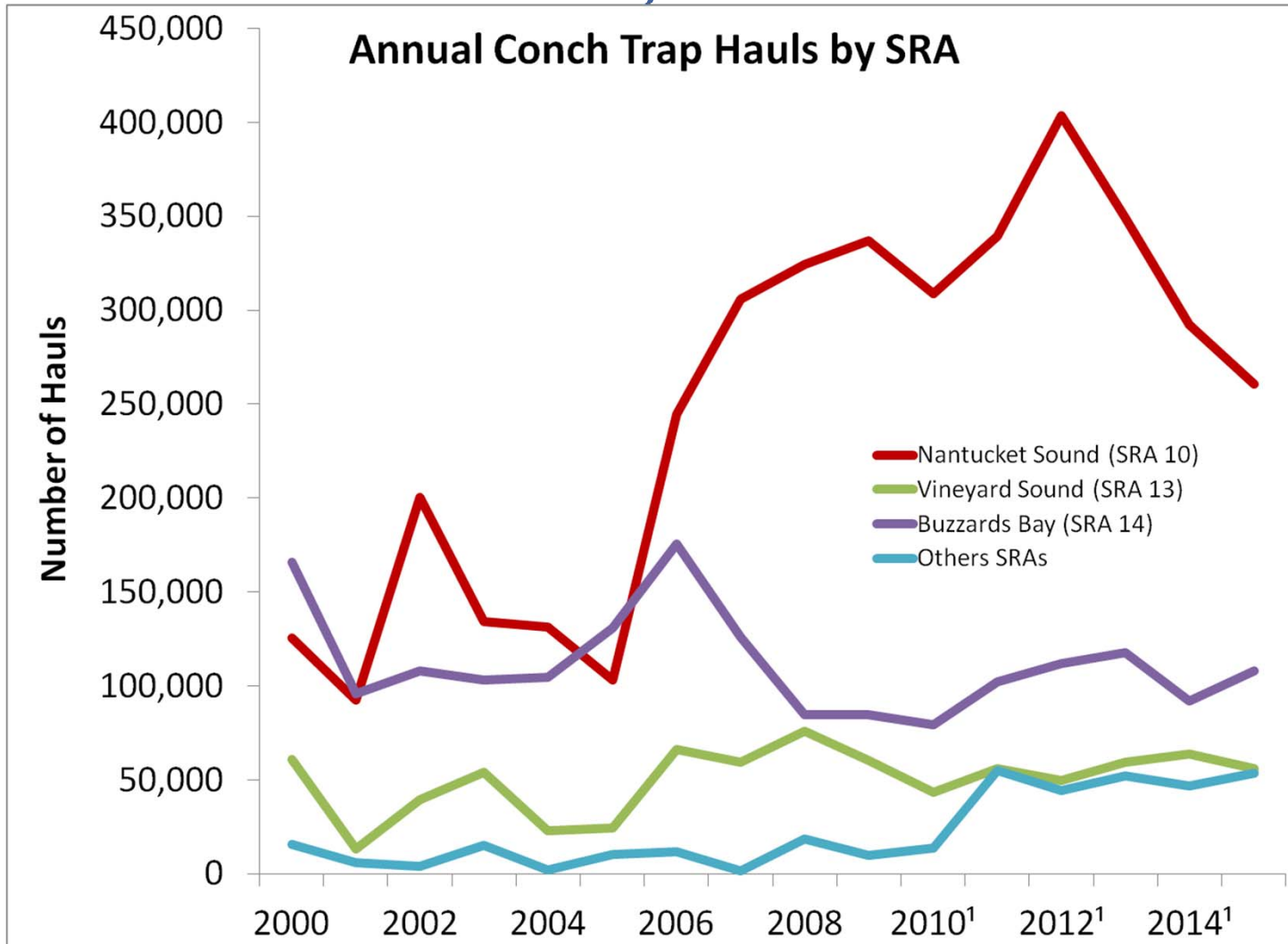
Marine Fisheries
Commonwealth of Massachusetts



Fishery Profile



Fishery Profile



Fishery Profile

License Trends

Year	2010	2011	2012	2013	2014	2015
ISSUED	151	147	145	144	143	141
FISHED	81	84	87	90	83	83
DID NOT FISH	59	50	46	46	53	46
DID NOT REPORT	11	13	12	8	7	12

SOURCE: MA Commercial Catch Reports and NMFS VTRs

Catch and Value Trends

Year	Live Pounds	Est. Value	Price/lb.
2005	1,354,821	\$1,454,295	\$1.07
2006	2,420,481	\$3,103,089	\$1.28
2007	2,496,497	\$2,466,229	\$0.99
2008	2,701,409	\$3,212,108	\$1.19
2009	2,847,042	\$3,720,139	\$1.31
2010	2,505,859	\$3,027,344	\$1.21
2011	2,996,745	\$5,307,231	\$1.77
2012	3,603,814	\$6,160,808	\$1.71
2013	2,363,648	\$5,390,600	\$2.28
2014	1,884,576	\$4,702,266	\$2.50
2015*	1,664,341	\$4,780,759	\$2.87

* 2015 is preliminary data



March 19, 2019

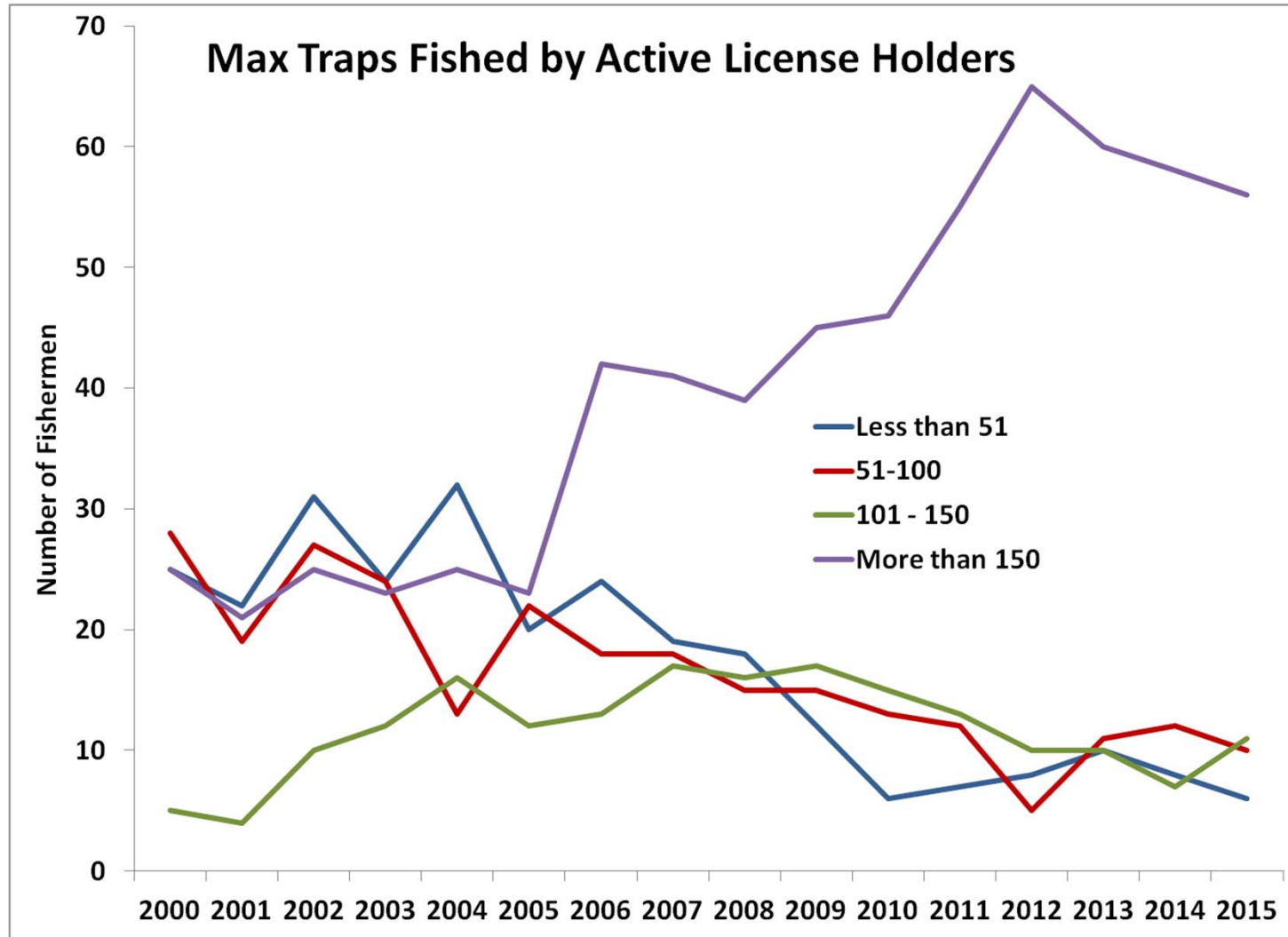
© 2010 Division of Marine Fisheries

Slide 7

Marine Fisheries
Commonwealth of Massachusetts



Fishery Profile



March 19, 2019

© 2010 Division of Marine Fisheries

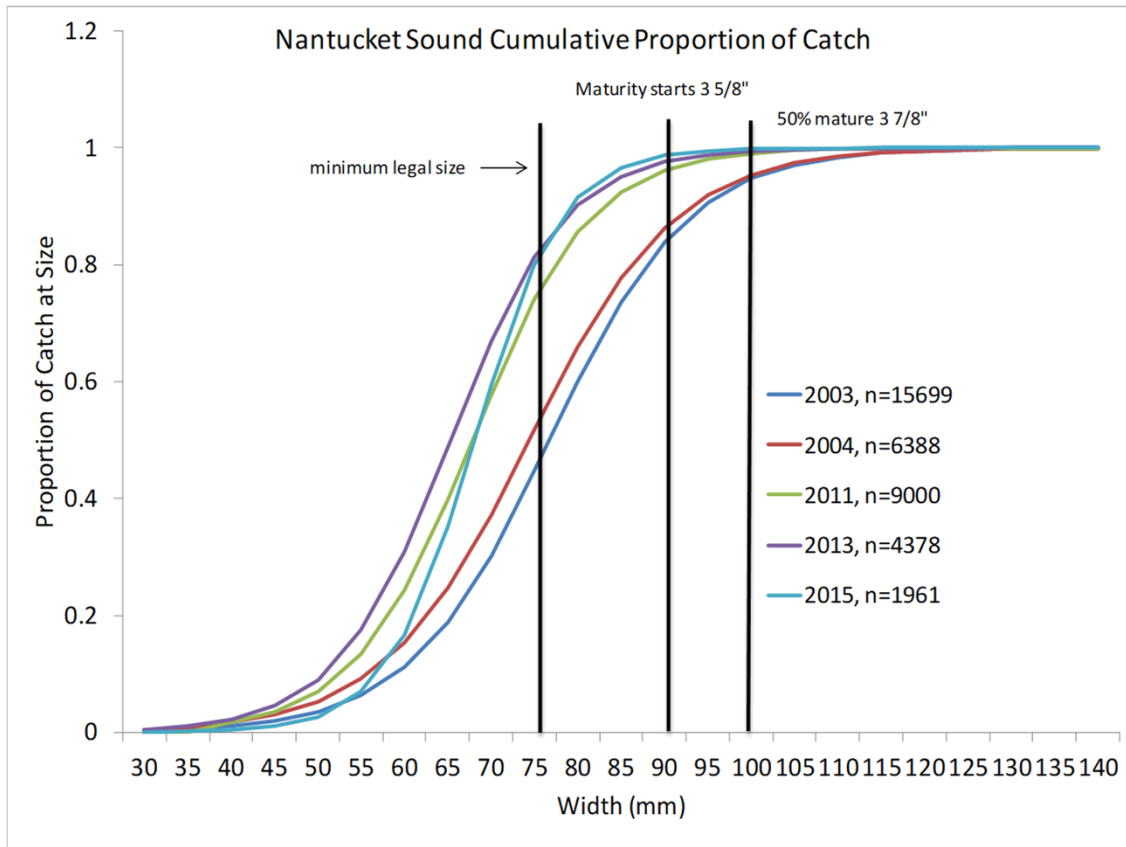
Slide 8

Marine Fisheries
Commonwealth of Massachusetts



Fishery Profile

Sea Sampling Data



- Truncation in size of commercial channeled whelk catch observed in sea sampling data
- Less larger whelk



March 19, 2019

© 2010 Division of Marine Fisheries

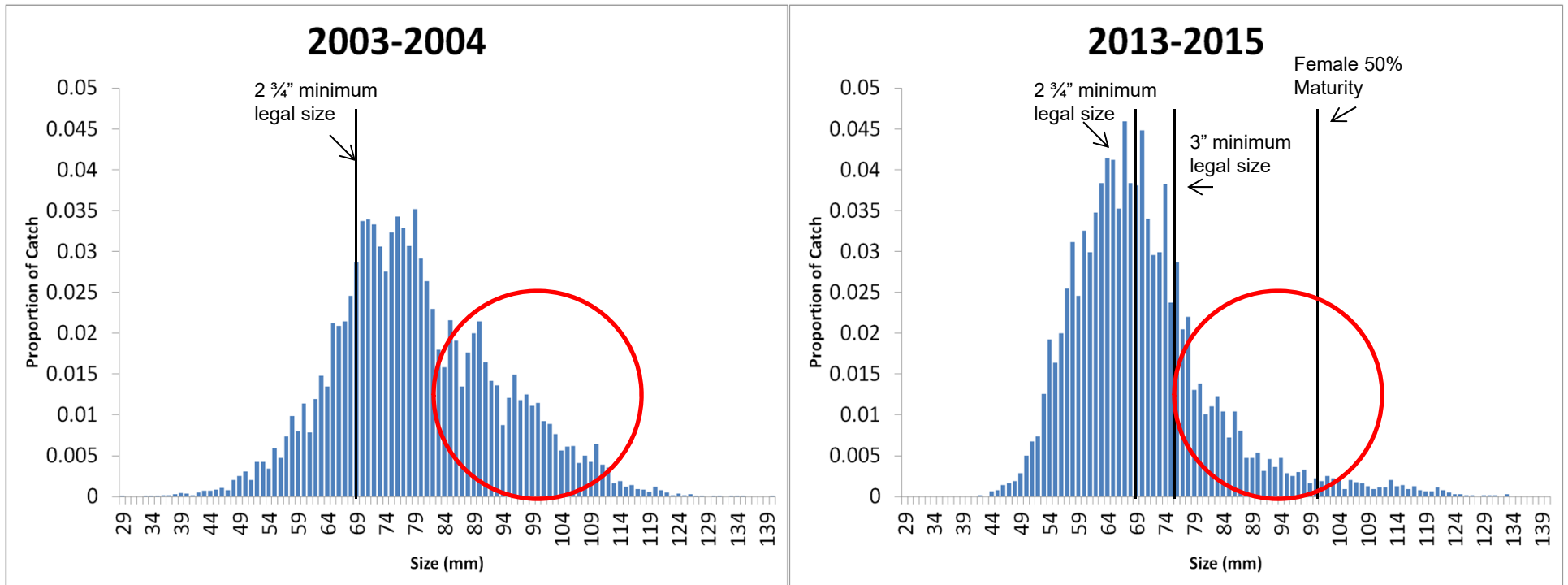
Slide 9

Marine Fisheries
Commonwealth of Massachusetts



Fishery Profile

2013 – Standard Chute Gauge $2\frac{3}{4}$ "
2014 – $2\frac{7}{8}$ "
2015 – 3"



March 19, 2019

© 2010 Division of Marine Fisheries

Slide 10

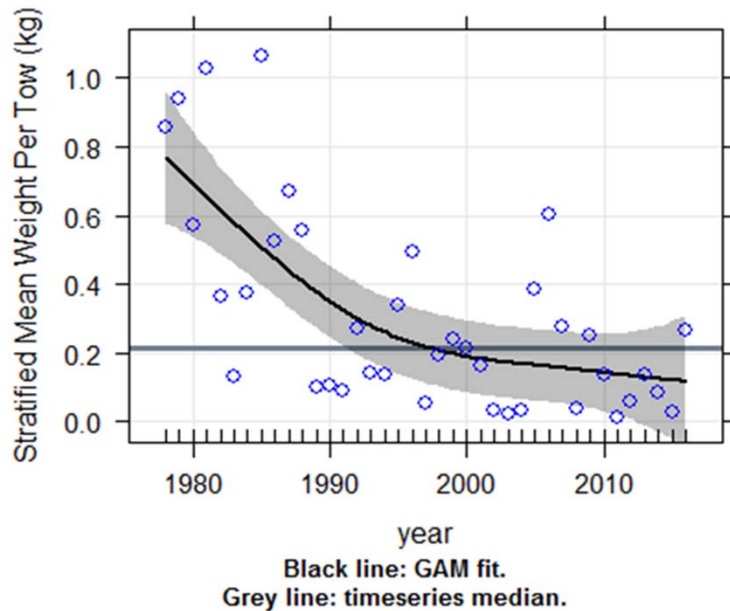
Marine Fisheries
Commonwealth of Massachusetts



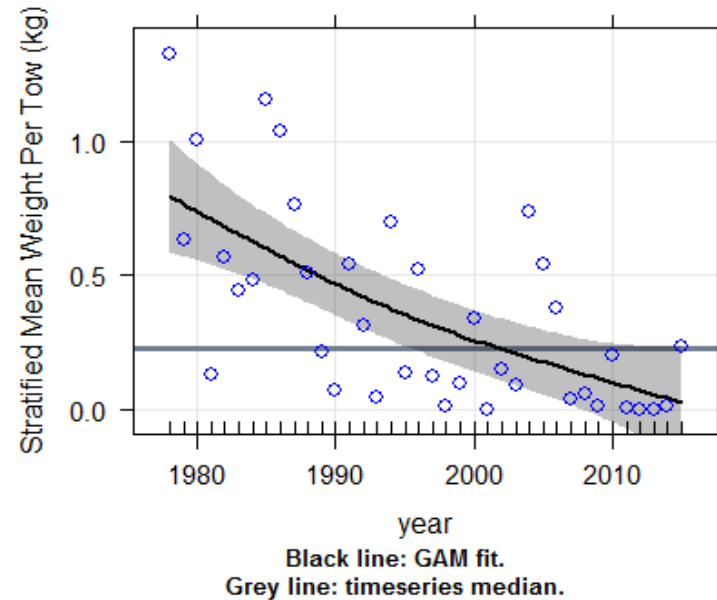
Fishery Profile

Fishery Independent Data

**Channeled Whelk Biomass Spring
Trawl Survey Nantucket Sound,
Vineyard Sound, and Buzzards Bay**



**Channeled Whelk Biomass Fall
Trawl Survey Nantucket Sound,
Vineyard Sound, and Buzzards Bay**



Trap Losses and Trap Tags: Compliance tool to maintain trap limits

Fishery	Trap Limit	Max Tags
Conch Pot	200	220
Fish Pot- BSB	200	220
Fish Pot - Scup	50	55



Trap Losses & Trap Tag Replacement

- Trap Tag Program modeled after interstate Lobster Management Plan
- Reasons: vessel traffic, gear conflict (draggers, theft)
- What is Typical Trap Loss?
 - Surveys show: Loss rates were about 20% for singles and 5% for trawls. Singles lost at roughly 4X the rate of trawls. (Marine Debris Issues?)
- **MFAC Approved 20% additional tags for 2017**
- (Lack of) Verifiability of trap loss
- DMF has received individual requests for replacement tags in excess of 100 tags; typical range of 40-60 tags.



Replacement Trap Tag Policies and Procedures

- Permit holder submits information on Gear Conflict/Catastrophic Gear Loss Report
- DMF reviews and issues “replacement trap tags”
 - Very few denials
- Longstanding regulations require report and review by OLE and possible hearing
 - Originally designed for Lobster fishery (generous trap limits, 800) to address massive gear loss due to draggers and storms



Non-compliance with Trap Tag Rules

- Untagged traps observed by OLE during routine boardings
- Conch Traps bearing wrong tags
 - e.g., Scup pot tags & Black sea bass pot tags
 - Are the fish pot limits too high?
- Expect increased OLE random patrols and compliance checks and increased penalties
 - Possible suspensions or revocations for non-compliance



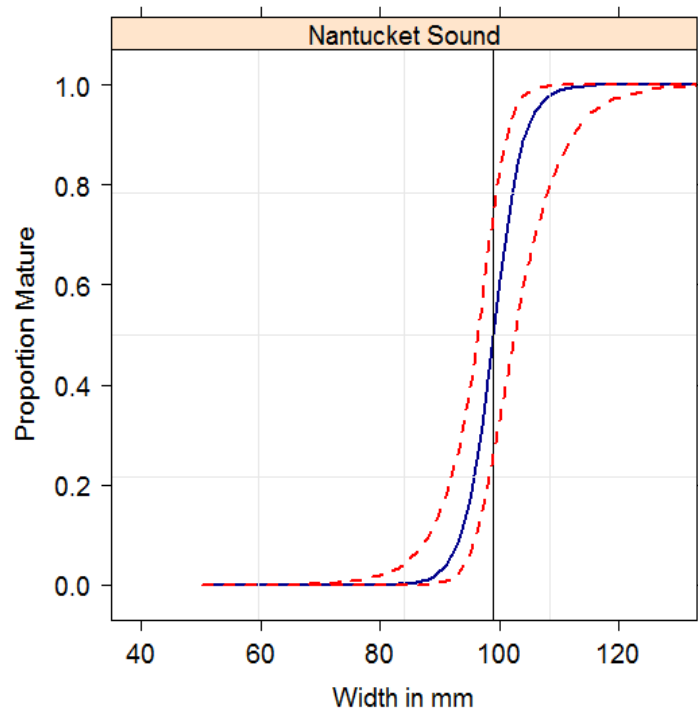
Trap Losses & Trap Tag Replacement

What is “Catastrophic Gear Loss”?

- Interstate Lobster Plan defines “Catastrophic Tag Loss” and has requirement that an all new set of tags be obtained.
- Catastrophic loss = losses that exceed the initial allocation (10%) for routine loss.
- Plan for 2017: No replacement tags will be issued by DMF. Instead, fishermen can request approval to order an entire new set of replacement tags - distinguished from original tags (i.e. color).



Size at Maturity & Minimum Size



- 2010-2011 Nantucket Sound Half of all females that reach 3 7/8" are capable of reproducing for the first time, the other half are still immature
- 2015 preliminary results show no significant changes
- Still no female mature at minimum legal size



March 19, 2019

© 2010 Division of Marine Fisheries

Slide 17

Marine Fisheries
Commonwealth of Massachusetts



Concerns:

Size at Maturity & Minimum Size

- At current minimum legal size no female whelk are mature
- Life history traits make them especially prone to depletion
- Trawl survey trends – declining
- Rapid escalation of catch and effort
- Truncation of size of commercial catch
- Fishermen reports of areas now devoid of whelk
- World wide trends of rapid escalation of the fishery followed by stock collapse



Size at Maturity & Minimum Size

How to Measure Whelk

Minimum legal size is the primary tool for whelk management in Massachusetts

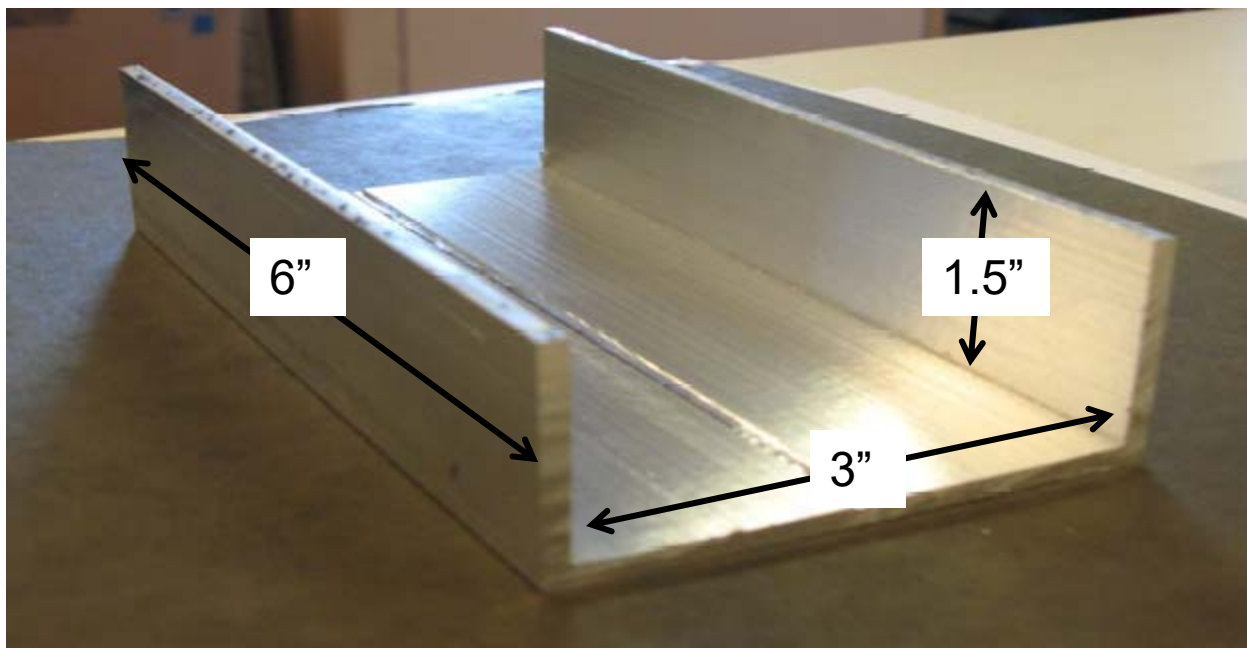
Critical to have an accurate and consistent form of measurement for everyone

Legal Definition CMR 6.21 - require whelks be measured as flat as possible on the gauge in an orientation where a straight line drawn from the shell's apex to its siphonal canal is parallel to the gauge sides.



Size at Maturity & Minimum Size Compliance and Gauge Use

Gauge Standards



March 19, 2019

© 2010 Division of Marine Fisheries

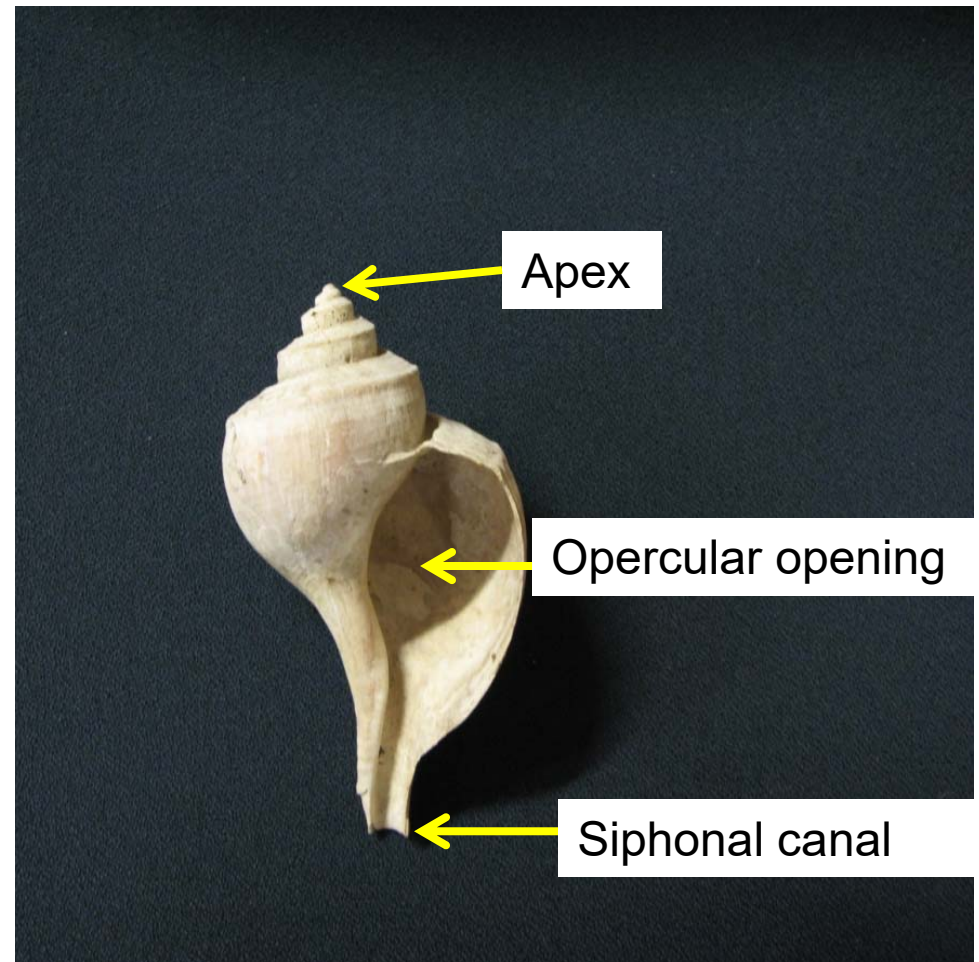
Slide 20

Marine Fisheries
Commonwealth of Massachusetts

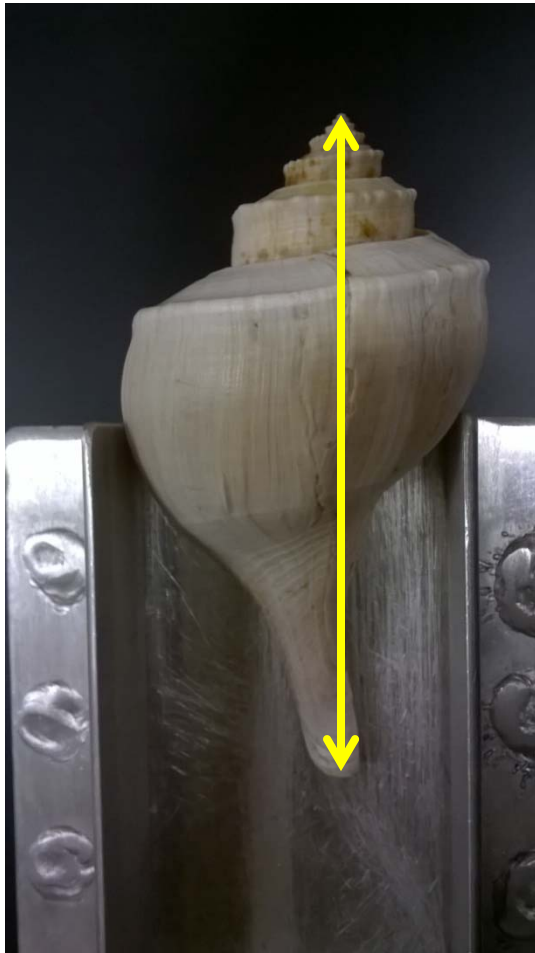


Size at Maturity & Minimum Size Compliance and Gauge Use

- Legal minimum size = 3” width
 - Measure width with opercular opening **down** and flush **on** the gauge
 - Line from apex to siphonal canal **parallel** to center line and sides of gauge
 - Passes through = **short**



Compliance and Gauge Use



CORRECT USE

- Opercular opening **down** and **on** the gauge
- Line from apex to siphonal canal **parallel** to center line and sides of gauge
- Does not pass through = **keeper**



Compliance and Gauge Use



CORRECT USE

- Opercular opening **down** and **on** the gauge
- Line from apex to siphonal canal **parallel** to center line and sides of gauge
- Passes through = **short**



Compliance and Gauge Use



INCORRECT USE

- Opercular opening **down** and **on** the gauge
- Line from apex to siphonal canal **NOT parallel** to center line and sides of gauge (Siphonal canal does **NOT** have to be on center line)



Compliance and Gauge Use

INCORRECT USE

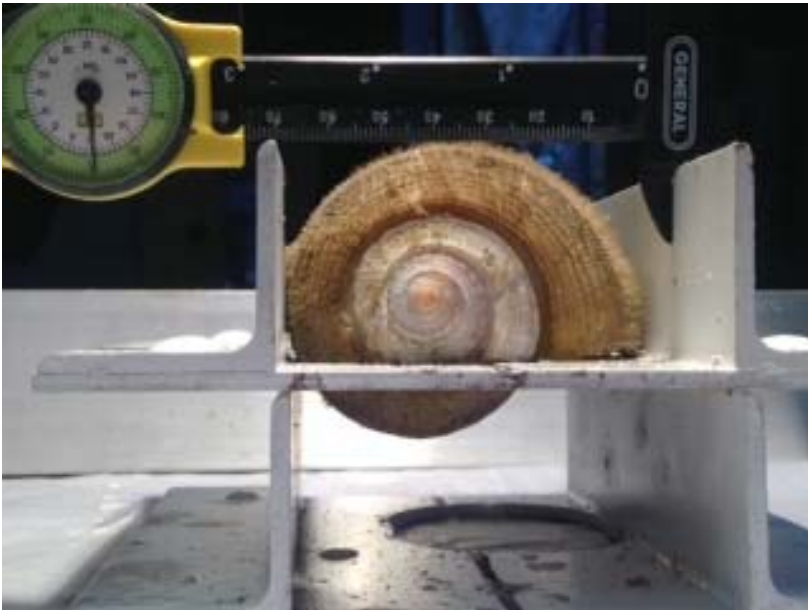


- Opercular opening **down** and **on** the gauge
- Line from apex to siphonal canal **NOT parallel** to center line and sides of gauge)



Compliance and Gauge Use

INCORRECT USE



- **No** gauge modification
- Still a gap present between gauge and shell = short



March 19, 2019

© 2010 Division of Marine Fisheries

Slide 26

Marine Fisheries
Commonwealth of Massachusetts



Compliance and Gauge Use



Potential Alternative Use

- With the opercular opening facing **down** and **on** the gauge
- If the whelk passes through in **any vertical** orientation it is **short**
- Quicker and more consistent between users
- Would result in approximate 3/16" increase in width using 3" gauge
- Approximate 30% decrease in catch by weight based 2013-2015 LF data
- Grow 1/4" per year



March 19, 2019

© 2010 Division of Marine Fisheries

Slide 27

Marine Fisheries
Commonwealth of Massachusetts



Leatherback Entanglements and Fixed Gear in Massachusetts



Background

- Leatherback sea turtles are an endangered species
- Section 10 of the ESA authorizes NMFS to issue incidental take permits to non-federal entities
- Not having an incidental take permit for the state-waters conch fishery exposes fishermen (and DMF) to litigation for leatherback entanglements



Background

- NMFS strongly urges DMF to apply for a Section 10 permit, which would include a “habitat conservation plan.”
- The plan must specify actions to minimize negative impacts to the endangered species
- Fishermen and federal regulators have raised the possibility of a seasonal closure in August as a mitigation measure for the Section 10 permit.



Sea Turtle Entanglements

- The vast majority (97%) of sea turtle entanglements in Massachusetts involve leatherbacks
- Entanglements occur in buoy lines associated with pot gear - the predominant gear type in state waters
- Primarily anchored and in single pots



Marine Animal Entanglement Response

Provincetown Center for Coastal Studies and the Massachusetts Division of Marine Fisheries operate an entanglement response program.



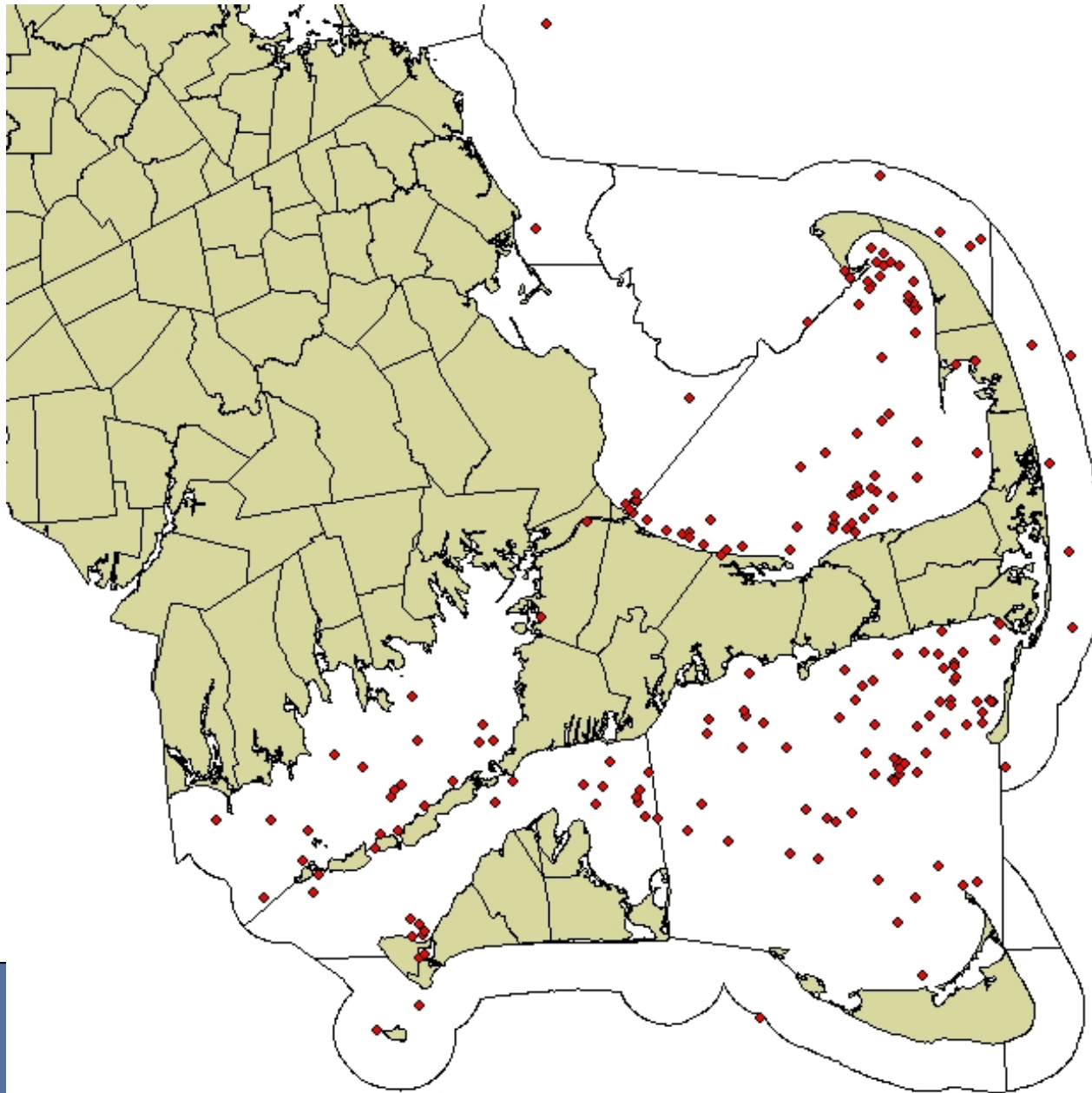
- 24-hour Hotline
- Trained on-water responders
- Remove gear from animal and reduce injury
- Gather information to prevent future entanglements



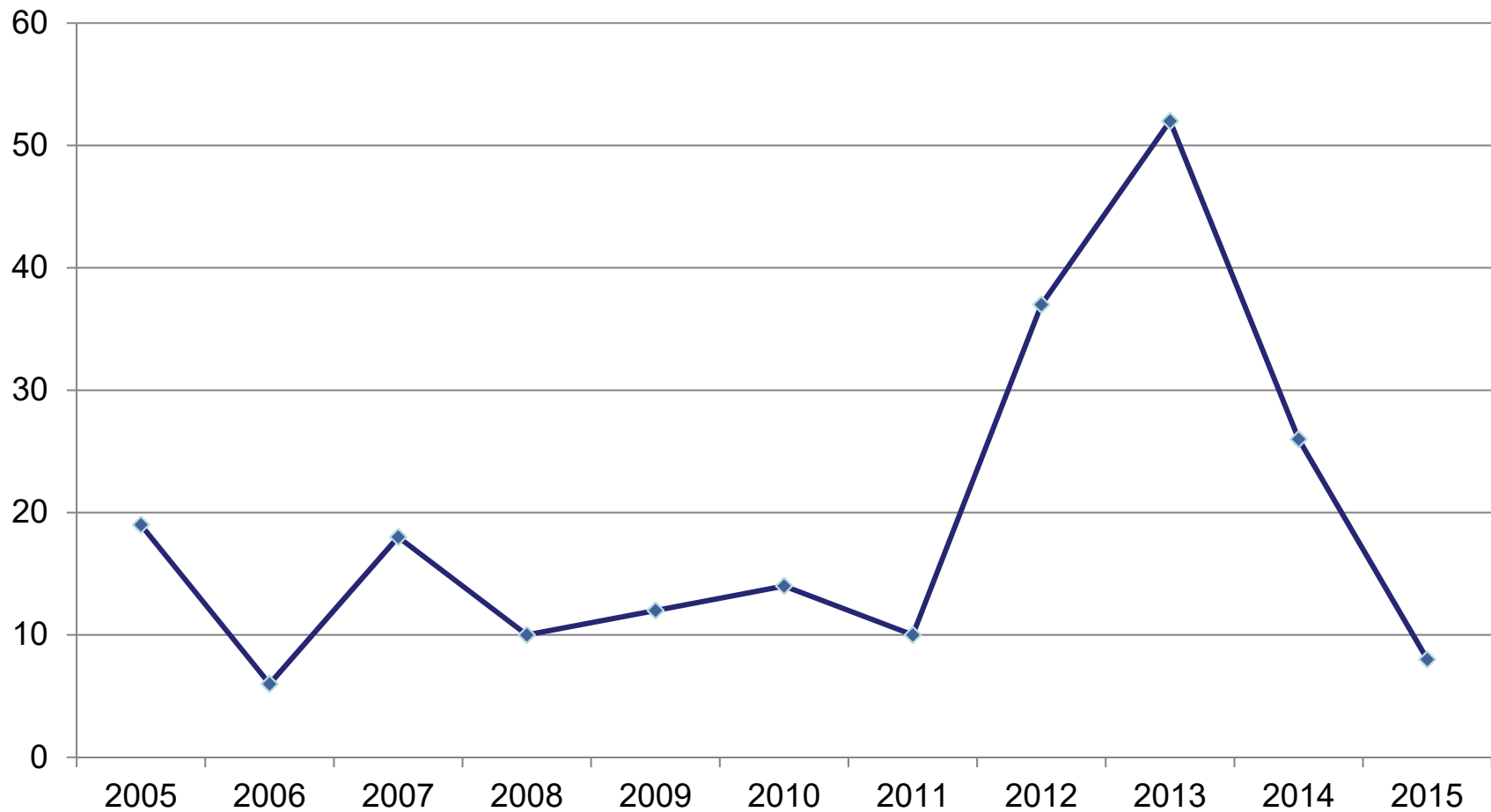
Marine Fisheries
Commonwealth of Massachusetts



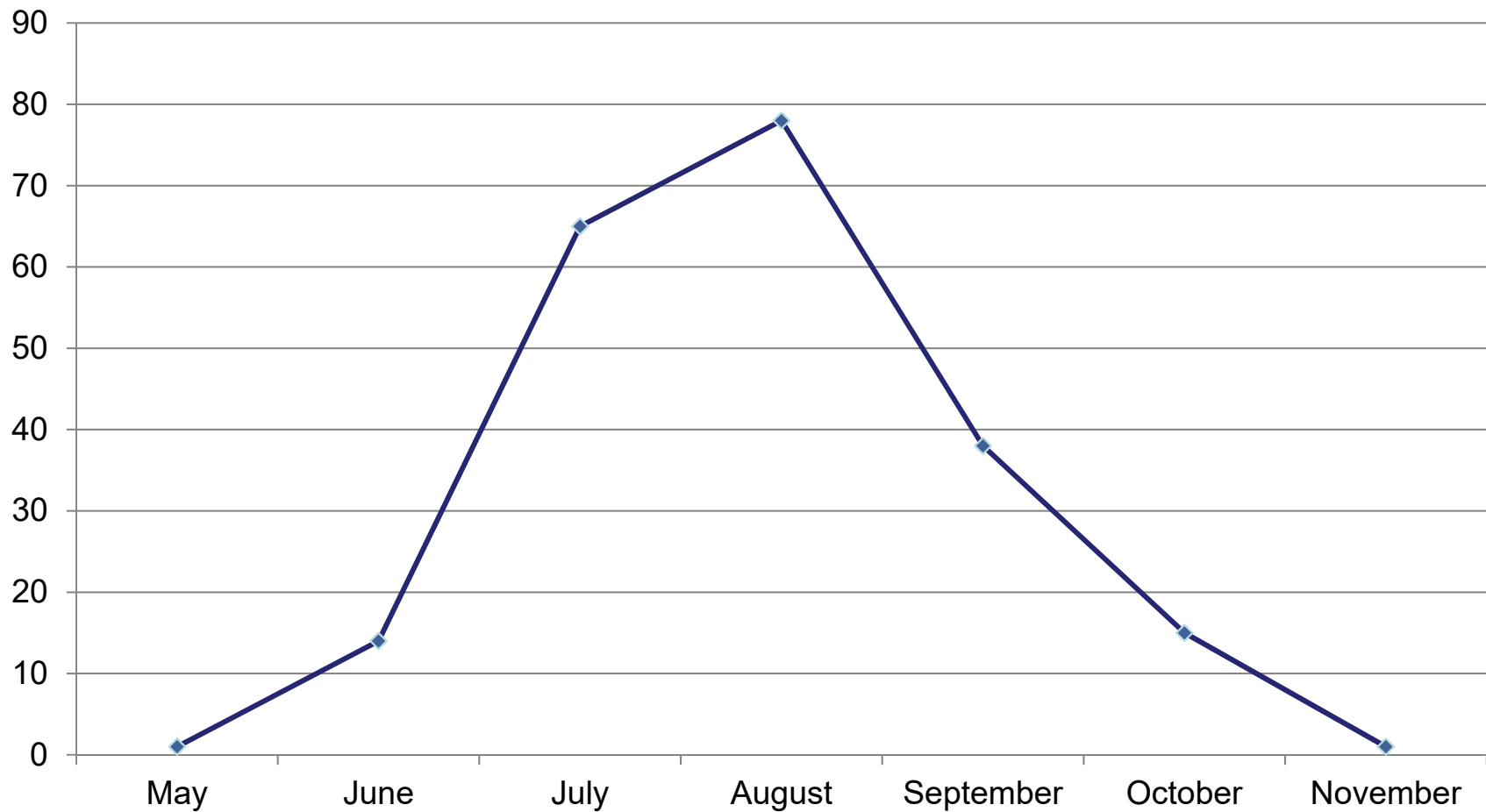
Leatherback Entanglements 2005 - 2015



Turtle Entanglements by Year



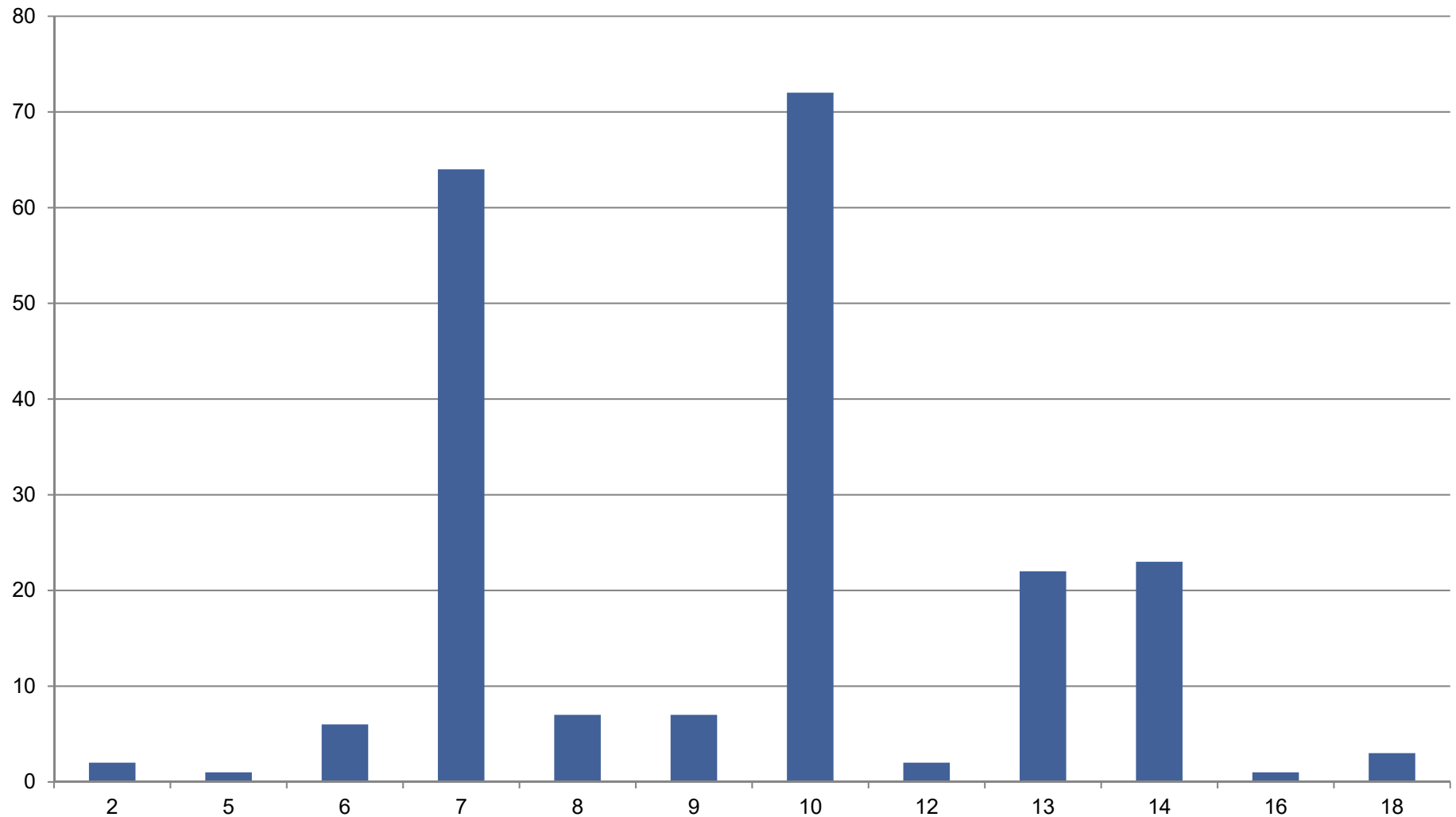
Entanglements By Month, 2005-2015



Marine Fisheries
Commonwealth of Massachusetts



Entanglements by SRA, 2005-2015



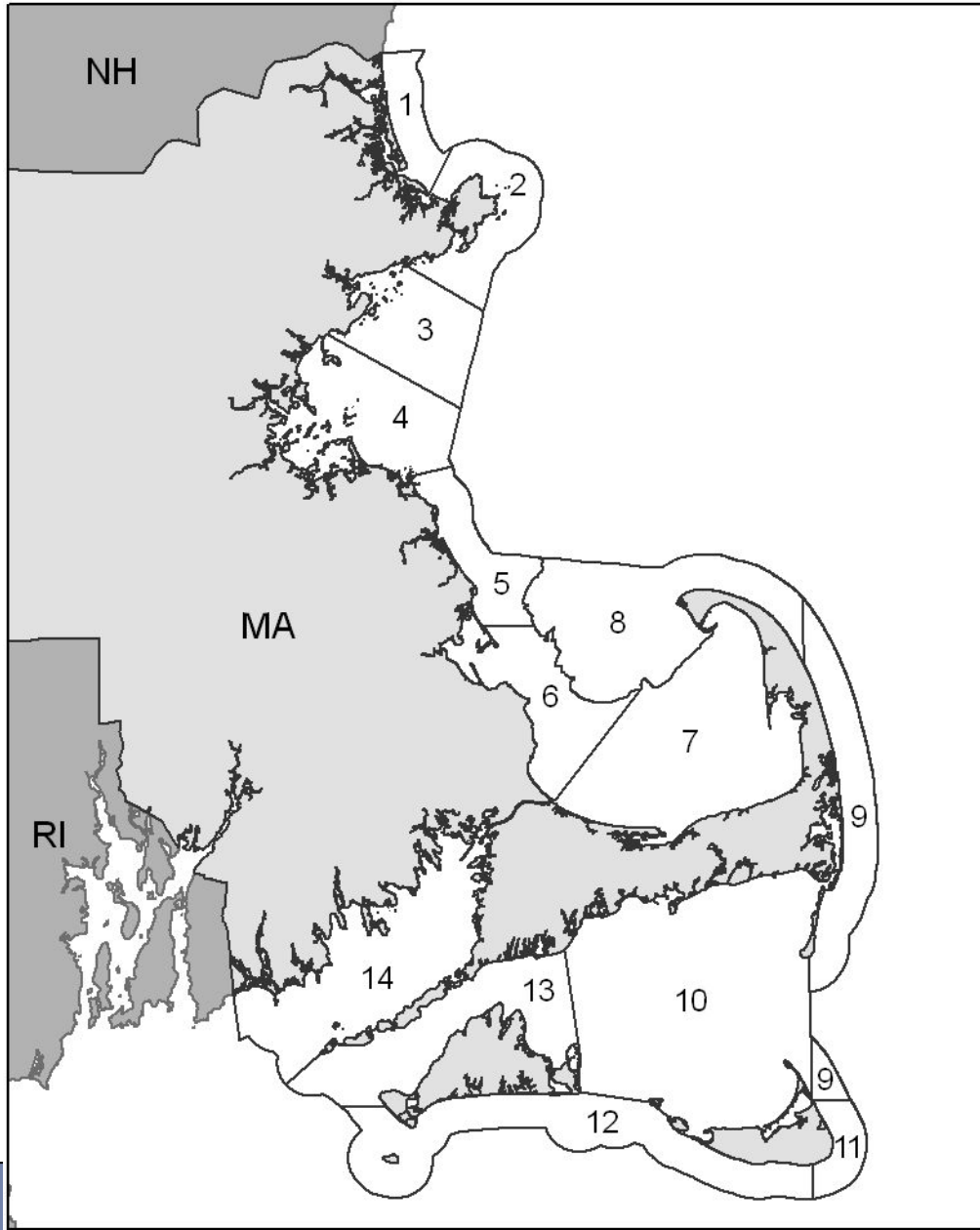
March 19, 2019

© 2010 Division of Marine Fisheries

Slide 36

Marine Fisheries
Commonwealth of Massachusetts

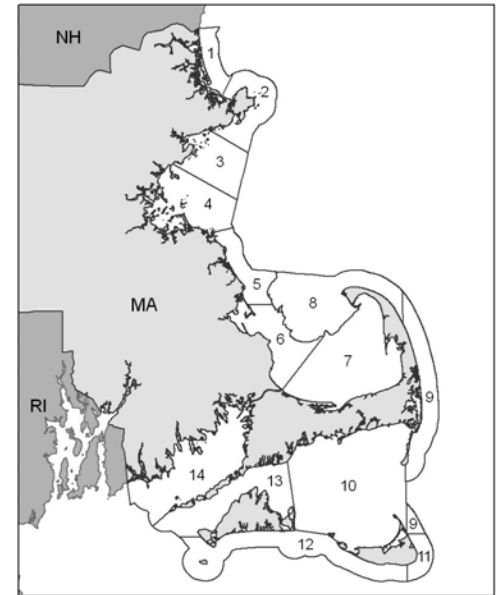




Marine Fisheries
Commonwealth of Massachusetts



Entanglements 2005 - 2015



Marine Fisheries
Commonwealth of Massachusetts

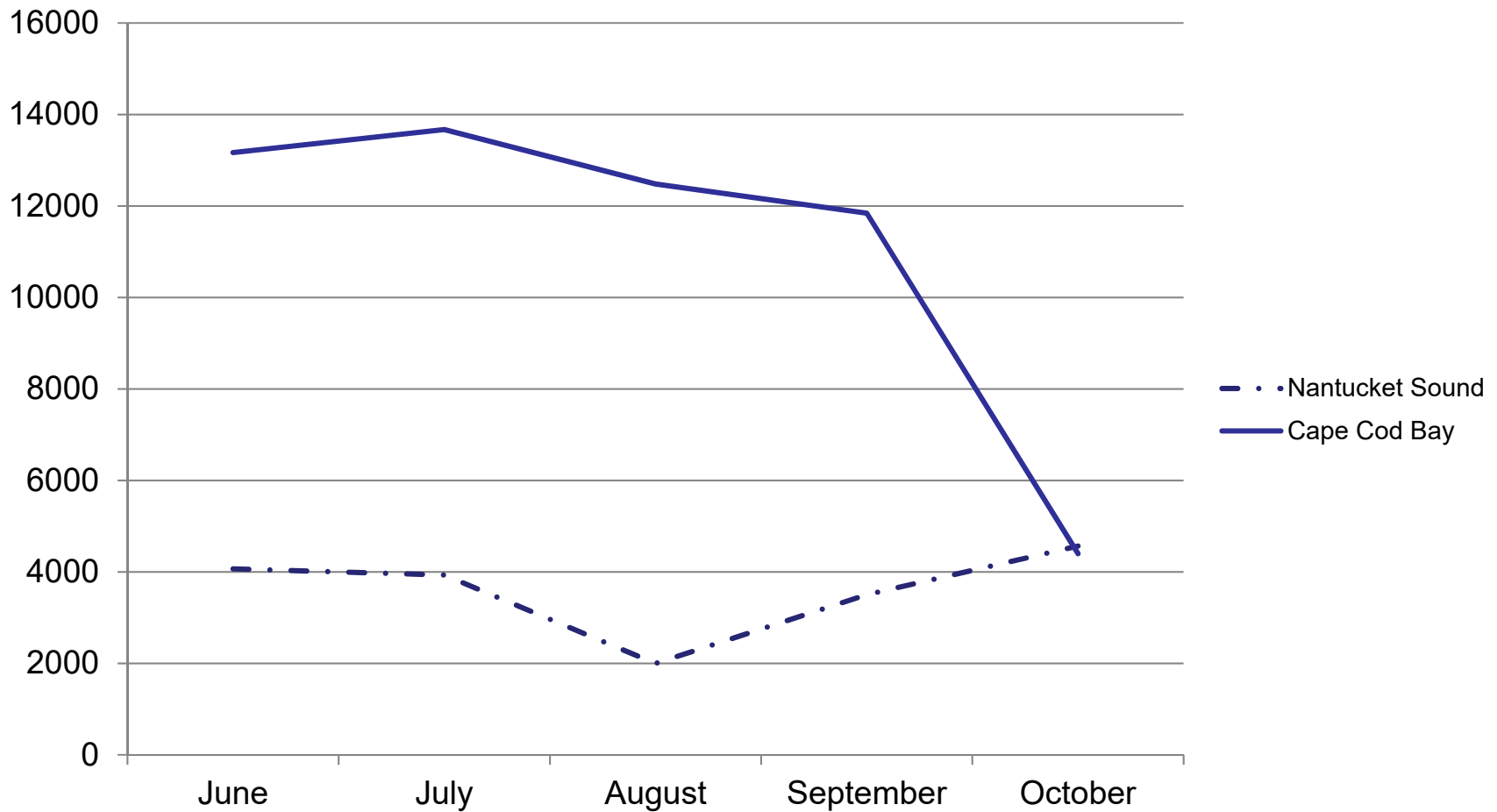


Sea Turtle Entanglements

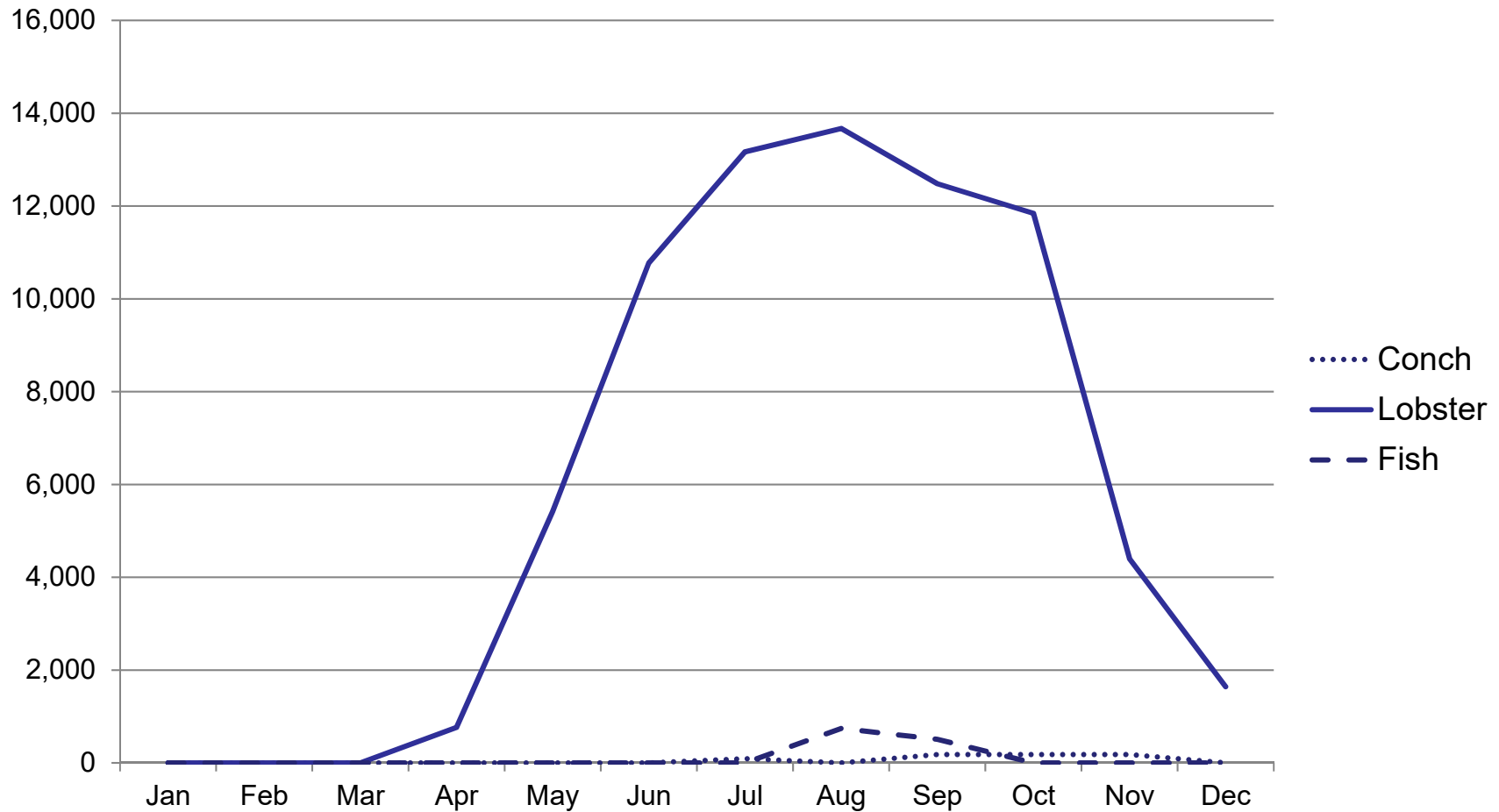
- Entanglements are highest in July and August in Nantucket Sound and Cape Cod Bay
- Both have substantial pot fisheries
 - Amount of gear very different
 - Primary species targeted different



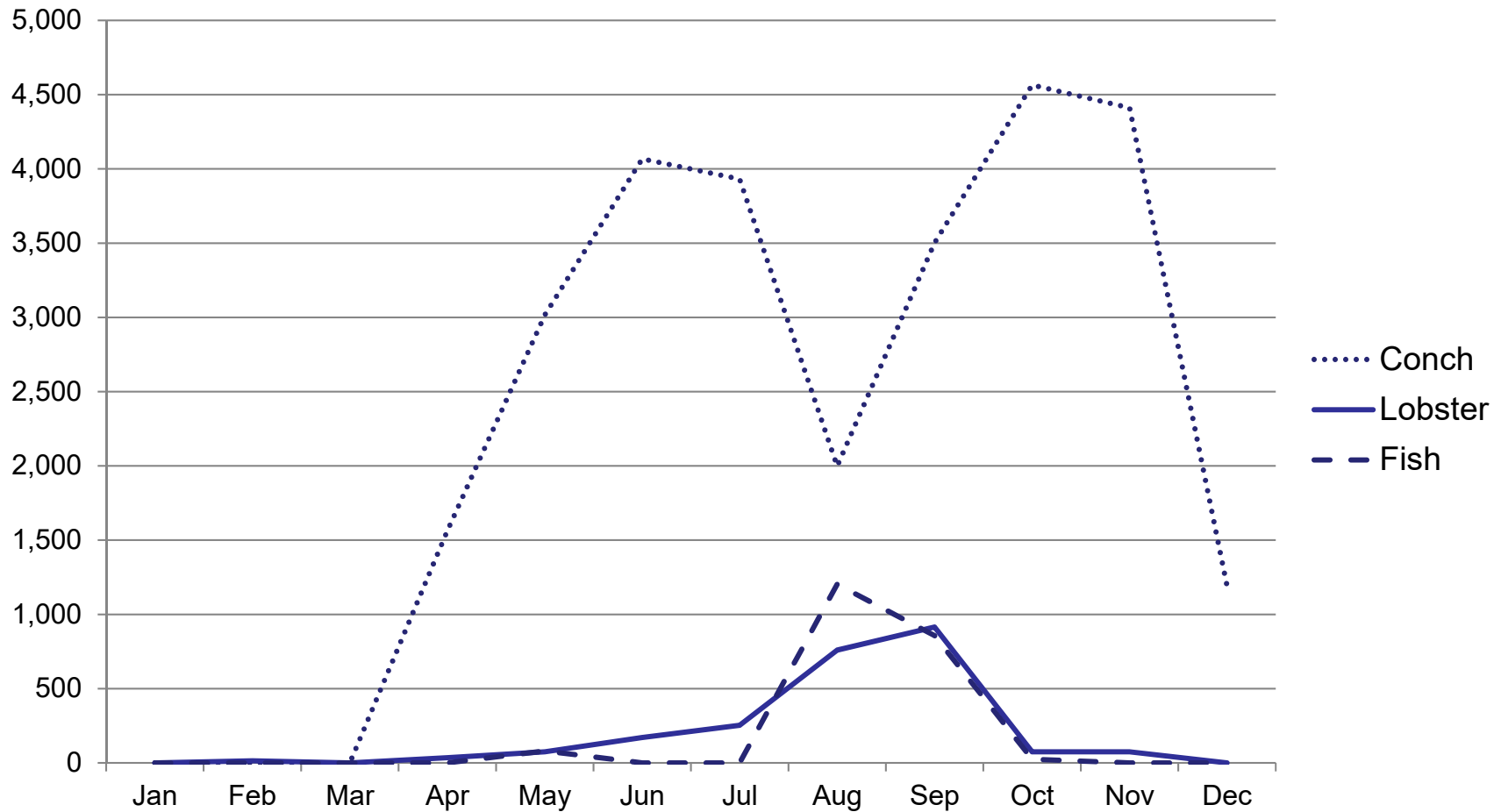
Number of Total Vertical Lines 2013



Vertical lines in SRA 7 (Cape Cod Bay) 2013



Vertical lines in SRA 10 (Nantucket Sound) 2013

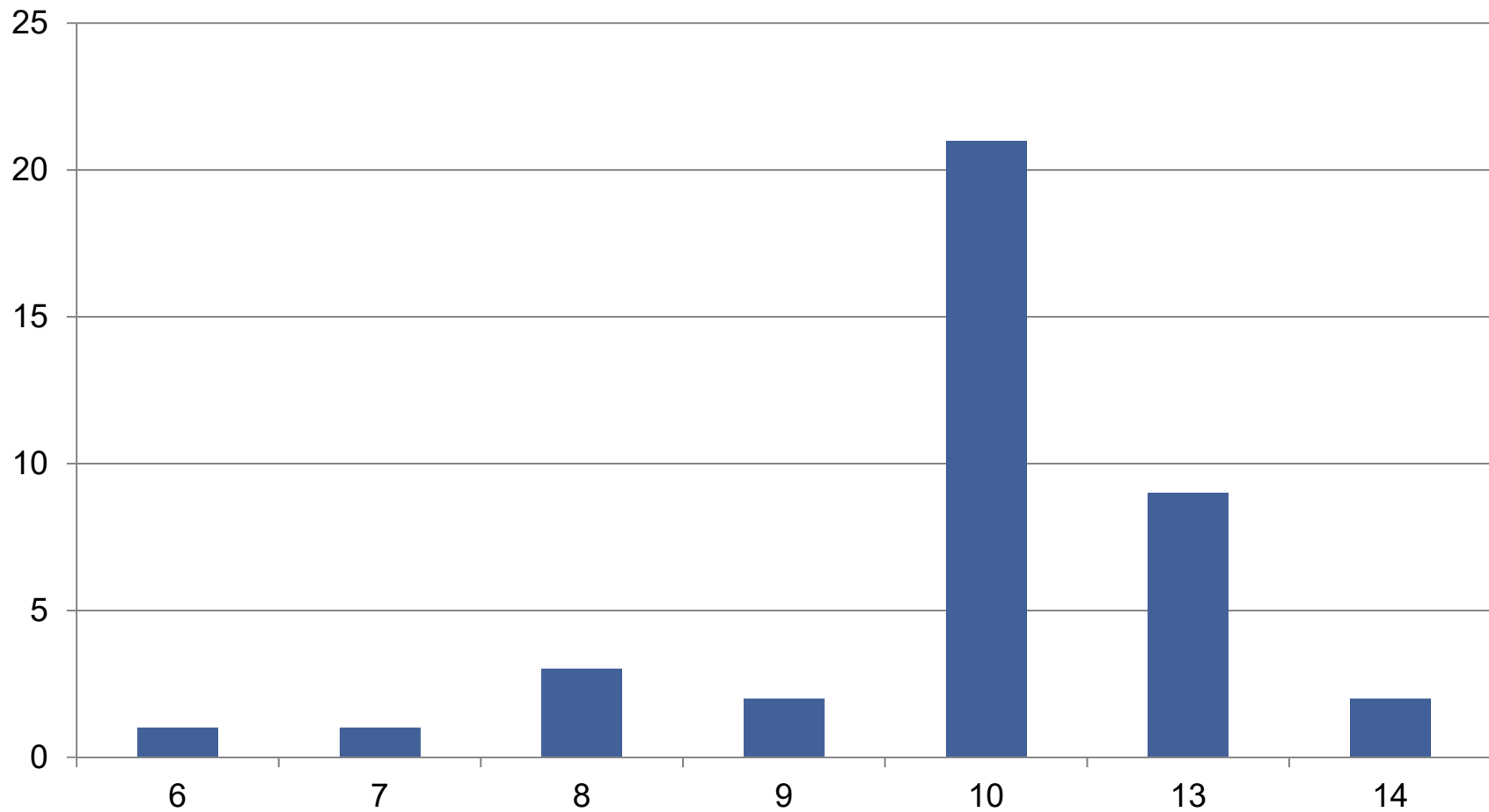


Sea Turtle Entanglements

- Cape Cod Bay and Nantucket Sound have the most entanglement events
- However their entanglement death rates vary considerably
- 30% of reported entanglements in Nantucket Sound involve dead animals
- Versus only 1.5% in Cape Cod Bay



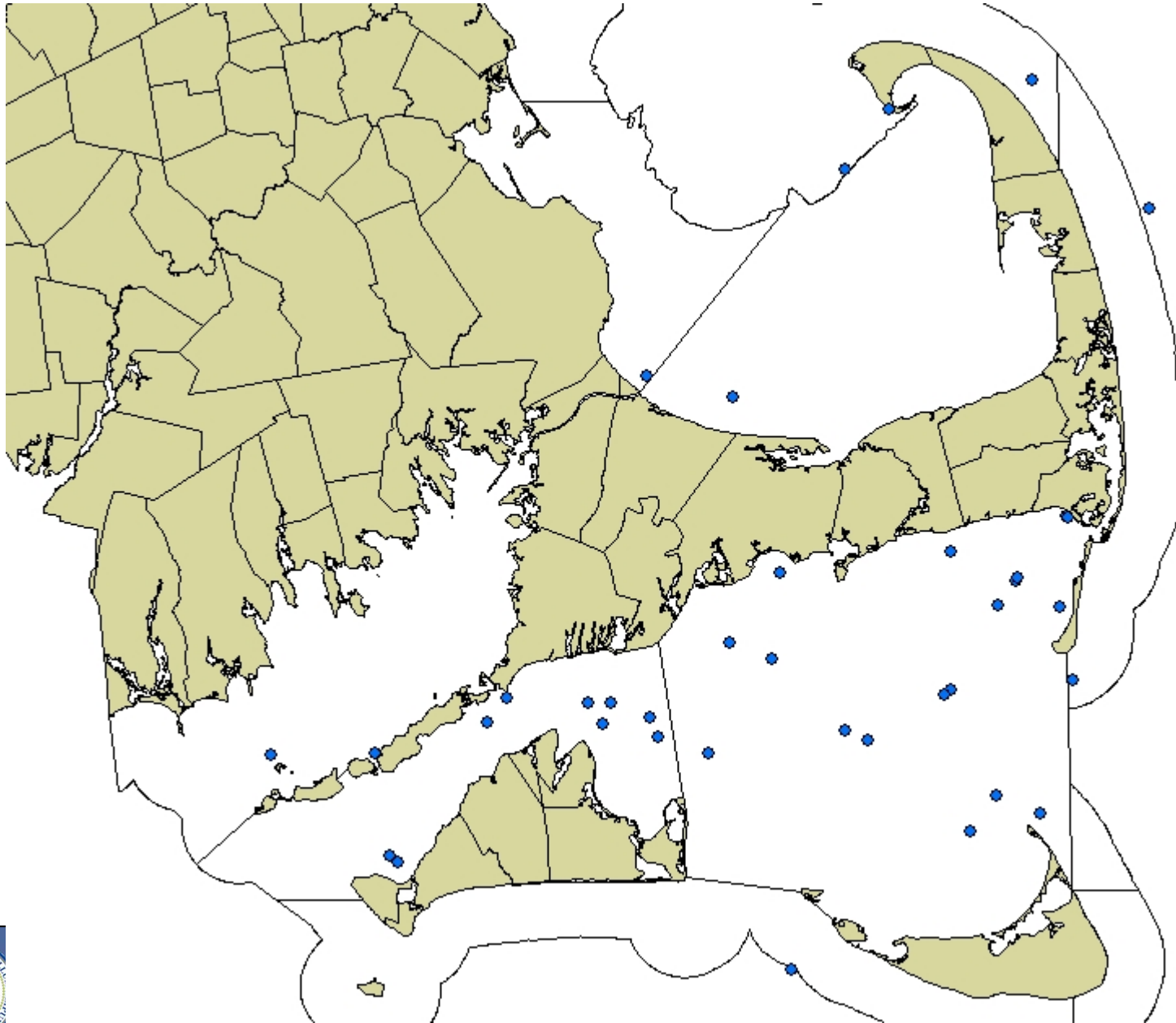
Dead Entangled by SRA 2005 - 2015



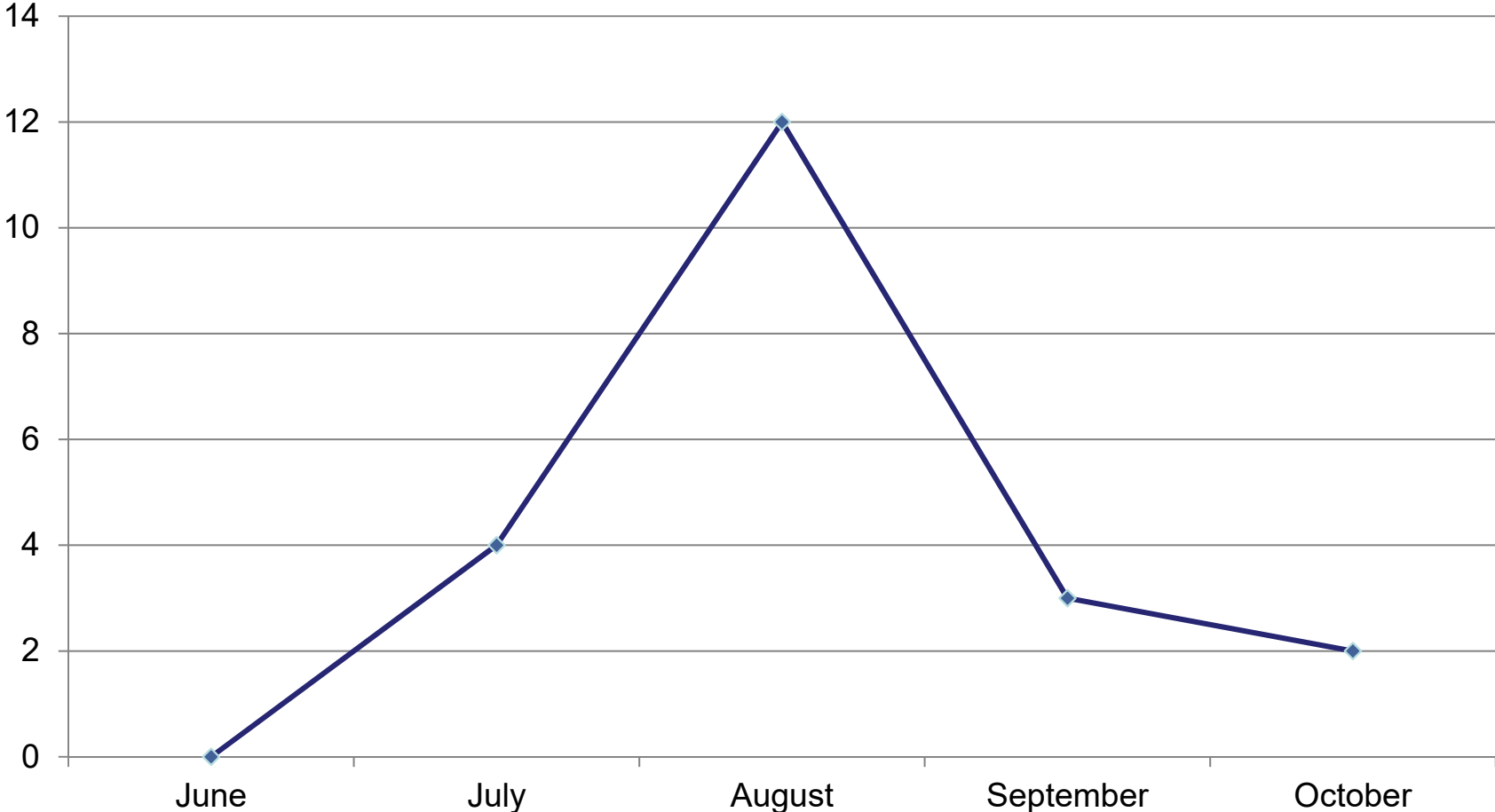
Marine Fisheries
Commonwealth of Massachusetts



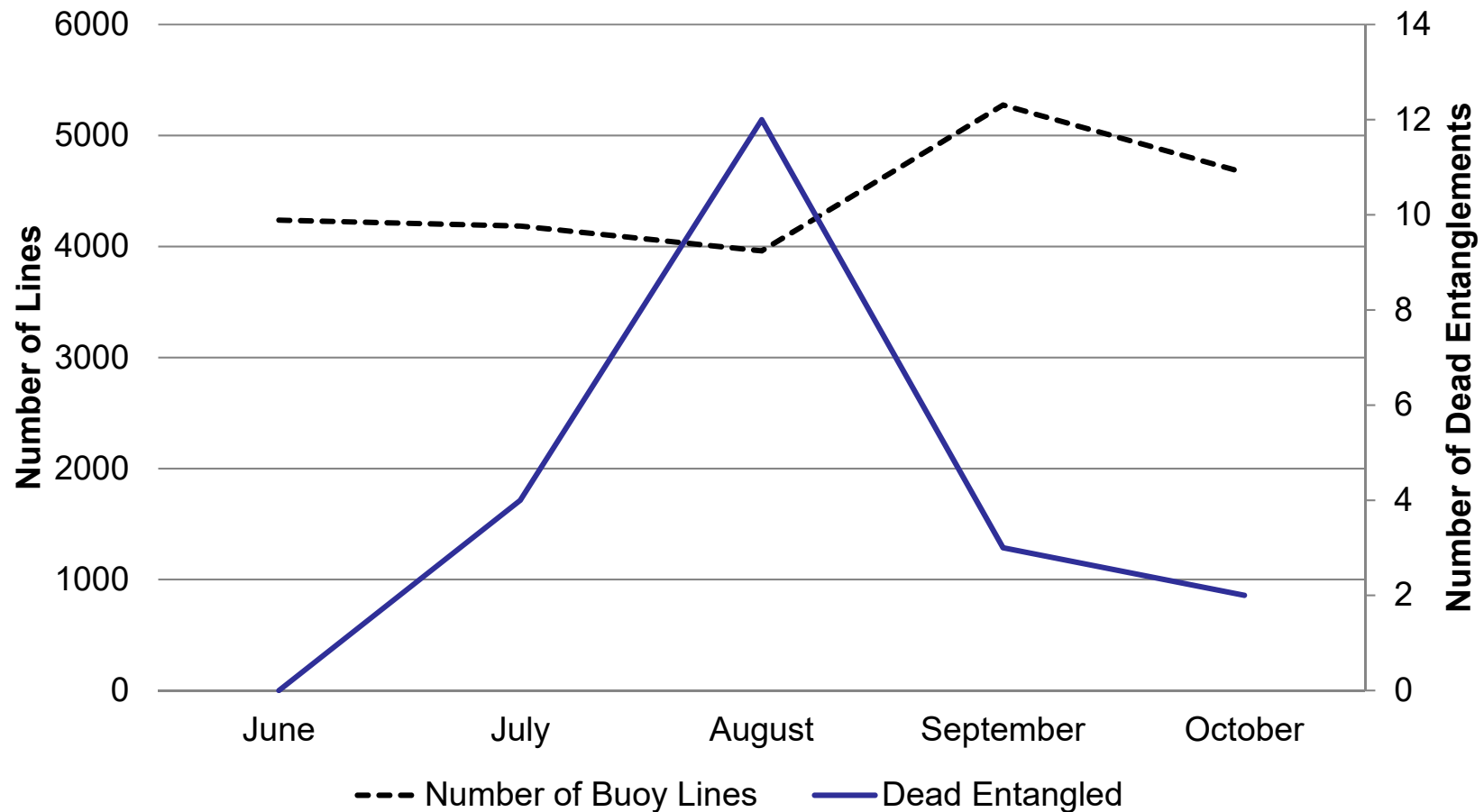
Dead Entangled 2005-2015



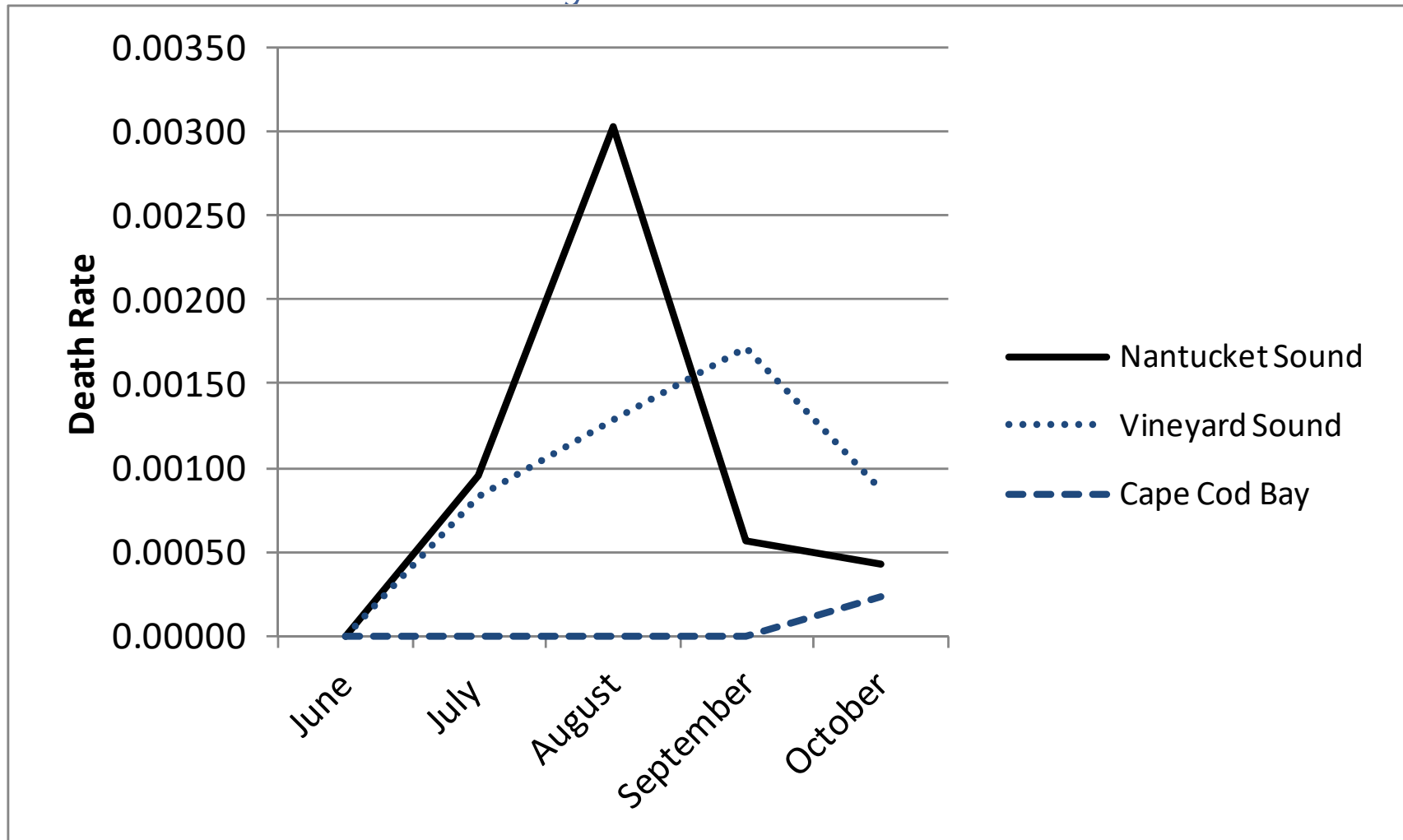
Entanglement Deaths in Nantucket Sound 2005-2015



Number of Vertical lines 2013 and Turtle Deaths (2005-2015) – Nantucket Sound



Entanglement Deaths (2005-2015) Per Total Buoy Line 2013



March 19, 2019

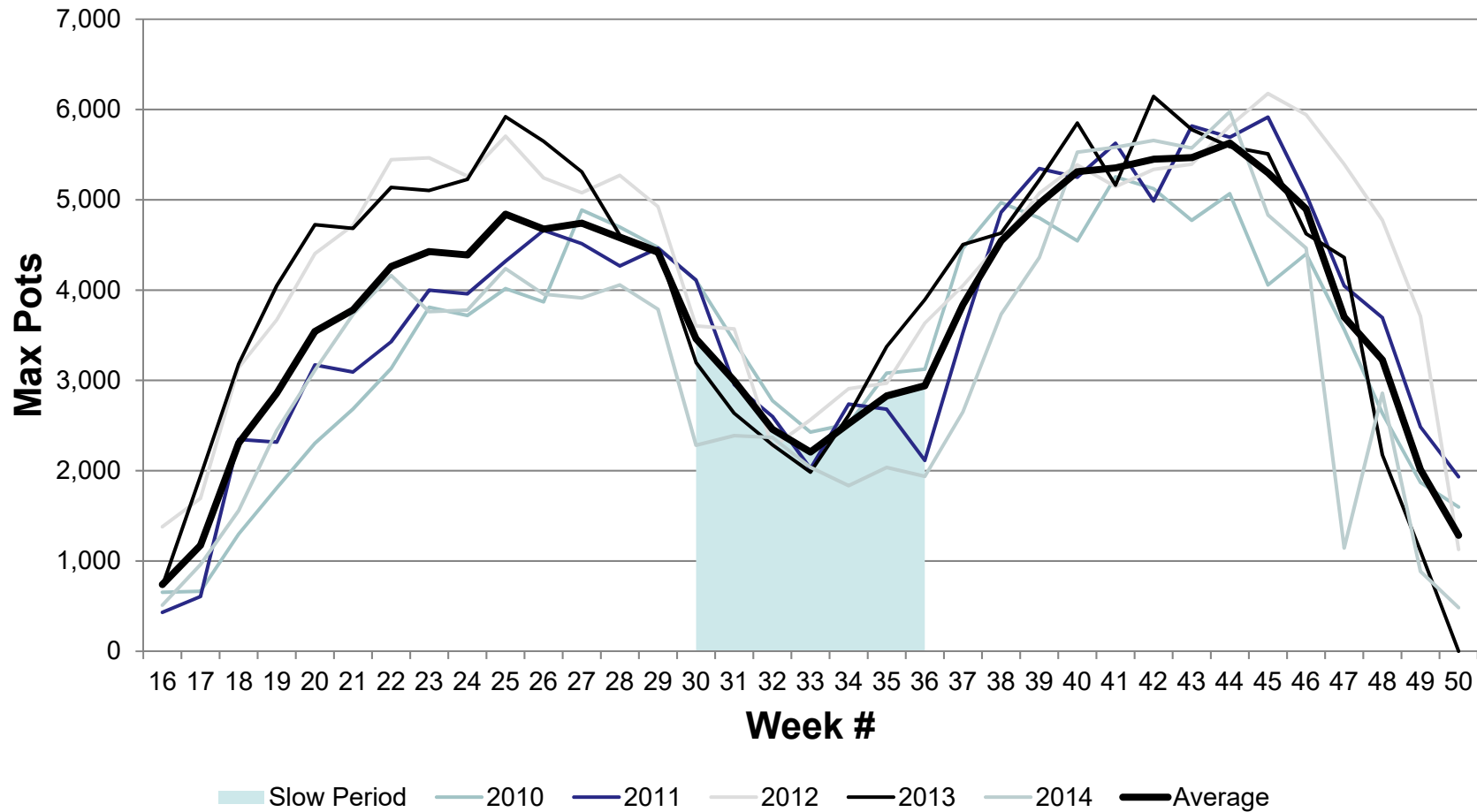
© 2010 Division of Marine Fisheries

Slide 48

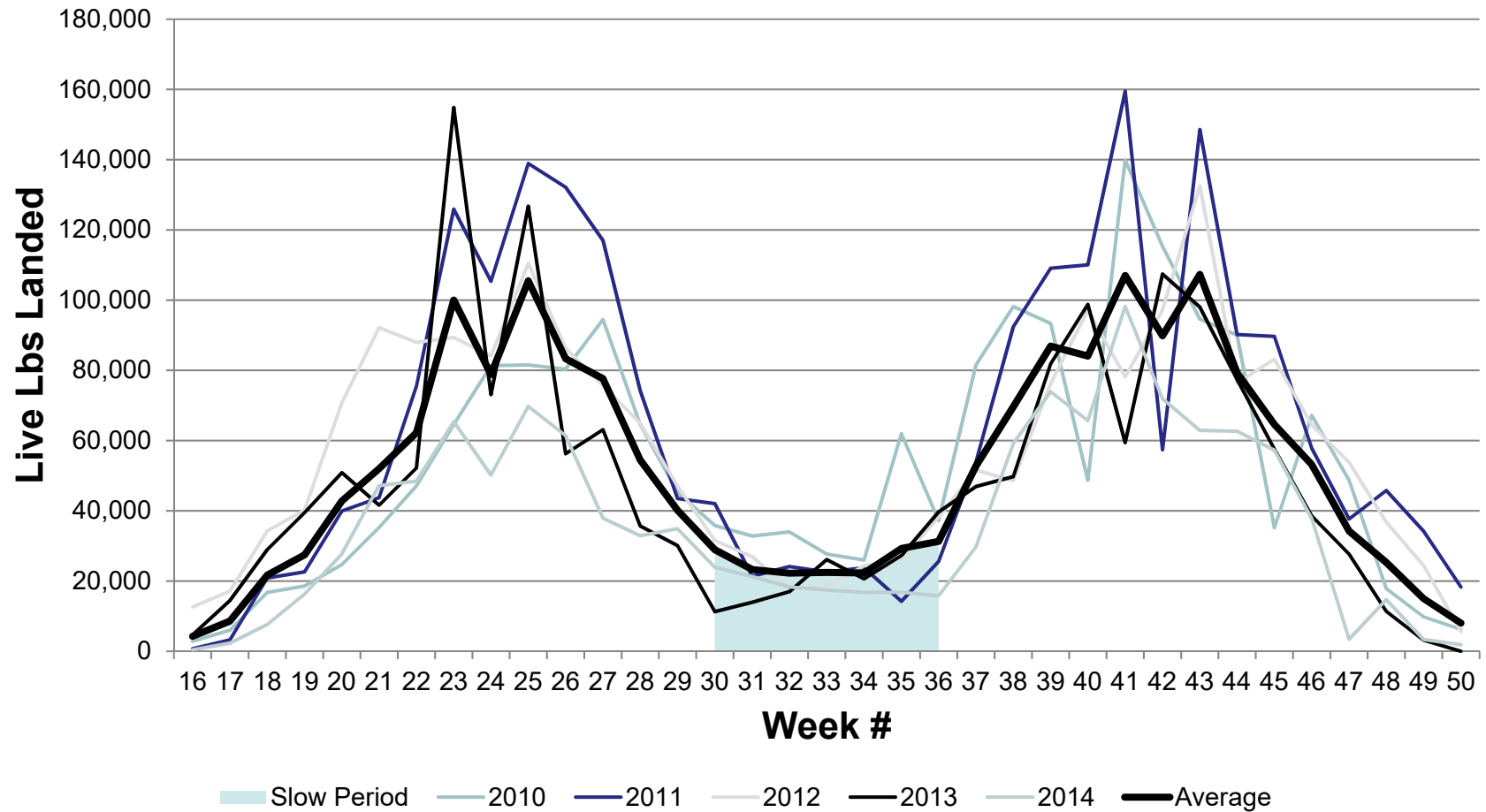
Marine Fisheries
Commonwealth of Massachusetts



Max Conch Pots Nantucket Sound



Conch Pounds Landed Nantucket Sound



Sea Turtle Entanglements

- August in Nantucket Sound is a dangerous time for leatherbacks
- Although gear is at low levels, entanglements and entanglement deaths are at their highest
- August is also a slow period for the conch fishery



In Summary: Potential proposals

- To improve compliance and consistency:
 - Modify gauging technique: any orientation
- To enhance spawning stock (reduce landings):
 - Modify gauging technique and increase minimum size
 - Establish or reduce trip limits
 - conch potters, mobile gear & clam dredgers
 - Reduce trip limits for other gears
 - Enact a mid-summer closure for all gears
- To Reduce Trap Losses
 - Require multiple pot trawls (ban singles)
 - Reduce trap limits – esp. if trip limit is enacted



Potential proposals

- To reduce impact of lost traps:
 - Devise an escape vent and a ghost panel that will degrade to ensure escapement of small whelks and all whelks after some period.
- To improve compliance with min size:
 - Request Legislature to enact per animal fines as is done in lobster fishery (\$100 per short lobster). Could be less per whelk.
- To further reduce active permits:
 - Raise the “actively fished” standard from 5,000 lbs. per year to a higher value...10,000?, 15,000?



Potential proposals

- To minimize leatherback sea-turtle interactions:
 - Enact a late summer closure: August? Last week of August – first week of Sept?



March 19, 2019

© 2010 Division of Marine Fisheries

Slide 54

Marine Fisheries
Commonwealth of Massachusetts



Questions?



March 19, 2019

© 2010 Division of Marine Fisheries

Slide 55

Marine Fisheries
Commonwealth of Massachusetts

