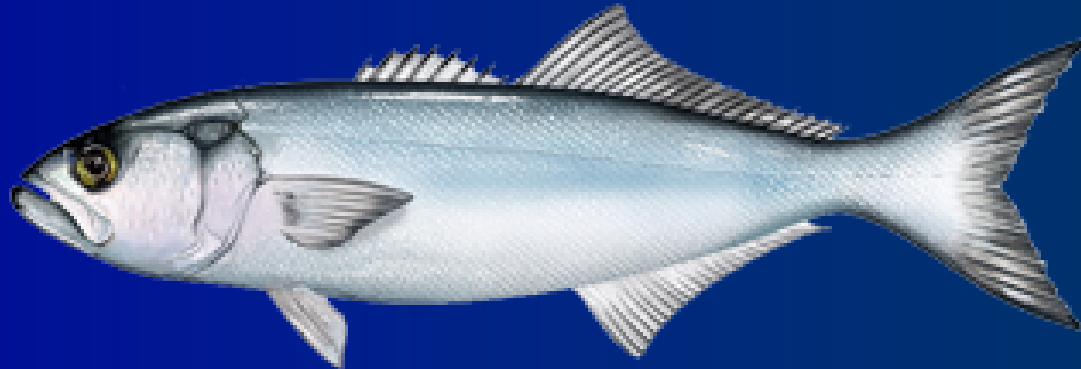




# Atlantic Bluefish



Council and Board Meeting

August 8, 2022

# Outline



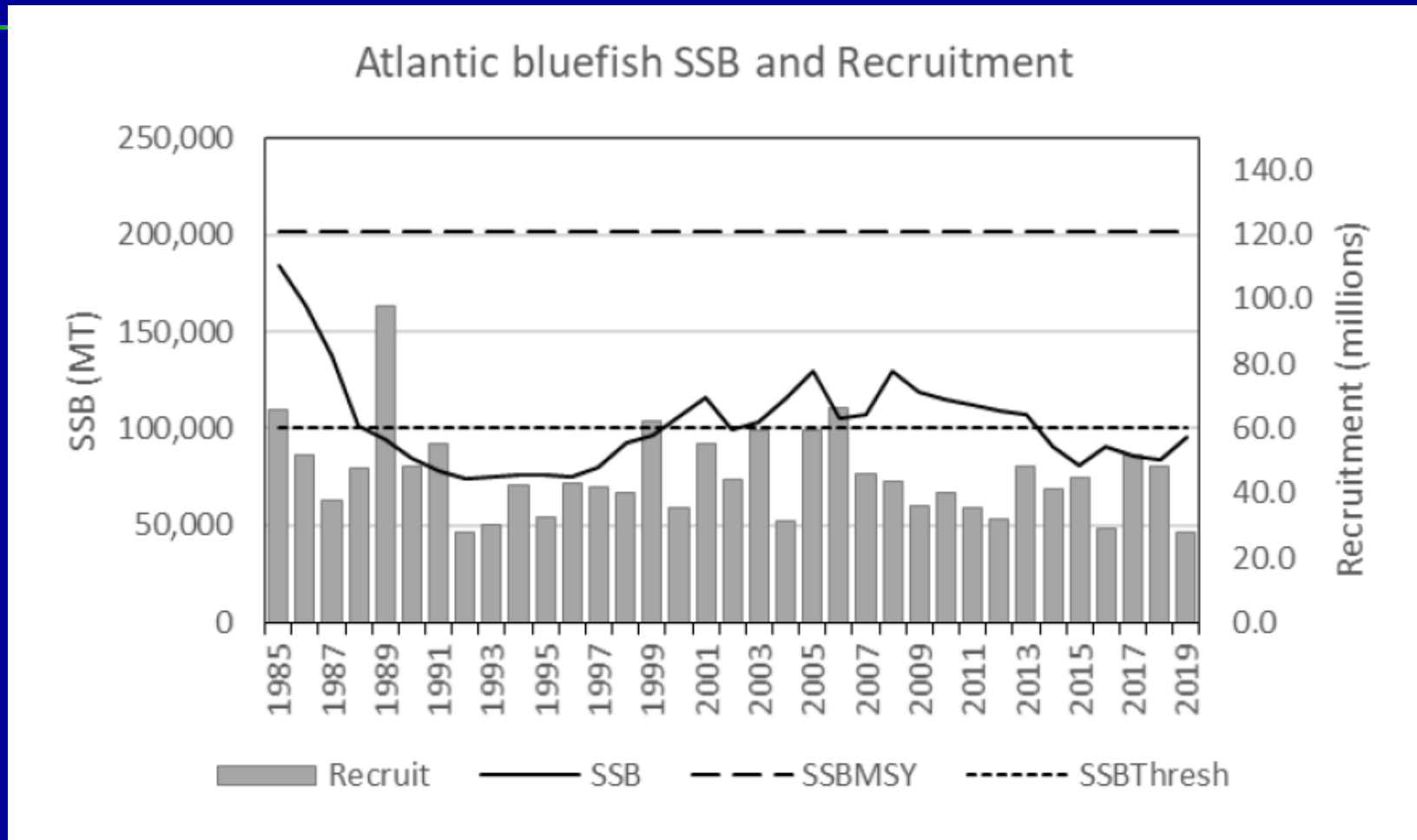
- Stock status and data update
- Recent fishery performance
- AP Fishery Performance Report
- 2023 SSC ABC recommendation
- 2023 Monitoring Committee recommendations
- August AP feedback on rec. measures
  
- Meeting objective: review previously implemented 2023 bluefish specifications
  - Including rec. management measures

# Stock Status



- Last assessment: 2021 Management track assessment
- Data through 2019
- Stock is overfished
- Overfishing is not occurring
- Research track assessment is ongoing throughout 2022, results will be available in 2023

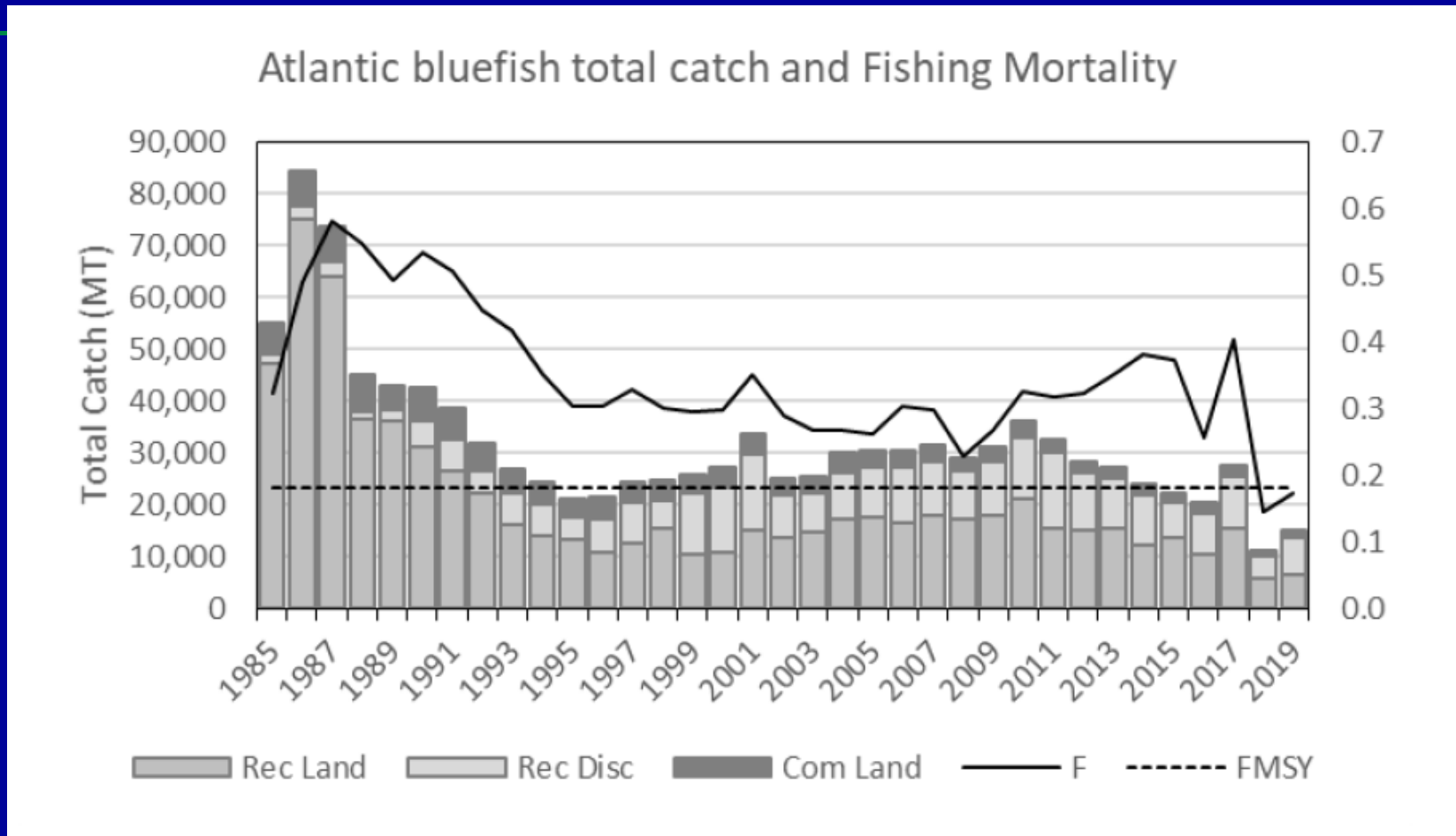
# Biomass and Recruitment, 2021 MTA



**Overfished**

2019 SSB was 95,742 mt, below SSB<sub>Threshold</sub> 100,865 mt

# Catch and Fishing Mortality, 2021 MTA



## Overfishing not occurring

(2019  $F = 0.172$ ; below  $F_{MSY \text{ proxy}} = F_{35\%SPR} = 0.181$ )

# 2022 NEFSC Data Update

- Rec. catch-per-unit-effort index was updated through 2021 from the MRIP intercept data: slight increase from the 2020 estimate
- 2021 NEFSC fall index value is an increase from 2019 value which was lowest in time series

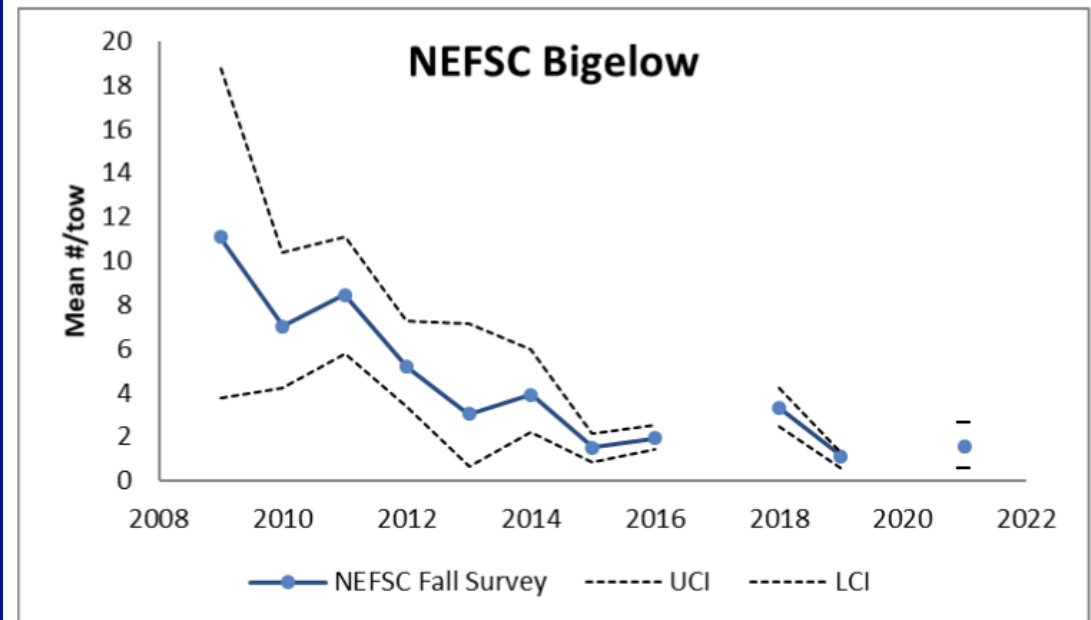
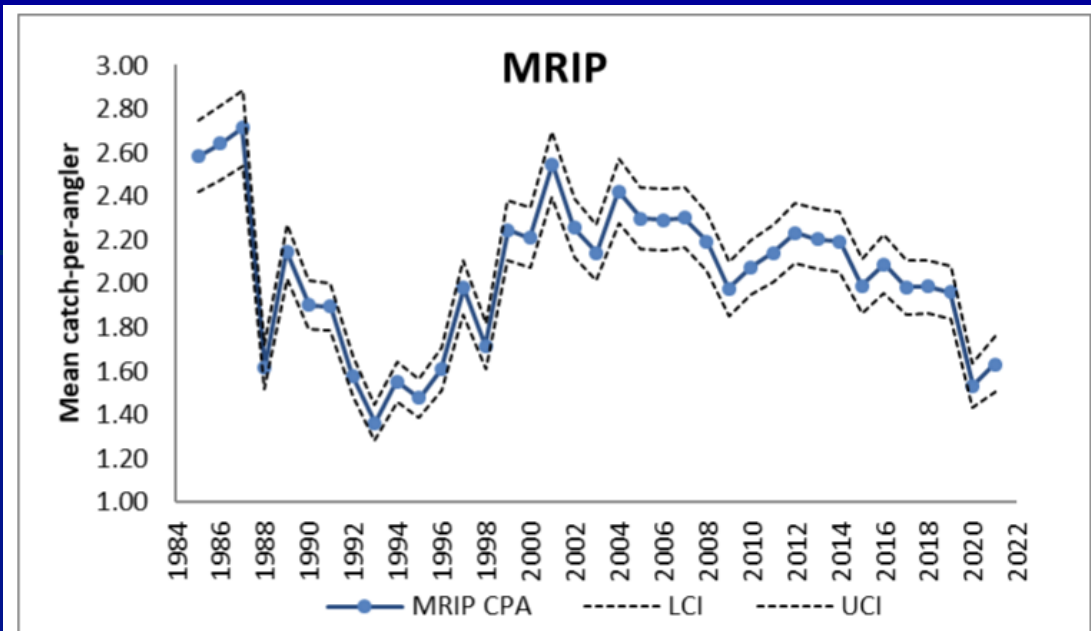


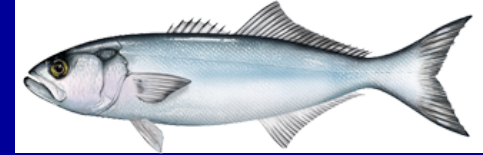
Figure 2. A. MRIP CPUE index and B. NEFSC trawl survey index for bluefish. The Bigelow did not sample southern strata in 2017 and there was no 2020 survey due to COVID.

# 2022 NEFSC Data Update

Year	Commercial Landings (mil lb)	Recreational Landings (mil lb)	Recreational Discards (NEFSC methodology, mil lb)
2020	2.45	13.58	8.3
2021	2.40	12.46	12.6

- There are currently two methods used to estimate recreational bluefish discards, GARFO vs NEFSC
- Discard estimate methodology is being evaluated in the ongoing bluefish research track assessment
  - Peer-reviewed methodology resulting from the assessment is expected to be used throughout the management process in the future

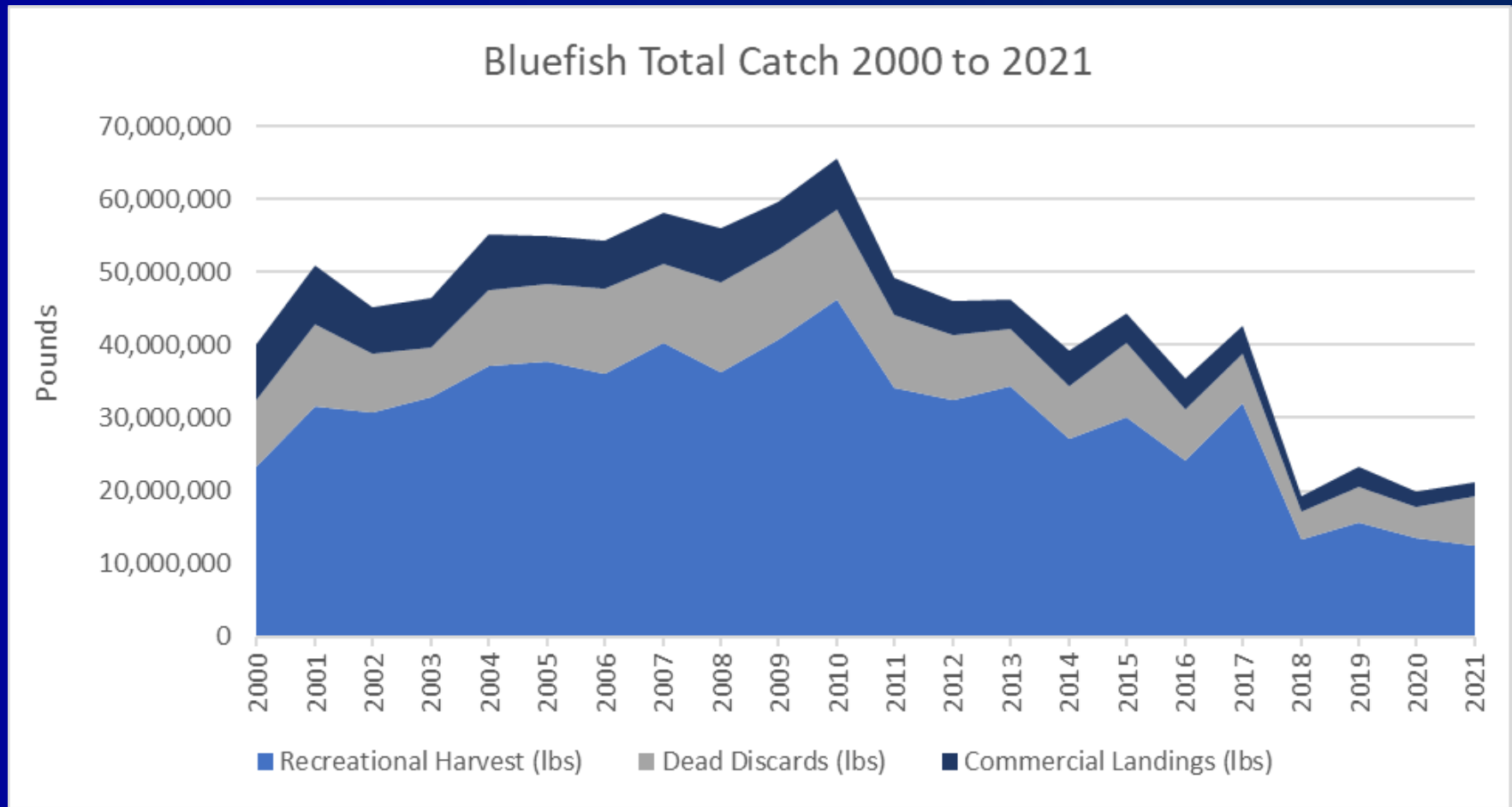
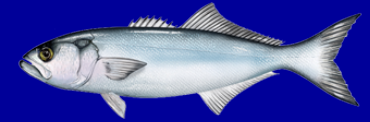
# Management Measures



Management Measures	2018	2019	2020	2021	2022	2023
<b>ABC</b>	21.81	21.81	16.28	16.28	25.26	30.62
<b>TAL</b>	18.82	19.33	12.25	12.25	17.43	26.43
<b>Comm. Quota</b>	7.24	7.71	2.77	2.77	3.54	4.29
<b>Comm. Landings</b>	2.20	2.78	2.16	2.17	--	
<b>Rec. Harvest Limit</b>	11.58	11.62	9.48	8.34	13.89	22.14 (before payback)
<b>Rec. Harvest, Old MRIP</b>	3.64	--	--	--	--	--
<b>Rec. Harvest, New MRIP</b>	13.27	15.56	13.58	12.46	--	--
<b>Rec. Possession Limit (# fish)</b>	15	15	3: Private 5: For-Hire	3: Private 5: For-Hire	3: Private 5: For-Hire	3: Private 5: For-Hire
<b>Total Landings</b>	5.84	18.34	15.74	14.63	--	
<b>Overage/Underage</b>	-12.98	N/A*	+3.49	+2.38	--	
<b>Total Catch</b>	6.96	23.50	19.93	21.27	--	
<b>Overage/Underage</b>	-14.85	N/A*	+3.65	+4.99	--	



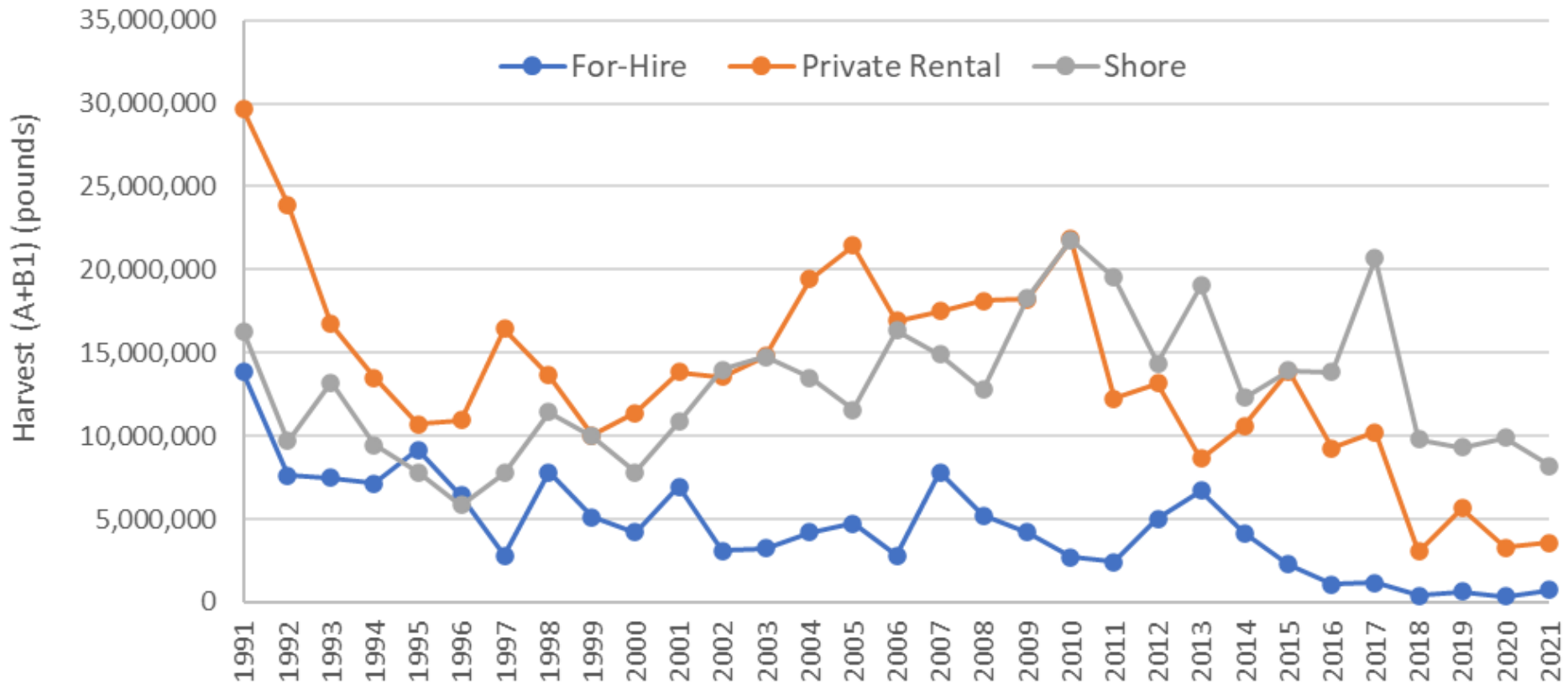
# 2000-2021 Bluefish Catch



# 2021 Rec. Landings by State

State	Harvest		
	Pounds	Number	Average Weight (pounds)
ME	3,633	673	5.4
NH	3,796	698	5.4
MA	833,962	116,547	7.2
RI	718,950	140,504	5.1
CT	206,429	263,966	0.8
NY	2,353,527	861,060	2.7
NJ	3,357,809	921,667	3.6
DE	8,460	14,019	0.6
MD	117,545	105,711	1.1
VA	153,199	216,317	0.7
NC	1,031,761	982,391	1.1
SC	107,268	172,528	0.6
GA	12,870	13,811	0.9
FL	3,553,572	2,373,891	1.5
<b>Total</b>	<b>12,462,781</b>	<b>6,183,783</b>	<b>-</b>

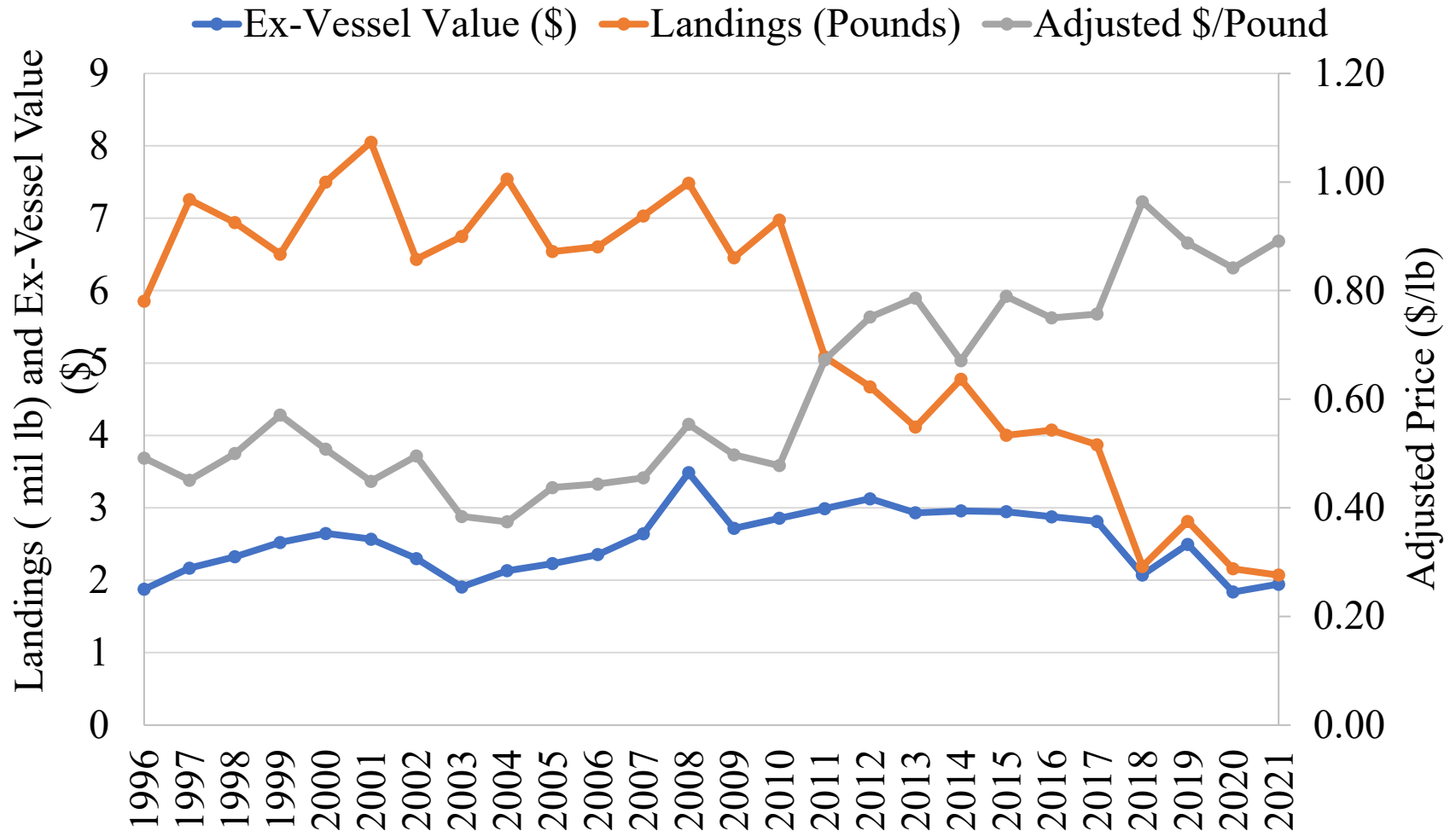
# Recreational Harvest by Mode



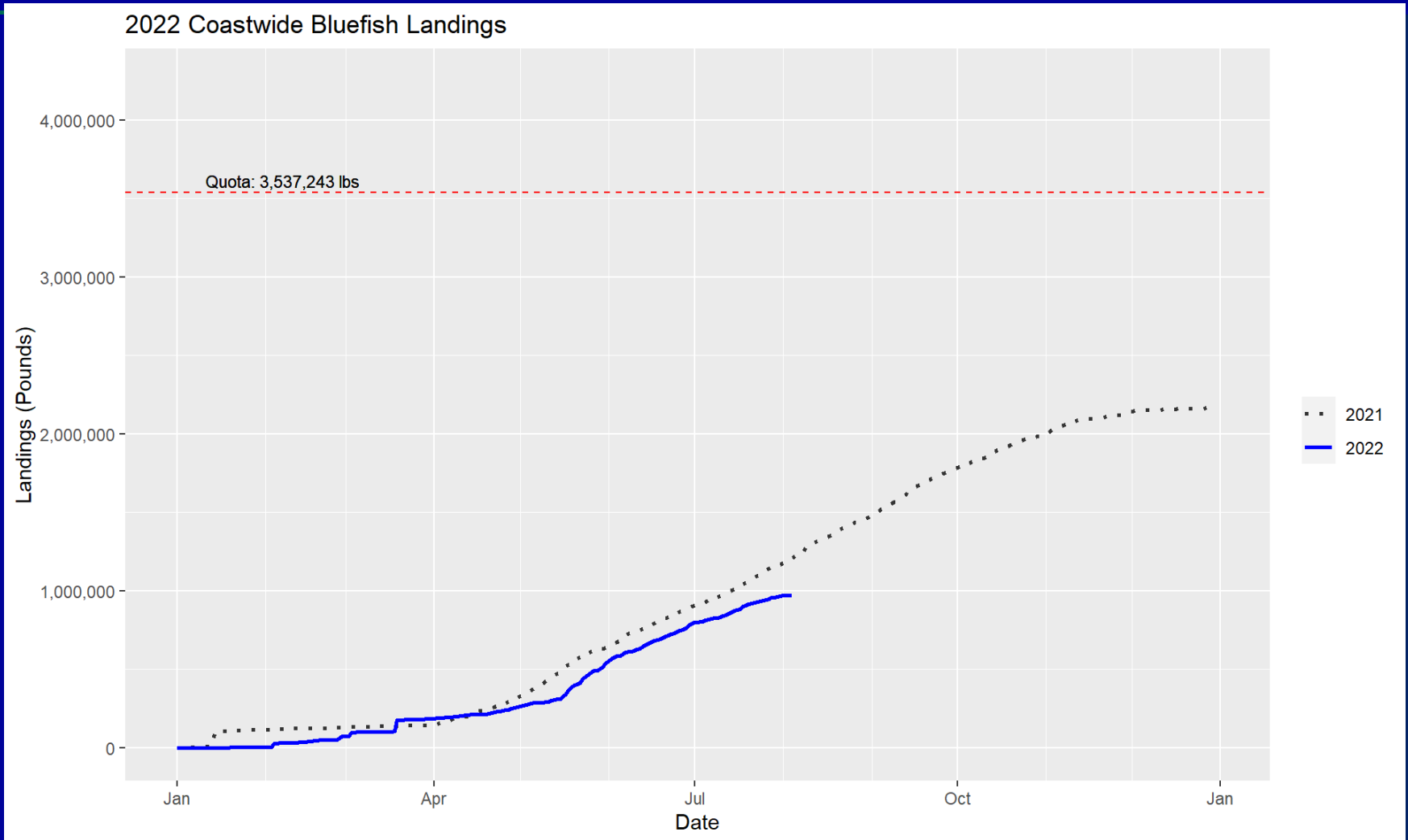
# Commercial Fishery



- 248 commercial vessels landed bluefish, 119 dealers purchased bluefish

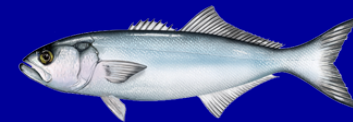


# Commercial Fishery



2022 landings as of August 3, 2022 compared with 2021 landings

# Commercial Fishery



## Top Commercial Bluefish Ports in 2021

Port	Pounds	% of total commercial bluefish landings	# vessels
Wanchese, NC	352,350	17%	<10
Hatteras, NC	306,615	15%	<10
Point Judith, RI	201,228	10%	96
Montauk, NY	140,827	7%	83
Point Pleasant, NJ	129,975	6%	28
Boston, MA	124,787	6%	<10

# AP Fishery Performance Report

## *Environmental factors influencing catch*

- Catch has been flat since the big dropoff after 2017, anglers from shore and beaches do not keep a lot of bluefish
- Last Nov. quite a few bluefish and were about 3-5 lbs
- Fish that move inshore are spillover from the population that are looking for additional forage
- In NJ, bluefish showed up late this year, possibly due to late menhaden timing
- for the FH sector in NJ, not a catch and release fishery
  - Plenty of fish last year, fall fishing is pretty good

# AP Fishery Performance Report

## *Environmental factors influencing catch, cont'd*

- RI: comm. and rec. fishing started strong last year and fell off latter half of the year, especially gillnetting
  - Giant bluefin tuna moved inshore in the fall and scared off the smaller bluefish
  - This year bluefish seems like a strong stock, people are reaching their quotas quickly
- ME: bf were historically important for the for-hire trips, especially in Aug. when other species' seasons close. As the population has decreased there have been very few bluefish in ME and NH for the past 5 years
- MA: more bluefish in the fall last year especially south side of the cape



# AP Fishery Performance Report

## *Environmental factors influencing catch, cont'd*

- Bluefish dealer/smokehouse owner from RI purchases bluefish up and down the coast
  - Used to see bigger fish but now they are much smaller, except this year, started getting really big fish
  - Environmental shift has likely caused big bluefish to go offshore
  - In RI when tuna moved in close to shore it affected inshore gillnetters, less fish, however those fishing 10-11 miles south of block island were catching a lot and were only restricted by quota
  - In the fall, bluefish were coming by RI offshore
- DE/MD area: aren't seeing tiny snappers or jumbos but good supply of fish around 28 inches, bf have been in the surf and going into estuaries, new fishing opportunities

# AP Fishery Performance Report

## *Environmental factors influencing catch, cont'd*

- One advisor commented that CT's average weight for bluefish seems difficult to believe, too small
  - Other AP members commented that the snapper fishery is common in CT and the high number of snappers can explain the low average weight per fish

## *Market/economic and management issues*

- Discard mortality rate of 15% seems high, treble hooks make it harder to release, choosing to fish with a single hook may increase survival
- No AP members from Florida were present, however, one advisor noted that they have heard anglers are upset about the minimum size limit in the state

# AP Fishery Performance Report

## *Market/economic and management issues*

- Implications of the 2021 RHL overage, Staff discussed that the Monitoring Committee and Council and Board would consider that when setting 2023 recreational measures.
- Five AP members supported an increase in bag limit for the for-hire sector
  - Four specified that this could be supported with implementation of a minimum size for this sector
  - One advisor did not support different bag limits across modes
  - One advisor discussed benefits of sector separation in Gulf of Mexico between private and for-hire
- Two advisors supported investigating a small but reasonable min. size to help protect the stock
- One advisor said regs. do not have a big impact on angler behavior or the health of the stock, catch and release fishery

# AP Fishery Performance Report

## *Research priorities*

- More research is needed on release mortality and single hook lures should be promoted along with a circle hook requirement
- Research the large-scale cyclical nature of bluefish
- Research the impact of the snapper fishery on the stock, what is the impact of removing a lot of these small bluefish from the future population

## *Email comments*

- 6-pack charter boat operator: current bag limit is completely fine, we catch a ton of blues and release about 90%
- Small baitfish such as sand eels and silversides you will find plenty of smaller blues.
- When menhaden are around you will find the larger (alligator) bluefish. No big bunker= No big blues.

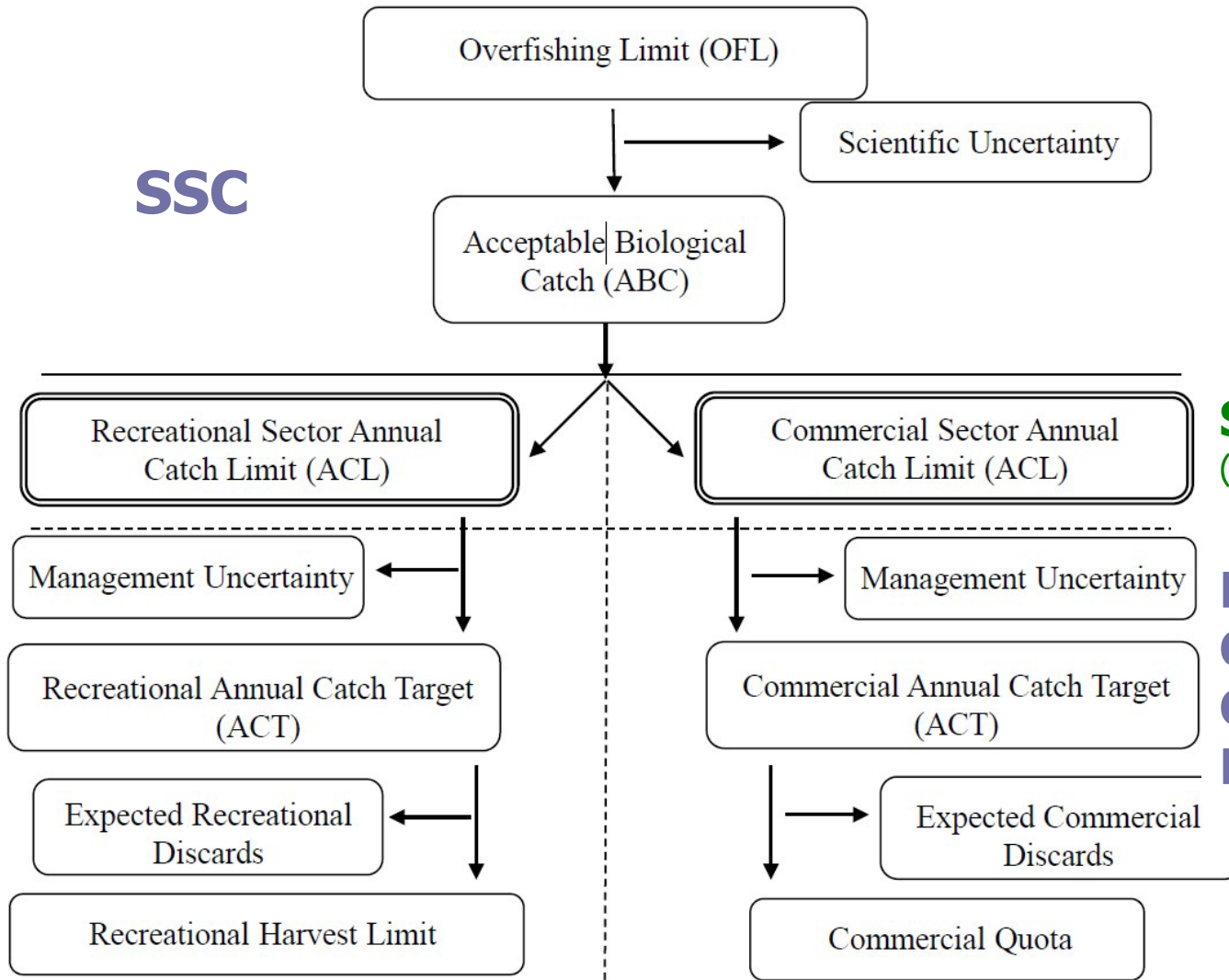
# July SSC Meeting

- 2023 SSC rec. ABC = 30.62 million pounds, 13,890 mt.
  - Currently in a rebuilding plan and an RTA will be reviewed in December 2022.
  - No new information was provided to suggest that a change from the current ABC is warranted.
  - The SSC recommended continuation of the current ABC of 13,890 mt for 2023

# Specifications Process

Set in 2021 for 2022-2023

**SSC**



**Specified in FMP**  
(no change year to year)

**Monitoring  
Committee,  
Council and  
Board**

# MC Discussion: Commercial

- Given no changes to 2023 ABC, no changes needed to sector ACLs
- The MC recommended no changes to Commercial ACTs for management uncertainty
  - Some uncertainty related to discards
- No changes to commercial quota
  - No recent coastwide overages

# MC Discussion: Recreational

Management uncertainty in the rec. sector

- Discard estimates
- 2020 and 2021 rec. ACL overages
- Level of noncompliance, anglers have kept numbers of fish over the bag limit
  - Needs further evaluation, may need to be more outreach
- Assessment used data through 2019, more uncertainty when applying that through 2023



# MC Discussion: Recreational

- Discussed adding an uncertainty buffer to the 2023 ACL to derive a more precautionary ACT.
  - 10% added to GARFO discard estimate, use recent RHL overage percentages
  - Discards and the payback would then be subtracted from that lowered ACT.
- Ultimately, they did not decide to add this buffer due to lack of clear calculation as a basis
- Rec. ACT was set equal to Rec. ACL, no change from previously implemented ACLs and ACTs

# 2021 Rec. Overage and 2023 RHL

- 2021 Rec. ACL overage, AM triggered, 5.59 million pound payback needed in 2023

2021 Recreational Value	Millions of Pounds
Landings	12.46
Dead discards	6.64
Catch	19.10
Rec. ACL	13.51
Rec. ACL overage	+5.59

- 2023 RHL = 2023 ACL/ACT – payback – dead discards
  - 2021 GARFO dead discard estimate of 6.64 mil lb
  - 2021 NEFSC dead discard estimate of 12.60 mil lb

# MC Discussion: 2023 RHL

- Payback adjusted 2023 RHLs that use either the 2021 GARFO or 2021 NEFSC discards as a proxy for 2023 discards
  - ~ 6 mil lb difference

2023 RHL Calculations	Millions of Pounds	% below/above 2021 Harvest
Rec. ACL=ACT	26.34	n/a
Unadjusted RHL	22.14	
2021 overage payback	5.59	
Adjusted RHL with 2021 NEFSC Discards	8.15	-34.60%
Adjusted RHL with 2021 GARFO Discards	<b>14.11</b>	+13.24%

- Using 2021 harvest as expected 2023 harvest, first full year of 3 and 5 fish bag limit
  - This expected harvest and the two RHLs in the table would result in either a ~35% reduction needed, or a 13% liberalization allowed

# 2023 Recreational Measures

- December 2021, the Council and Board requested that the MC analyze the impacts of increasing the for-hire sector bag limit from a 5 fish limit to a 7 fish bag limit.
  - 3 sets of % difference in harvest relative to status quo presented in Table 5 of the rec memo
  - Increasing from 5 fish to 7 fish for the FH sector would yield a 0.20% to 0.39% increase to overall expected recreational harvest.

# 2023 Rec. Measures: MC Recommendations

## MC recommended status quo recreational measures for 2023

- The two discard estimates for 2021 result in an estimated 13% liberalization (GARFO discards) or a 35% reduction (NEFSC discards) needed in 2021 harvest compared to the 2023 RHL.
  - MC discussed GARFO estimate may underestimate dead discards
  - SQ measures factor in this discrepancy
  - RTA is addressing this issue, approach from that assessment will be used by GARFO moving forward
- Stability in measures, changing rec measures from year to year makes it difficult to evaluate the effectiveness of those measures, compliance, etc.

# 2023 Rec. Measures: MC Recommendations

- Recent overages/uncertainty concerns related to 2023, they did not support the liberalizations that had been requested by some members of the for-hire sector for next year
- Acknowledged the frustration of some in the private angler sector with the current measures being split by sector within the recreational fishery.
  - Currently a rec. sector separation amendment under consideration as part of the recreational reform initiative by the Council and Board which can evaluate challenges related to these different stakeholder groups and develop a more formal approach to divergent measures by sector.

# 2023 MC Recommendations

Management Measure	Year		Basis
	2023 (original)	2023 (adjusted)	
OFL	45.17	45.17	Stock assessment projections
ABC	30.62	30.62	Derived by SSC; Follows the rebuilding plan through NEFSC projections
ACL	30.62	30.62	Defined in FMP as equal to ABC
Comm. ACL=ACT	4.29	4.29	ABC x 14% sector allocation, no adjustment for management uncertainty
Rec. ACL=ACT	26.34	26.34	ABC x 86% sector allocation, no adjustment for management uncertainty
Recreational AMs	0	<b>5.59</b>	Adjusted to estimated 2021 rec. ACL overage payback
Comm. Discards	0	0	Value used in assessment
Rec. Discards	4.19	<b>6.64</b>	2020 GARFO estimate (original), 2021 GARFO estimate (adjusted)
Commercial Quota	4.29	4.29	Comm. ACT
RHL	22.14	<b>14.11</b>	Rec. ACT minus discards and AM payback
Possession limit	3: private 5: for-hire	3: private 5: for-hire	2023 implemented, and 2023 MC rec.

# August 1 AP Meeting: Rec. Measures

- 4 AP members supported SQ rec. measures in 2023
  - Stability, recent overages, discard estimates, upcoming RTA
- 2 AP members: any liberalization considered by the C/B should bring the private and for-hire bag limits equal, not further divergent
  - Resource is in rebuilding, FH may be small component but still need to conserve, not a justification for unequal bag limits
  - Further divergence by mode should be explored through sector separation amendment



# August 1 AP Meeting: Rec. Measures

- Percent of for-hire trips landed full bag limit, have trips increased in recent years?
  - # of trips 2017-2021 in backup slide, 5% landed full bag in 2021
- AP member asked about noncompliance
  - Staff noted anglers kept up to 15 bluefish on trips in 2021. More work needs to be done to quantify the levels of noncompliance in this fishery over time
- Different states, modes, and regions have different management needs. Regulations in one region should not take away from business in another region.

# Decision Point:

- Review 2023 Specifications and commercial and recreational management measures
  - Recommend any changes if warranted



# 2023 MC Recommendations

Management Measure	Year		Basis
	2023 (original)	2023 (adjusted)	
OFL	45.17	45.17	Stock assessment projections
ABC	30.62	30.62	Derived by SSC; Follows the rebuilding plan through NEFSC projections
ACL	30.62	30.62	Defined in FMP as equal to ABC
Comm. ACL=ACT	4.29	4.29	ABC x 14% sector allocation, no adjustment for management uncertainty
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RHL	22.14	<b>14.11</b>	Rec. ACT minus discards and AM payback
Possession limit	3: private 5: for-hire	3: private 5: for-hire	2023 implemented, and 2023 MC rec.

# Extra slides

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# MC Recommendations



- Commercial ACT and quota: no changes
- Recreational ACT: no changes
- Recreational Harvest Limit: Adjusted for AM payback and updated with 2021 GARFO estimate for expected discards
- Recreational Measures: no changes

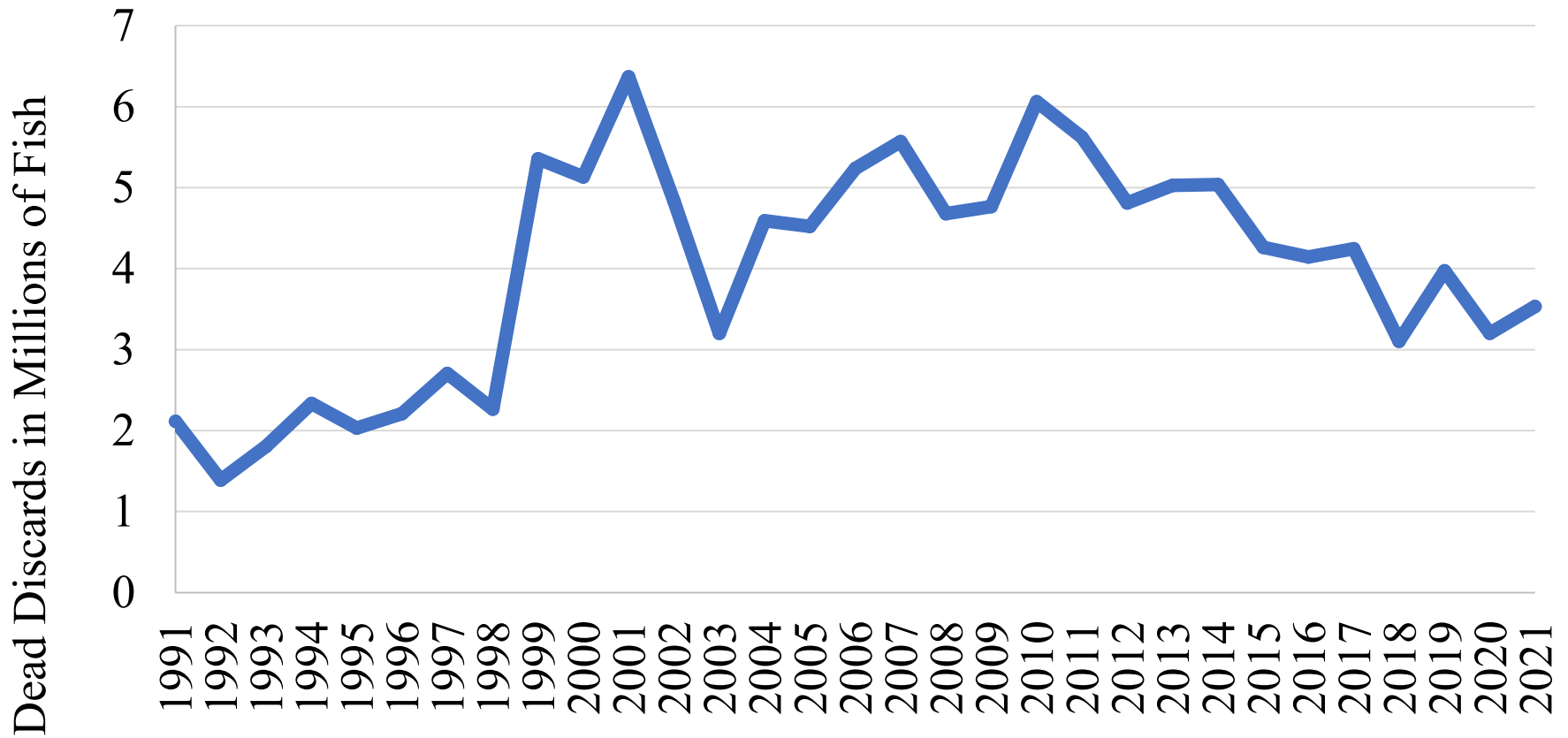
- AP Discussion:  
Comments on 2023  
rec. measures for  
bluefish



# 2021 rec catch by state

State	Harvest			Catch	Total Released	Dead Discards
	Pounds	Number	Average Weight <sup>1</sup> (pounds)	Number	Number	Number
ME	3,633	673	5.4	6,104	5,431	815
NH	3,796	698	5.4	698	-	-
MA	833,962	116,547	7.2	855,041	738,494	110,774
RI	718,950	140,504	5.1	774,409	633,905	95,086
CT	206,429	263,966	0.8	1,180,092	916,126	137,419
NY	2,353,527	861,060	2.7	3,565,667	2,704,607	405,691
NJ	3,357,809	921,667	3.6	2,895,008	1,973,341	296,001
DE	8,460	14,019	0.6	179,562	165,543	24,831
MD	117,545	105,711	1.1	316,949	211,238	31,686
VA	153,199	216,317	0.7	719,804	503,487	75,523
NC	1,031,761	982,391	1.1	4,521,724	3,539,333	530,900
SC	107,268	172,528	0.6	722,532	550,004	82,501
GA	12,870	13,811	0.9	136,588	122,777	18,417
FL	3,553,572	2,373,891	1.5	13,875,822	11,501,931	1,725,290
<b>Total</b>	12,462,781	6,183,783	-	29,750,000	23,566,217	3,534,932

# Dead discards #s of fish



# Commercial landings by state 2021

State	2021 Landings (Pounds)
ME	0
NH	0
MA	223,723
RI	254,607
CT	33,648
NY	324,186
NJ	230,157
DE	2,171
MD	3,065
VA	44,626
NC	851,860
SC	0
GA	0
FL	102,623
<b>Total</b>	<b>2,070,666</b>

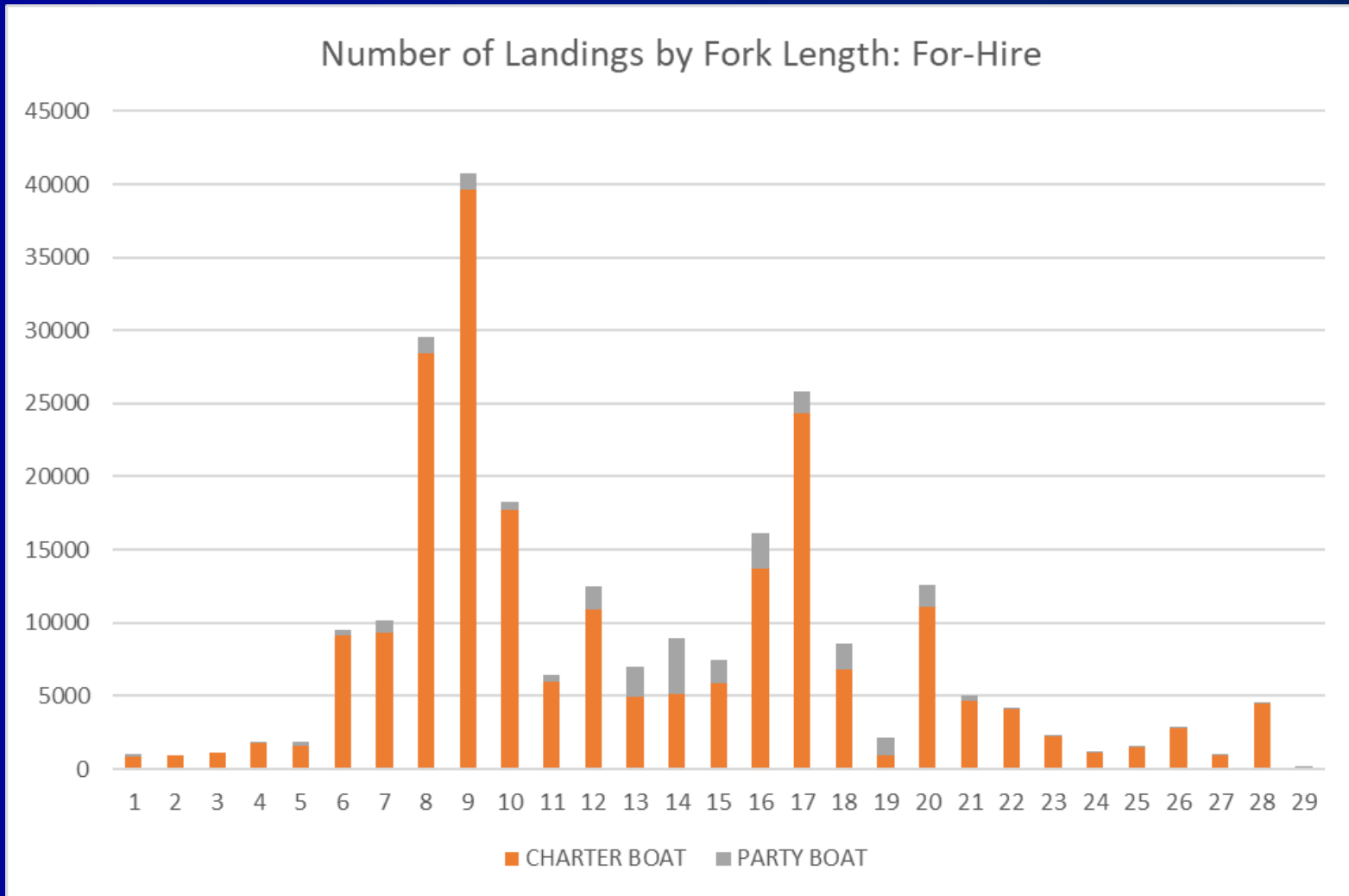


# Bag Limit Change Tables

<b>Percent liberalization or reduction: method 1</b>					
<b>Bag Limit</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Private Angler</b>	Status quo	8.03%	16.07%	24.10%	32.14%
<b>For Hire</b>	-0.30%	-0.10%	Status quo	0.10%	0.20%
<b>Total</b>	-0.30%	7.93%	16.07%	24.20%	32.34%
<b>Percent liberalization or reduction: method 2</b>					
<b>Bag Limit</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Private Angler</b>	Status quo	8.03%	27.05%	66.77%	*
<b>For Hire</b>	-0.30%	-0.10%	Status quo	0.10%	0.30%
<b>Total</b>	-0.30%	7.93%	27.05%	66.87%	0.30%
<b>Percent liberalization or reduction: method 3</b>					
<b>Bag Limit</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Private Angler</b>	Status quo	7.97%	13.54%	18.08%	21.92%
<b>For Hire</b>	-0.38%	-0.12%	Status quo	0.25%	0.39%
<b>Total</b>	-0.38%	7.85%	13.54%	18.33%	22.31%

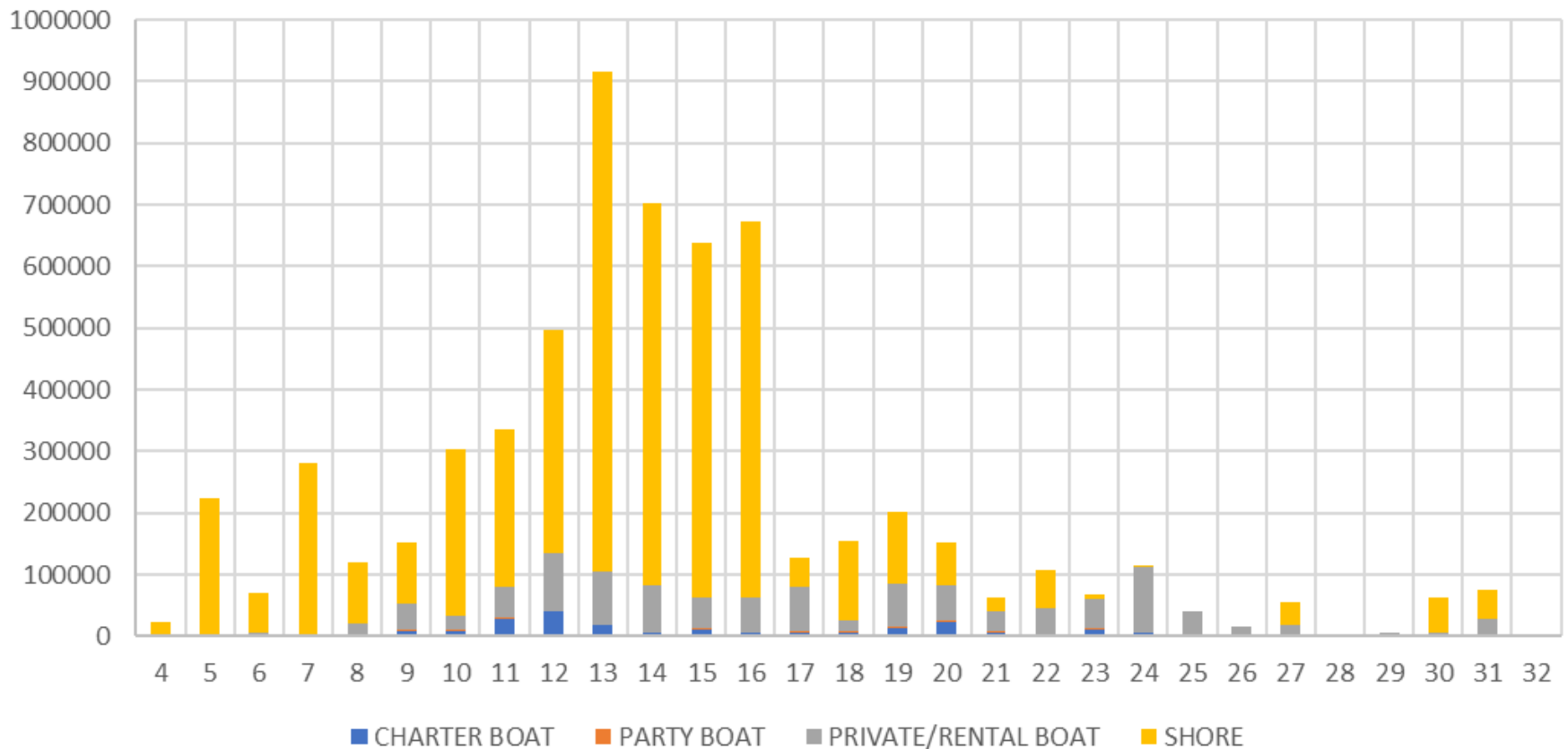
\*This methodology would require calculating a reduction based on a negative bag limit so cannot be used for liberalizations over a 6 fish bag limit.

# 2021 MRIP Length Frequencies



# MRIP Length Frequencies

Number of Landings at Fork Lengths by Mode 2021



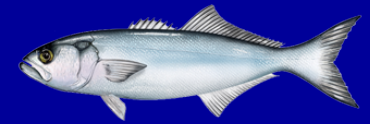
# Bluefish Amendment



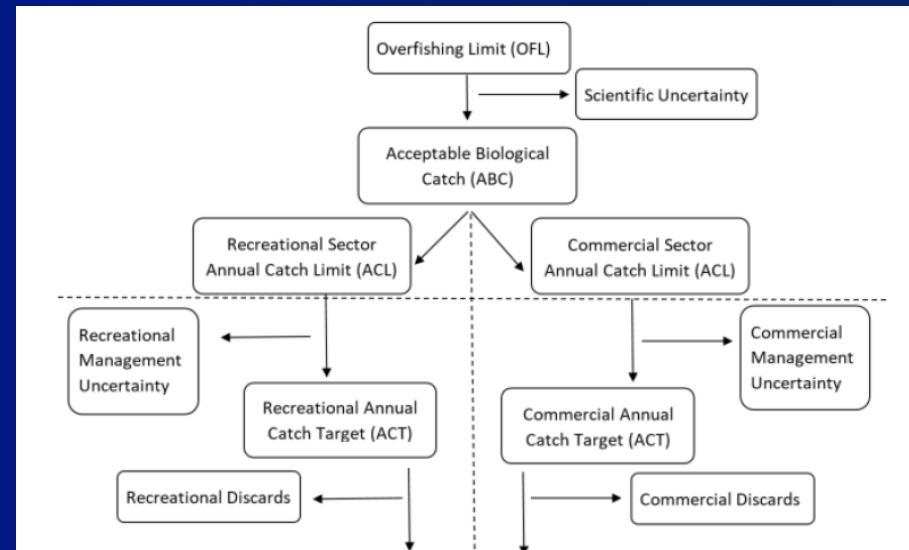
- Proposed FMP Goals and Objectives
- Sector Allocations
  - From: 83% Rec,  
17% Comm
  - To: 86% Rec,  
14% Comm
- Commercial Allocations to the States

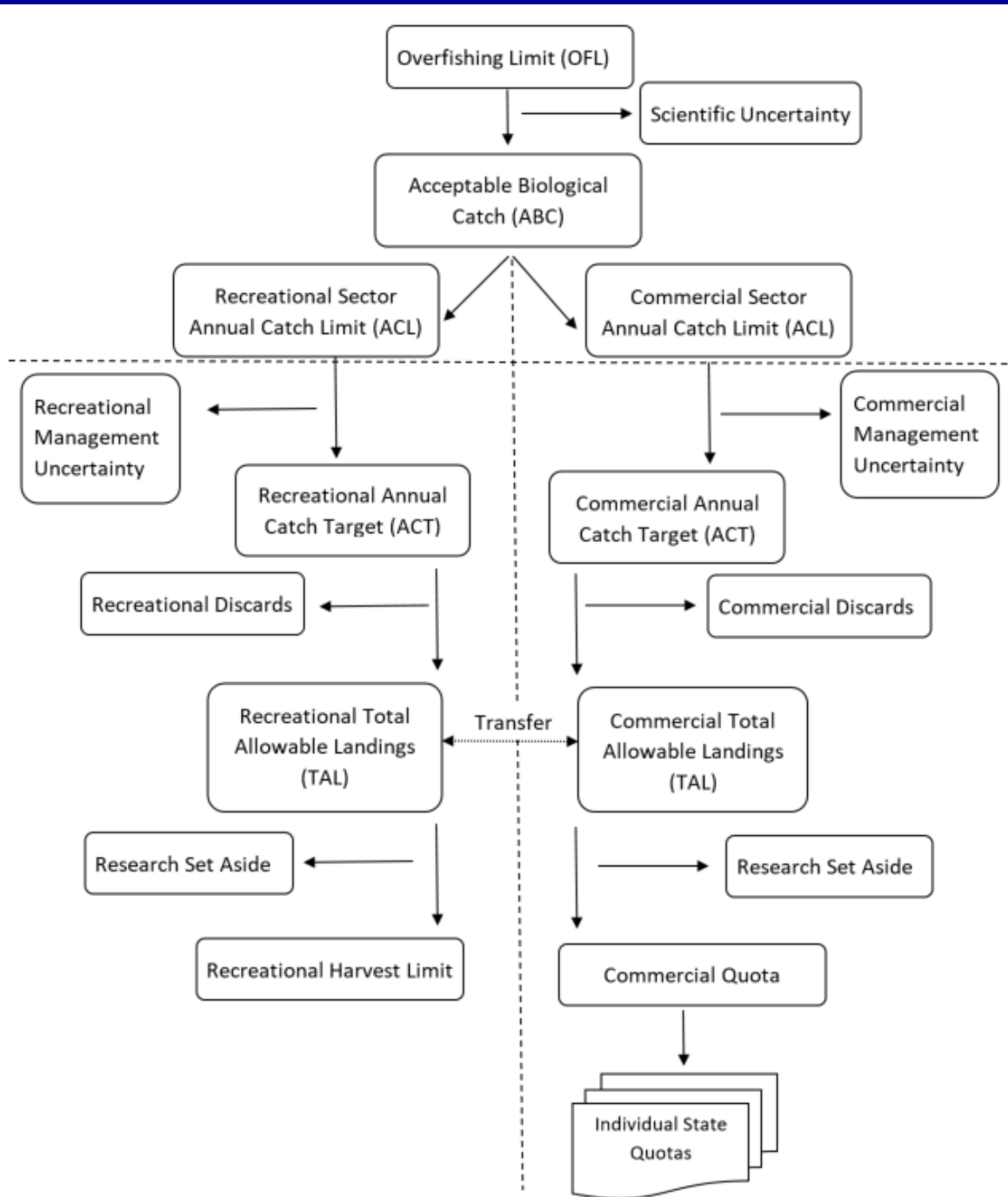
State	Previous Allocations Under Amendment 1	Revised Allocations to be Phased in Over 7 Years
Maine	0.67%	<b>0.11%</b>
New Hampshire	0.41%	<b>0.22%</b>
Massachusetts	6.72%	<b>10.12%</b>
Rhode Island	6.81%	<b>9.61%</b>
Connecticut	1.27%	<b>1.09%</b>
New York	10.39%	<b>19.76%</b>
New Jersey	14.82%	<b>13.85%</b>
Delaware	1.88%	<b>0.49%</b>
Maryland	3.00%	<b>1.92%</b>
Virginia	11.88%	<b>5.87%</b>
North Carolina	32.06%	<b>32.03%</b>
South Carolina	0.04%	<b>0.10%</b>
Georgia	0.01%	<b>0.10%</b>
Florida	10.06%	<b>4.78%</b>

# Bluefish Amendment Preferred Alternatives



- Rebuilding Plan: 7-year Constant Fishing Mortality
- Sector Transfers:
  - Bi-directional instead of just recreational to commercial
  - Transfer cap = 10% of ABC
- Management Uncertainty
  - Post-sector split
- *De minimis*
  - Status quo





# Research Priorities



## ■ 2019 Operational Assessment

- Improve characterization of recreational discard lengths and weights

## ■ 5-year research priorities

- Evaluate species associations with recreational angler trips targeting bluefish to potentially modify the bluefish recreational CPUE index used in the assessment.
- Evaluate methods for integrating disparate indices produced at multiple spatial and temporal scales into a stock-wide assessment model
- Evaluate changes in selectivity of age-0 bluefish in fishery independent surveys due to shifting environmental conditions. Investigate trends in recruitment.
- Conduct a post-release mortality study to determine if the recreational discard mortality rate has changed over time.
- Investigate the assumption of zero discards in the commercial fishery.

# For-Hire Bluefish Trips

YEAR	Bluefish For-Hire Trips*
2017	147,071
2018	83,498
2019	126,115
2021	93,148

- These trips either had bluefish as their primary target or trips that caught bluefish
- 2020 excluded due to imputed data from 2018 and 2019 and the bag limit change going into effect mid-year
- In 2021, 5% of BF for-hire trips that harvested fish, harvested the full bag limit



Table 1—Comparison of Initial and Revised Commercial Quota Allocations Among the Atlantic States

State	Old commercial quota allocation (in percent)	Revised commercial quota allocation (in percent)
Maine	0.67	0.01
New Hampshire	0.41	0.12
Massachusetts	6.72	10.16
Rhode Island	6.81	9.64
Connecticut	1.27	1.00
New York	10.39	19.94
New Jersey	14.82	13.94
Delaware	1.88	0.40
Maryland	3.00	1.84
Virginia	11.88	5.85
North Carolina	32.06	32.38
South Carolina	0.04	0.00
Georgia	0.01	0.00
Florida	10.06	4.75

# 2023 proposed measures

	2021		2022		2023	
	Million lb	Metric tons	Million lb	Metric tons	Million lb	Metric tons
Overfishing Limit	32.98	17,228	40.56	18,399	45.17	20,490
ABC = Fishery ACL	16.28	7,385	25.26	11,460	30.62	13,890
Commercial ACL = Commercial ACT	2.77	1,255	3.54	1,604	4.29	1,945
Recreational ACL = Recreational ACT	13.51	6,130	21.73	9,856	26.34	11,945
Recreational Accountability Measures	0	0	3.65	1,656	0	0
Commercial Total Allowable Landings (TAL)	2.77	1,255	3.54	1,604	4.29	1,945
Recreational TAL	8.34	3,785	13.89	6,298	22.14	10,044
Sector Transfer	0	0	0	0	0	0
Commercial Quota	2.77	1,255	3.54	1,604	4.29	1,945
RHL	8.34	3,785	13.89	6,298	22.14	10,044

# Rec. Harvest Control Rule Percent Change Approach

①



RHL compared to  
harvest estimate

Determine if  
upcoming 2-year  
average RHL is  
**above, below, or  
within** a confidence  
interval around an  
estimate of harvest  
under status quo  
measures.



②



Compare biomass  
to target level

Three categories:  
• **Very high:** Greater  
than 150% of  
target level  
• **High:** At least the  
target level, but no  
higher than 150%  
of target level  
• **Low:** Below target  
level



③



Determine percent  
change in harvest

Steps 1 and 2  
determine the  
appropriate percent  
change in harvest  
needed (if any).



④

Set management  
measures

Management  
measures modified  
as needed to  
achieve the percent  
change determined  
through step 3.  
  
Measures are set for  
2 years at a time.



Future RHL vs Harvest Estimate	Biomass vs. target level	Change in Harvest
Future 2-year avg RHL <b>greater than</b> upper bound of harvest estimate CI (harvest expected to be lower than RHL)	<b>Very high</b> (above 150% of target)	Liberalization % equal to difference between harvest estimate and 2-year average RHL, <u>not to exceed 40%</u>
	<b>High</b> (at least target but no higher than 150% of target)	Liberalization % equal to difference between harvest estimate and 2-year average RHL, <u>not to exceed 20%</u>
	<b>Low</b> (below target)	Liberalization: 10%
Future 2-year avg RHL <b>within</b> harvest estimate CI (harvest expected to be close to RHL)	<b>Very high</b> (above 150% of target)	Liberalization: 10%
	<b>High</b> (at least target but no higher than 150% of target)	No change: 0%
	<b>Low</b> (below target)	Reduction: 10%
Future 2-year avg RHL <b>less than</b> lower bound of harvest estimate CI (harvest expected to exceed RHL)	<b>Very high</b> (above 150% of target)	Reduction: 10%
	<b>High</b> (at least target but no higher than 150% of target)	Reduction % equal to difference between harvest estimate and 2-year average RHL, <u>not to exceed 20%</u>
	<b>Low</b> (below target)	Reduction % equal to difference between harvest estimate and 2-year average RHL, <u>not to exceed 40%</u>