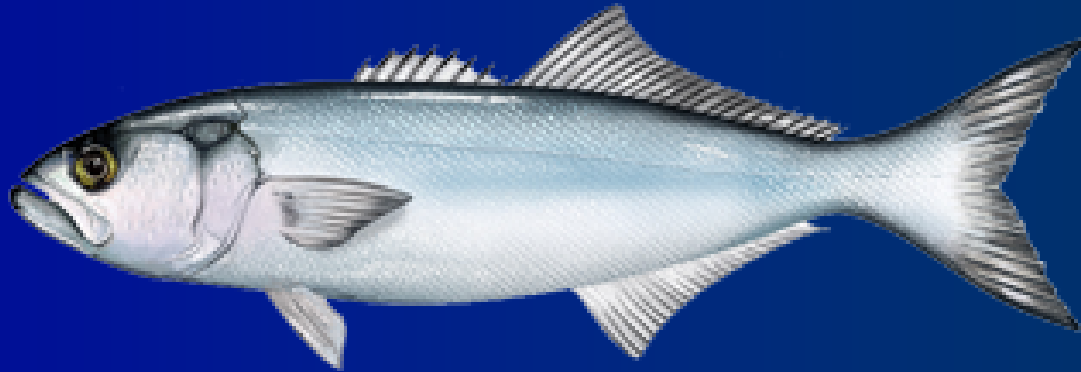


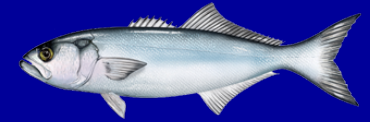


# Atlantic Bluefish



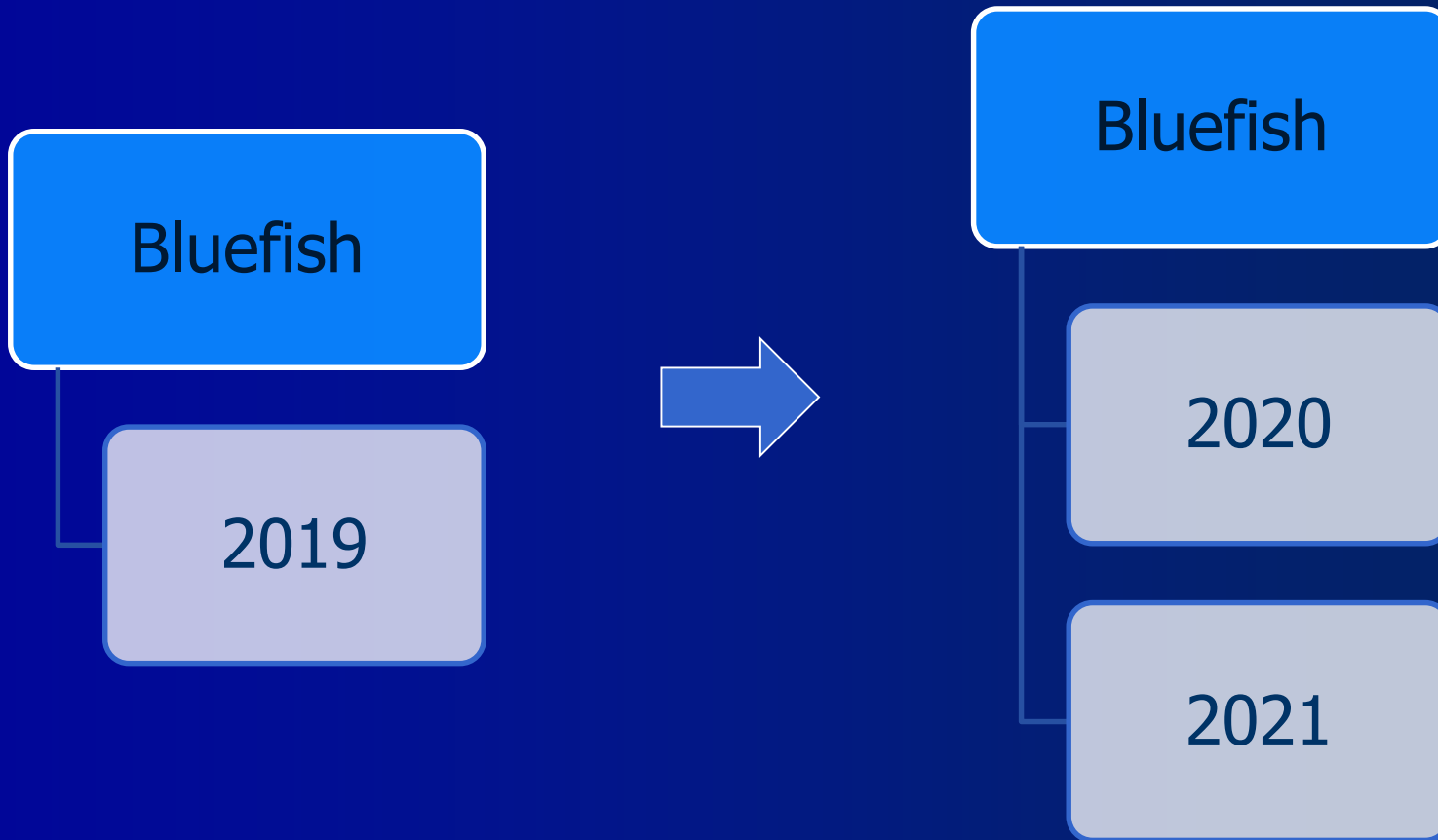
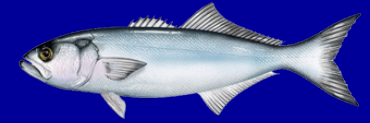
Council Meeting  
October 8, 2019

# Outline

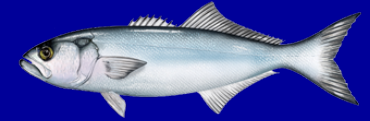


- Management overview
- Stock Status
- Assessment update
- Review recent fishery performance and fishery regulations
- AP Fishery Performance Report
- SSC/MC Recommendations

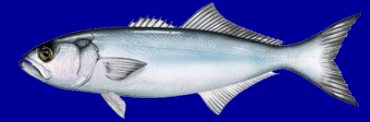
# Specifications Process - *Current Multiyear specifications*



# Specifications Process

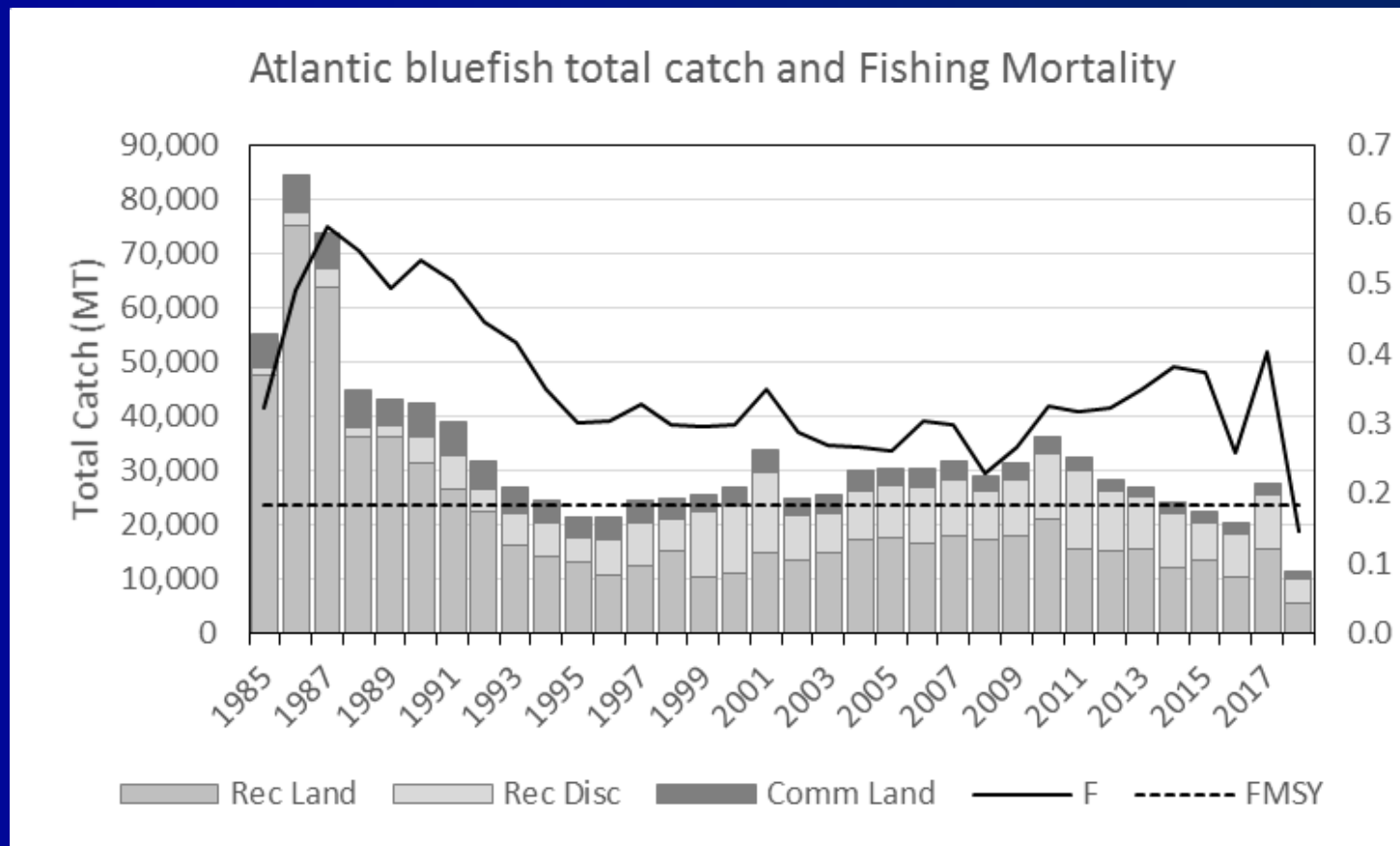
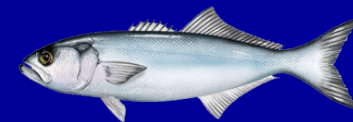


# Stock Status



- Last benchmark stock assessment: 2015
  - SAW/SARC 60
- Stock is not overfished
- Overfishing is not occurring
- This year: SSC will review an operational assessment update through 2018

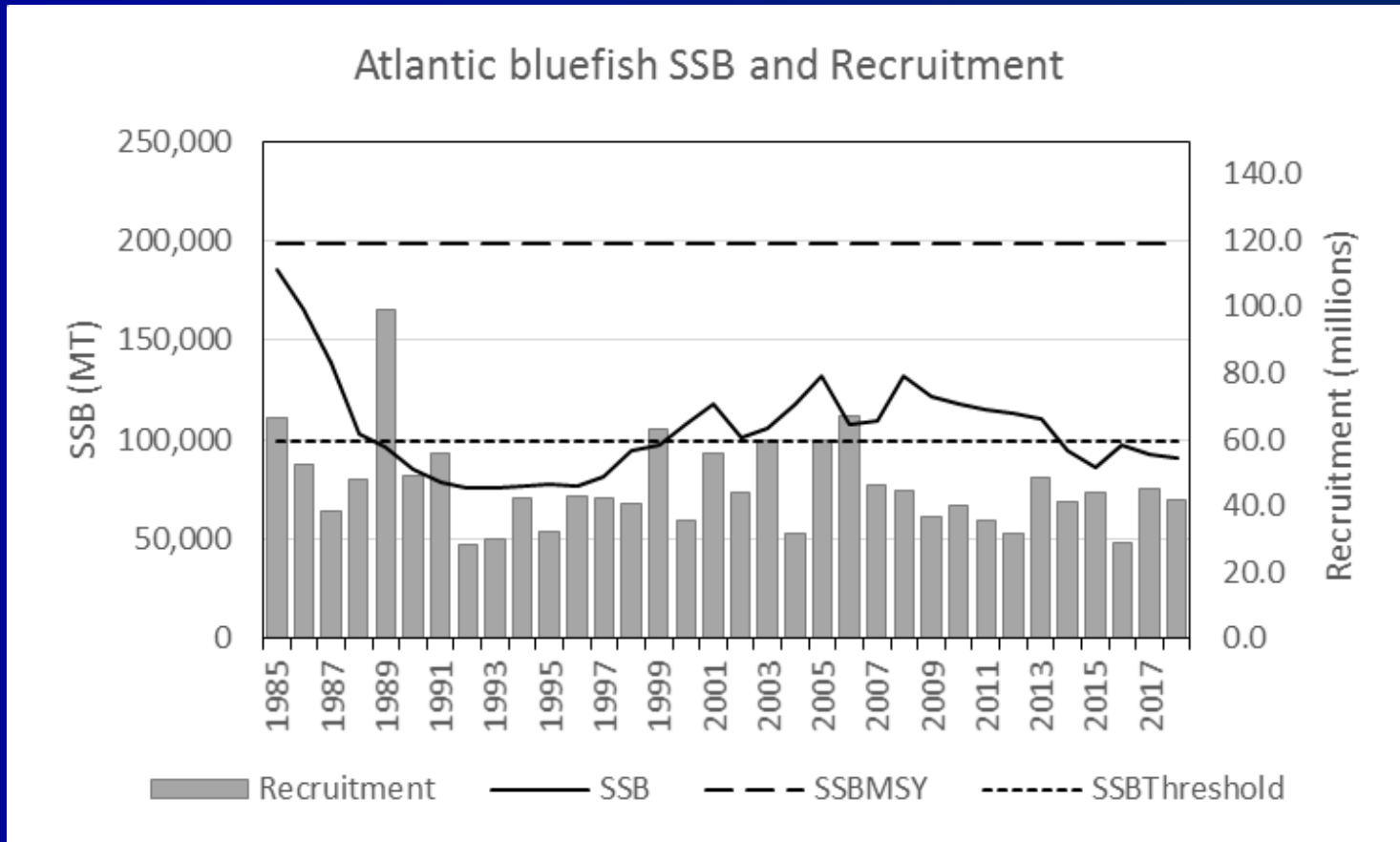
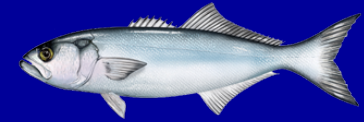
# Fishing Mortality - 2019



## Overfishing not occurring

(2018  $F = 0.146$ ; below  $F_{MSY \text{ proxy}} = F_{35\%SPR} = 0.183$ )

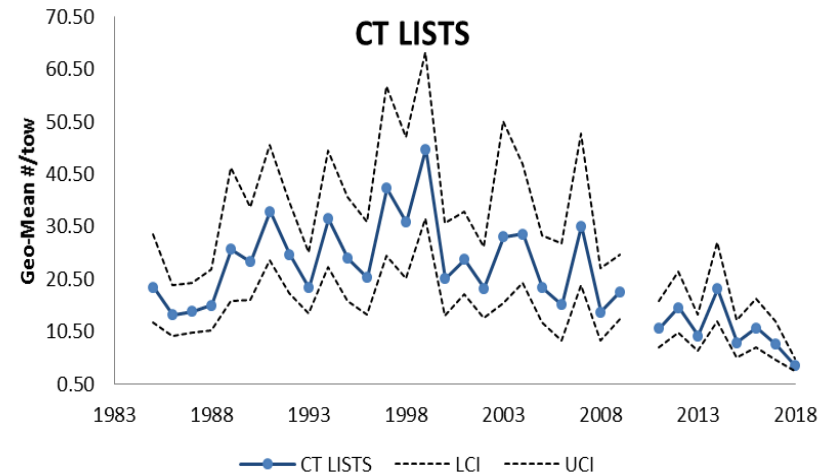
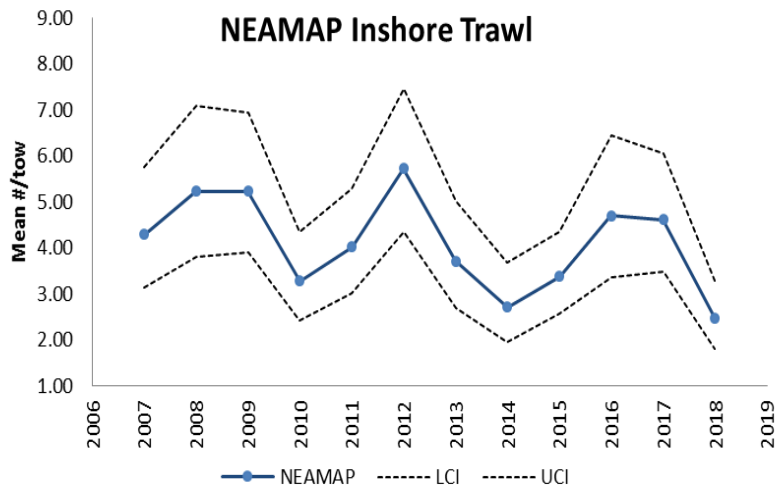
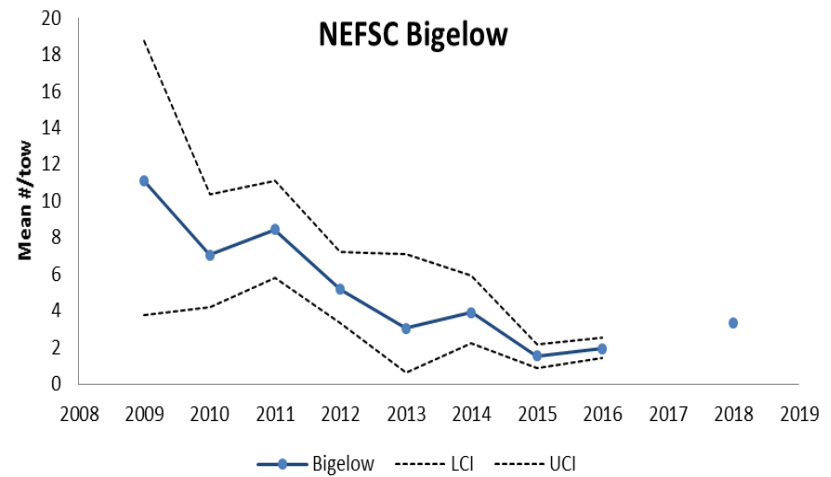
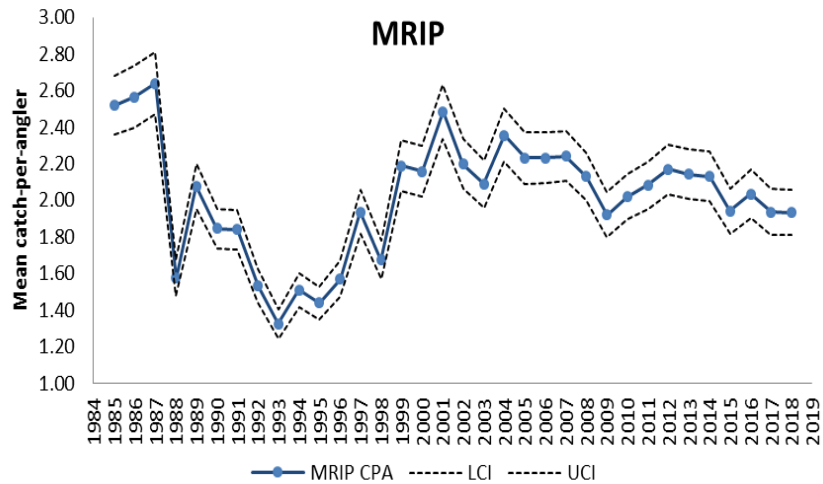
# Biomass - 2019



## Overfished

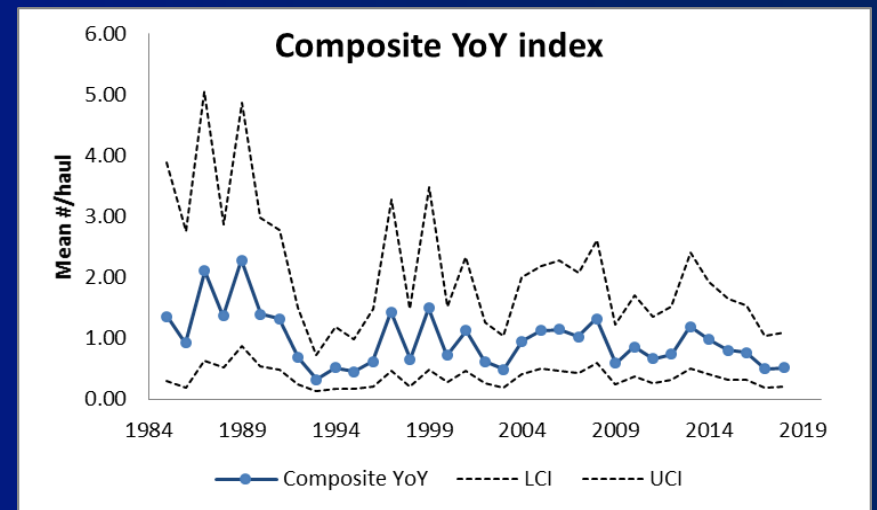
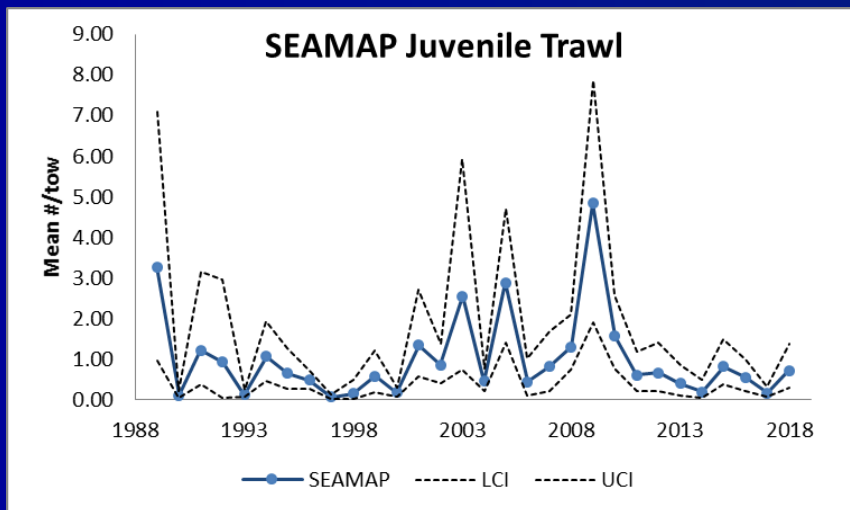
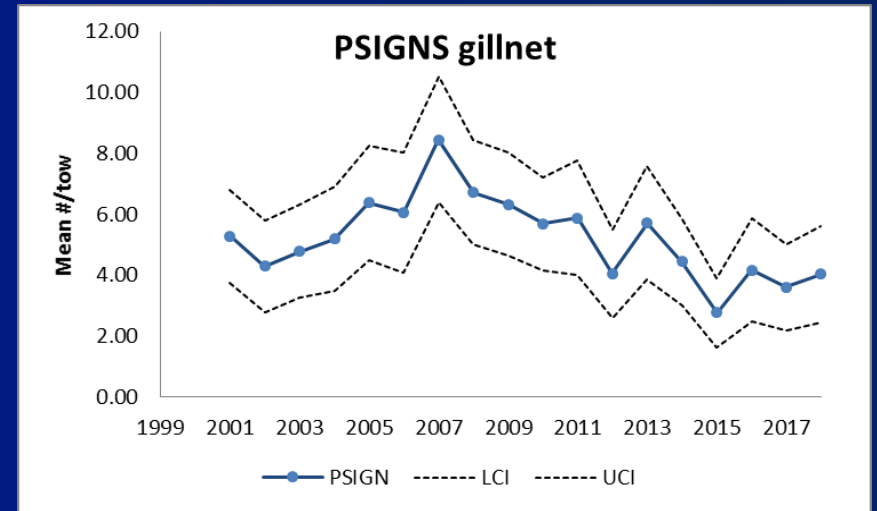
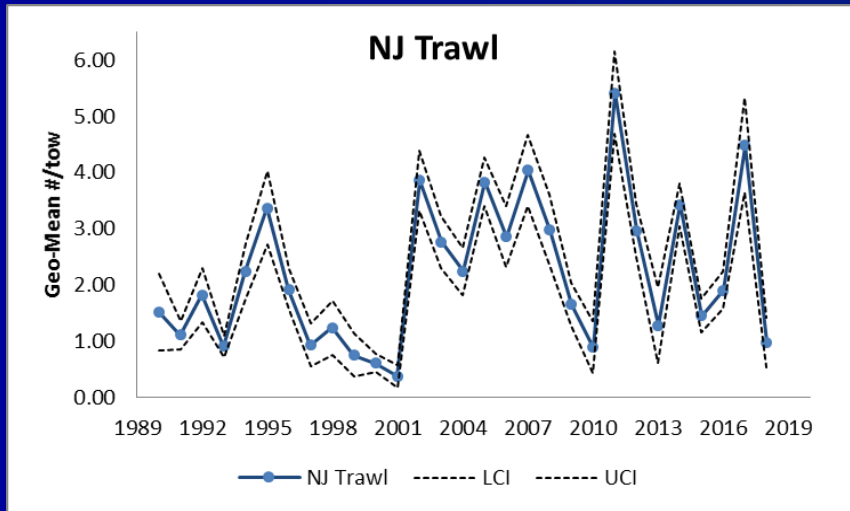
2018 SSB (91,041 mt)  $\approx$  8% below SSB<sub>Threshold</sub> (99,359 mt)

# Indices of Abundance





# Indices of Abundance

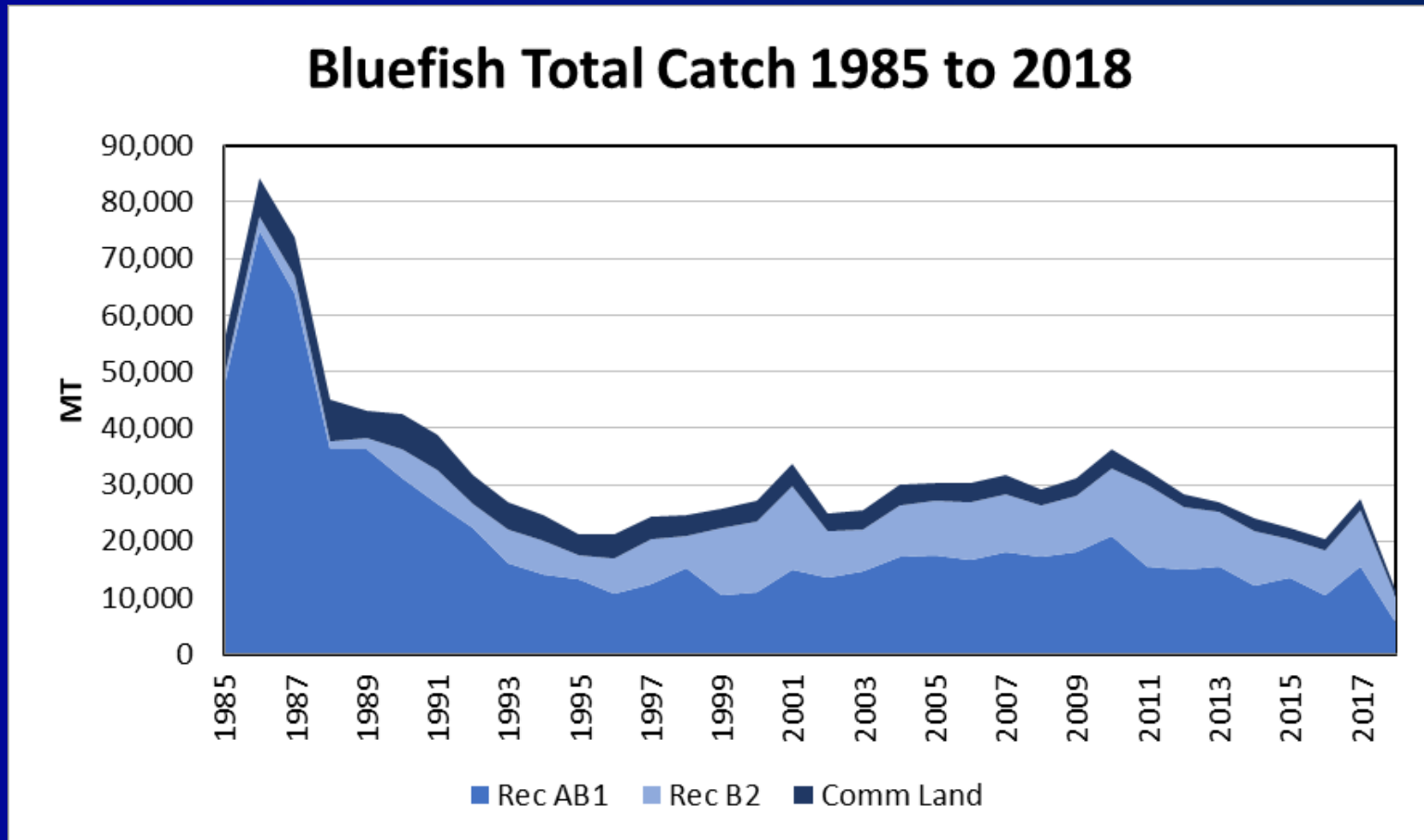
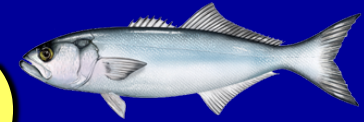


# Management Measures



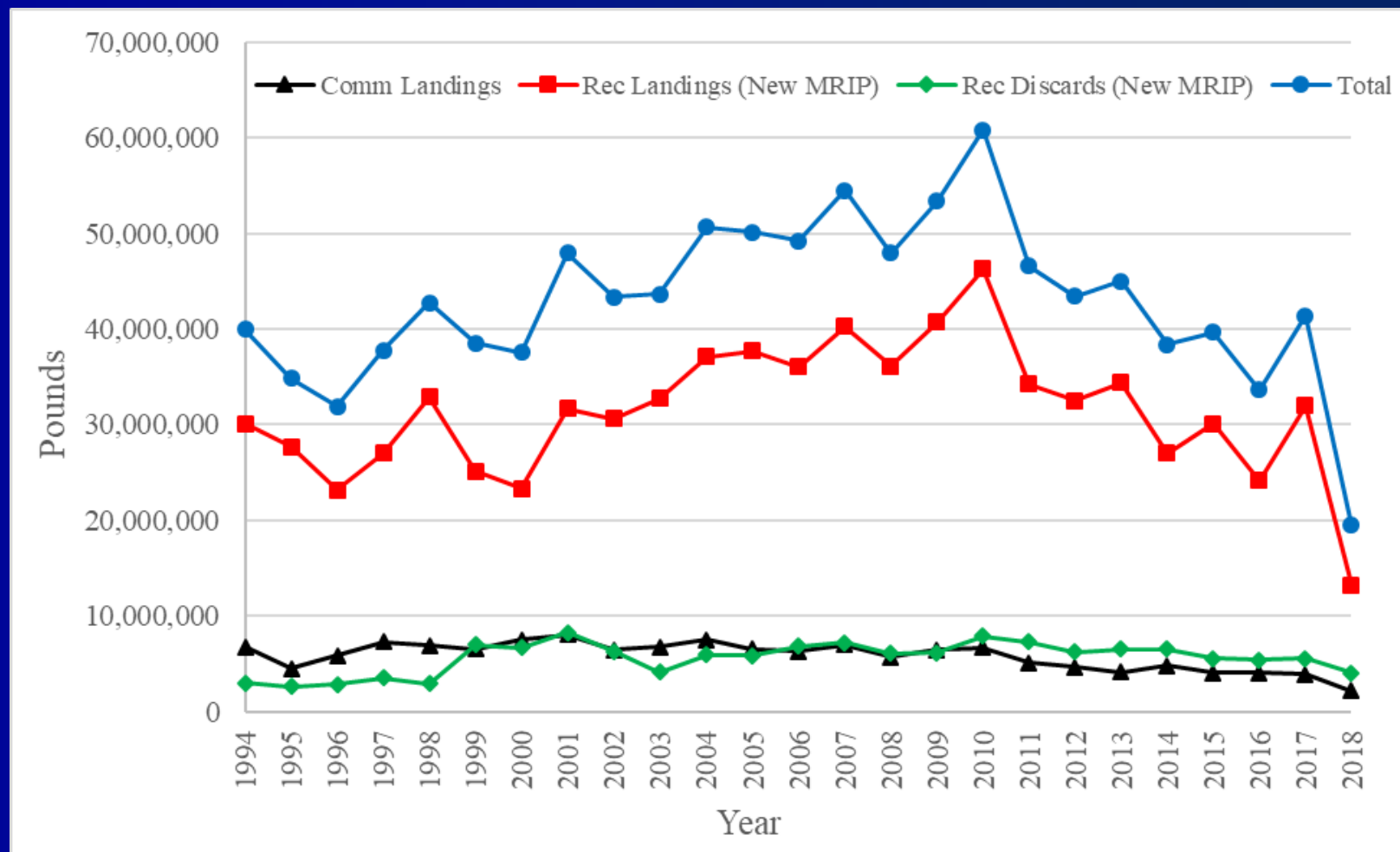
Management Measures	2014	2015	2016	2017	2018	2019
TAC <sup>1</sup> / ABC <sup>2</sup>	24.43	21.54	19.45	20.64	<b>21.81</b>	21.81
TAL <sup>3</sup>	21.08	18.19	16.46	18.19	<b>18.82</b>	19.33
Comm. Quota <sup>4</sup>	7.46	5.24	4.88	8.54	<b>7.24</b>	7.71
Comm. Landings <sup>5</sup>	4.77	4.02	4.1	3.64	<b>2.20</b>	
Rec. Harvest Limit <sup>4</sup>	13.62	12.95	11.58	9.65	<b>11.58/NA</b>	11.62
Rec. Landings <sup>6</sup>	10.46	11.67	9.54	9.52	<b>3.64/13.27</b>	
Rec. Possession Limit (# fish)	15	15	15	15	<b>15</b>	15
Total Landings	15.23	15.69	13.64	13.16	<b>5.84/15.57</b>	
Overage/Underage	-5.85	-2.5	-2.82	-5.03	<b>-12.98</b>	
Total Catch <sup>7</sup>	17.96	18.65	16.09	15.65	<b>6.96</b>	
Overage/Underage	-6.47	-2.89	-3.36	-4.99	<b>-14.85</b>	

# Catch (landings and discards)



Anthony Wood 2019, Personal communication

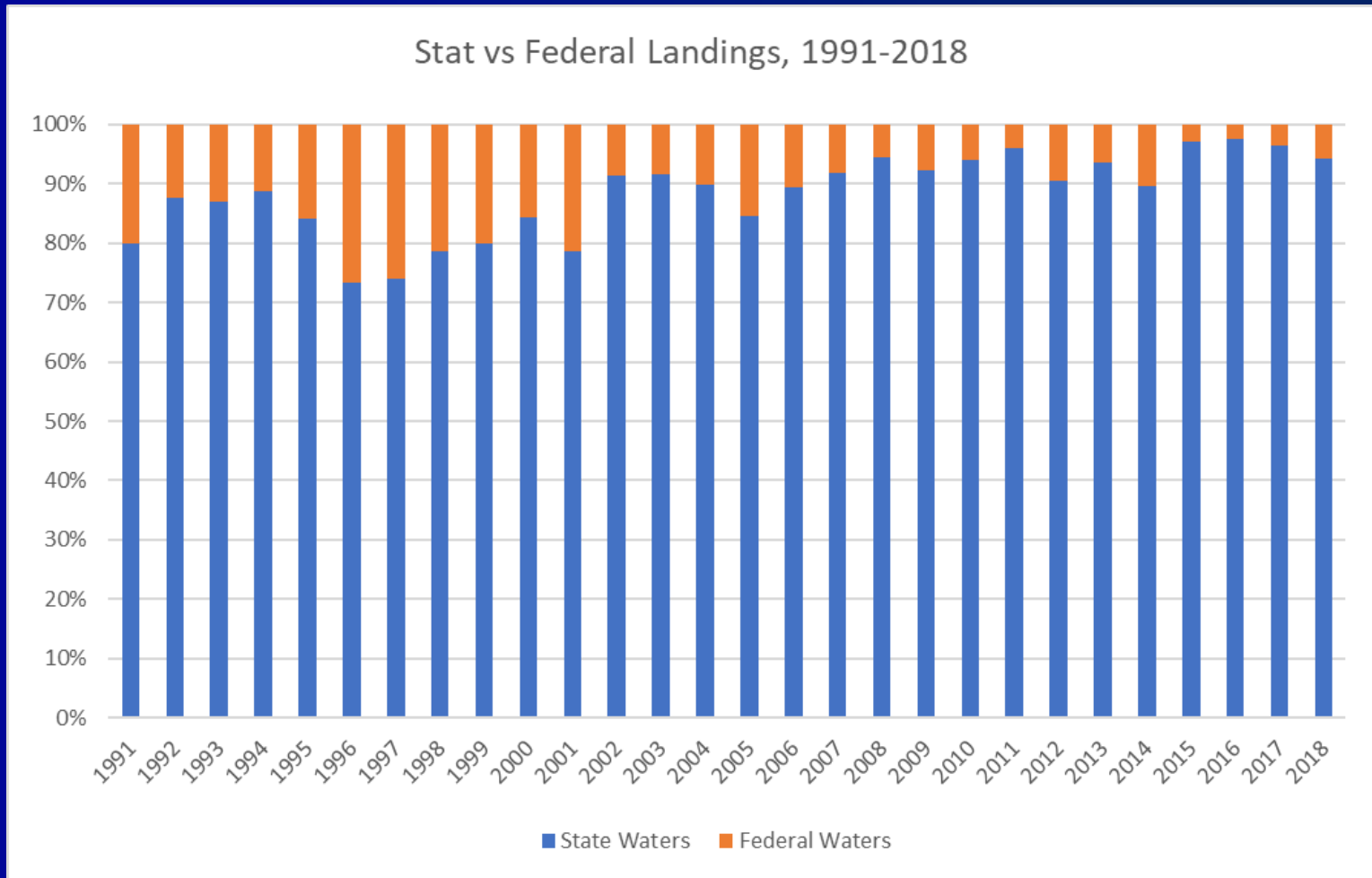
# Total Removals (Landings and Discards)



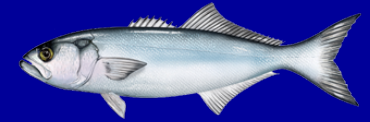
# 2018 Rec Landings by State

State	Harvest			Catch	Harvest			Catch
	Pounds	Number	Average wt (lbs)	Number	Pounds	Number	Average wt (lbs)	Number
	Base MRIP (Old) Estimates				FCAL MRIP (New) Estimates			
ME	0	0	0.00	0	0	0	0.00	0
NH	0	0	0.00	0	0	0	0.00	0
MA	328,240	82,982	3.96	288,293	611,557	182,424	3.35	714,225
RI	119,961	38,158	3.14	105,594	210,033	119,801	1.75	271,594
CT	238,815	132,813	0.58	413,022	340,666	312,022	1.09	817,150
NY	425,036	413,365	1.03	1,123,132	1,399,517	1,203,567	1.16	3,905,614
NJ	613,605	424,754	1.44	1,106,422	2,007,110	1,421,477	1.41	3,933,439
DE	238,815	132,813	0.58	413,022	315,105	75,703	4.16	611,903
MD	152,459	102,984	1.48	253,625	493,192	274,834	1.79	692,643
VA	70,549	109,142	0.65	234,656	264,534	443,112	0.60	870,958
NC	767,364	943,297	0.81	2,995,238	2,630,685	3,304,587	0.80	11,216,797
SC	93,814	146,362	0.64	415,794	403,141	765,113	0.53	2,295,592
GA	10,551	13,198	0.80	55,769	70,284	90,991	0.77	386,195
FL	741,516	345,036	2.15	1,270,688	4,525,038	2,052,080	2.21	5,212,593
Total	3,639,697	2,777,026	1.31	8,465,496	13,270,862	10,245,711	1.30	30,928,703

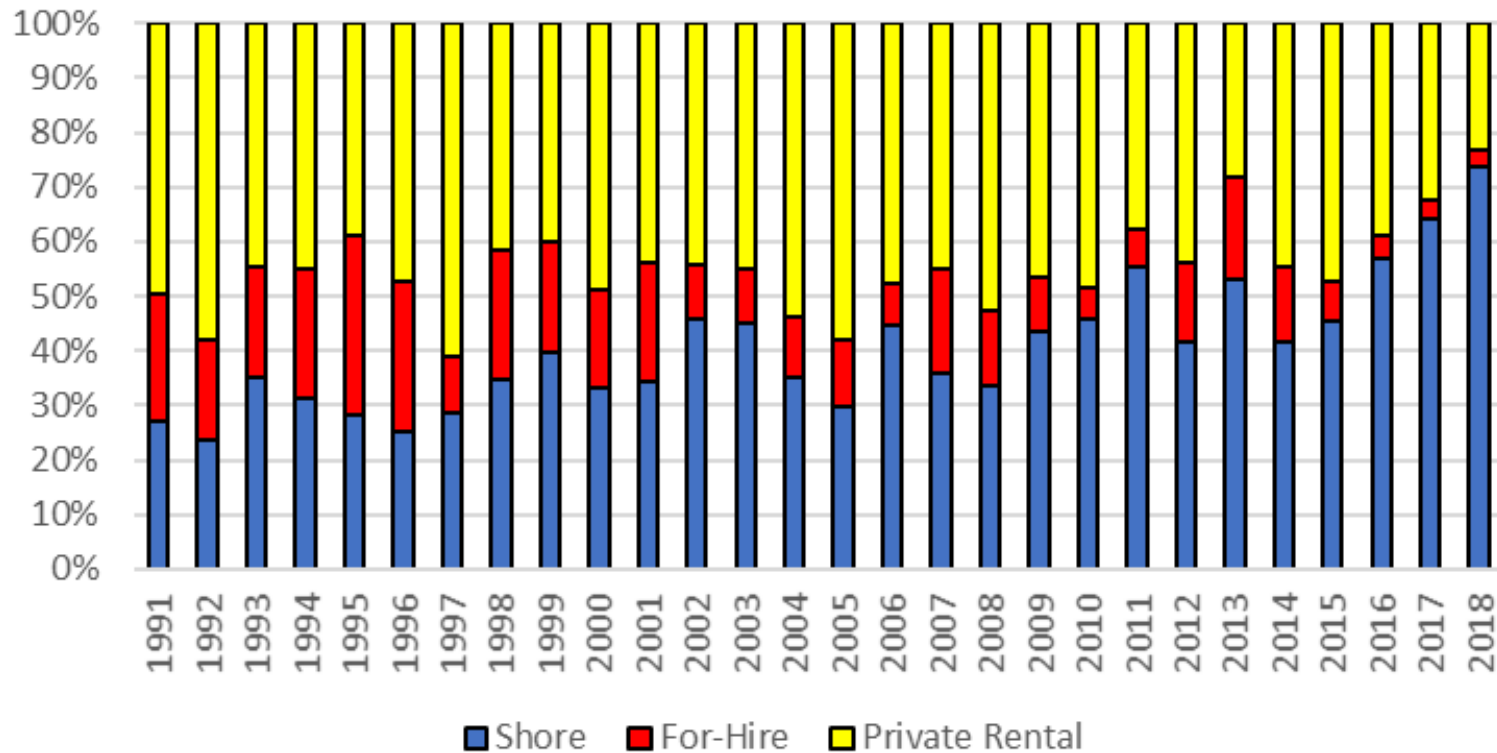
# Recreational Fishery



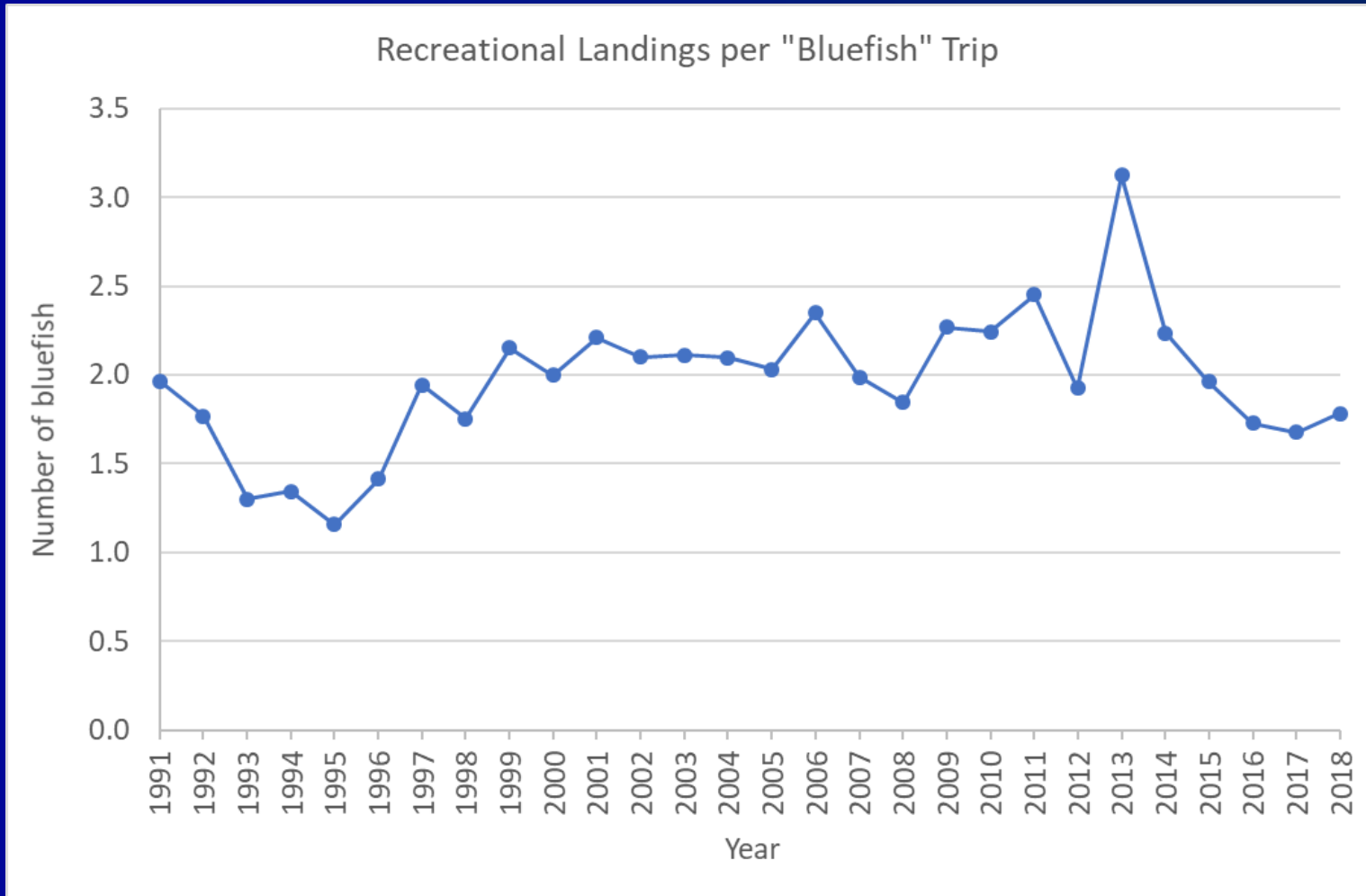
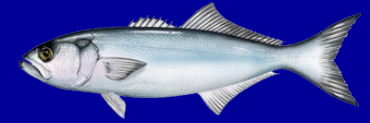
# Recreational Fishery



## Recreational Landings by Mode

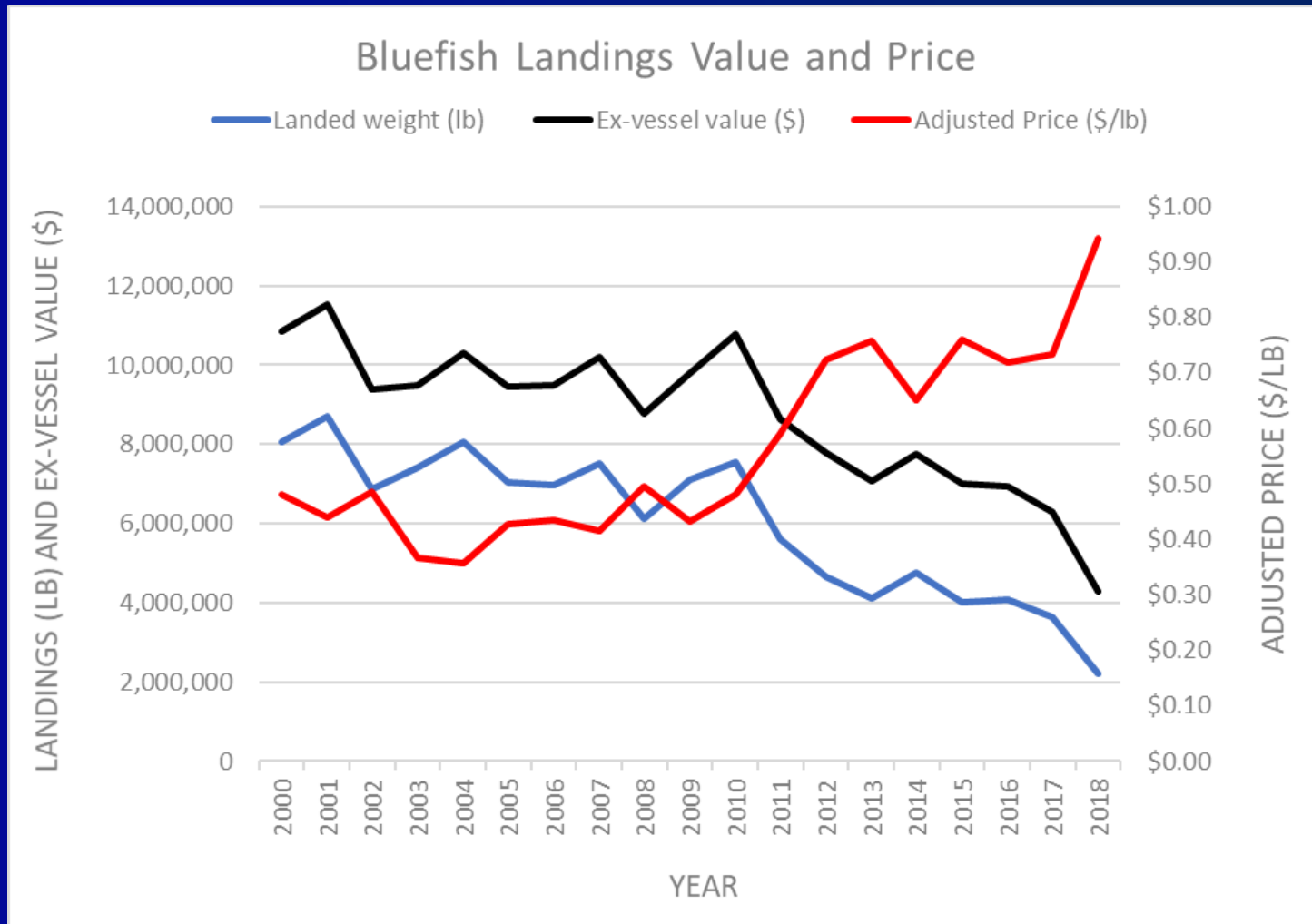
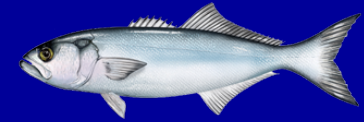


# Recreational Fishery

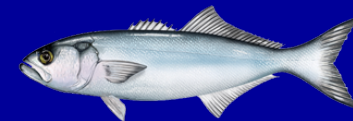




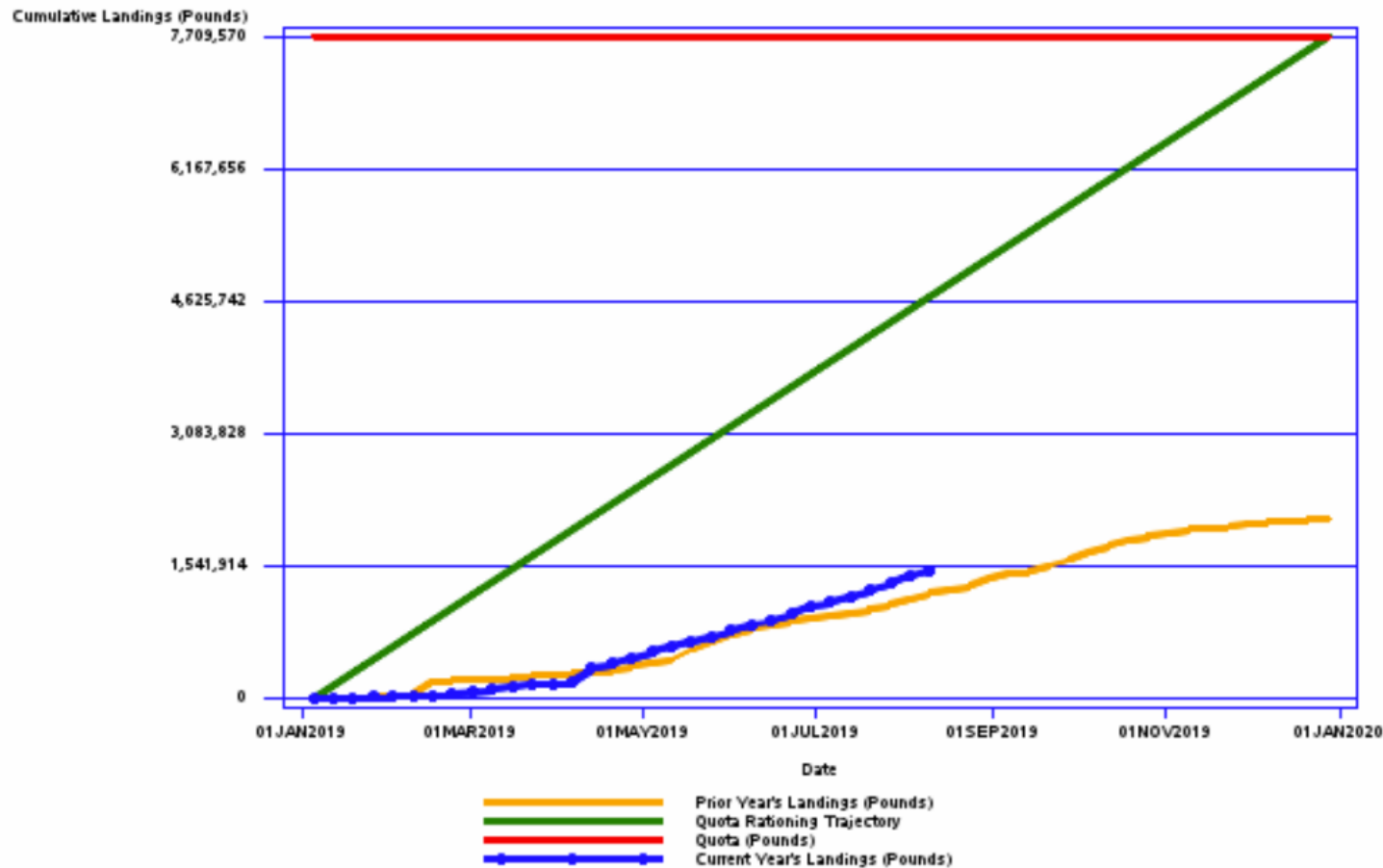
# Commercial Fishery



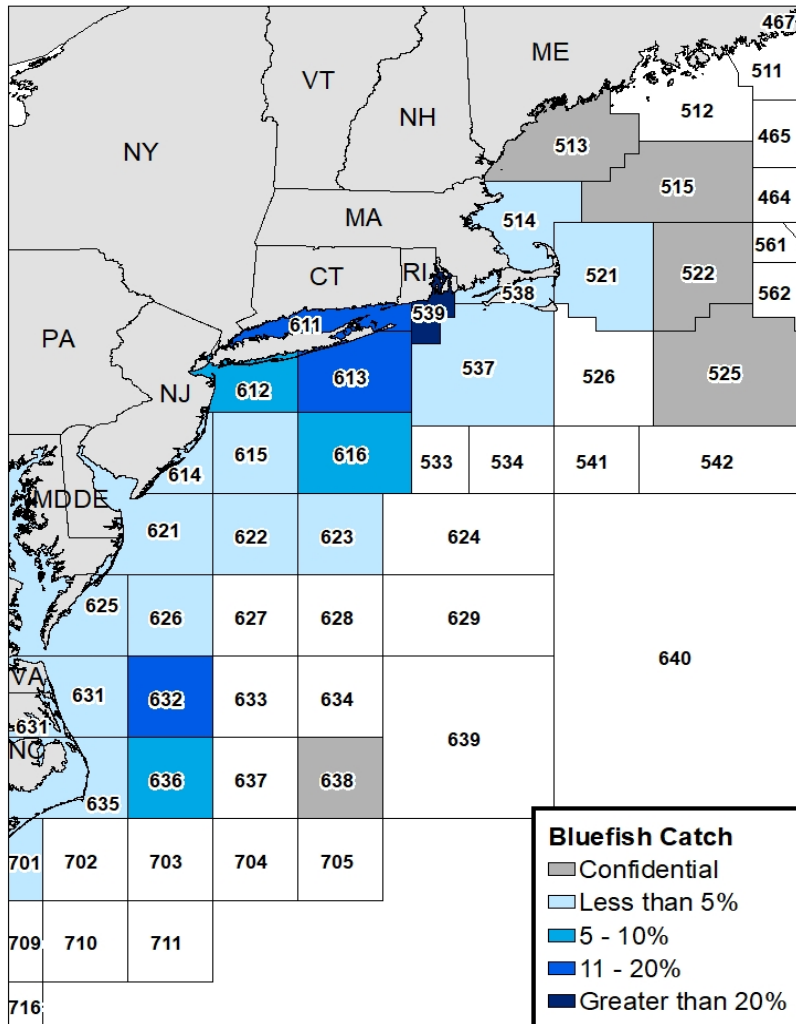
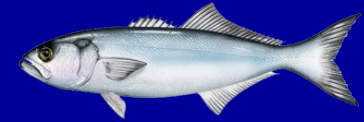
# Commercial Fishery



## Atlantic Bluefish Quota Monitoring Report



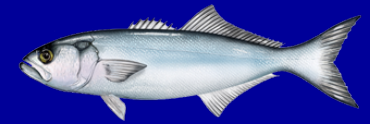
# Commercial Fishery



## Landings by Gear - Dealer Data 2018

- Gillnet (50%)
- Unknown (26%)
- Otter trawl, bottom fish (9%)
- Other (9%)
- Handline (6%)

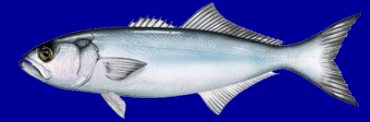
# Commercial Fishery



## Top Commercial Bluefish Ports

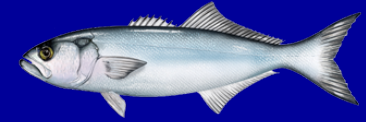
Port	Pounds	% of Total Commercial Bluefish	# Vessels
Wanchese, NC	293,089	13%	28
Hatteras, NC	243,543	11%	12
Point Judith, RI	189,249	9%	102
Montauk, NY	188,152	9%	87
Brevard, FL (other)	128,674	6%	3

# Advisory Panel Discussion



- **What factors influenced recent catch and landings?**
  - Markets/economy?
  - Environment?
  - Fishery regulations?
  - Other factors?
  
- **What research recommendations do you have for bluefish?**
  
- **What else is important for the Council/Commission to know about?**

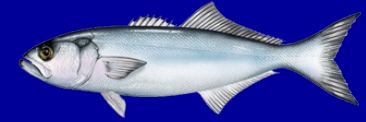
# AP Fishery Performance Report



## Recreational Fishery Comments

- Less fish (and small fish) compared to previous years
- Less for-hire trips (lower availability → less interest)
  - More restrictive measures for species like striped bass or **target species** has shifted
- Smaller bluefish were seasonally available.
- Reports of larger bluefish further offshore.

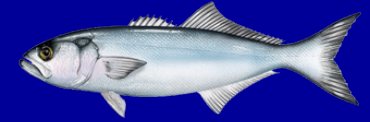
# AP Fishery Performance Report



## Commercial Fishery Comments

- Poorest showing of bluefish in a long time (NY)
- Prefer status quo management – fishing pressure is not the problem (shifting environ. conditions)
- Habits and movement are inconsistent with previous years (NJ)
  - Timing and range
- Consistent recruitment
- Bluefish are not as abundant in typical locations and are being found further offshore

# AP Fishery Performance Report

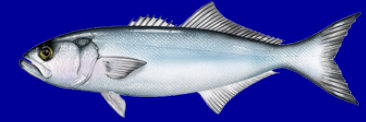


## Market/Economic Comments

- Becoming increasingly important to the rec fishery (especially For-Hire) as abundance of other species decreases
- Available to sell for a short period of time.
  - NY: \$0.70-0.90/lb
  - NJ: Often have a better market in Nov/Dec.
  - VA: as high as \$1.75/lb when there is a small steady supply into the market.



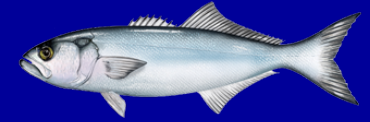
# AP Fishery Performance Report



## Management/Fishery Regulations Comments

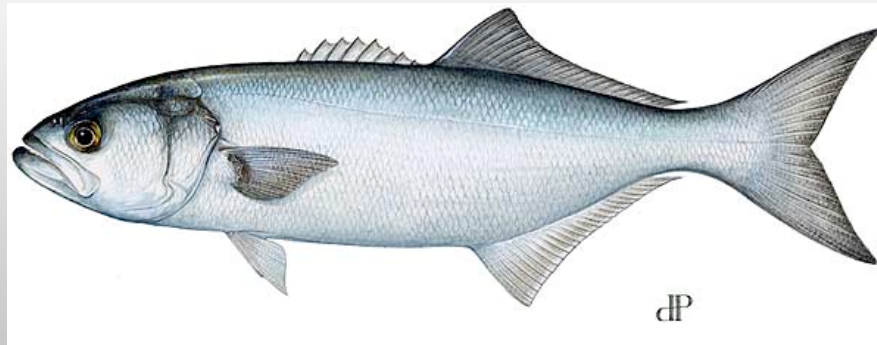
- Bag limit: North – 15, South – 10 is okay
  - MD: bag limit does not constrain
- In the rec. fishery, bycatch/discard mortality may be higher than expected.
- Commercial discards – should not be 0, but most catch is landed.

# AP Fishery Performance Report



## Research, Environmental and Other Comments

- Conduct studies to understand the dynamics of inshore and offshore populations.
- Address high recreational discards.
  - Post-release mortality
- Conduct research on juvenile habitat within the estuaries.
- What is causing these fish to move out? What (environmental) factors do bluefish cue in on? Are these patterns cyclical?



# MAFMC SSC ABC Recommendations

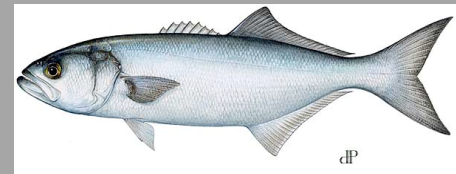
Bluefish

2020-21 Fishing Years

# Assessment Information Content Category

## SSC-modified OFL probability distribution

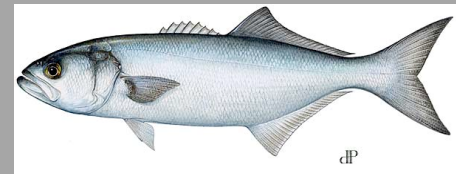
- SARC 60 Bluefish benchmark assessment was a significant improvement over past assessments
- Important uncertainties in OFL not captured in assessment model, e.g., concerns over selectivity, MRIP index
- Operational assessment OFL approved by peer review panel



# Overfishing Limit = 15,373 mt for 2019

## New Process for OFL CV Category Determination

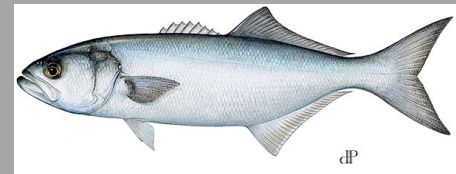
- Based on nine decision criteria with non-binding guidelines for three CV levels (60%, 100%, or 150%)
- SSC species lead proposes justification to OFL CV working group, working with NEFSC and MAFMC staff
- WG agrees on draft matrix to be posted prior to SSC meeting
- Full SSC reviews WG recommendation at meeting and modifies, if necessary



# CV for Overfishing Limit = 100%

## Justification

- The chief uncertainty for Bluefish relates to patterns in the revised MRIP estimates
- Original and revised MRIP catch estimates for Bluefish do not converge in the 1980s, and this adds to the uncertainty in the catch time series
- The importance of dead discards has increased for this stock over time
- Because MRIP data is an important component of input data to the ASAP model, it adds to uncertainty in model projections.



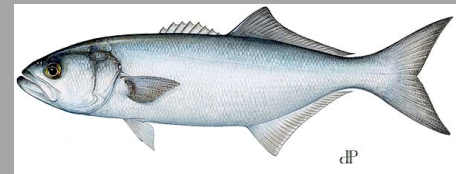
# Recommended ABCs

## Variable ABCs

Year	ABC	$B/B_{MSY}$	$p^*$
2020	6,603 mt	0.516	0.163
2021	8,167 mt	0.582	0.183

## Constant ABCs

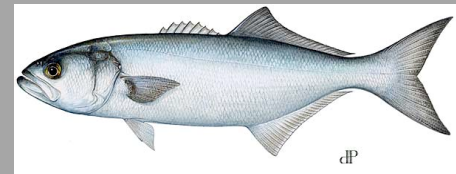
Year	ABC	$B/B_{MSY}$	$p^*$
2020	7,385 mt	0.514	0.198
2021	7,385 mt	0.579	0.154



# Recommended ABCs

## Interim Metrics

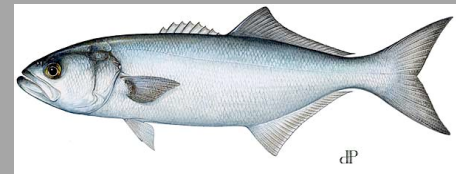
- Extent to which the full ABC is caught
- If possible, the recreational CPUE, recreational catch, and dead discards





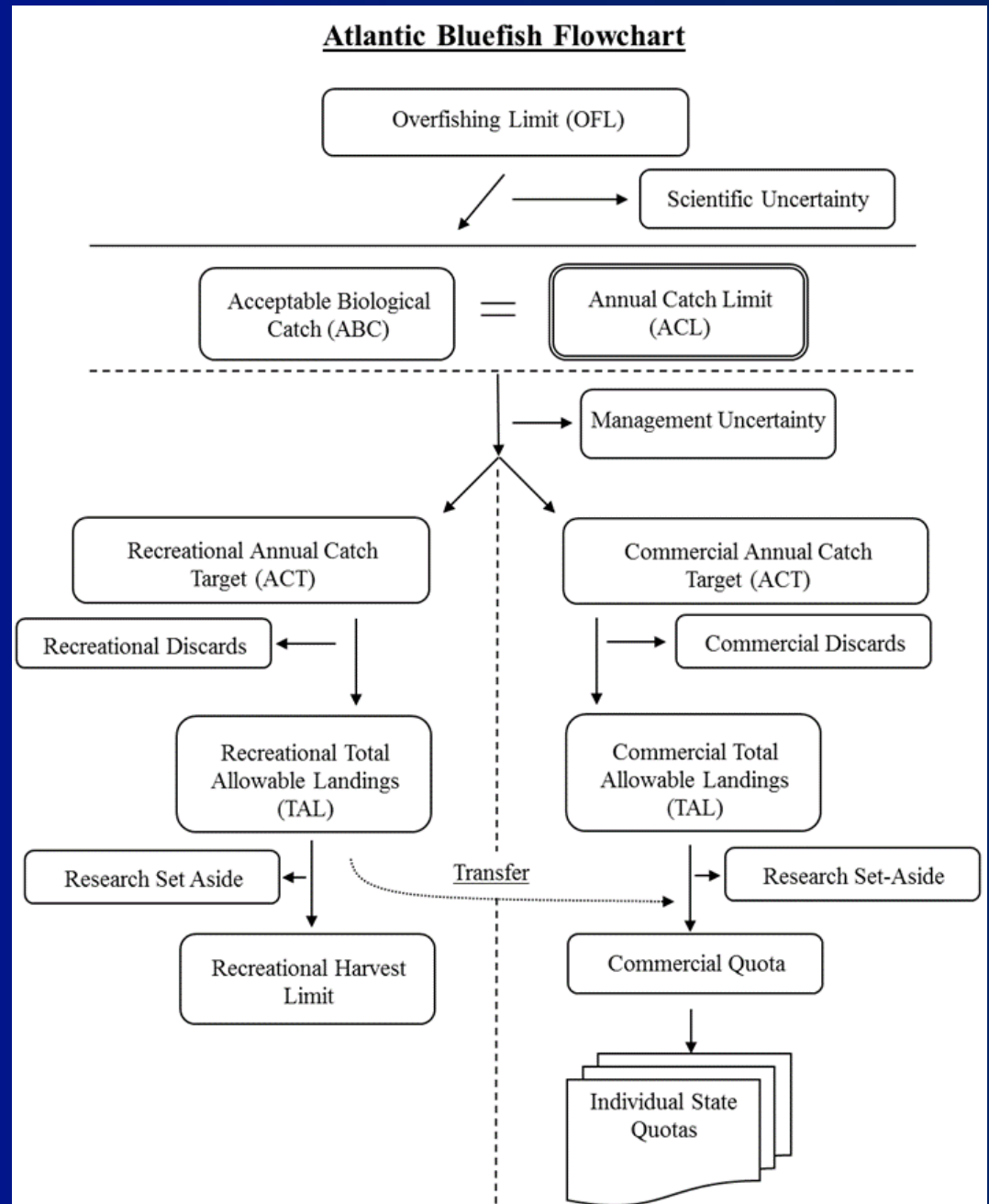
# Most Significant Sources of Scientific Uncertainty

- Revised MRIP estimates
- Increased importance of dead discards
- Whether the full ABC will be caught
- Approximately 60% of the population biomass is in the aggregated 6+ age group, for which there is relatively little information
- Extent to which the MRIP index and MRIP catch are partially redundant in the assessment
- Commercial discards are assumed to be insignificant, which may not be the case

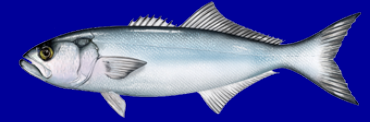


# MC Discussion

- Average vs. Annual ABC approach
- Management Uncertainty
- Discards
- Expected Rec. Landings
- Transfer
- Convene in November to recommend recreational measures to constrain harvest to the RHL



# MC Changes from Staff Recommendations



Management Measures	Staff	Monitoring Committee
Discards	MRIP: <b>4.03 M lbs.</b> (GARFO ACL monitoring)	NEFSC: <b>9.90 M lbs.</b> ( In assessment)
Expected Rec. Landings	2018: <b>13.27 M lbs.</b>	2016-2018: <b>23.15 M lbs.</b>
ABC Approach	Average	Average
Transfer	0	0
Management Uncertainty	0	0

# MC Changes from Staff Recommendations

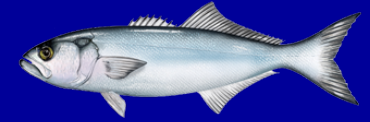


Management Measure	Staff Recommendation		MC Recommendation	
	2020-2021 (Average ABC)		2020-2021 (Average ABC)	
	M lb	mt	M lb	mt
ABC (Average)	16.28	7,385	16.28	7,385
ACL	16.28	7,385	16.28	7,385
Management Uncertainty	0	0	0	0
Commercial ACT	2.77	1,255	2.77	1,255
Recreational ACT	13.51	6,130	13.51	6,130
Commercial Discards	0	0	0	0
Recreational Discards	4.03	1,829	9.90	4,489
Commercial TAL	2.77	1,255	2.77	1,255
Recreational TAL	9.48	4,301	3.62	1,641
TAL Combined	12.25	5,556	6.39	2,896
Expected Rec Landings	13.27	6,020	23.15	10,500
Transfer	0	0	0	0
<b>Commercial quota</b>	<b>2.77</b>	<b>1,255</b>	<b>2.77</b>	<b>1,255</b>
<b>RHL</b>	<b>9.48</b>	<b>4,301</b>	<b>3.62</b>	<b>1,641</b>

- ABC: Average
- Discards: MRIP (2018)
- ERL: 2018
- No Transfer

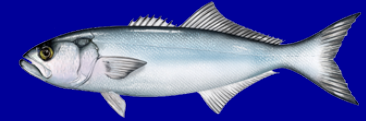
- ABC: Average
- Discards: NEFSC (2018)
- ERL: Avg. 2016-2018
- No Transfer

# Rec Measures: Discussion



- We will have another MC meeting in November to identify rec measures for Council/Board approval at the Dec. meeting.
- **Goal:** Constrain recreational harvest to the RHL.
  - Current expected rec landings exceeds the potential RHLs.
    - Bag limits
    - Seasonal closures (waves, days, etc.)
    - Gear restriction

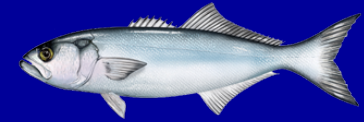
# Necessary Council/Board Action



- ABC approach
  - Average vs. Annual
- Discard estimates
  - NEFSC estimated vs. MRIP mean wt.
- Transfer
  - Recreational to Commercial
- Feedback requested on: Expected recreational landings
  - 3-year average vs. terminal year (2018) vs. other (2019 projections)

\*\*\*The MC will reconvene in Nov. to set recreational measures to constrain harvest to the RHL for Council/Board approval in Dec.

# Questions?



## ■ Draft Motion:

- Move that the *average ABC* approach, *no reduction for management uncertainty*, *terminal year estimate* be used for expected recreational landings, and *NEFSC estimated discards* be used for 2020 and 2021 specifications. This results in an ABC of *16.28* M lbs., a recreational harvest limit of *3.62* M lbs., and a commercial quota of *2.77* M lbs.

# Extra: RHL and CQ Alternatives - Average

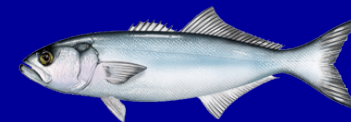


Average ABC	NEFSC Discards	NEFSC Discards	MRIP Discards	MRIP Discards
	Terminal Year	3-Year Average	Terminal Year	3-Year Average
ABC (100% OFL CV)	16,281,138	16,281,138	16,281,138	16,281,138
ACL	16,281,138	16,281,138	16,281,138	16,281,138
Mgmt. Uncertainty	0	0	0	0
Comm ACT	2,767,793	2,767,793	2,767,793	2,767,793
Rec ACT	13,513,345	13,513,345	13,513,345	13,513,345
Comm Disc	0	0	0	0
Rec Disc	9,896,551	16,614,036	4,033,183	6,811,259
Comm TAL	2,767,793	2,767,793	2,767,793	2,767,793
Rec TAL	3,616,794	-3,100,691	9,480,162	6,702,086
Combined TAL	6,384,587	-332,898	12,247,955	9,469,879
Transfer	0	0	0	0
Expected Rec Land (ERL)	23,149,888	23,149,888	23,149,888	23,149,888
Comm Quota	2,767,793	2,767,793	2,767,793	2,767,793
RHL	3,616,794	-3,100,691	9,480,162	6,702,086
Decrease from 2019 RHL	-69%	-127%	-18%	-42%
Decrease from ERL	-84%	-113%	-59%	-71%

Expected Rec. Landings: 23,149,888 lbs (Avg. 2016-2018) or 13,270,862 (2018)



# Extra: RHL and CQ Alternatives - Annual



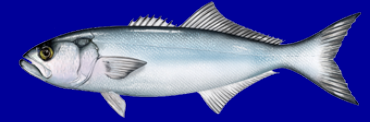
	2020	2021	2020	2021	2020	2021	2020	2021
Annual ABC	NEFSC Disc.	NEFSC Disc.	NEFSC Disc.	NEFSC Disc.	MRIP Disc.	MRIP Disc.	MRIP Disc.	MRIP Disc.
	Term. Year	Term. Year	3-Year Avg.	3-Year Avg.	Term. Year	Term. Year	3-Year Avg.	3-Year Avg.
ABC (100% OFL CV)	14,557,123	18,005,152	14,557,123	18,005,152	14,557,123	18,005,152	14,557,123	18,005,152
ACL	14,557,123	18,005,152	14,557,123	18,005,152	14,557,123	18,005,152	14,557,123	18,005,152
Mgmt. Uncertainty	0	0	0	0	0	0	0	0
Comm ACT	2,474,711	3,060,876	2,474,711	3,060,876	2,474,711	3,060,876	2,474,711	3,060,876
Rec ACT	12,082,412	14,944,276	12,082,412	14,944,276	12,082,412	14,944,276	12,082,412	14,944,276
Comm Disc	0	0	0	0	0	0	0	0
Rec Disc	9,896,551	9,896,551	16,614,036	16,614,036	4,033,183	4,033,183	6,811,259	6,811,259
Comm TAL	2,474,711	3,060,876	2,474,711	3,060,876	2,474,711	3,060,876	2,474,711	3,060,876
Rec TAL	2,185,861	5,047,725	-4,531,624	-1,669,760	8,049,229	10,911,093	5,271,153	8,133,017
Combined TAL	4,660,572	8,108,601	-2,056,913	1,391,116	10,523,940	13,971,969	7,745,864	11,193,893
Transfer	0	0	0	0	0	0	0	0
Expected Rec Land	23,149,888	23,149,888	23,149,888	23,149,888	23,149,888	23,149,888	23,149,888	23,149,888
Comm Quota	2,474,711	3,060,876	2,474,711	3,060,876	2,474,711	3,060,876	2,474,711	3,060,876
RHL	2,185,861	5,047,725	-4,531,624	-1,669,760	8,049,229	10,911,093	5,271,153	8,133,017
Decrease from 2019 RHL	-81%	-57%	-139%	-114%	-31%	-6%	-55%	-30%
Decrease from ERL	-91%	-78%	-120%	-107%	-65%	-53%	-77%	-65%

Expected Rec. Landings: 23,149,888 lbs (Avg. 2016-2018) or 13,270,862 (2018)

# Extra: Method to propose ERL

Year	Rec landings method used	Source
2012	3-year avg estimate (2008-2010) in <u>proposed</u> , terminal (2011) in <u>final</u>	FR Notice
2013	3-year avg estimate (2009-2011) in proposed, terminal (2012) in final	EA/ <u>FR Notice</u>
2014	3-year avg estimate (2009-2011) in proposed, terminal (2013) in final	EA/ <u>FR Notice</u>
2015	3-year avg estimate (2011-2013) in proposed, terminal (2014) in final	EA/ <u>FR Notice</u>
2016	3-year avg estimate (2012-2014) in proposed, terminal (2015) in final	<u>FR Notice</u>
2017	Terminal (2016) rec landings data	<u>Transfer Adjustment</u> <u>FR Notice</u>
2018	N/A? I don't think we had a new notice or action...just continued existing specs...no adjustment.	??
2019	Terminal (2017) rec landings data	<u>FR Notice</u>

# Extra: Federal permits/activity



- 2018 Federally Permitted Statistics
  - 2,439 (2,510) commercial vessels
  - 834 (897) p/c vessels
  - 407 (397) dealers
  
  - 476 (611) commercial vessels landed bluefish
  - 270 (261) p/c vessels landed bluefish (VTR)
  - 149 (158) dealers purchased bluefish

\* Parentheses indicate numbers from 2017