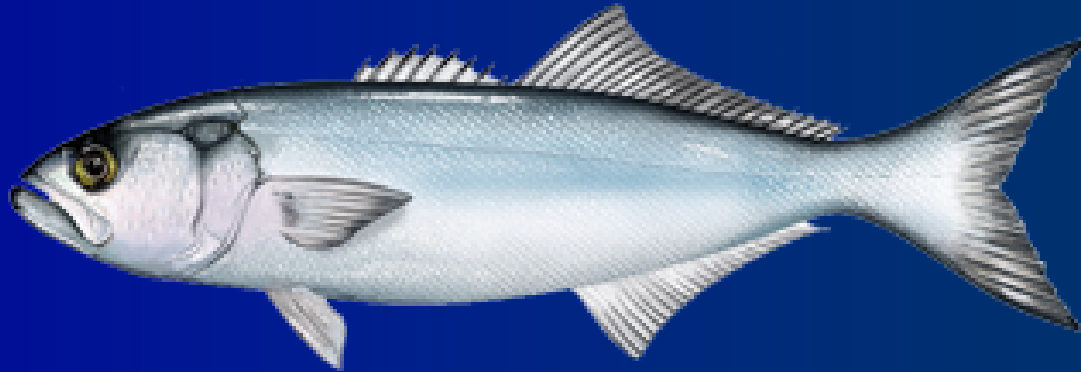
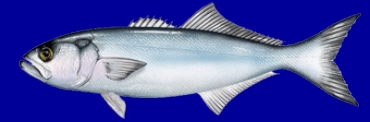


Atlantic Bluefish



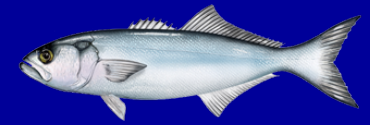
Scientific and Statistical
Committee Meeting
September 9, 2019

Outline



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

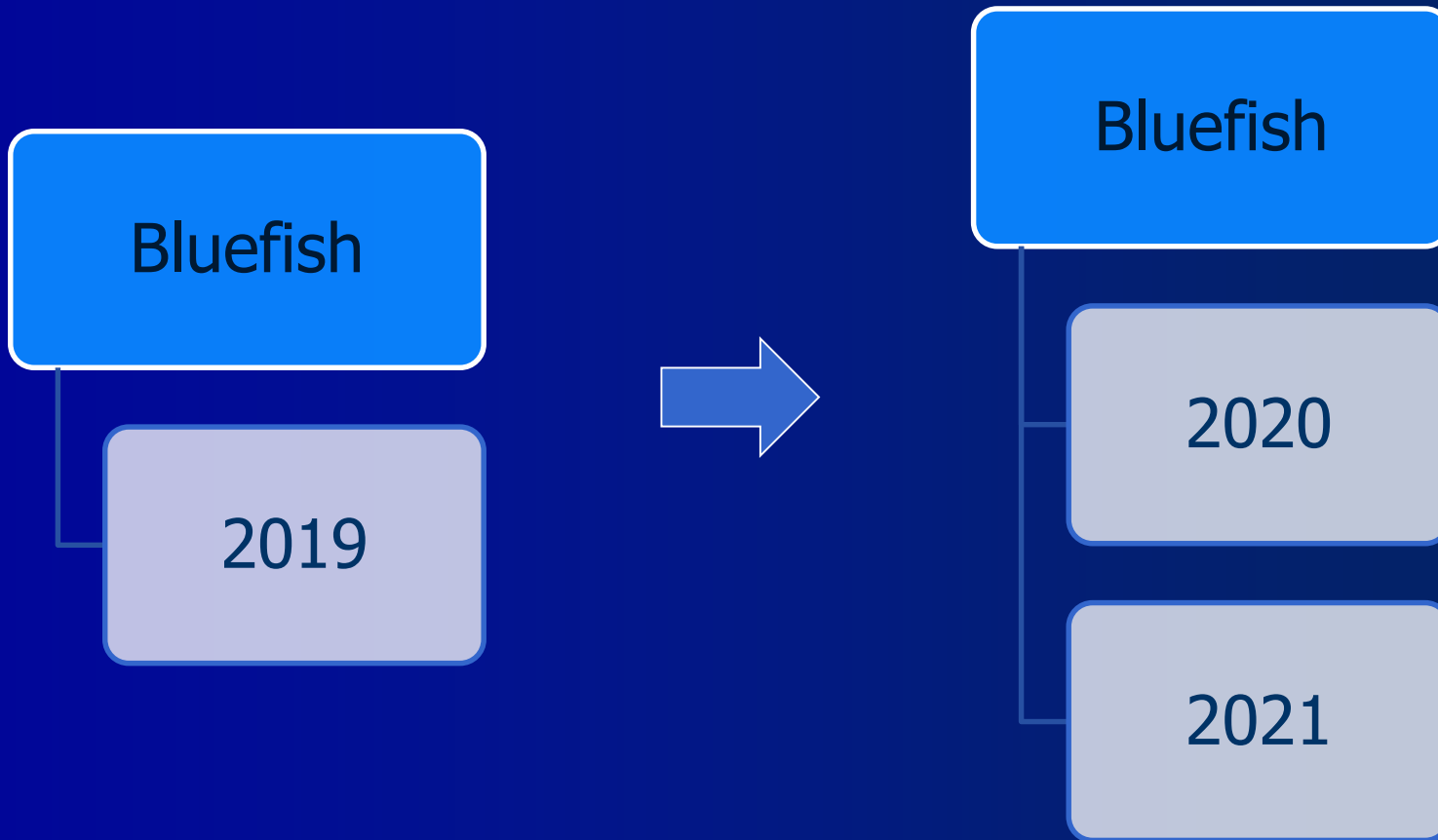
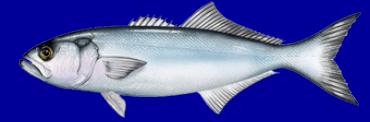
Management Overview



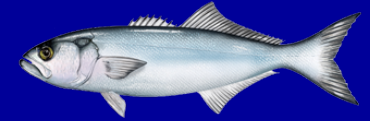
- Cooperatively managed by:
 - Mid-Atlantic Fishery Management Council (Council)
 - Atlantic States Marine Fisheries Commission (ASMFC)
 - National Marine Fisheries Service (federal implementation and enforcement)



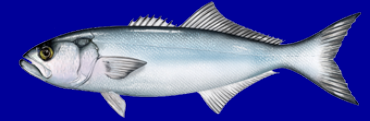
Specifications Process - *Current Multiyear specifications*



Specifications Process

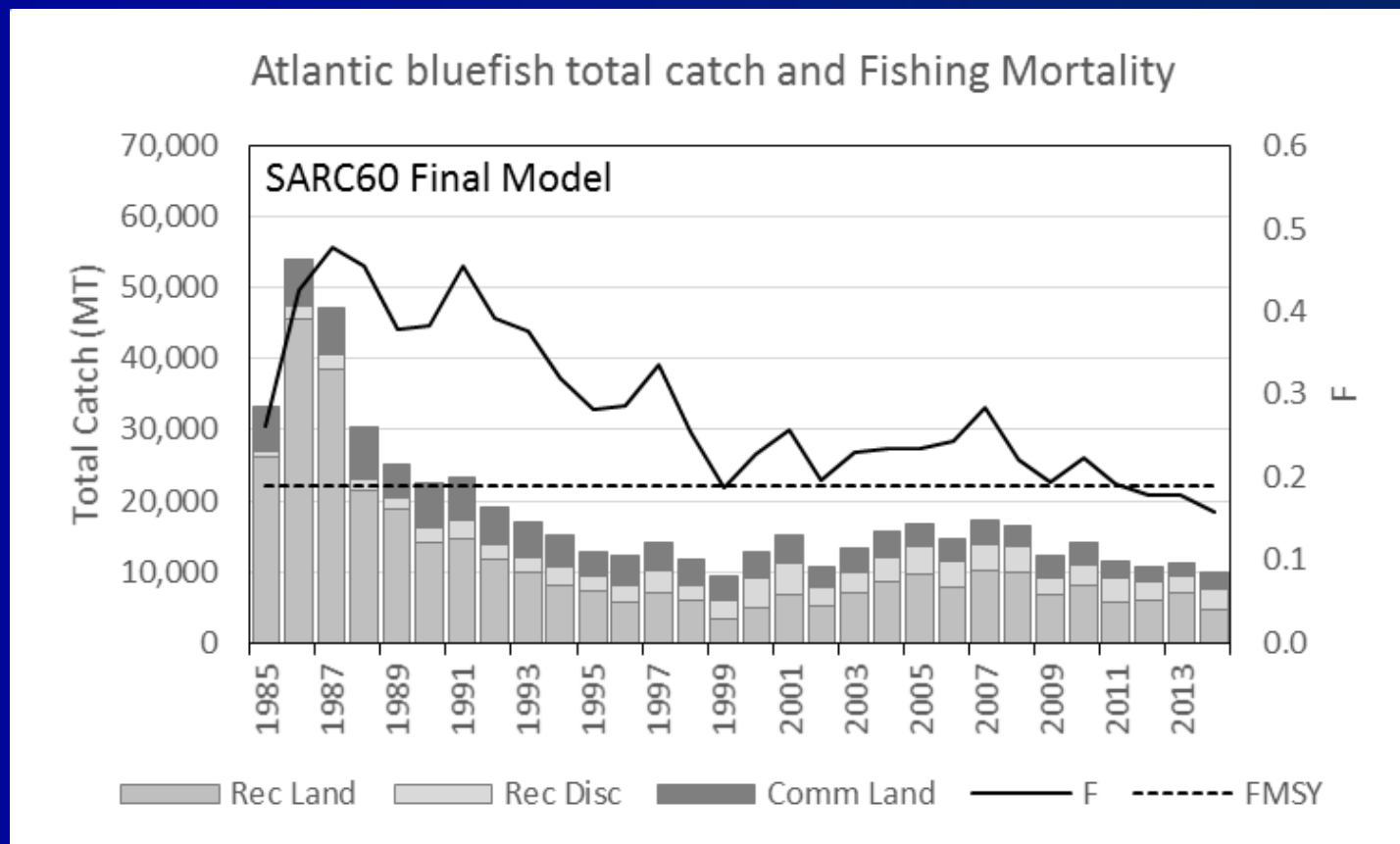


Stock Status



- 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

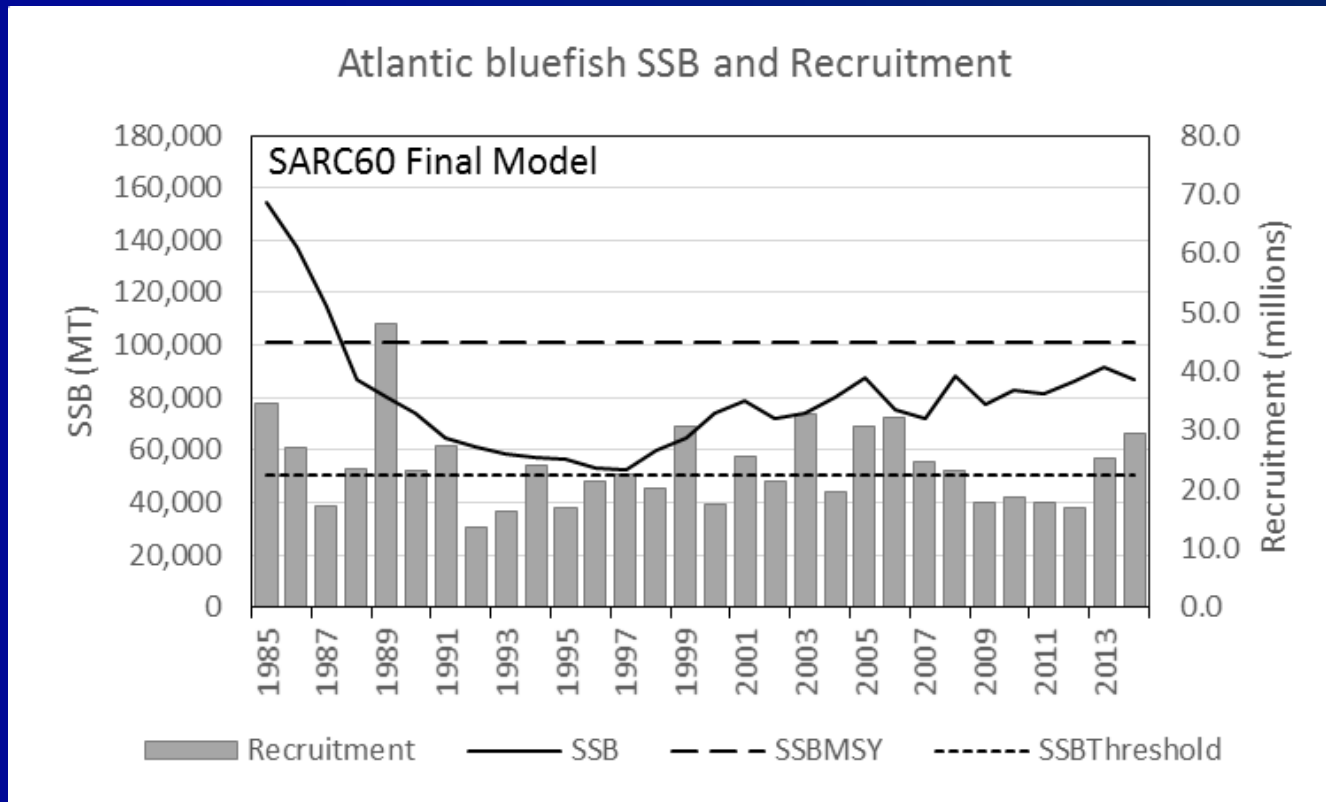
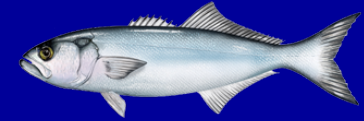
Fishing Mortality - 2015



Overfishing not occurring

(2014 $F = 0.157$; below $F_{MSY\ proxy} = F_{35\%SPR} = 0.190$)

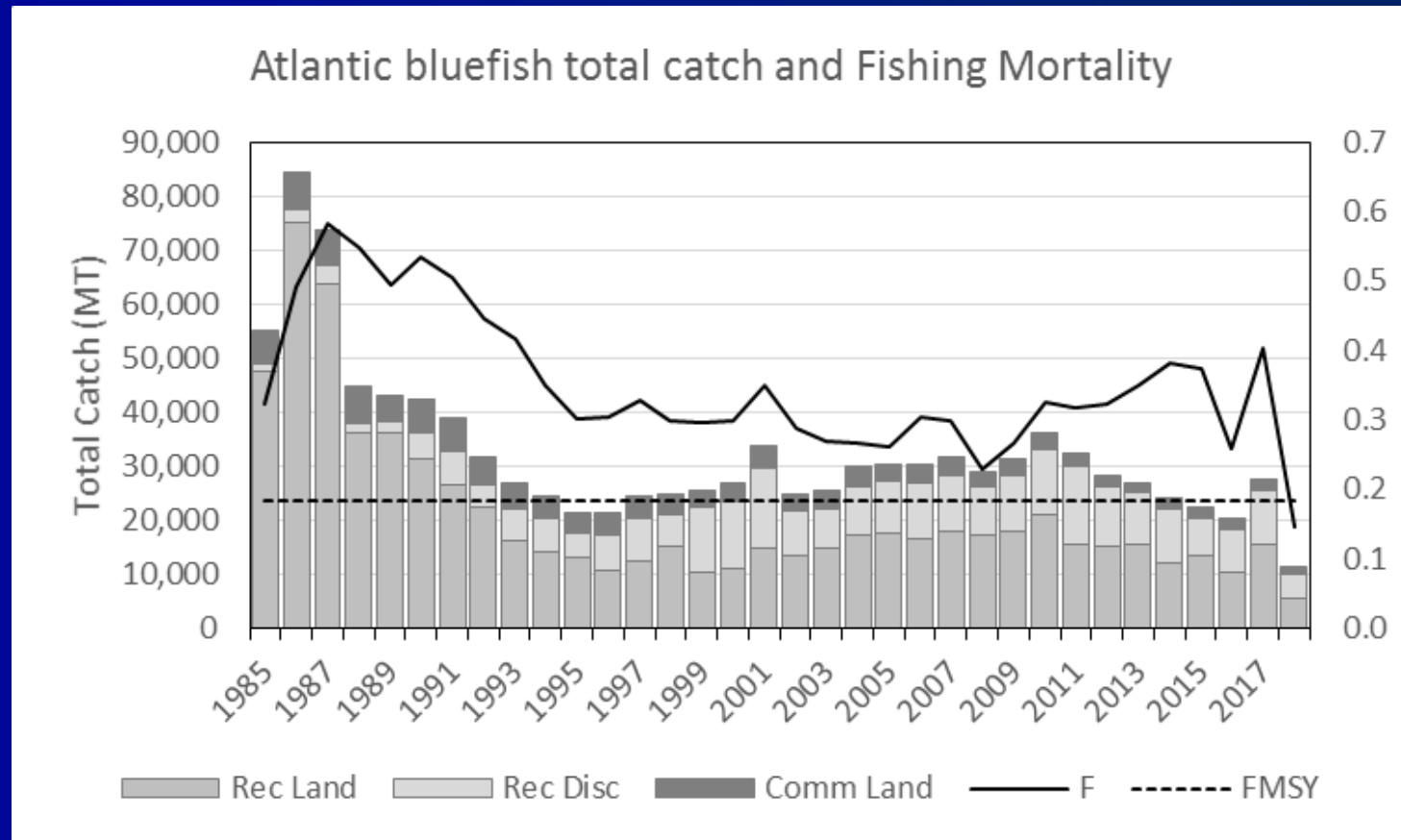
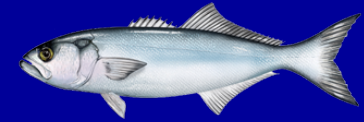
Biomass - 2015



Not overfished

2014 SSB (86,534 mt) \approx 22% below $SSB_{MSY \text{ proxy}}$ (111,228 mt), but still well above biomass threshold ($\frac{1}{2} SSB_{MSY \text{ proxy}} = 55,614$ mt)

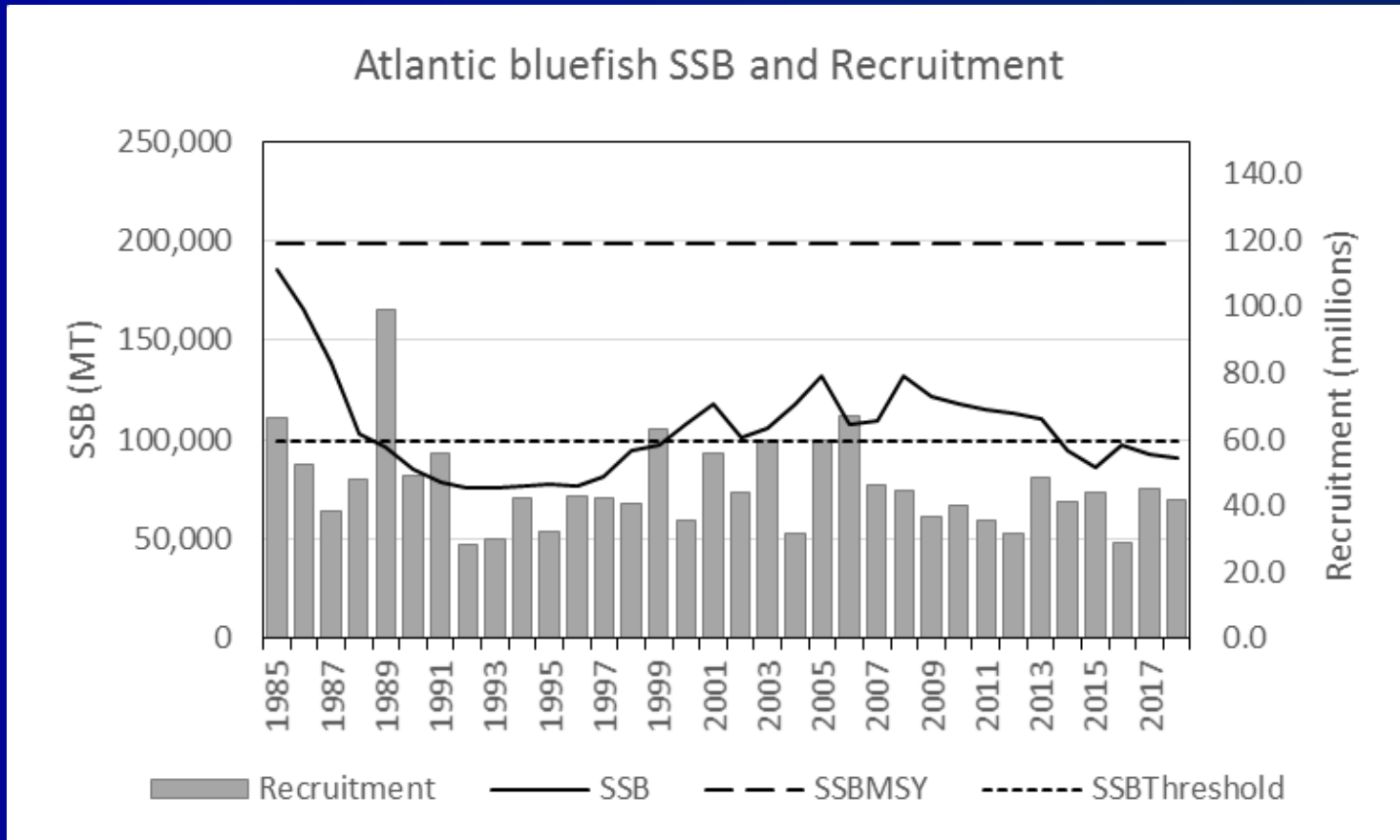
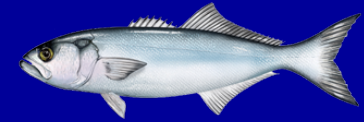
Fishing Mortality - 2019



Overfishing not occurring

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

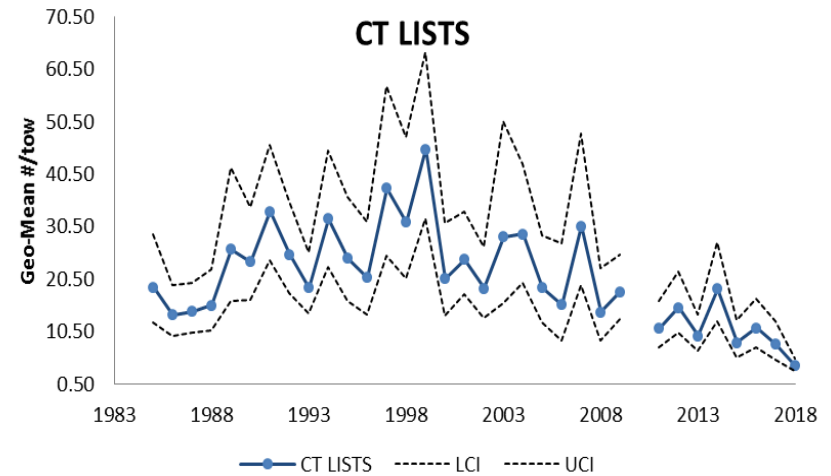
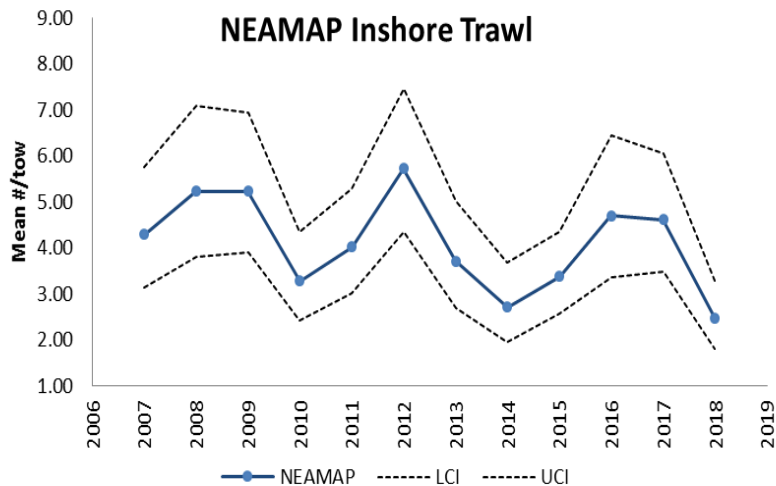
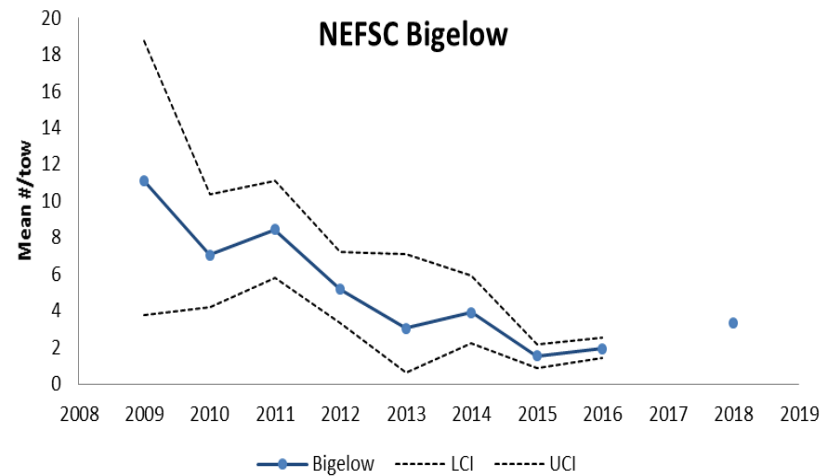
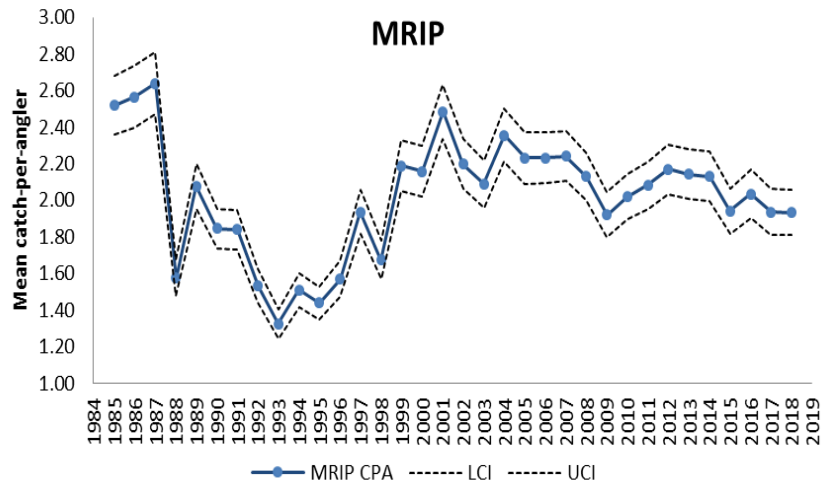
Biomass - 2019



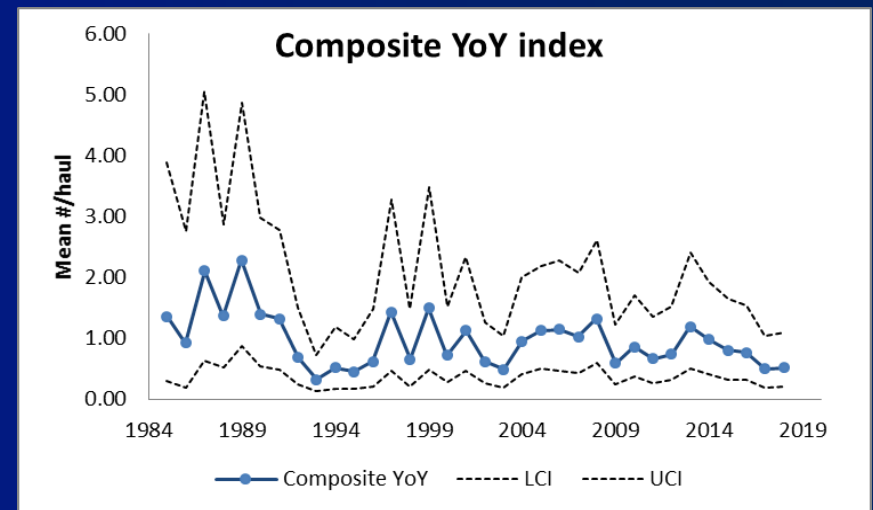
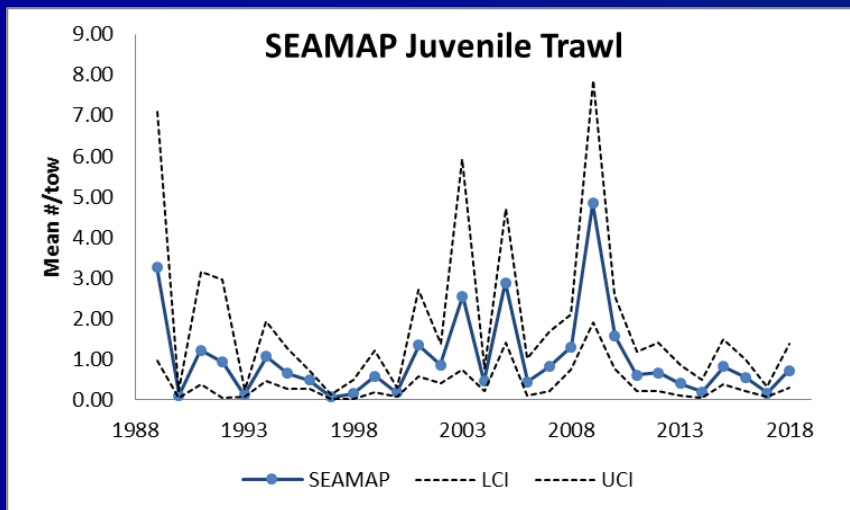
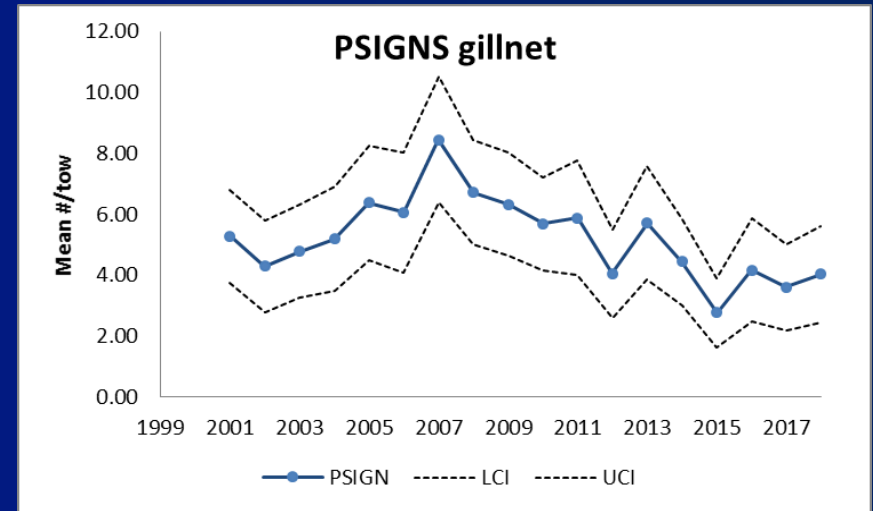
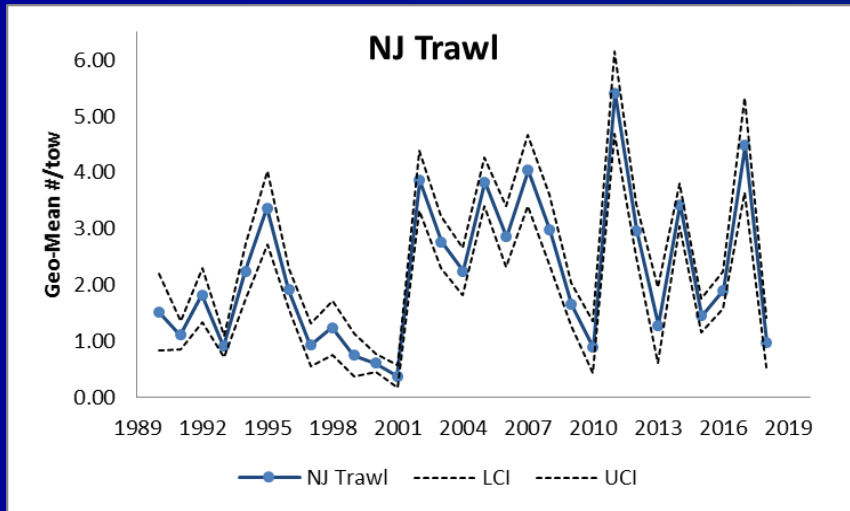
Overfished

2018 SSB (91,041 mt) \approx 8% below SSB_{Threshold} (99,359 mt)

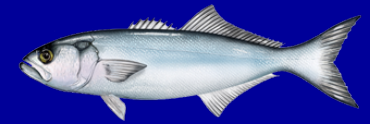
Indices of Abundance



Indices of Abundance

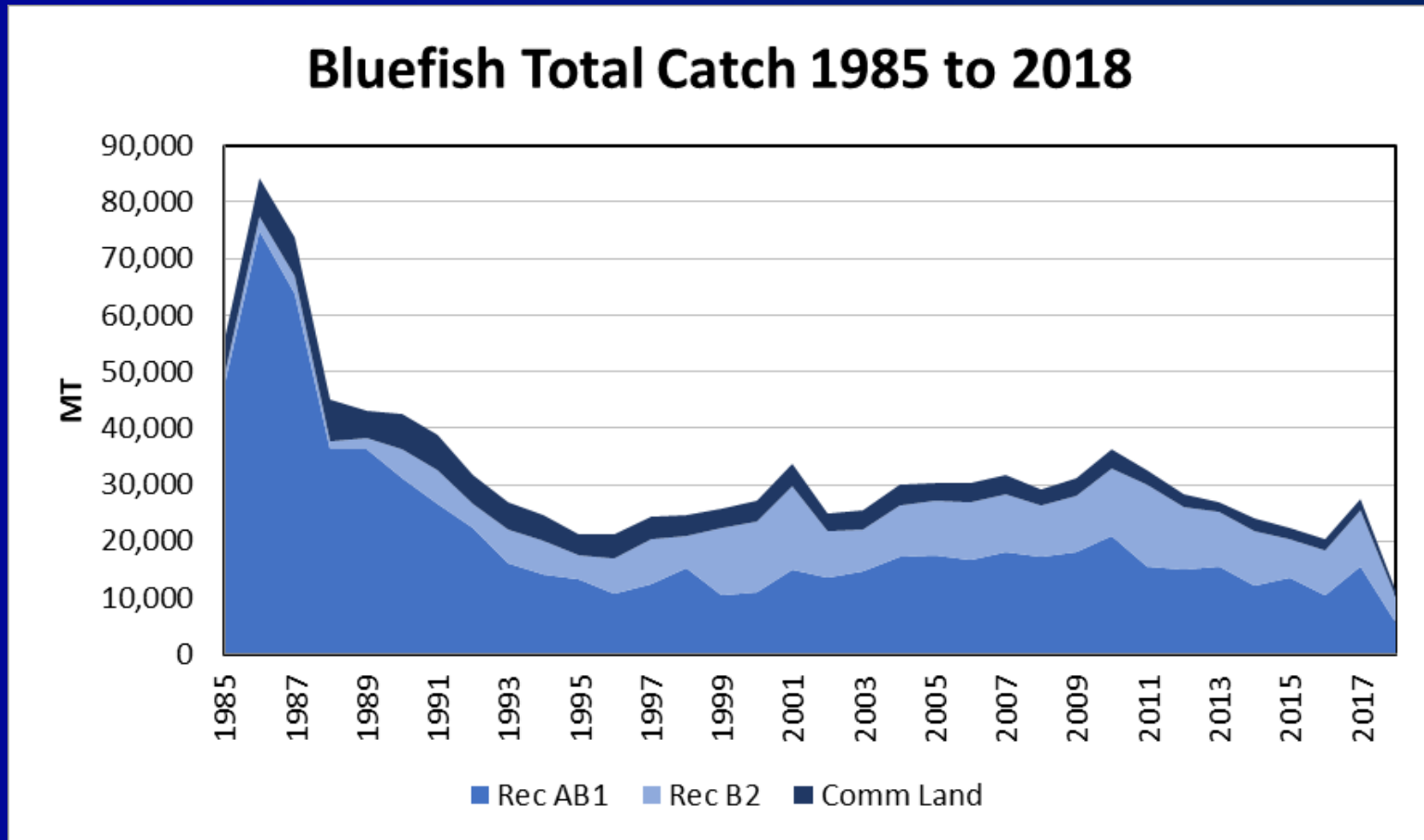
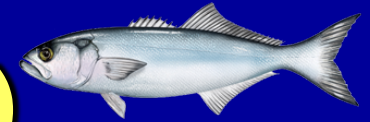


Management Measures



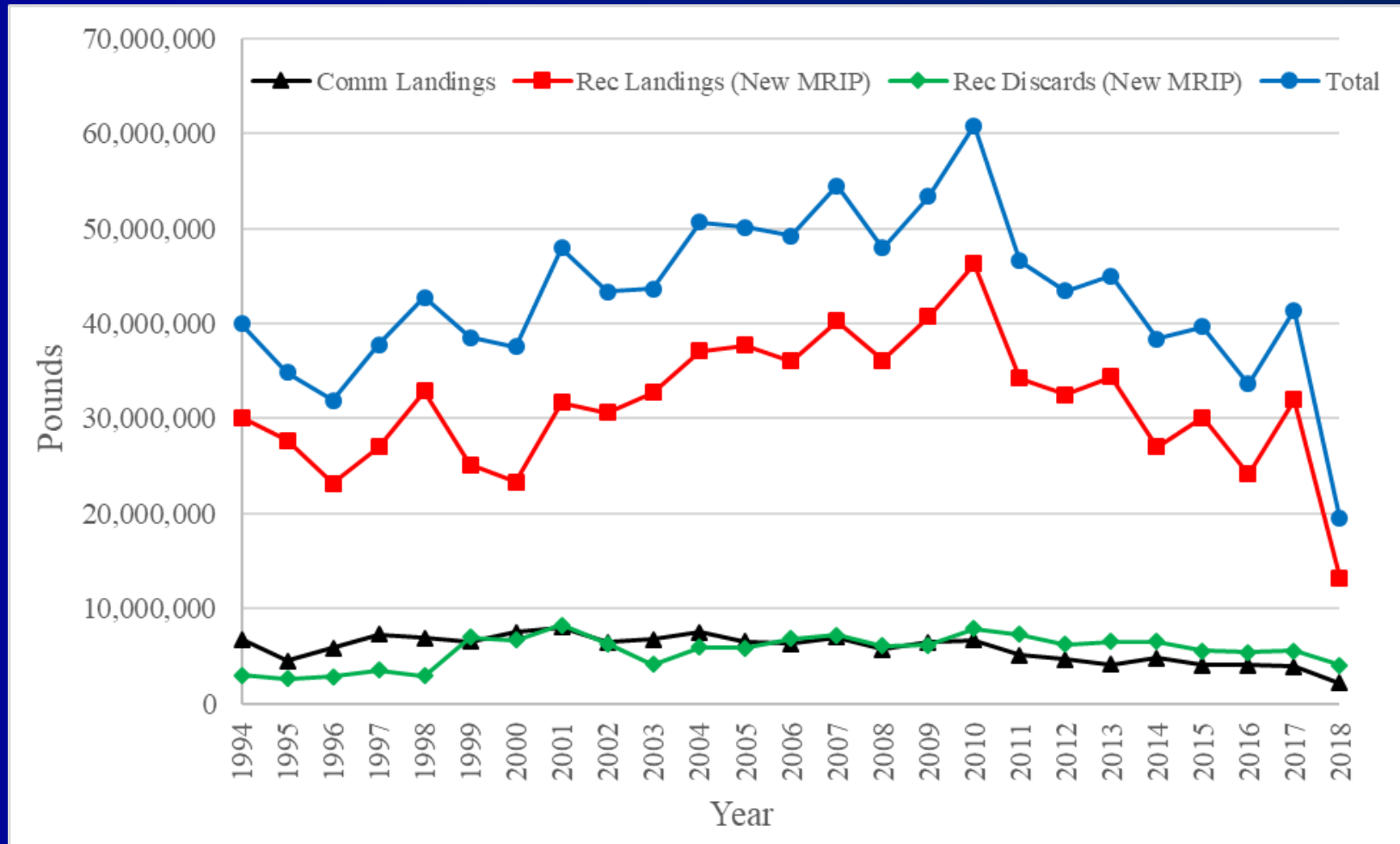
Management Measures	2014	2015	2016	2017	2018	2019
TAC ¹ / ABC ²	24.43	21.54	19.45	20.64	21.81	21.81
TAL ³	21.08	18.19	16.46	18.19	18.82	19.33
Comm. Quota ⁴	7.46	5.24	4.88	8.54	7.24	7.71
Comm. Landings ⁵	4.77	4.02	4.1	3.64	2.20	
Rec. Harvest Limit ⁴	13.62	12.95	11.58	9.65	11.58/NA	11.62
Rec. Landings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

Catch (landings and discards)



Anthony Wood 2019, Personal communication

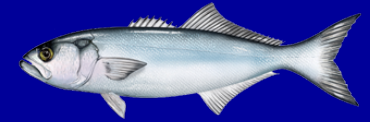
Total Removals (Landings and Discards)



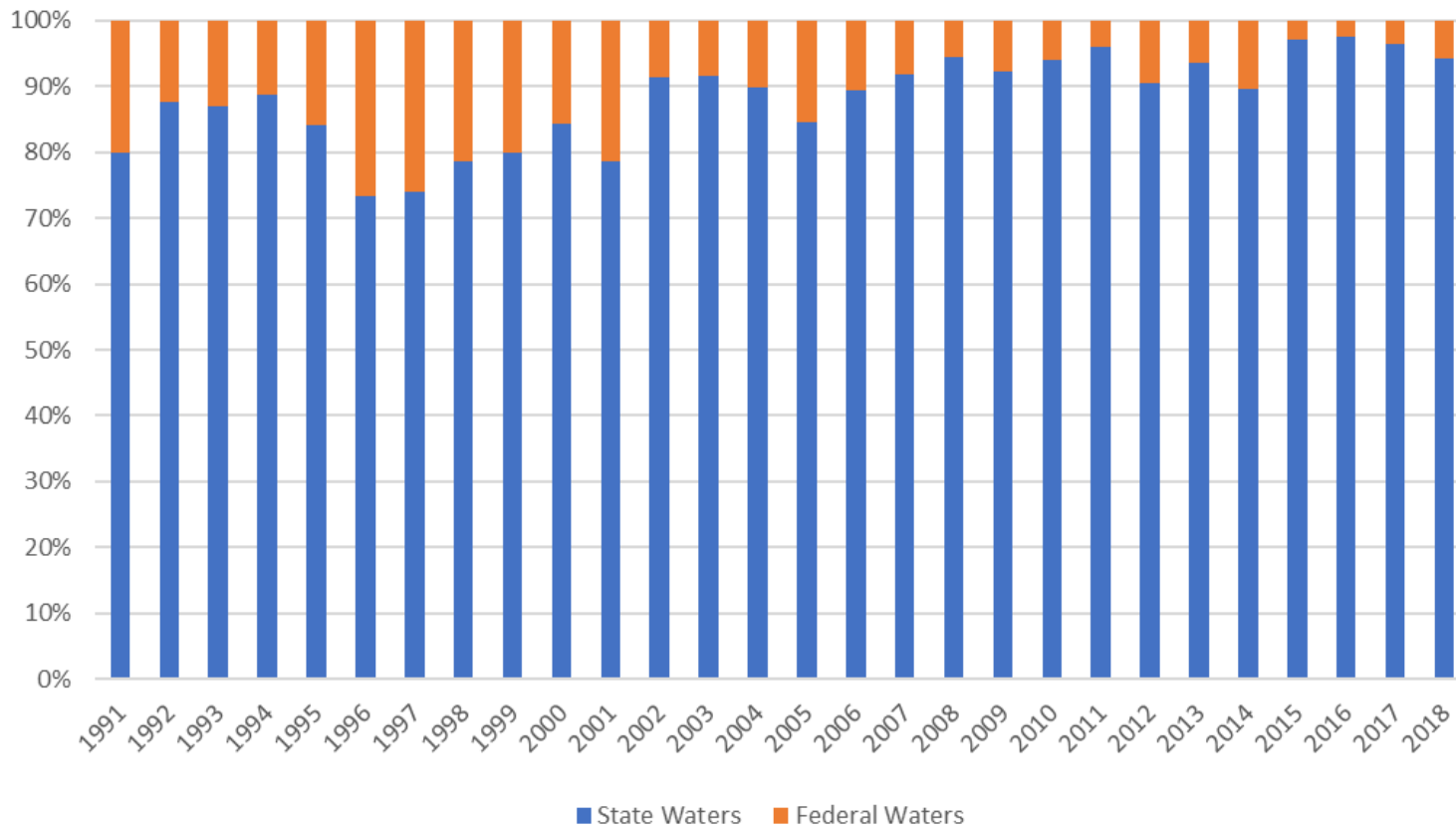
2018 Rec Landings by State

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

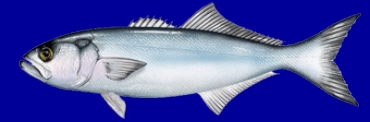
Recreational Fishery



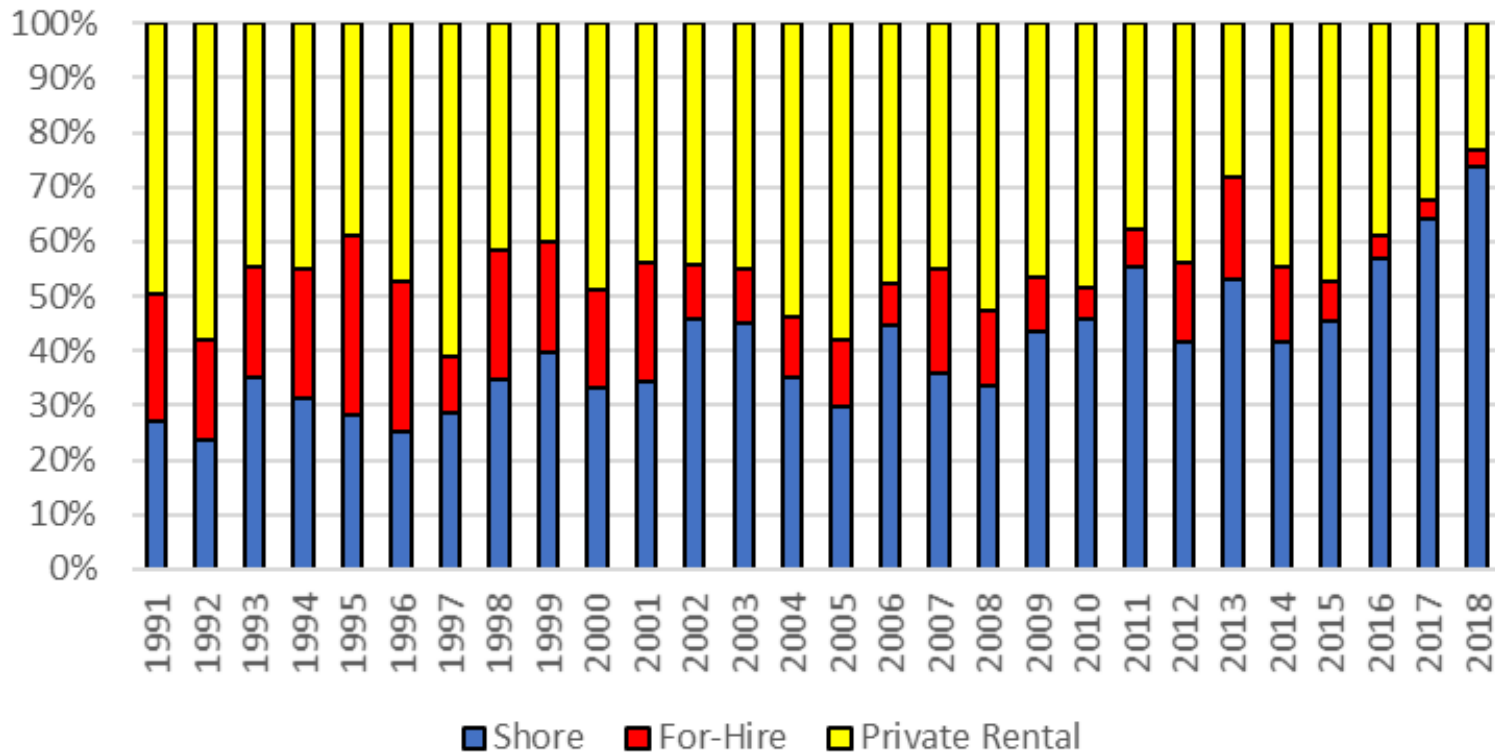
Stat vs Federal Landings, 1991-2018



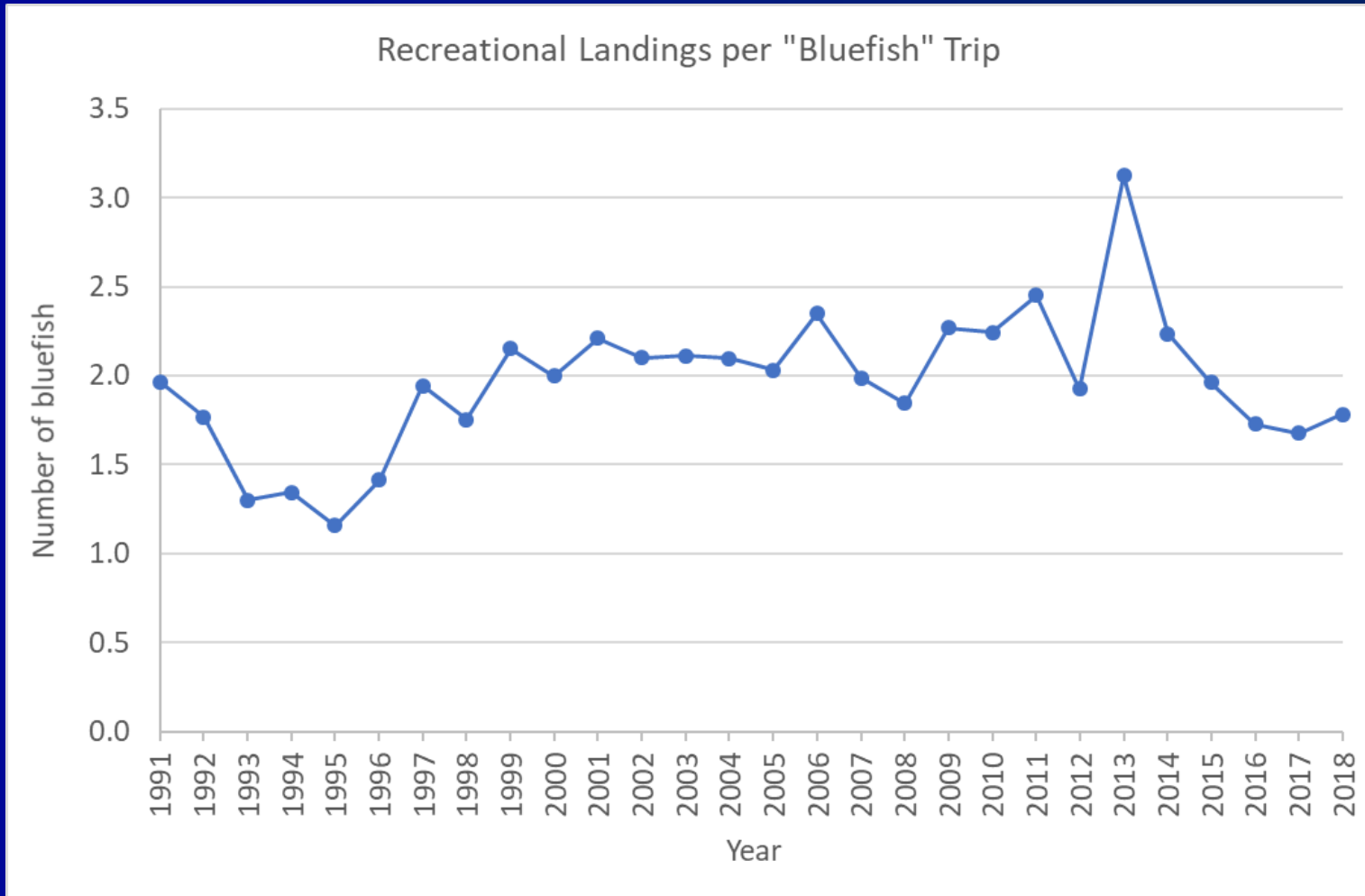
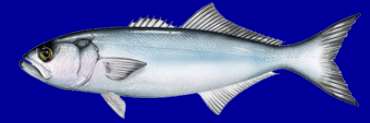
Recreational Fishery



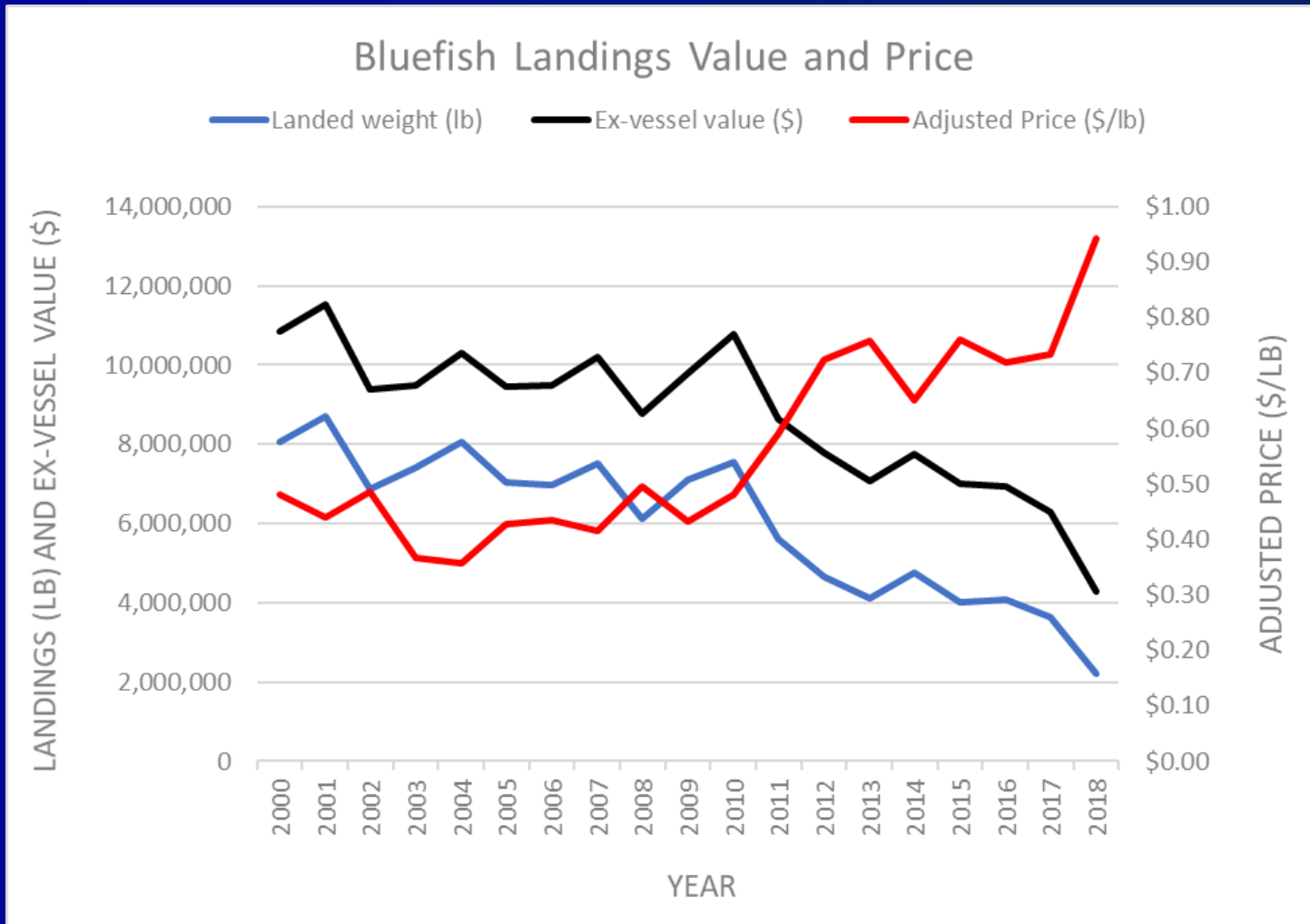
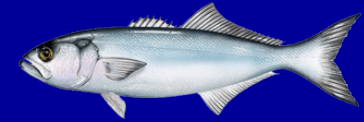
Recreational Landings by Mode



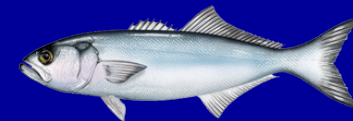
Recreational Fishery



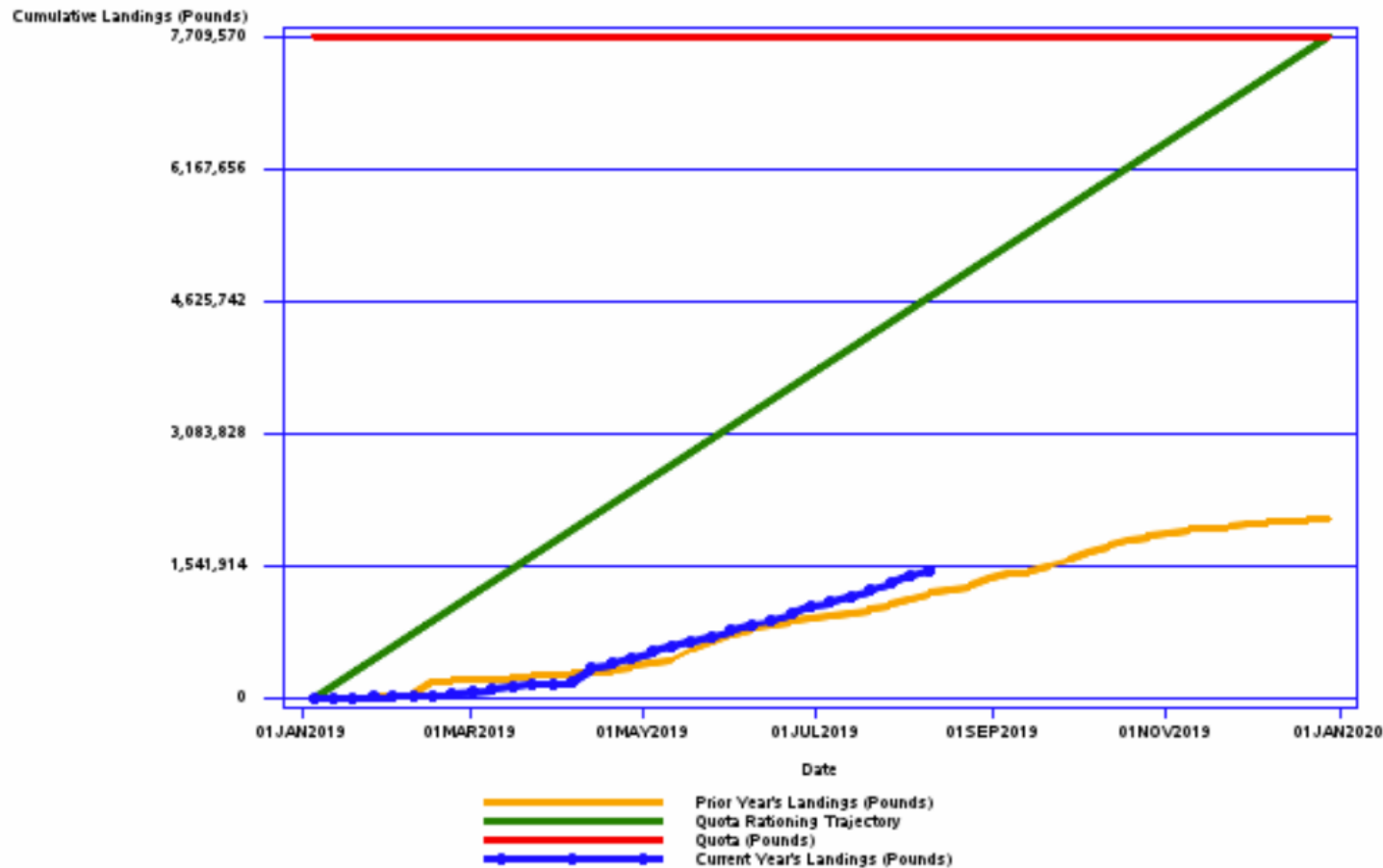
Commercial Fishery



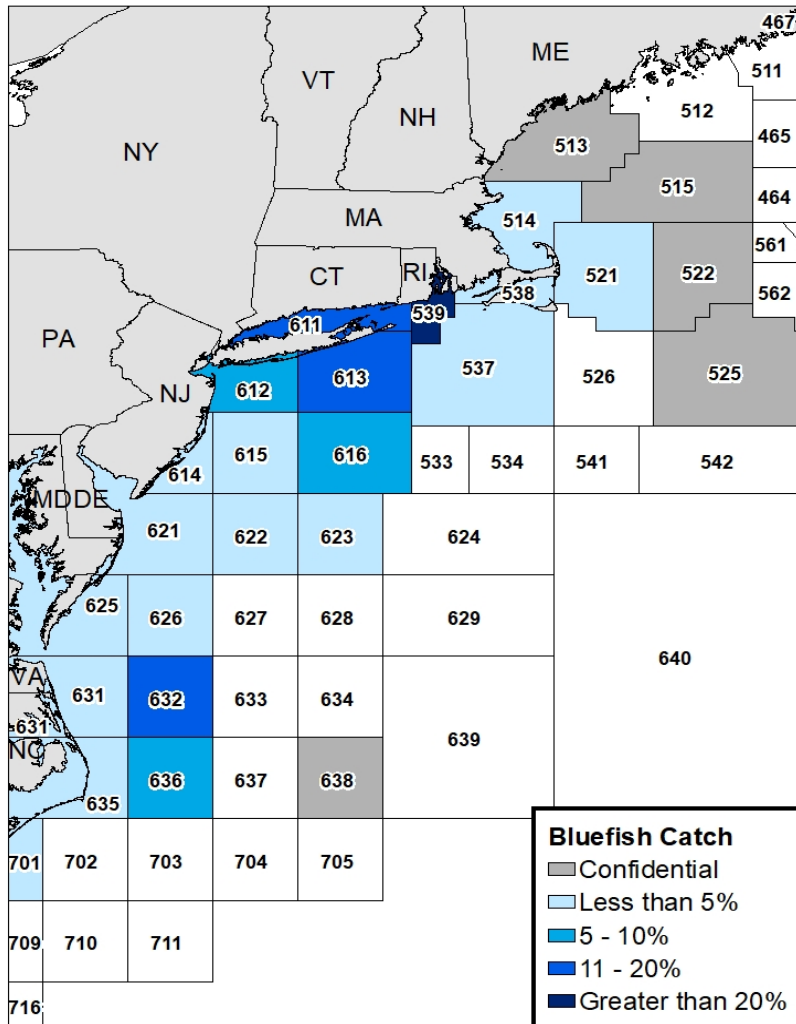
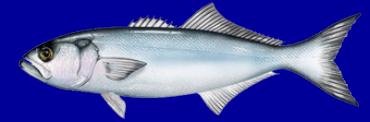
Commercial Fishery



Atlantic Bluefish Quota Monitoring Report



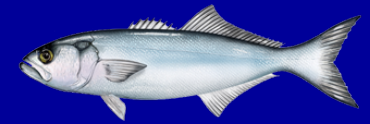
Commercial Fishery



Landings by Gear - Dealer Data 2018

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

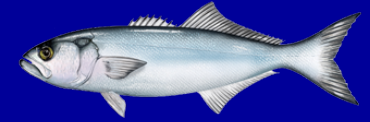
Commercial Fishery



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

Federal permits/activity

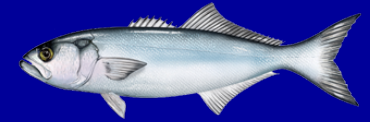


- 2018 Federally Permitted Statistics
 - 2,439 (2,510) commercial vessels
 - 834 (897) p/c vessels
 - 407 (397) dealers

 - 476 (611) commercial vessels landed bluefish
 - 270 (261) p/c vessels landed bluefish (VTR)
 - 149 (158) dealers purchased bluefish

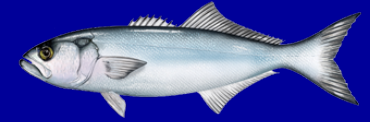
* Parentheses indicate numbers from 2017

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?**

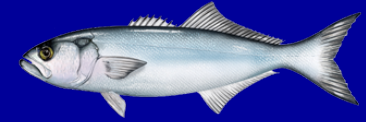
AP Fishery Performance Report



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.

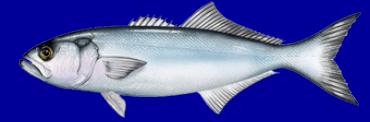
AP Fishery Performance Report



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

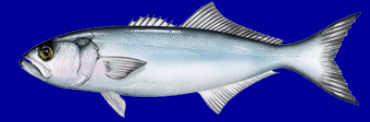
AP Fishery Performance Report



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.

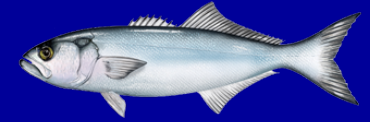
AP Fishery Performance Report



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.

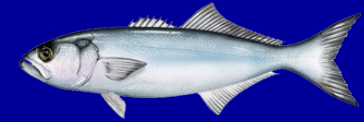
AP Fishery Performance Report



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?

Research Priorities: 5-year Research Plan



Surveys:

Fishery-Dependent

- Evaluate species associations with recreational angler trips targeting bluefish to potentially modify the bluefish recreational CPUE index used in the assessment.
- Initiate fishery-dependent sampling of offshore populations of bluefish.

Fishery-Independent

- Develop a fishery independent index that better captures older, larger fish (which would reduce reliance on MRIP sampling).

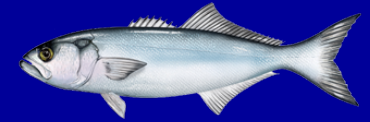
Modelling/Quantitative:

- Develop bluefish specific MSY reference points or proxies.
- Evaluate changes in selectivity of age-0 bluefish relative to water temperature.
- Evaluate methods for integrating disparate indices produced at multiple spatial and temporal scales into a stock-wide assessment model.

Biology/Life History/Habitat:

- Investigate how environmental variability may affect juvenile movements and distribution, which in turn, may affect availability.

Staff ABC Recommendation



- For 2020 and 2021, staff recommends the average Acceptable Biological Catch (ABC) approach, resulting in an ABC of 20.92 million pounds (9,489 mt).
- Research track stock assessment in 2022.

Recommended ABCs



	2019		2020/2021	
	Mil lb.	mt	Mil lb.	mt
OFL	27.97	12,688	32.97	14,956
ABC	21.81	9,895	20.92	9,489

RHLs and Comm Quotas

- 2020/2021: **60% CV**
 - RHL: 7.47 – 13.33 million lbs
 - CQ: 3.56 million lbs

- 2020/2021: **100% CV**
 - RHL: 3.62 – 9.48 million lbs
 - CQ: 2.77 million lbs

2018 Rec Landings = 13,270,862

2018 Comm Landings = 2,203,620

RHLs and Comm Quotas

	2020	60% CV		60% CV		100% CV		100% CV	
		MRIP Disc		NEFSC Disc		MRIP Disc		NEFSC Disc	
		mt	M lbs	mt	M lbs	mt	M lbs	mt	M lbs
	ABC	9,489	20,919,664	9,489	20,919,664	7385	16,281,138	7385	16,281,138
	ACL	9,489	20,919,664	9,489	20,919,664	7385	16,281,138	7385	16,281,138
	Mgmt Uncertainty	0	0	0	0	0	0	0	0
	Comm ACT	1,613	3,556,343	1,613	3,556,343	1,255	2,767,793	1,255	2,767,793
	Rec ACT	7,876	17,363,321	7,876	17,363,321	6,130	13,513,344	6,130	13,513,344
	Comm Disc	0	0	0	0	0	0	0	0
2018	Rec Disc	1,829	4,032,255	4,489	9,896,551	1,829	4,032,255	4,489	9,896,551
	Comm TAL	1,613	3,556,343	1,613	3,556,343	1,255	2,767,793	1,255	2,767,793
	Rec TAL	6,047	13,331,066	3,387	7,466,770	4,301	9,481,090	1,641	3,616,794
	Combined TAL	7,660	16,887,409	5,000	11,023,113	5,556	12,248,883	2,896	6,384,587
	Transfer	0	0	0	0	0	0	0	0
2018	Expected Rec Land	6,020	13,271,828	6,020	13,271,828	6,020	13,271,828	6,020	13,271,828
	Comm Quota	1,613	3,556,343	1,613	3,556,343	1,255	2,767,793	1,255	2,767,793
	RHL	6,047	13,331,066	3,387	7,466,770	4,301	9,481,090	1,641	3,616,794

2018 Rec Landings: 13,270,862