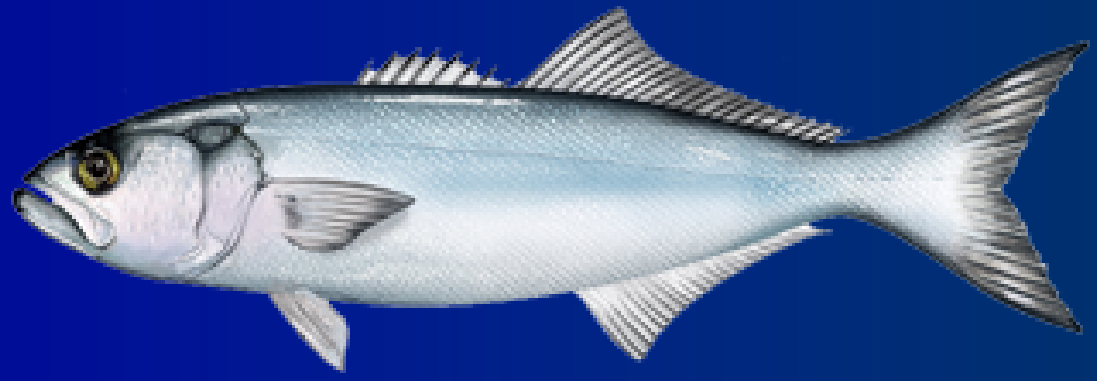
MID-ATLANTIC
FISHERY MANAGEMENT COUNCIL

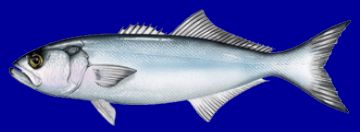
Atlantic Bluefish



Council Meeting

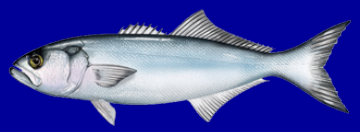
August 9, 2021

Outline



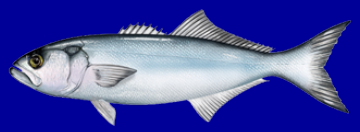
- Objectives
- Management overview
- Stock Status
  - Management track assessment update
- Review recent fishery performance and regulations
- AP Fishery Performance Report
- Projections
- Staff, SSC and MC Recommendations

Meeting Objective



- Approve bluefish specifications for 2022-2023
  - Recent fishery performance
  - Management track assessment update
  - On the water observations
    - Factors influencing recent catch and landings

Specifications Process



Bluefish Specifications

- 2022
- 2023

Advisors
Fishery performance report

↓

SSC
ABC (scientific uncertainty)

↓

Monitoring Committee
ACT (management uncertainty)
Management measures

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Council and Commission
Catch limits and management measures

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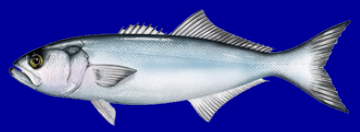
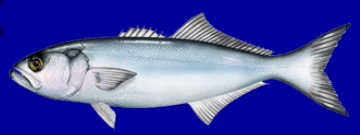
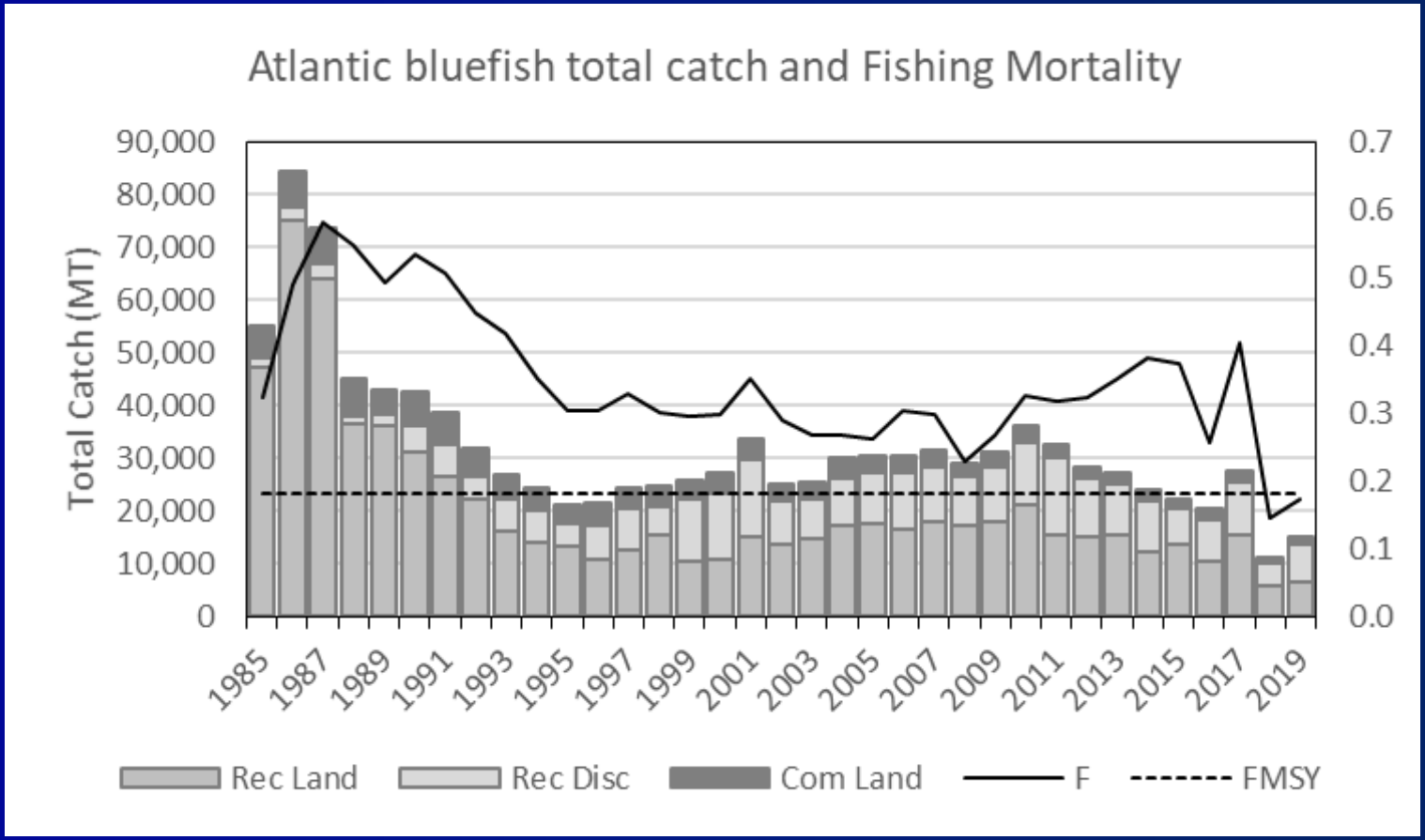
Stock Status



- Last operational assessment: July 2021
- Stock is overfished
- Overfishing is not occurring
- Research track assessment in 2022
  - Will inform the 2024-2025 specifications package

Fishing Mortality – 2021 Management Track Assessment





Overfishing not occurring

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

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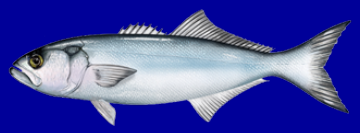
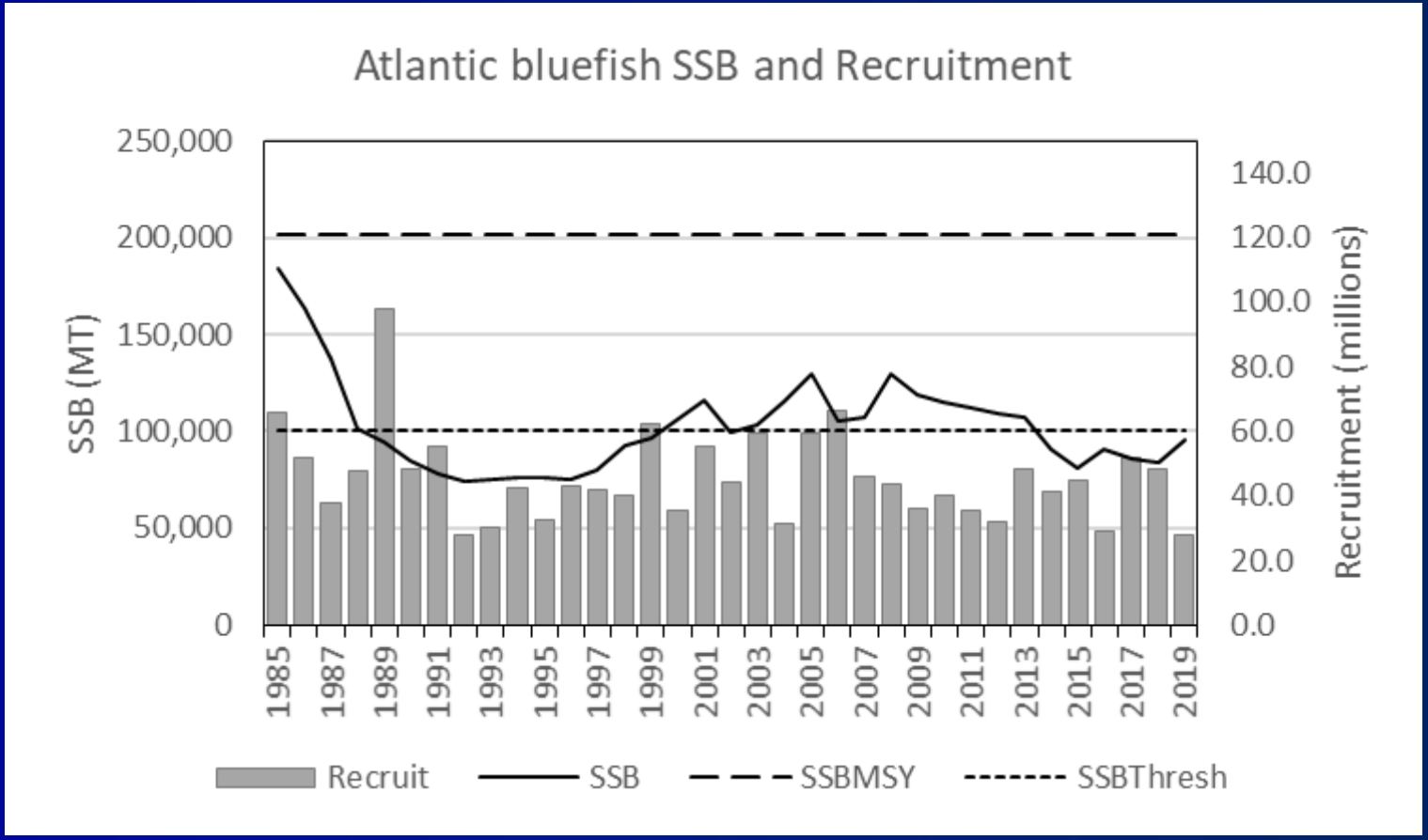
Biomass – 2021 Management Track Assessment





Overfished

2019 SSB (95,742 mt) ≈ 5% below $SSB_{Threshold}$ (100,865 mt)

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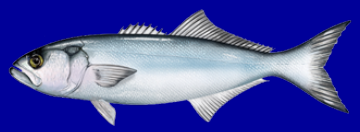
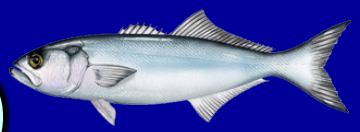
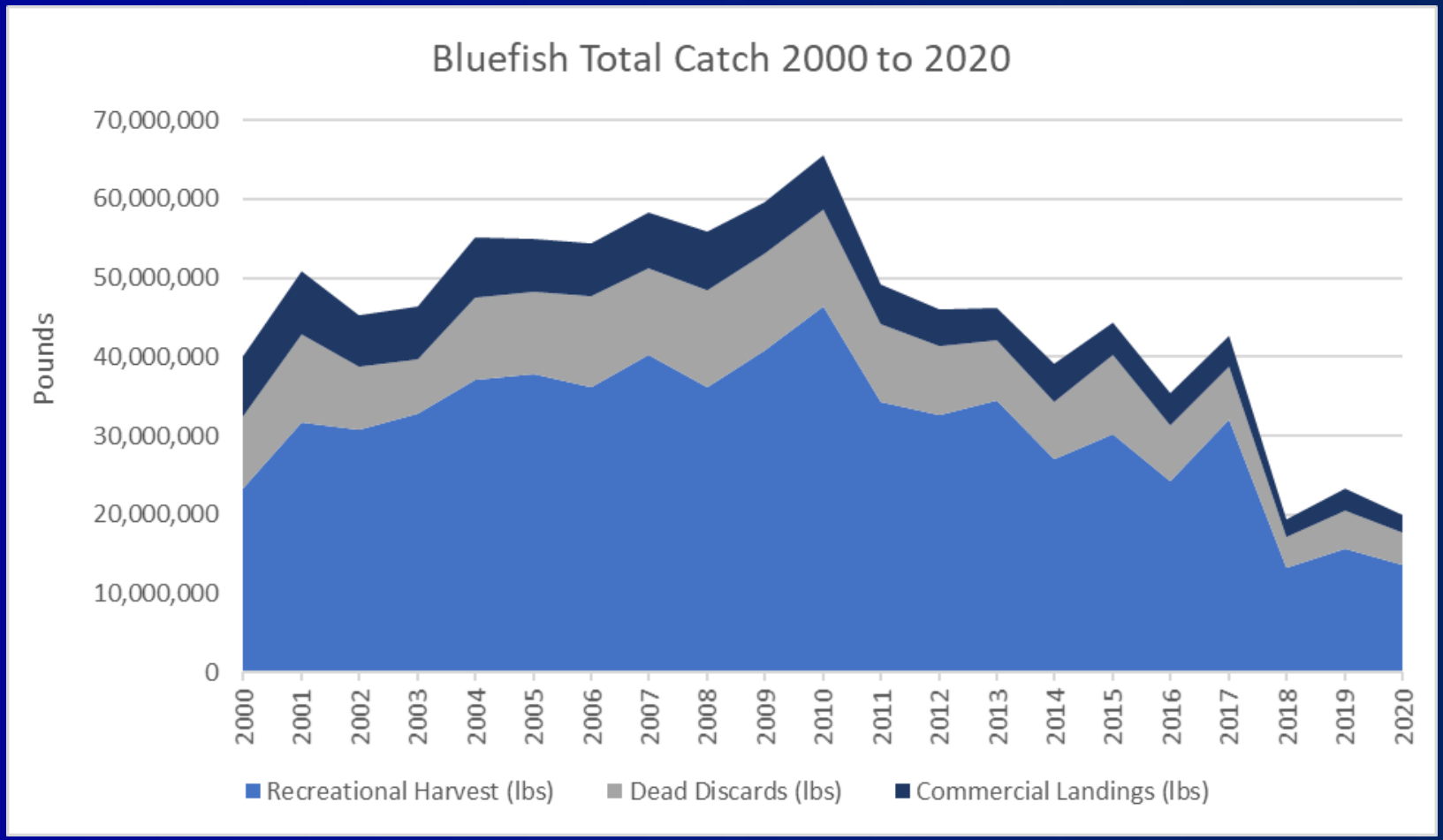
Management Measures



Management Measures	2016	2017	2018	2019	2020	2021
TAC/ABC	**19.45**	**20.64**	**21.81**	**21.81**	**16.28**	**16.28**
TAL	16.46	18.19	18.82	19.33	**12.25**	12.25
Comm. Quota	4.88	8.54	7.24	7.71	**2.77**	2.77
Comm. Landings	4.1	3.64	2.20	2.78	**2.16**	
Rec. Harvest Limit	11.58	9.65	11.58	11.62	**9.48**	8.34
Rec. Landings, Old MRIP	9.54	9.52	3.64	N/A	**N/A**	N/A
Rec. Landings, New MRIP	24.16	32.07	13.27	15.56	**13.58**	
Rec. Possession Limit (# fish)	15	15	15	15	**3: Private** **5: For-Hire**	3: Private 5: For-Hire
Total Landings	13.64	13.16	5.84	18.34	**15.74**	
Overage/Underage	-2.82	-5.03	-12.98	N/A*	**3.49**	
Total Catch	16.09	15.65	6.96	23.50	**19.93**	
Overage/Underage	-3.36	-4.99	-14.85	N/A*	**3.65**	

Catch (landings and discards)





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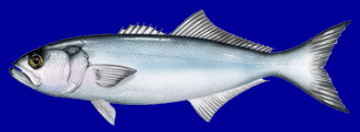
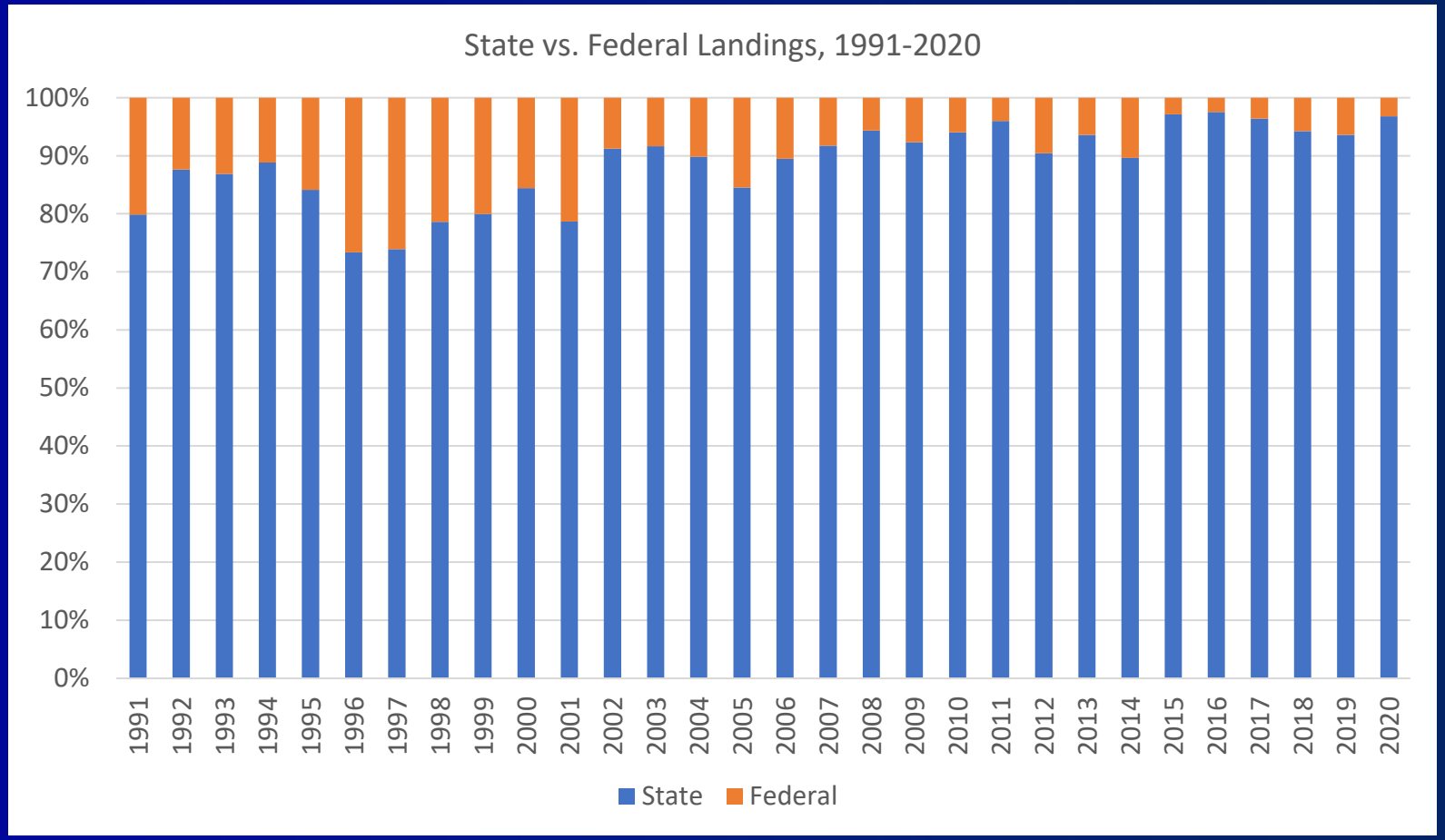
2020 Rec Landings by State

State	Harvest			Catch	Released Alive	Dead Discards
	Pounds	Number	Average Weight[1] (pounds)	Number	Number	Number
ME	0	0	0	0	0	-
NH	1,800	376	4.8	376	0	-
MA	553,242	162,128	3.4	906,269	744,141	111,621
RI	508,227	220,556	2.3	1,089,449	868,893	130,334
CT	594,546	298,383	2.0	1,407,730	1,109,347	166,402
NY	1,478,719	885,517	1.7	3,701,474	2,815,957	422,394
NJ	1,808,548	595,103	3.0	3,372,216	2,777,113	416,567
DE	94,901	53,751	1.8	219,288	165,537	24,831
MD	214,991	173,846	1.2	494,214	320,368	48,055
VA	305,092	395,751	0.8	1,172,803	777,052	116,558
NC	2,124,224	2,108,296	1.0	8,666,047	6,557,751	983,663
SC	154,420	289,339	0.5	2,187,307	1,897,968	284,695
GA	9,902	10,795	0.9	187,272	176,477	26,472
FL	5,732,605	4,142,380	1.4	7,277,380	3,135,000	470,250
Total	13,581,217	9,336,221	-	30,681,825	21,345,604	3,201,841

Recreational Fishery





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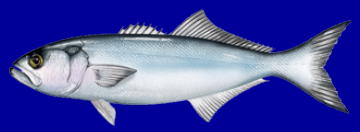
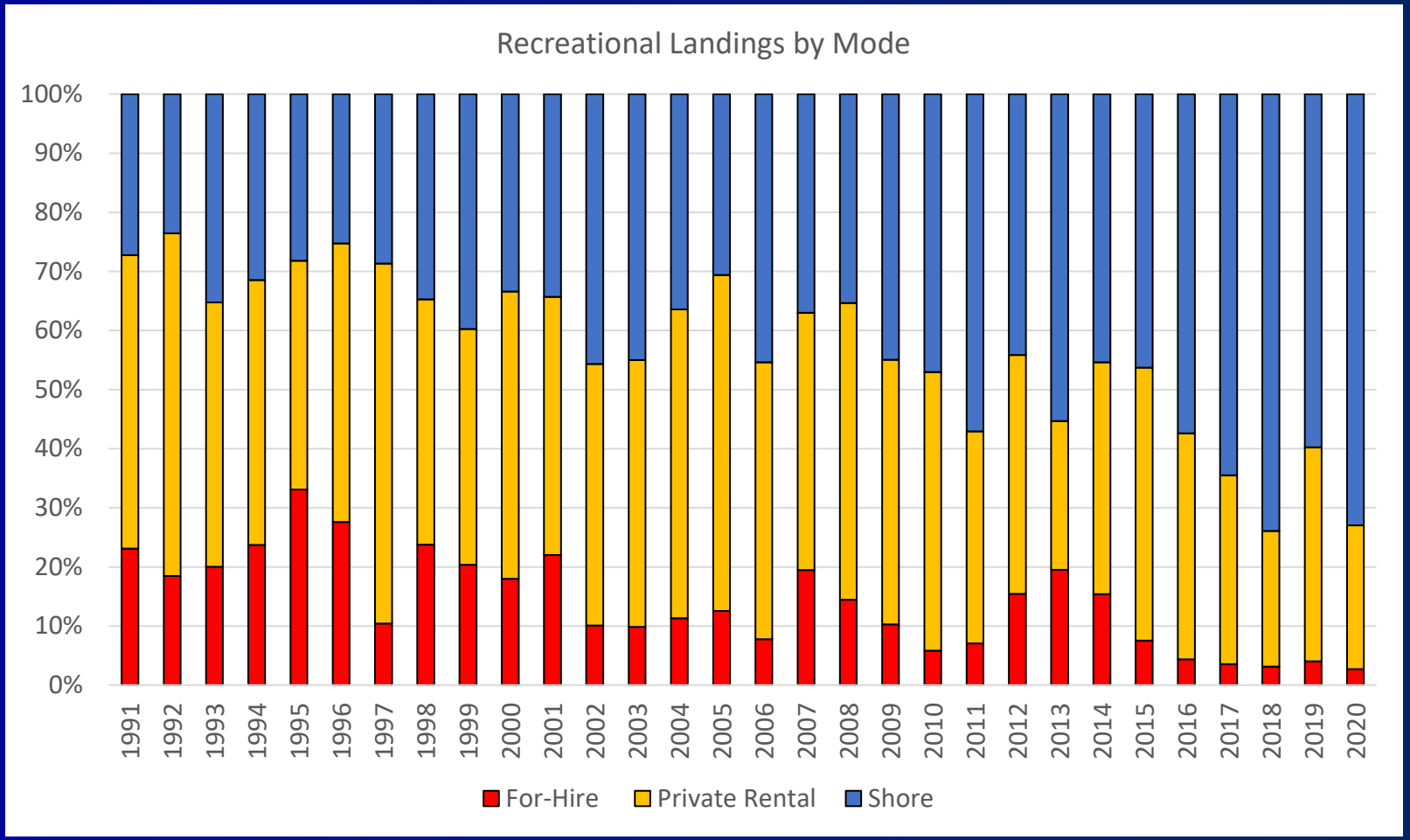
Recreational Fishery





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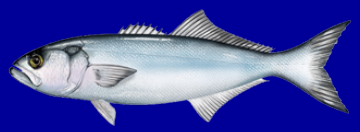
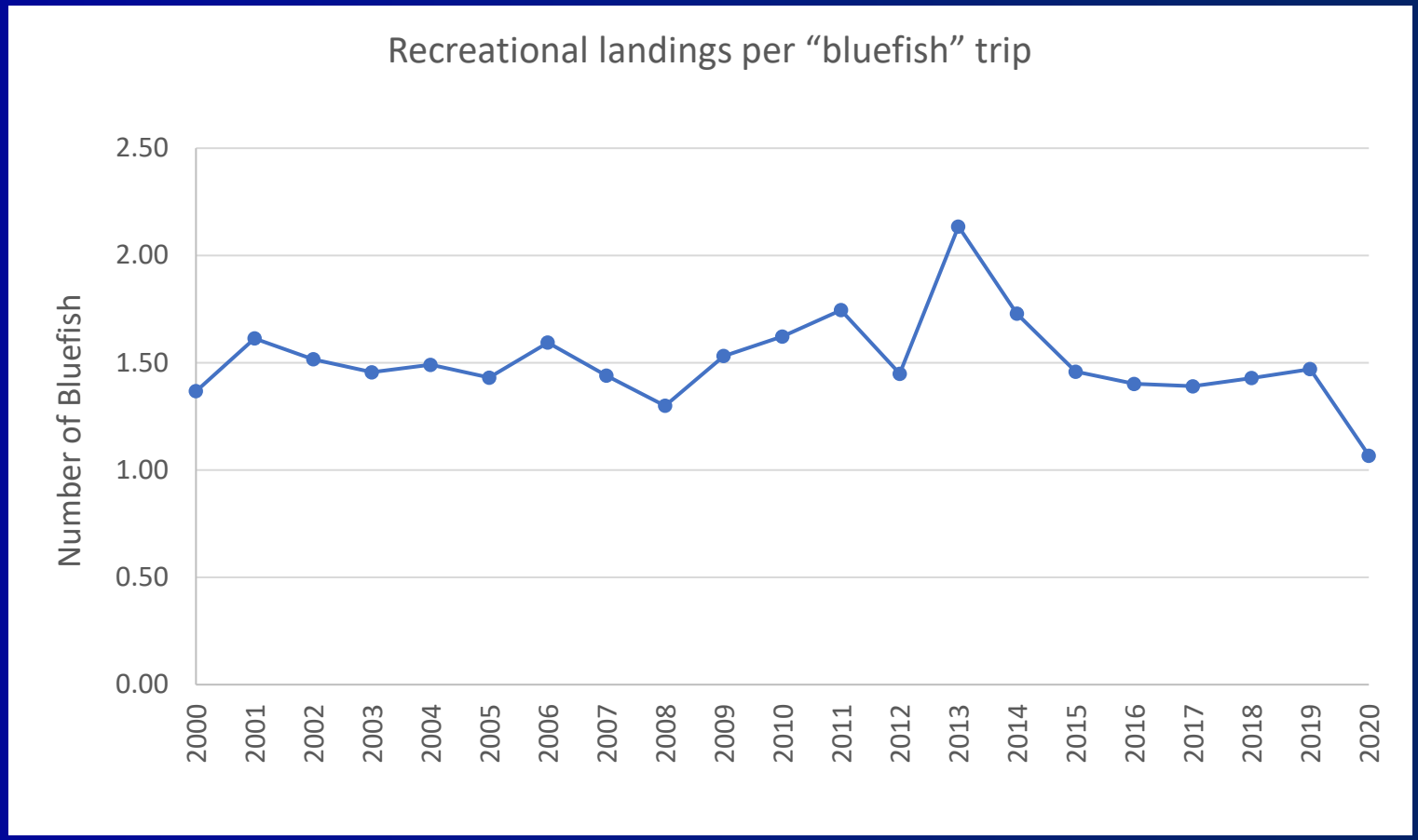
Recreational Fishery





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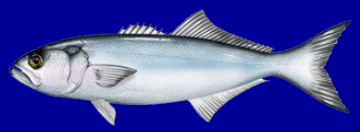
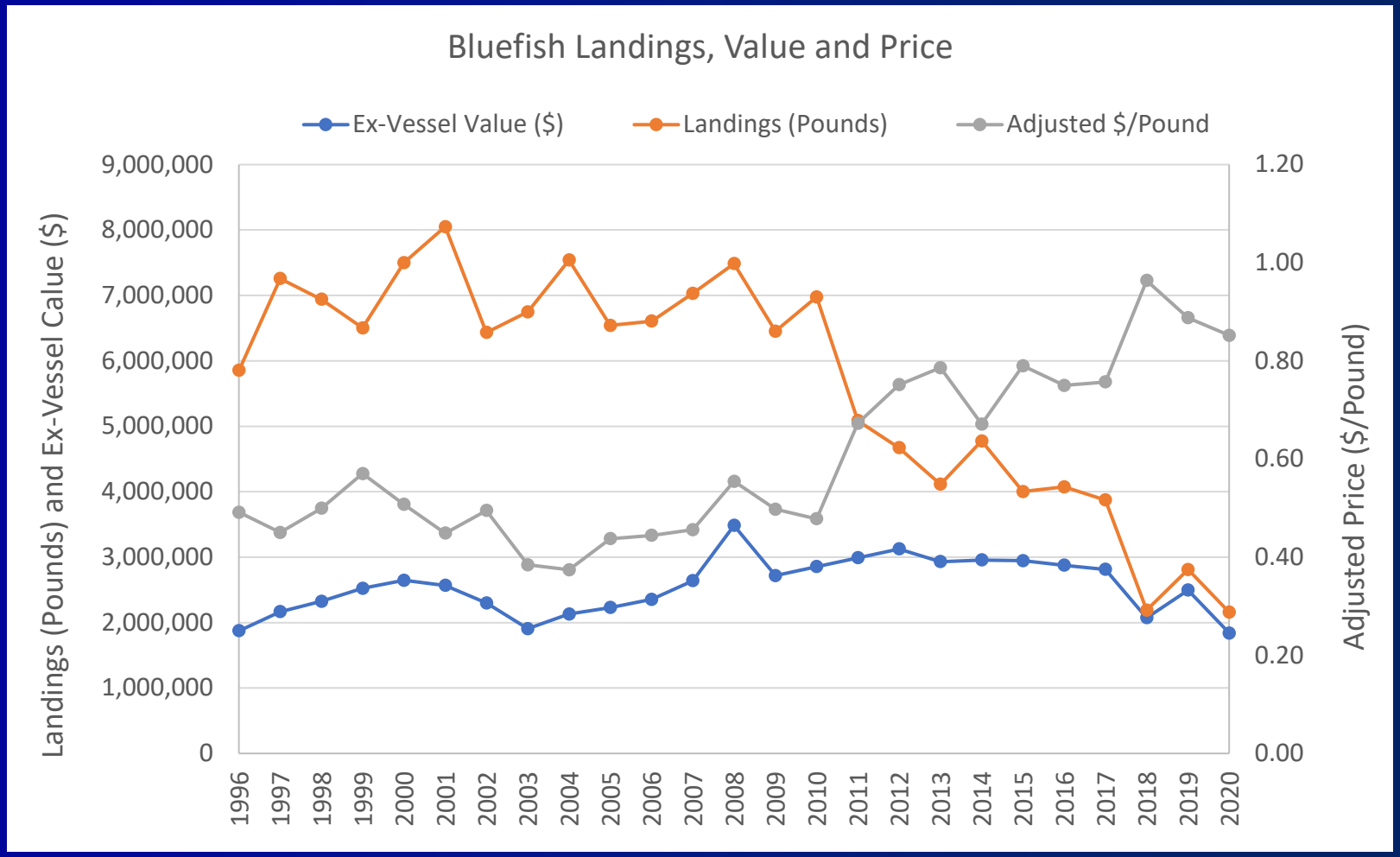
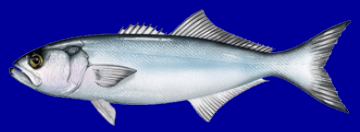
Commercial Fishery

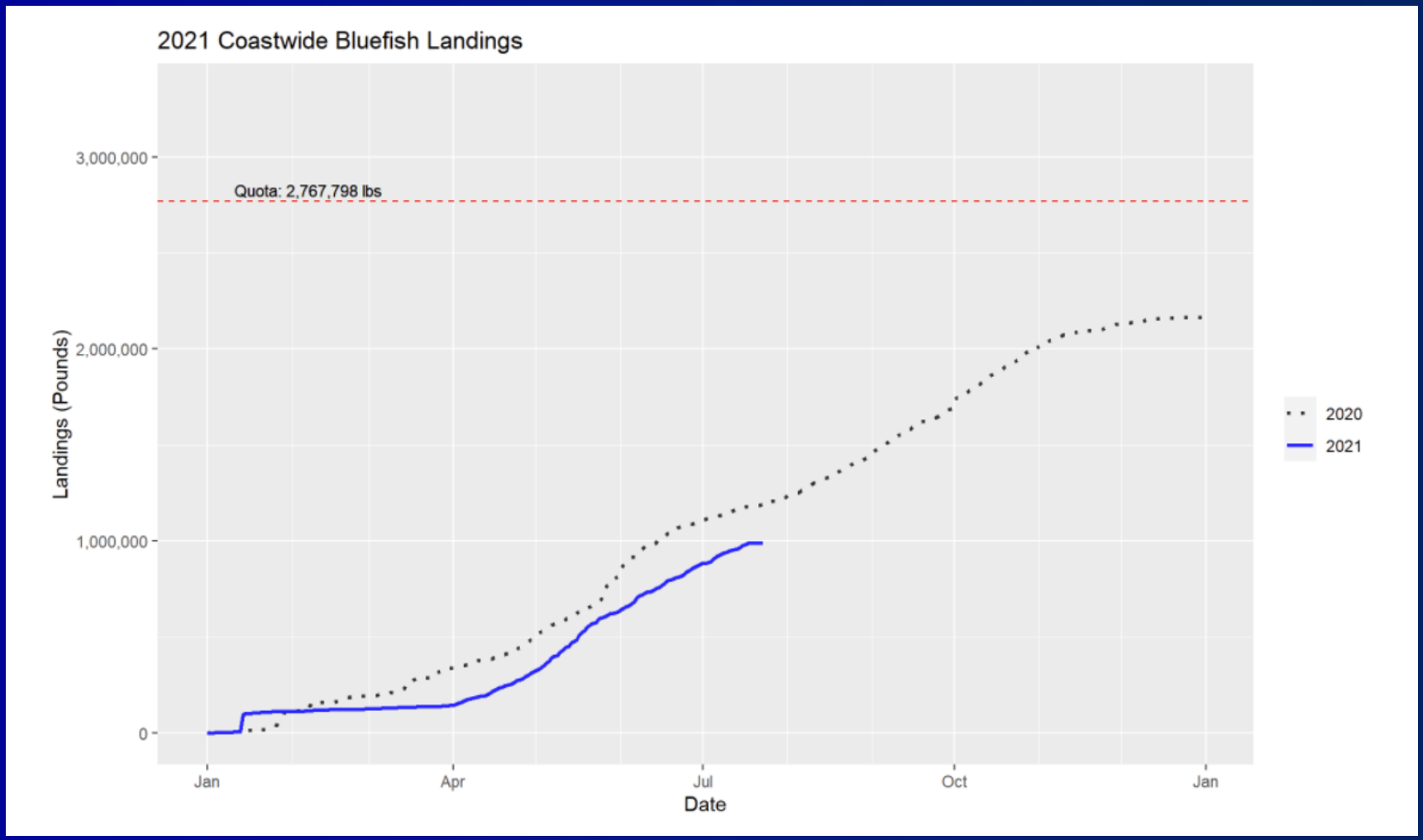




MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

Commercial Fishery

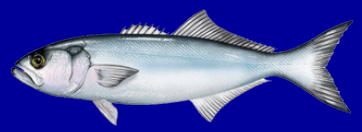


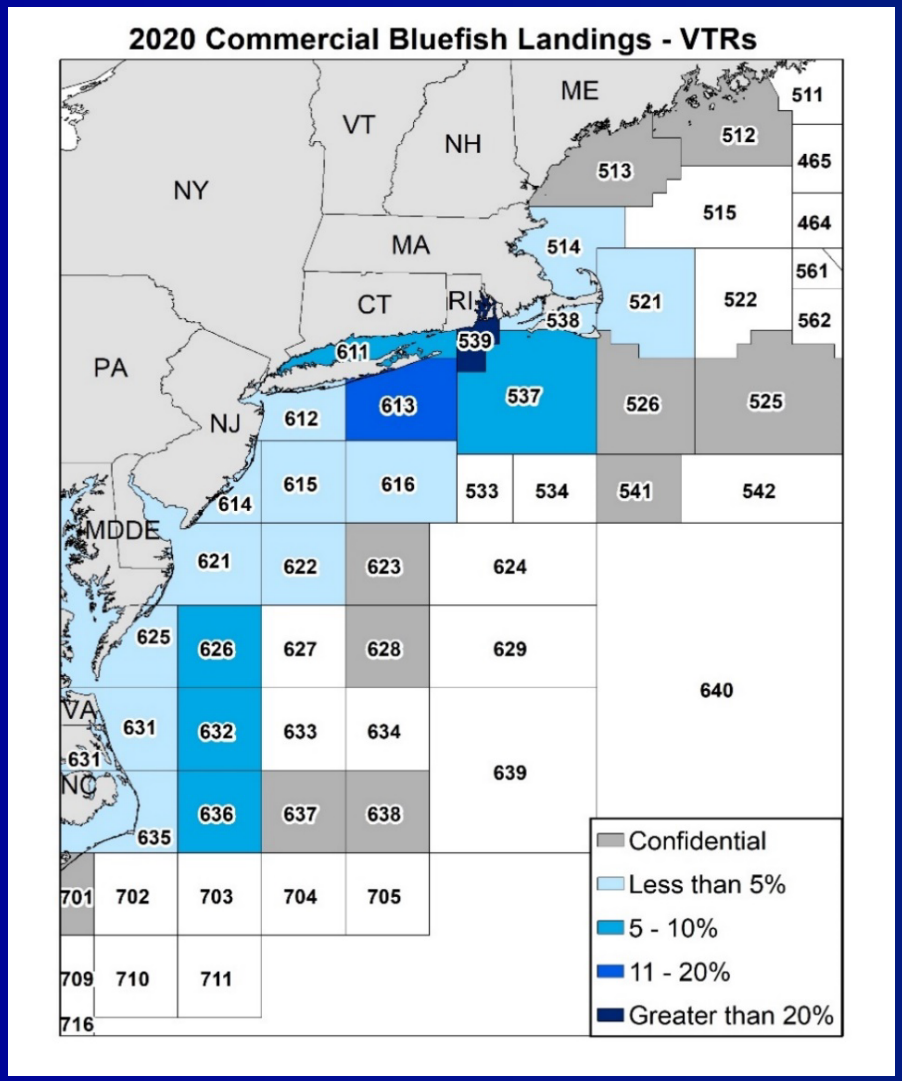


July 26, 2021

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

Commercial Fishery

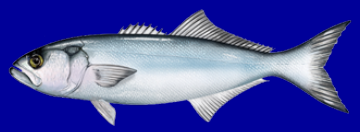




- Landings by Gear - Dealer Data 2020
  - Gillnet (52%)
  - Unknown (24%)
  - Otter trawl, bottom fish (15%)
  - Handline (5%)
  - Other (4%)

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

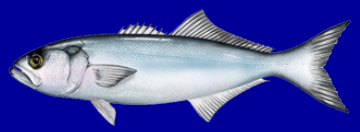
Commercial Fishery



Top Commercial Bluefish Ports

Port	Pounds	% of total commercial bluefish landings	# vessels
Wanchese, NC	368,942	17%	16
Hatteras, NC	269,655	12%	<10
Point Judith, RI	216,060	10%	99
Montauk, NY	151,200	7%	74
Little Compton, RI	105,941	5%	<10

Federal permits/activity



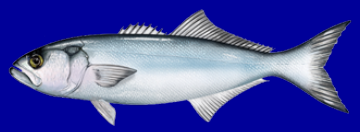
- 2020 Federally Permitted Statistics
  - 2,351 (2,442) commercial vessels
  - 863 (851) p/c vessels
  - 307 (389) dealers

  - 423 (483) commercial vessels landed bluefish
  - 258 (278) p/c vessels landed bluefish (VTR)
  - 107 (146) dealers purchased bluefish

* Parentheses indicate numbers from 2019

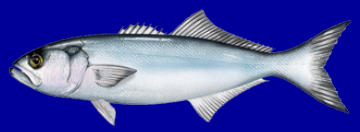
MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

Advisory Panel Discussion



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

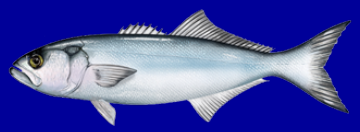
AP Fishery Performance Report



Recreational Fishery Comments

- Despite a decrease in MRIP estimates, AP members indicated abundance increased coastwide.
  - 2021 season seems to be following a similar pattern
- Reports of larger bluefish further offshore
- Phenomenal bluefish year in NY, NJ, and MA – tied to an abundance of bait.
- In NC, an abundance of small and medium fish are available – typically keep smaller fish (i.e., bait).
- Smaller bluefish were seasonally available from shore

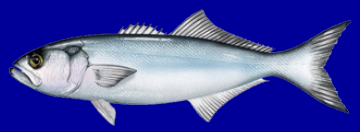
AP Fishery Performance Report



Commercial Fishery Comments

- Larger bluefish are offshore and available to commercial fishermen (NY/NJ)
- In NC, commercial landings are down because inlets are often not passable.
- If current trends continue, the commercial quota will be too low, especially given the reduction in commercial allocation.
- 2019 and 2020 were difficult years for FL fishermen due to a lot of bad weather early in the season

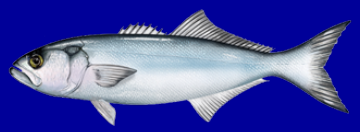
AP Fishery Performance Report



Market/Economic Comments

- Prices remain strong in the NY market (2-4 pounders often bring $1.40/lb)
- When the weather is good, prices vary from $1.35 (September 2020) to $2.01 (March 2021)
- COVID-19 has greatly impacted the for-hire and commercial sectors
- Bluefish demand has remained high

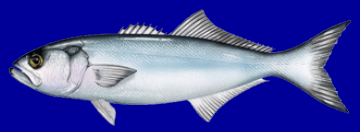
AP Fishery Performance Report



Management/Fishery Regulations Comments

- The for-hire fleet believes the 5-fish bag limit is too low (NY/NJ)
- Need to further explore for-hire sector separation
- AP members (NY) are very optimistic of the future years due to the current abundance of bait

AP Fishery Performance Report



Research, Environmental and Other Comments

- How does the harvest of fish in the south early in the season affect abundance in the north?
- Need to better understand bait abundance and the relationship with bluefish
- AP members prefer regulations and management measures that remain stable.

Bluefish Unknowns/Uncertainties

- Discard estimates
  - MRIP-estimated (GARFO) vs. NEFSC
    - 2019: MRIP = 4.88 M lbs, NEFSC = 15.41 M lbs
    - 2020: MRIP = 4.19 M lbs, no NEFSC estimate
- Recreational ACT overage of 3.65 M lbs
- 2020 recreational harvest estimates
  - 3 and 5-fish bag limit implemented in mid-2020
  - COVID-19: Imputations use 2018/2019 data
- Research Track Assessment in 2022 to inform 2024-2025 specifications

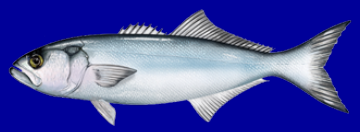
Council-Preferred Rebuilding Projections

- Bluefish Allocation and Rebuilding Amendment
  - 4-year Constant Harvest
  - 5-year P* Risk Policy
  - 7-year Constant F

7-year F rebuild projection 2022-2028
Total Catch, Fishing Mortality (F) and Spawning Stock Biomass (SSB) in metric tons

Year	Total Catch	F	SSB
2020	9,041	0.093	112,892
2021	7,385	0.068	135,081
2022	18,463	0.154	146,103
2023	19,667	0.154	155,671
2024	21,113	0.154	161,005
2025	21,782	0.154	169,690
2026	23,081	0.154	178,163
2027	24,570	0.154	192,196
2028	25,646	0.154	202,299

Staff ABC Recommendation



- For 2022 and 2023, staff recommends an acceptable biological catch (ABC) of 25.26 million pounds (11,460 mt) and 30.62 million pounds (13,890 mt), respectively – Option 2.
  - Option 2 treats the total catch value from the 7-year constant fishing mortality rebuilding plan as an OFL proxy instead of an ABC.
  - Accounts for the uncertainties present in the fishery.

Bluefish—SSC Comments (1)

- The SSC questioned the methods for estimating the weight of recreational discards and the disparity between the use of volunteer angler data and the assumptions used in MRIP.

- Selectivity patterns in the model could be affected by changes in assumptions regarding average weights of discards.

- The SSC noted low recruitment estimates in 2019. Is it was possible to detect shifts between spring vs late summer recruiting cohorts? Should be evaluated in the next benchmark study, scheduled for 2022.

- Owing to data gaps caused by Covid 19 restrictions, efficacy of newly instituted recreational regulations is unknown.

Bluefish—SSC Comments (2)

- Consideration of the Council-approved rebuilding schedule generated considerable discussion within the SSC.
  - How to treat rebuilding F proposed by the Council and its implications for generating ABCs.
  - The Council's rebuild policy is to achieve rebuilding within a seven-year period commencing in 2022. A constant F strategy was selected such that biomass in 2028 has a 50% chance of exceeding the B_{msy} proxy.
  - Given the basis for the rebuilding, the SSC determined that the constant F for rebuilding in seven years (denoted as $F_{rebuild,7} = 0.154$) should be treated as a F_{msy} proxy.
  - Thus the usual Council risk policy, P* criteria, and OFL CV process should apply.
  - Failure to include scientific uncertainty through the direct application of $F_{rebuild,7}$ alone could generate instances where the probability of overfishing exceeded 0.5 between 2022 and 2028.

Bluefish—SSC Terms of Reference

- Recommends CV of 100% be applied to the OFL estimate as an appropriate ABC
  - Chief uncertainty relates to revised MRIP estimates which average 80+% of landings.
  - Importance of dead discards has increased over time.
  - MRIP catch per angler data are important inputs to the ASAP model
- ABC Calculation
  - Use F-rebuild to calculate the OFL but apply the iterative P* approach and the Council's risk policy.
- Sources of Uncertainty
  - Revised MRIP data are an important source of uncertainty in determination of stock status and in short term projections.
  - Increased importance of dead discards has implications for selectivity pattern
  - Approximately 60% of the population biomass is in the aggregated 6+ age group for which there is relatively little information.
  - The extent to which the MRIP index and MRIP catch are partially redundant in the assessment needs to be determined.

Bluefish—Terms of Reference—Recommendations

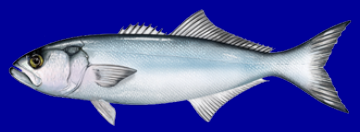
• Compare historical correction to the MRIP estimates for bluefish with other species to consider their plausibility.

- Investigate potential selectivity pattern changes in discards over time.
- Investigate recreational CPUE: evaluate species associations with recreational angler trips targeting Bluefish
- Investigate patterns and trends in recent recruitments.
- Develop a fishery-independent index that better captures older, larger fish, which would reduce reliance on MRIP sampling.
- Changes in the timing of the movement of juvenile Bluefish and the distribution of adults throughout the region due to climate changes.
- Changes in the selectivity of age-0 Bluefish in the survey relative to water column or surface temperature
- Evaluate methods for integrating disparate indices produced at multiple spatial and temporal scales.
- Initiate fishery-dependent and fishery-independent sampling of offshore populations of Bluefish.

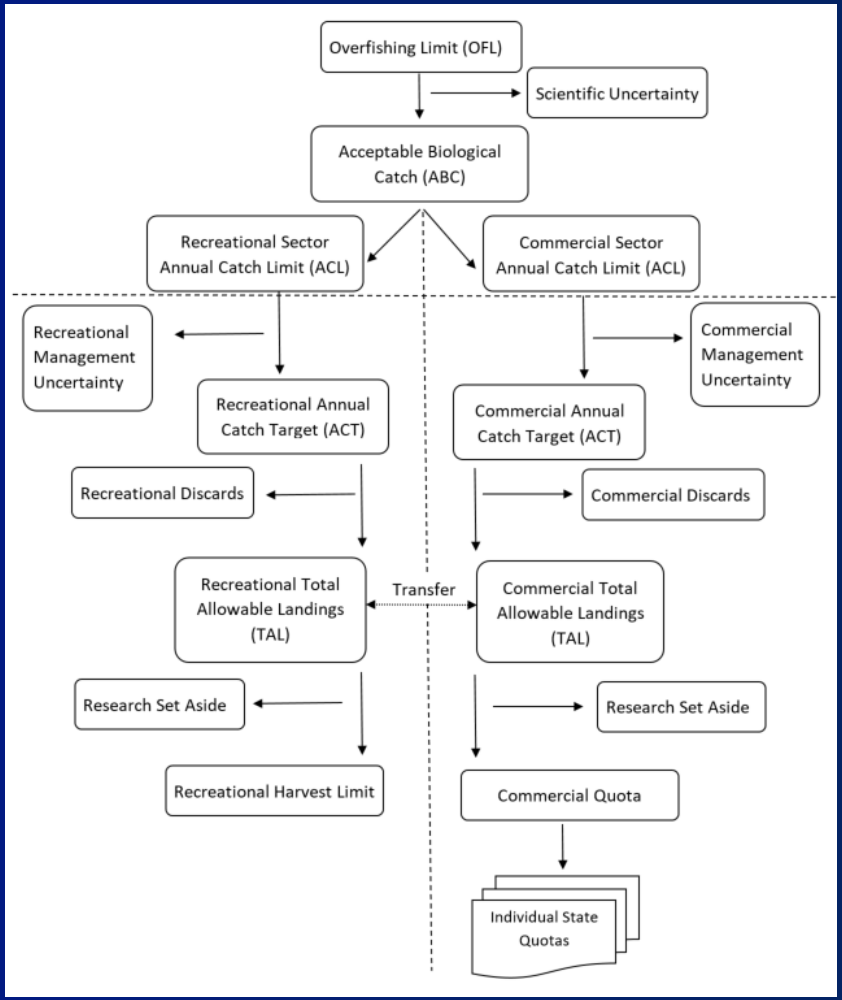
Bluefish—Bottomline

Species	Year	Overfishing Limit (OFL) (mt)	Acceptable Biological Catch (ABC) (mt)	Probability of Overfishing (P*)
Bluefish	2022	18,399	11,460	0.320
	2023	20,490	13,890	0.362

MC Discussion



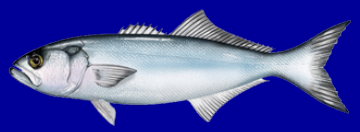
- Discards – ACTs to TAL
  - MRIP (mean wt.) or NEFSC (wt. at length, season)
  - Terminal year
  - Commercial: Negligible
- Management Uncertainty – ACL to ACTs
- Commercial Measures
  - States dictate trip limits
- Transfers
- Expected Rec. Landings
  - Prior years landings (terminal year)
- Recommend RHLs and CQs
- Discuss: Rec measures to constrain harvest to the RHL



Anticipated Management Measures Under Options 2

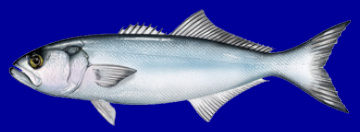
Management Measure	Option 2				Basis
	2022		2023		
	mil lb.	mt	mil lb.	mt	
Overfishing Limit (OFL)	40.56	18,399	45.17	20,490	Stock assessment projections
ABC	25.26	11,460	30.62	13,890	Derived by SSC; Follows the rebuilding plan through NEFSC projections
ACL	25.26	11,460	30.62	13,890	Defined in FMP as equal to ABC
Commercial ACL	3.54	1,604	4.29	1,945	ABC x 14%
Commercial Management Uncertainty	0	0	0	0	Derived by the Monitoring Committee
Commercial ACT	3.54	1,604	4.29	1,945	(ACL – Commercial Management Uncertainty) x 14%
Recreational ACL	21.73	9,856	26.34	11,945	ABC x 86%
Recreational Management Uncertainty	0	0	0	0	Derived by the Monitoring Committee
Recreational ACT	21.73	9,856	26.34	11,945	(ACL – Recreational Management Uncertainty) x 86%
Recreational AMs	3.65	1,656	0	0	2022 only: 2020 ABC overage
Commercial Discards	0	0	0	0	Value used in assessment
Recreational Discards	4.19	1,901	4.19	1,901	2020 GARFO-estimated (MRIP) discards
Commercial TAL	3.54	1,604	4.29	1,945	Commercial ACT - commercial discards
Recreational TAL	13.89	6,298	22.14	10,044	Recreational ACT - recreational discards - Rec AMs
Combined TAL	17.42	7,903	26.43	11,989	Commercial TAL + Recreational TAL
Transfer	0	0	0	0	No transfer while overfished or overfishing
Expected Recreational Landings	13.58	6,160	13.58	6,160	2020 Recreational Landings, but remains TBD in December
Commercial Quota	3.54	1,604	4.29	1,945	Commercial TAL +/- transfer
RHL	13.89	6,298	22.14	10,044	Recreational TAL +/- transfer

Advisory Panel Discussion



- Commented on the RHL overage and questioned how it will affect 2022 specifications.
- Discussed upcoming assessments and how they will affect the ongoing rebuilding plan.
- If the quotas are increasing, the bag limits should also increase.
- Recreational measures will be further discussed in Oct/Nov for approval in December.

Questions/Next Steps



- 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.
  - Bag limits
  - Seasonal closures (waves, days, etc.)
  - Gear restriction
- All bluefish uncertainties will be considered

Draft Motion

- Move to adopt, based on the Council-preferred rebuilding plan and SSC/MC recommendations, a 2022 and 2023 bluefish ABC of 25.26 M pounds and 30.62 M pounds, respectively. This results in a 2022 commercial quota of 3.54 M pounds and an RHL of 13.89 M pounds. For 2023, this results in a commercial quota of 4.29 M pounds and an RHL of 22.14 M pounds.