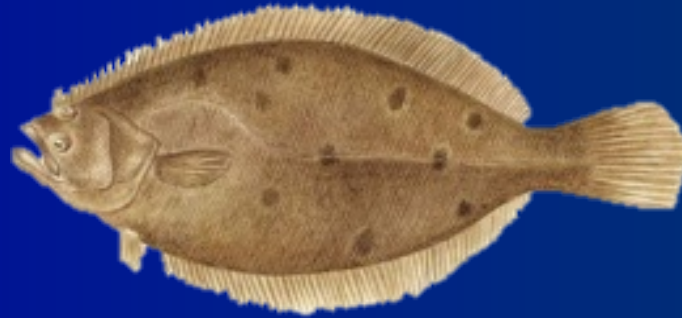
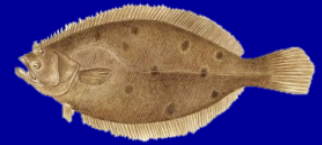


Summer Flounder



Council and Board
2023 Specifications Review
August 9, 2022

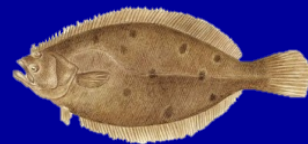
Overview



- Review:
 - Stock status and data update
 - Recent fishery performance
 - Advisor comments
 - SSC recommendations
 - Monitoring Committee recommendations

- Council/Board Objectives:
 - Recommend revised 2023 ACLs, ACTs, comm. quota, and RHL (needed due to comm/rec allocation revisions)
 - Review commercial management measures and recommend changes if warranted

Stock Status: 2021 Management Track Assessment



SSB

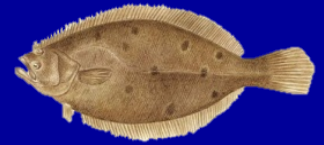
- Not overfished in 2019
- 2019 SSB = 47,397 mt, 86% of SSB_{MSY} = 55,217 mt

F

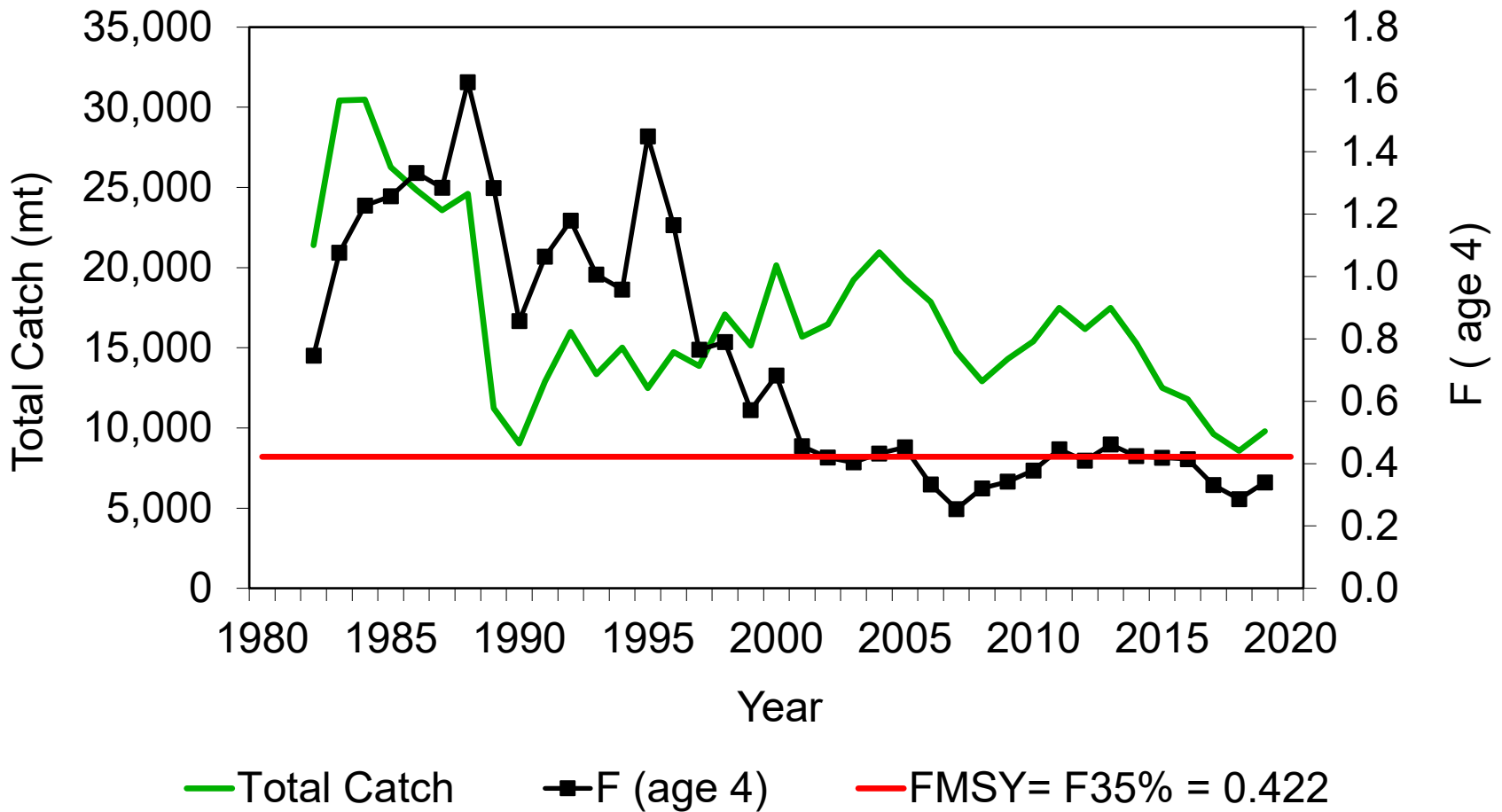
- Overfishing not occurring in 2019
- 2019 $F = 0.340$, 81% of F_{MSY} proxy = 0.422

Fishing Mortality

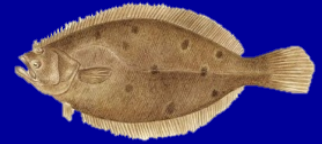
2021 MTA



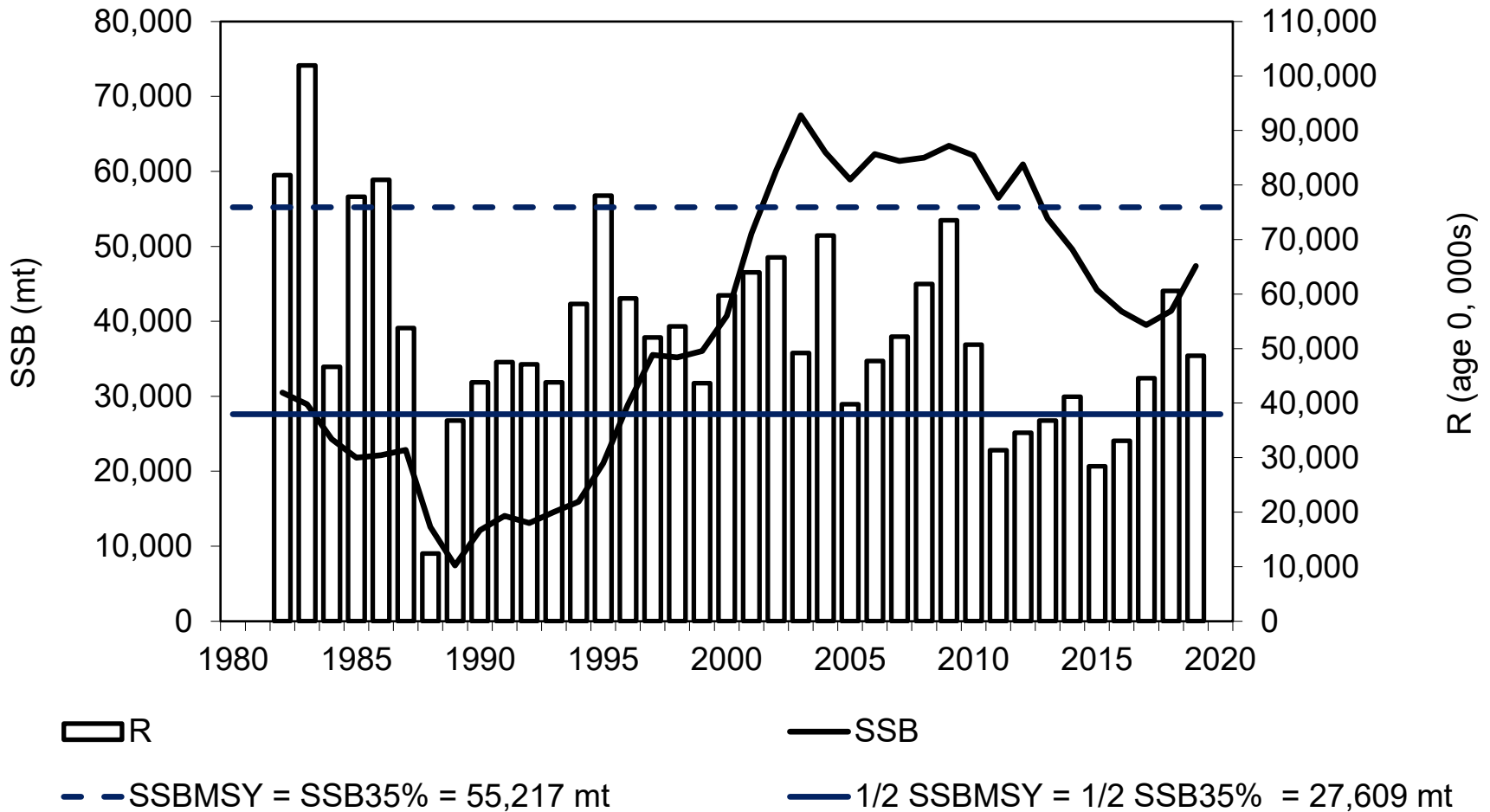
Total Catch and Fishing Mortality (F)



SSB and Recruitment 2021 MTA

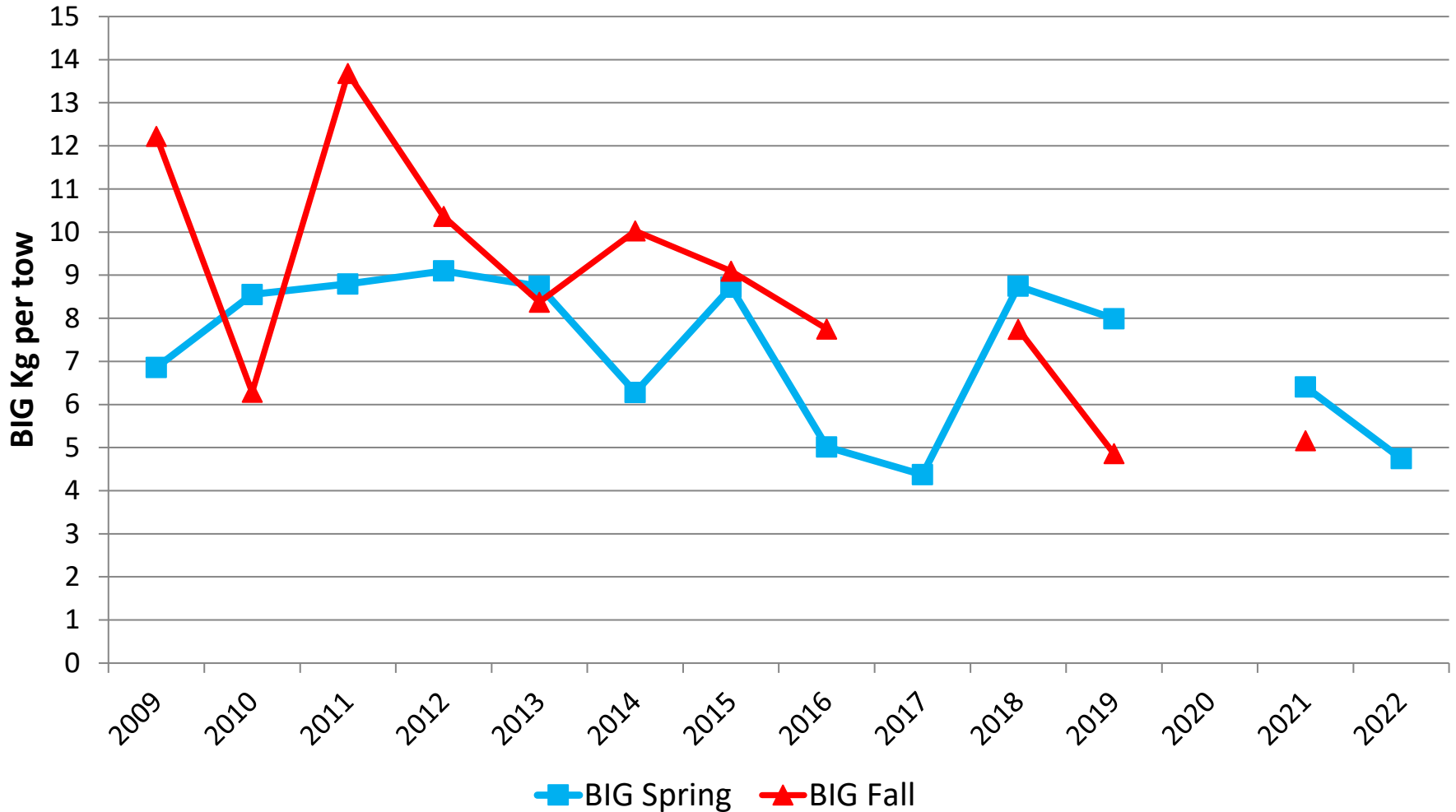


Spawning Stock Biomass (SSB) and Recruitment (R)



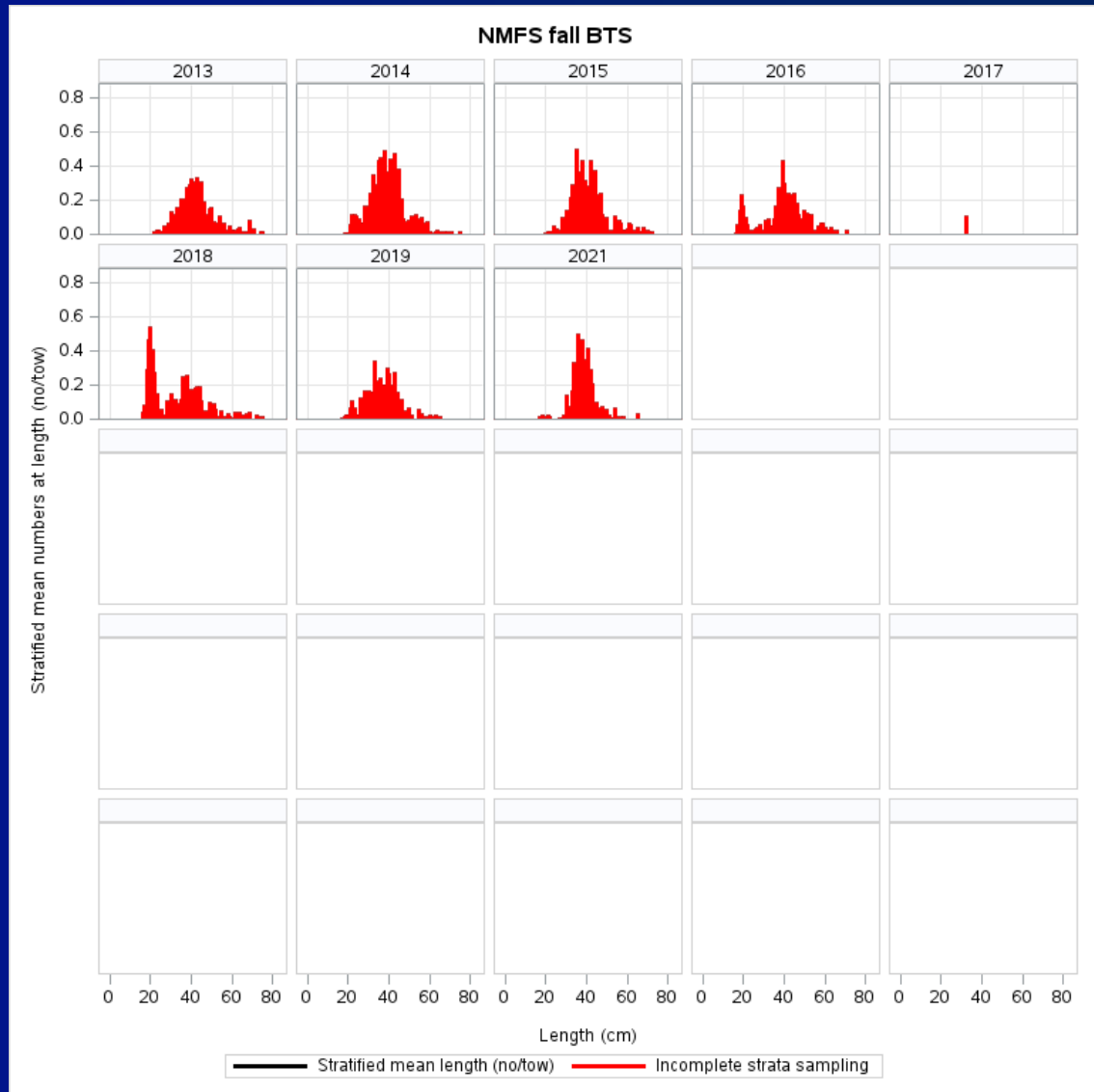
2022 Data Update

NEFSC Summer Flounder Biomass Indices: BIG 2009-2022

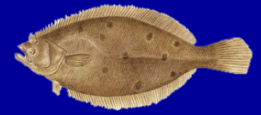


2022 Data Update

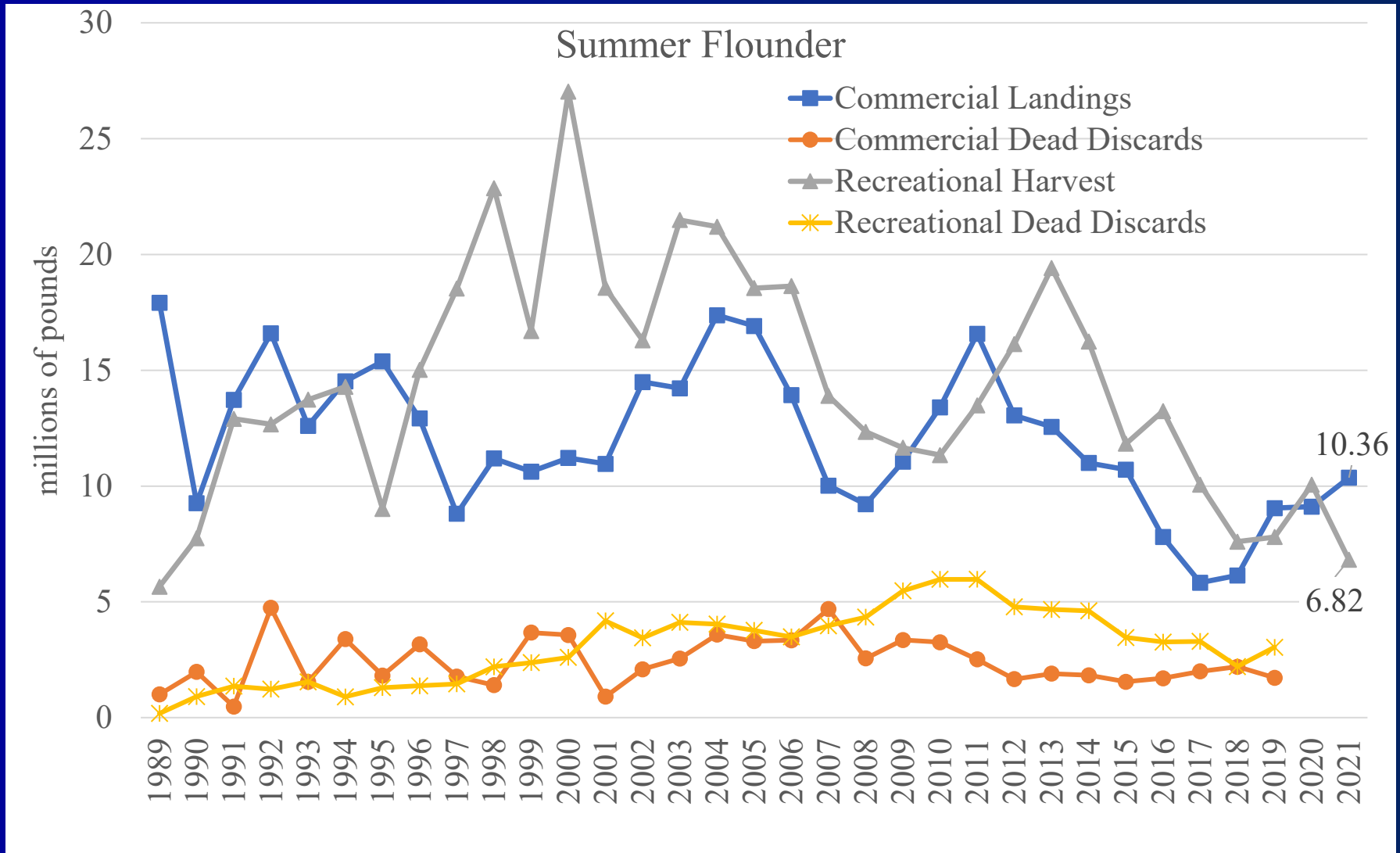
NEFSC fall survey length frequency distributions suggest above average year class in 2018 with average to below average recruitment since



Fishery Landings & Discards 1989-2021*



*No dead disc. available for 2020 or 2021

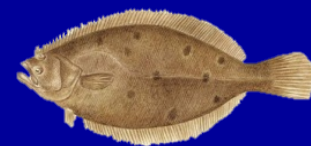


Recreational Fishery Performance



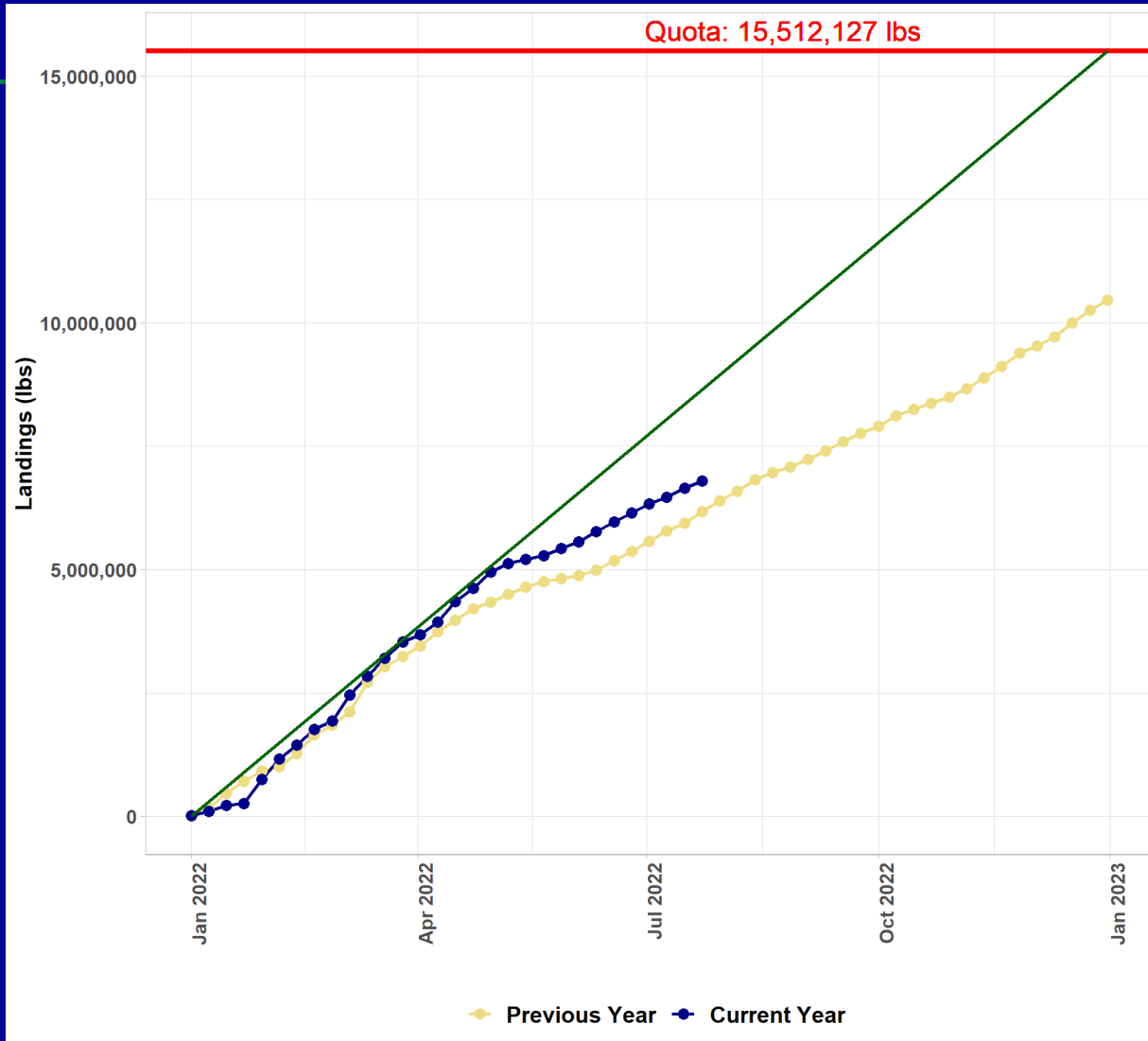
Year	Rec. land. old MRIP	Rec. land. new MRIP	RHL	RHL overage/ underage	Rec. dead catch old MRIP	Rec. dead catch new MRIP	ACL	ACL overage/ underage
2016	6.18	13.24	5.42	14%	7.66	16.51	6.84	12%
2017	3.19	10.09	3.77	-15%	4.13	13.39	4.72	-13%
2018	3.35	7.60	4.42	-24%	4.32	9.81	5.53	-22%
2019	NA	7.80	7.69	1%	NA	10.84	11.51	-6%
2020	NA	10.06	7.69	31%	NA	TBD	11.51	TBD
2021	NA	6.82	8.32	-18%	NA	TBD	12.48	TBD

Commercial Fishery Performance



Year	Com. landings	Com. quota	Quota overage/ underage	Com. dead catch	ACL	ACL overage/ underage
2016	7.80	8.12	-4%	9.50	9.43	1%
2017	5.83	5.66	3%	7.83	6.57	19%
2018	6.14	6.63	-7%	8.34	7.70	8%
2019	9.05	10.98	-18%	10.79	13.53	-20%
2020	9.11	11.53	-21%	TBD	13.53	TBD
2021	10.36	12.49	-17%	TBD	18.48	TBD

2022 Commercial Landings



Commercial landings through August 3, 2022

AP Fishery Performance Report

General Comments (Summer Flounder, Scup, Black Sea Bass)

- Much higher costs in 2022 (gas, bait, packing boxes, ice, equipment, etc.).
 - Biggest issue facing com. and rec. fisheries this year.
 - Struggling to pay crew.
 - Reduced private and for-hire rec. fishing effort.
 - For-hire businesses charging more per trip to cover costs.
 - For-hire clients taking fewer trips (cost of trip, gas, etc.).
 - Compounding effects of more restrictive rec. measures for scup and BSB in 2022.

AP Fishery Performance Report

General Comments (Summer Flounder, Scup, Black Sea Bass)

- Life returning to “normal” with current state of COVID.
 - Less concern with social gatherings and indoor activities.
 - Reduced recreational fishing effort compared to past two years when fishing was viewed as a relatively low-risk activity.
 - More gatherings may not mean greatly increased seafood demand given current state of economy.
- Imports negatively impact the market for US-caught fish.

AP Fishery Performance Report

General Comments (Summer Flounder, Scup, Black Sea Bass)

- Concern that MRIP does not provide an estimate of total number of anglers in EEZ.
- Recommend electronic reporting to improve recreational data.
- Concern that Harvest Control Rule won't prevent overfishing and will negatively impact commercial sector.
- Consider com. min. trawl mesh size of 5" for all 3 species during Nov-April.
 - Another advisor supported but preferred 4" and a reduced com. minimum fish size for all 3 species.
 - One advisor opposed reduced min. fish size for scup.

AP Fishery Performance Report

General Comments (Summer Flounder, Scup, Black Sea Bass)

- Outer Banks, NC may eventually wash away with sea level rise and storms.
- Concern about impacts of chemicals, including disinfectants related to COVID.
- Influence of environmental cycles on fish abundance and behavior should be evaluated.

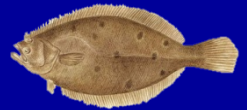
AP Fishery Performance Report



Market and Economic Issues

- January through April 2022, commercial fishermen reported unusually low prices (since recovered)
 - Possibly driven by lack of hotel/restaurant demand in NY
 - NY prices have now increased for the first time in years (\$5-6 range)
- Reiterated concerns about high fuel prices
 - Significantly eating into profits; not sustainable
 - Impacting willingness to steam to fish permits held in other states
 - May lead to lower landings in VA and NC and continued quota underages

AP Fishery Performance Report



Environmental and General Fishing Trends

- Current assessment shows increasing biomass 2017-2019 but recreational harvest did not show same increasing trend.
 - Interested in next update and if landings will track estimated biomass
- 3 advisors suggested summer flounder not inshore/in bays yet (as of June 21), fishing slow, possibly due to water temps

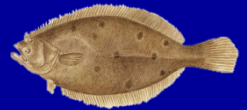
AP Fishery Performance Report



General Management Issues

- Decline in recruitment 2010-2019 due to regulations driving increased harvest of larger female fish
 - Need to recognize importance of BOFFFF

AP Fishery Performance Report



Recreational Management Issues

- 2022 recreational regulations in NJ include split slot limit (2 fish at 17-17.99 and 1 above 18")
 - One advisor supportive: hopes for positive impacts to female biomass and wider slot next year
 - Another hesitant: believes many more fish have been harvested this year already. People still want large fish; could negatively impact rec. fishery in long run

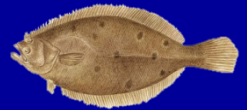
AP Fishery Performance Report



Research Recommendations

- Low recruitment caused not by number of eggs produced, but predation on larvae in first year of life. Determine what is eating them and associated impacts to stock
- Extensive wind farms possible: need to know impact to summer flounder migrations and optimal habitat (cables and magnetic fields)

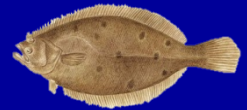
AP Fishery Performance Report



Research Recommendations

- Need to know more about migration patterns of summer flounder beyond general East-West
 - Interplay with stock distribution shift; may be more complicated than oceanic factors
- Recruitment sampling locations should be adjusted to better account for distribution changes
- Find better, less destructive survey methods vs. bottom trawls

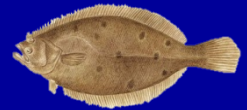
AP Fishery Performance Report



Email Comments (Summer Flounder)

- Flounder fishing is decent in Delaware; got off to a late start due to cold water sticking around into late spring
 - Size limit change in DE from 16.5 to 16 inches didn't make big difference; lack of shorts may indicate problems for future
- Concerned about impacts of climate change on habitat and migrations
- Recommend more research on breeding habits/location and potential harvest restrictions during spawning season

AP Fishery Performance Report



Email Comments (Summer Flounder)

- Commercial net size incorrect; should be 5" for all 3 species
- Consider recreational total length limit with no discarding and cell phone reporting; would benefit low income shore fishermen

SSC Recommendation: 2023 ABC

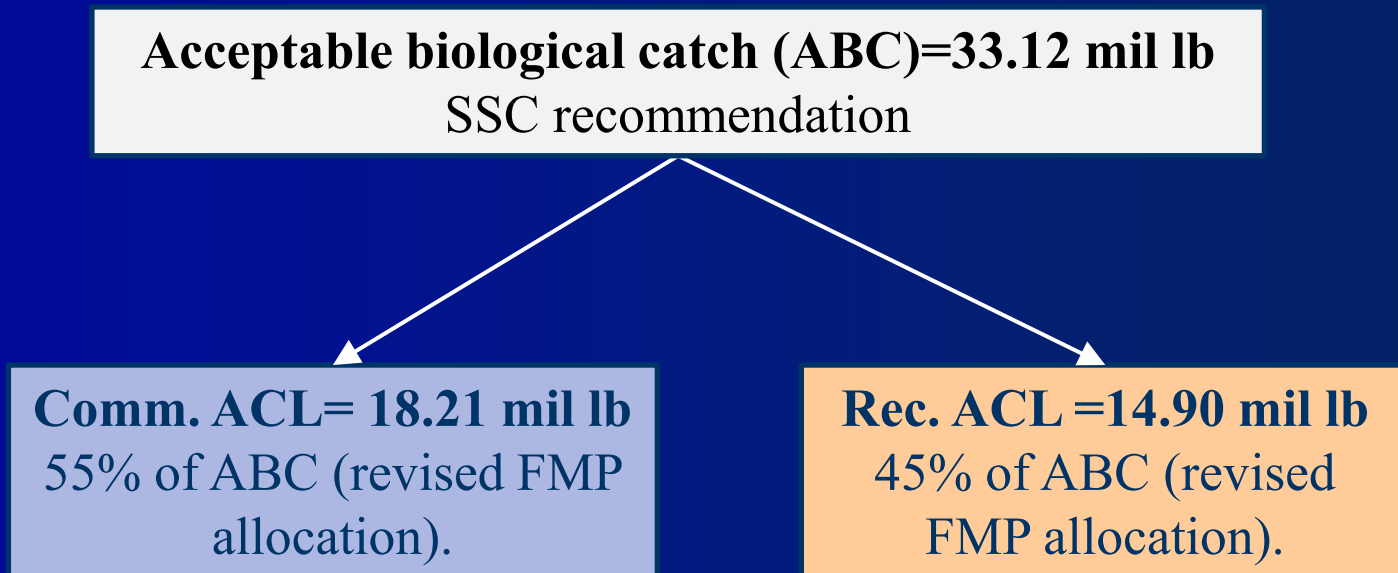


- Maintained previously adopted ABC of 33.12 mil lb (15,021 mt)

	OFL (mt)	OFL (mil lb)	ABC (mt)	ABC (mil lb)
2022	16,458	36.28	15,021	33.12
2023	34.98	15,865	15,021	33.12

2023 ACLs

Revised allocation: 55% commercial/45% recreational applied to Acceptable Biological Catch



2023 ACTs

- Monitoring Committee recommends no deduction from the commercial and/or recreational ACL to the ACT account for management uncertainty

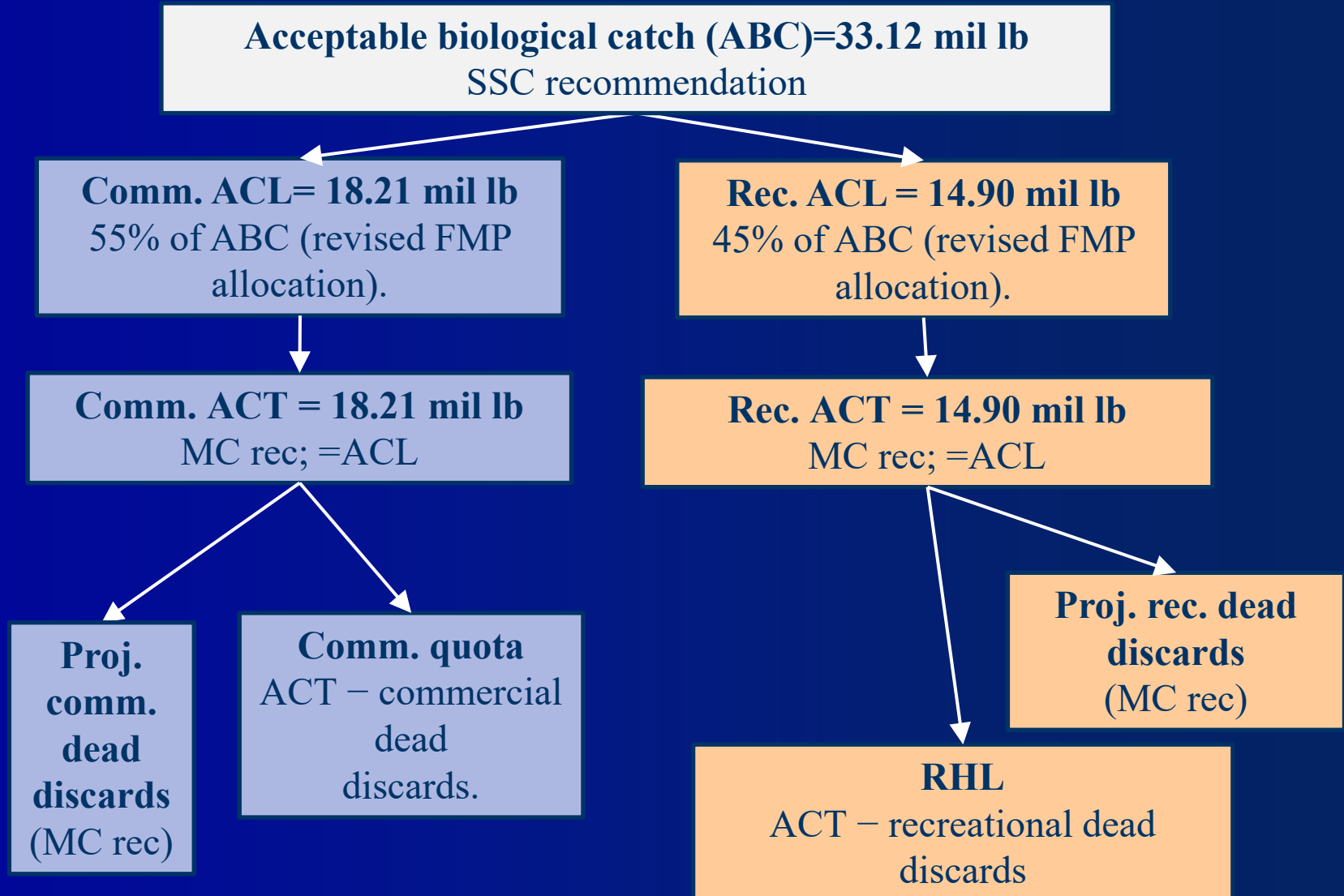
Considerations for Commercial ACTs

- Commercial landings well monitored/controlled; in-season closure authority
 - Commercial landings underages since 2019
- Projected dead discard and ACL overages in 2016-2018 (see Table 3 in memo), likely due to much lower quotas
- Under higher limits since 2019, less of a concern: 2019 commercial catch under ACL by 20%

Considerations for Recreational ACTs

- Recent recreational performance variable
 - Close to RHL in 2019, 31% over in 2020, 18% under in 2021 (MC noted use of proxy data for 2020)
 - No recent ACL overages through 2019 (no 2020/2021 discards available)
- Uncertainty with HCR approach for 2023, but no indication of need for additional buffer for summer flounder


Deriving the Comm. Quota and RHL



Discard Projections

- MC recommend continuing to apply typical method for discard projections
 - Total projected discards (from ABC projections from NEFSC) divided based on 3-yr moving avg. proportion by sector
 - Currently 2017-2019: 59% from rec fishery; 41% from comm. Fishery
 - Results in same projected discards as previously approved specifications

Current and MC Recommended Revised 2023 Catch and Landings Limits (mil lb)

	2023 Current	2023 Rec.	% change
OFL	34.98	34.98	0%
ABC	33.12	33.12	0%
Commercial ACL = ACT	18.48	18.21	-1%
Recreational ACL = ACT	14.64	14.90	+2%
Proj. Comm. Dead Discards	2.95	2.95	0%
Proj. Rec. Dead Discards	4.28	4.28	0%
Commercial Quota	15.53	15.27	-2%
Recreational Harvest Limit	10.36	10.62	+3%

MC Recommendation: Mesh and Fish Size Regulations

- **No changes to:**
 - Minimum fish size (14")
 - Seasonal mesh size possession thresholds (200 lb Nov 1-Apr 30; 100 lb May 1-Oct 31)

Mesh Size Regulations & Exemptions

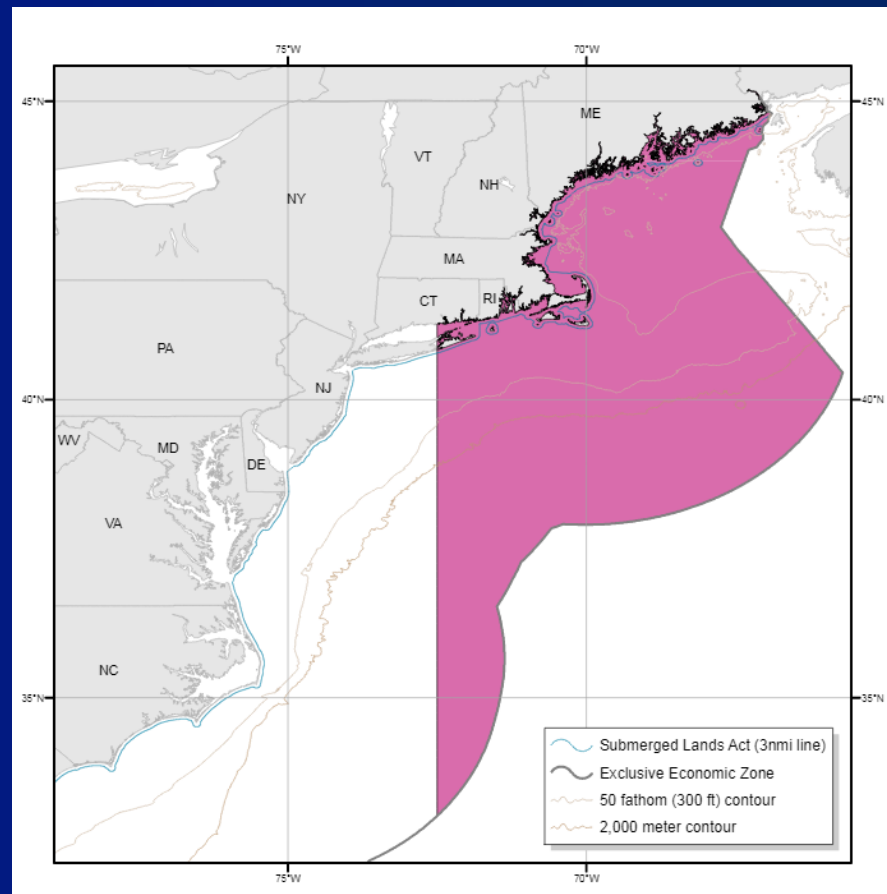
- MC has previously identified additional work & industry input needed to evaluate mesh regulations & exemptions for all 3 FMP species
 - Council/Board identified as lower priority given other actions
 - Unable to address this in 2022 due to other priorities

Minimum Mesh Size

- Current requirement: 5.5" diamond or 6.0" square
- MC recommends no changes for 2023
- Further evaluation in future year of equivalence of 5.5" diamond and 6.0" square

Small Mesh Exemption Program

- SMEP allows authorized small mesh vessels to land more than 200 lb of summer flounder east of longitude 72° 30.0'W, Nov. 1 - April 30
- FMP requires review of observer data to determine whether these vessels are discarding more than 10% of their summer flounder catch



Small Mesh Exemption Program

No updated analysis available for Nov 2020-April 2021 (observer data access issues)

Criteria		Nov. 1, 2014 – April 30, 2015	Nov. 1, 2015 – April 30, 2016	Nov. 1, 2016 – April 30, 2017	Nov. 1, 2017 – April 30, 2018	Nov. 1, 2018 – April 30, 2019	Nov. 1, 2019 ~March 19, 2020
A	Observed trips with at least one catch record east of 72° 30' W Longitude	401	391	555	724	646	397
B	That met the criteria in row A <u>and</u> used small mesh at some point during their trip	172	252	376	364	354	204
C	That met the criteria in rows A-B <u>and</u> landed more than 200 pounds summer flounder on whole trip	72	92	150	135	164	97
D	That met the criteria in rows A-C <u>and</u> discarded >10% of summer flounder catch east of 72° 30' W Longitude	21	18	36	47	53	24
E	% of observed trips with catch east of 72° 30' W Longitude that also used small mesh, landed >200 pounds of summer flounder, and discarded >10% of summer flounder catch (row D/row A)	5.20%	4.60%	6.50%	6.50%	8.20%	6.05%
F	Total summer flounder discards (pounds) from trips meeting criteria in A-D	14,579	16,470	14,640	33,868	18,186	11,672
G	Total summer flounder landings (pounds) from trips meeting criteria in A-D	15,224	23,295	25,472	76,780	59,960	29,540
H	Total catch (pounds) from trips meeting criteria in A-D	29,804	39,763	40,113	110,648	69,145	41,212

Flynet Exemption

- Vessels fishing with two-seam otter trawl flynet are exempt from the minimum mesh size requirements.
 - Exempt flynets have large mesh in the wings that measure 8 to 64 inches, the belly of the net has 35 or more meshes that are at least 8 inches, and the mesh decreases in size throughout the body of the net, sometimes to 2 inches or smaller.

Flynet Exemption

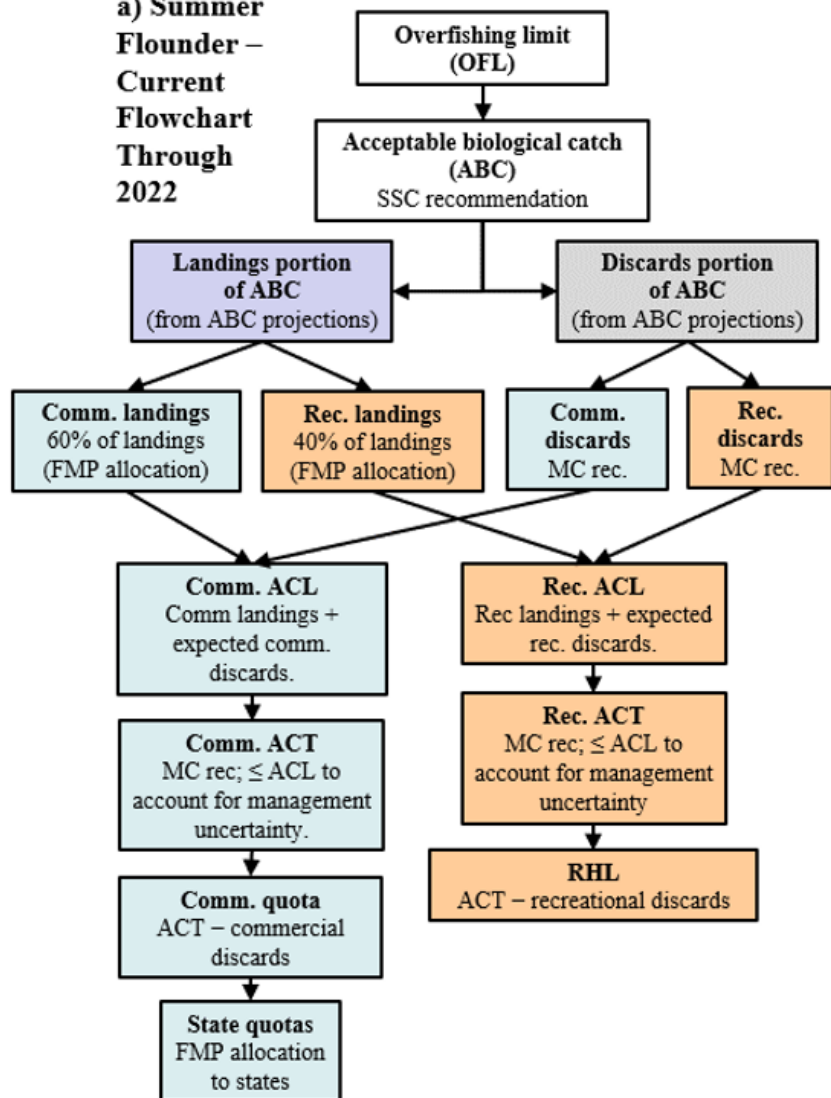
- NC flynet fishery analyzed annually
- No summer flounder landed in NC flynet fishery in last 7 years; general decrease in flynet landings due to shoaling at Oregon Inlet
- MC recommends no changes in 2023 but further exploration of flynet exemption as related to past advisor comments about high rise nets (potential compliance/enforcement issue)

Council/Board Decision Points

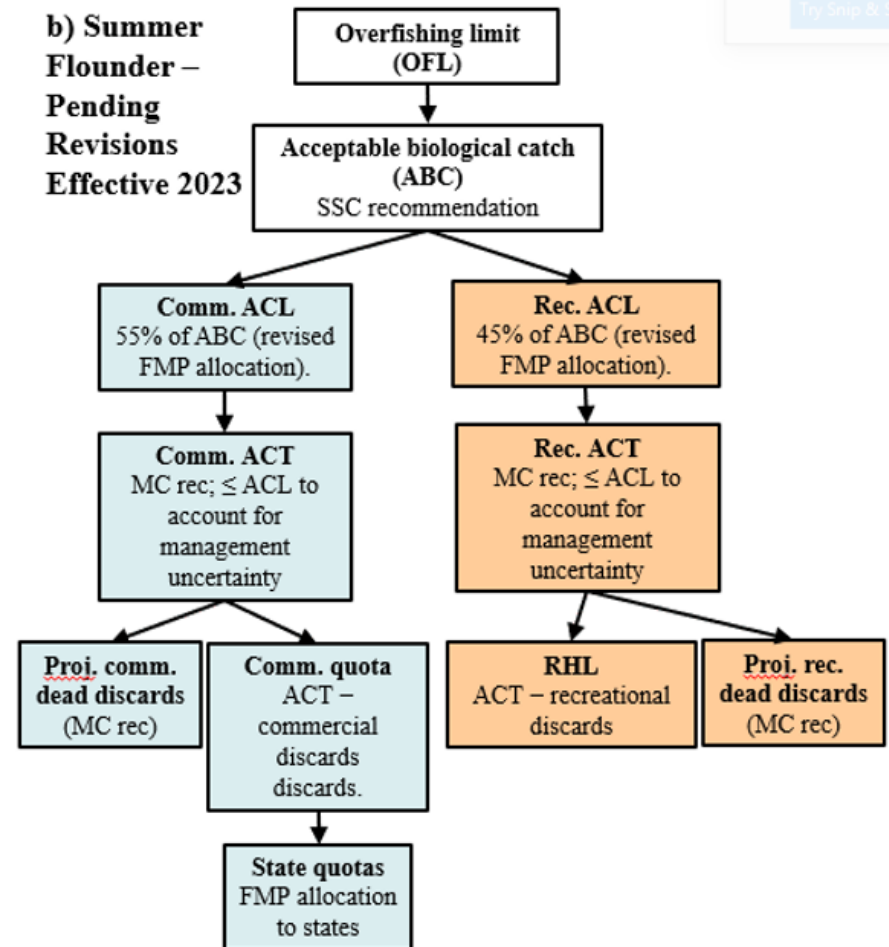
- Recommend revisions to 2023 ACLs, ACTs, commercial quota, and RHLs to account for revisions to commercial/recreational allocation
- Review commercial management measures and recommend any changes to:
 - Commercial minimum fish size
 - Commercial minimum mesh size
 - Possession thresholds for minimum mesh size requirement
 - Mesh size exemptions (small mesh exemption program and flynet exemption)

BACKUP

a) Summer Flounder – Current Flowchart Through 2022



b) Summer Flounder – Pending Revisions Effective 2023



Comm. Discard Projection Performance

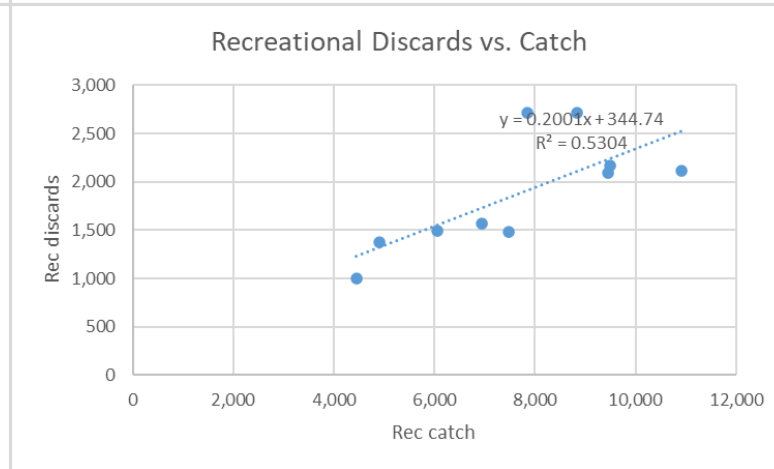
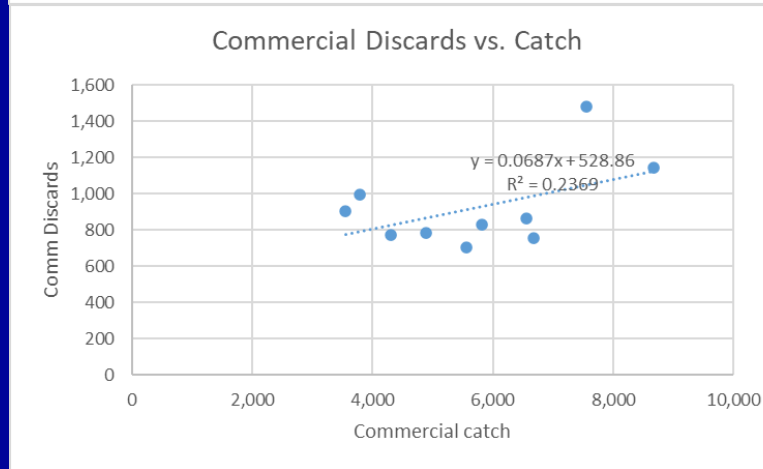
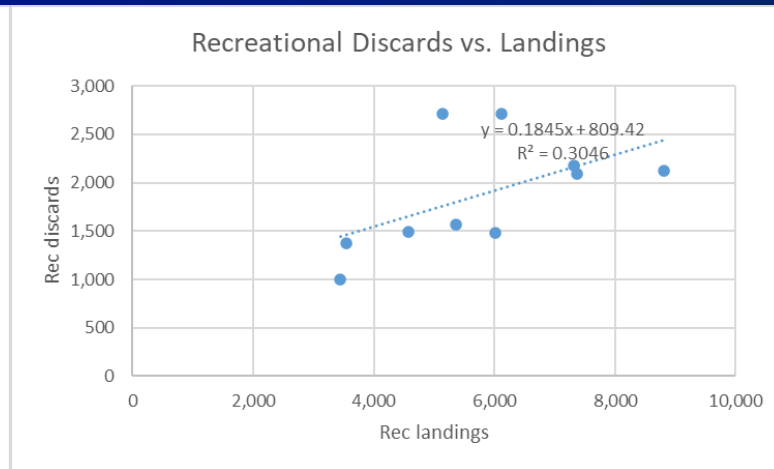
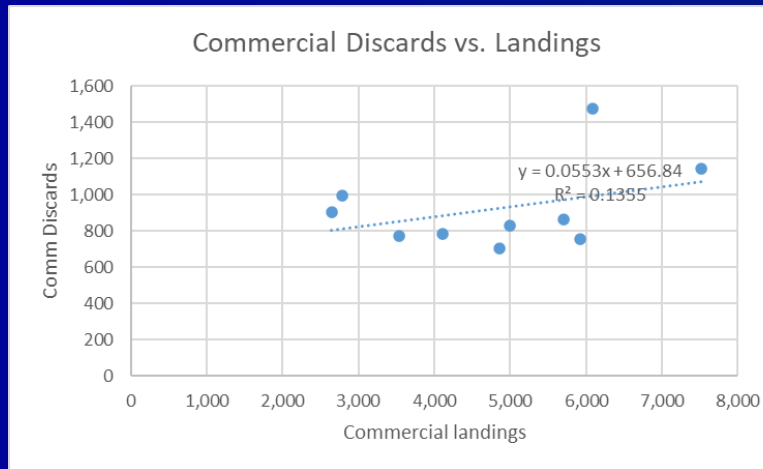
	Projected comm. Discard (mil lb)	Comm. Dead Discard Estimates (mil lb)	% difference
2014	2.03	1.83	-10%
2015	2.27	1.55	-32%
2016	1.31	1.70	+30%
2017	0.92	2.00	+117%
2018	1.07	2.20	+105%
2019	2.00	1.73	-13%
2020	2.00	--	--
2021	2.14	--	--
2022-2023 (current)	2.95	--	--
2023 (staff. rec)	2.95	--	--

Rec. discard projection performance

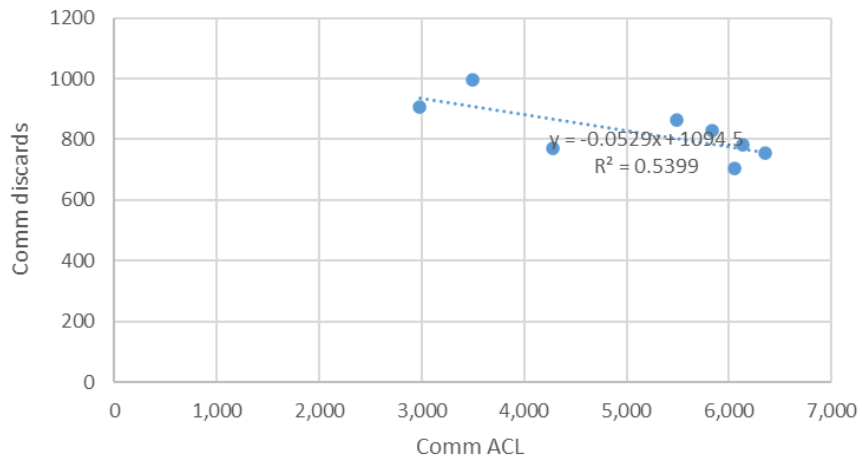
	Projected rec. Discard (mil lb)	Rec. dead discard Estimates — OLD MRIP through 2018; new 2019 (mil lb)	% difference
2014	1.84	2.05	12%
2015	2.06	1.24	-40%
2016	1.41	1.48	5%
2017	0.95	0.94	-1%
2018	1.11	0.97	-13%
2019	3.82	3.04	-20%
2020	3.82	--	--
2021	4.16	--	--
2022-2023 (current)	4.28	--	--
2023 (staff rec.)	4.28	--	--

Could Consider Other Methods

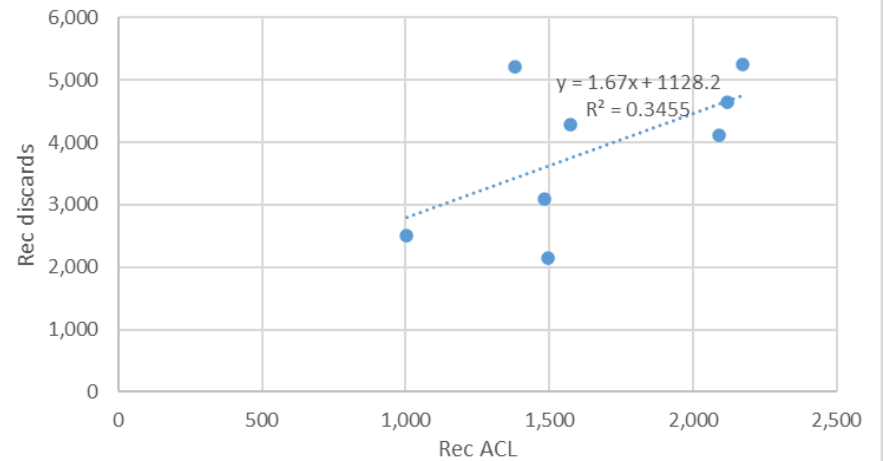
- Regression approaches – lacking strong correlation



Commercial Discards vs. ACL



Recreational Discards vs. ACL



Could Consider Other Methods

- Recent average of pounds of discards
 - Fishery conditions in 2017-2019 for summer flounder (catch limits, regulations, availability) were much different than current/expected 2023
 - Above average 2018 year class not fully reflected in discard estimates through 2019

Flynet Exemption

- As discussed previously, one advisor noted in 2020 that flynet exemption is being used outside NC with “high rise” nets on multispecies trips
 - Requested change in definition to include 4-seam nets in addition to 2-seam nets
- Very few, if any SNE/Mid-Atlantic fishermen in offshore mixed winter trawl fishery use 2 seam nets
 - Most “high rise” are 4 seam nets: with side panels, box shaped

Flynet Exemption

- Previous (2020) MC comments:
 - Need to better understand use and configuration of flynet and high-rise nets as related to this exemption
 - Possible compliance/enforcement issue if vessels believe they qualify for exemption but are not meeting regulatory definition (2 seam net)
 - Better understanding of 2 vs. 4 seam nets needed before commenting on whether expansion of regulatory definition is warranted

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

Estimate Status	Year	Common Name	Harvest (A+B1) Total Weight (lb)	PSE	Landings (no.) without Size Information	** Contribution of Imputed Data to Total Harvest Rate
FINAL	2020	SUMMER FLOUNDER	10,026,932	13.9	0	19%
FINAL	2021	SUMMER FLOUNDER	6,788,054	8.7	0	0%