



Black Sea Bass

2022-2023 Specifications



Council and Board Meeting
August 9, 2021

Overview



■ Review:

- 2021 Management Track Assessment results
- Recent fishery performance
- Advisory Panel Fishery Performance Report
- SSC recommendations (Dr. Rago)
- Monitoring Committee recommendations
- Additional AP input
- ACL evaluation

■ Recommend:

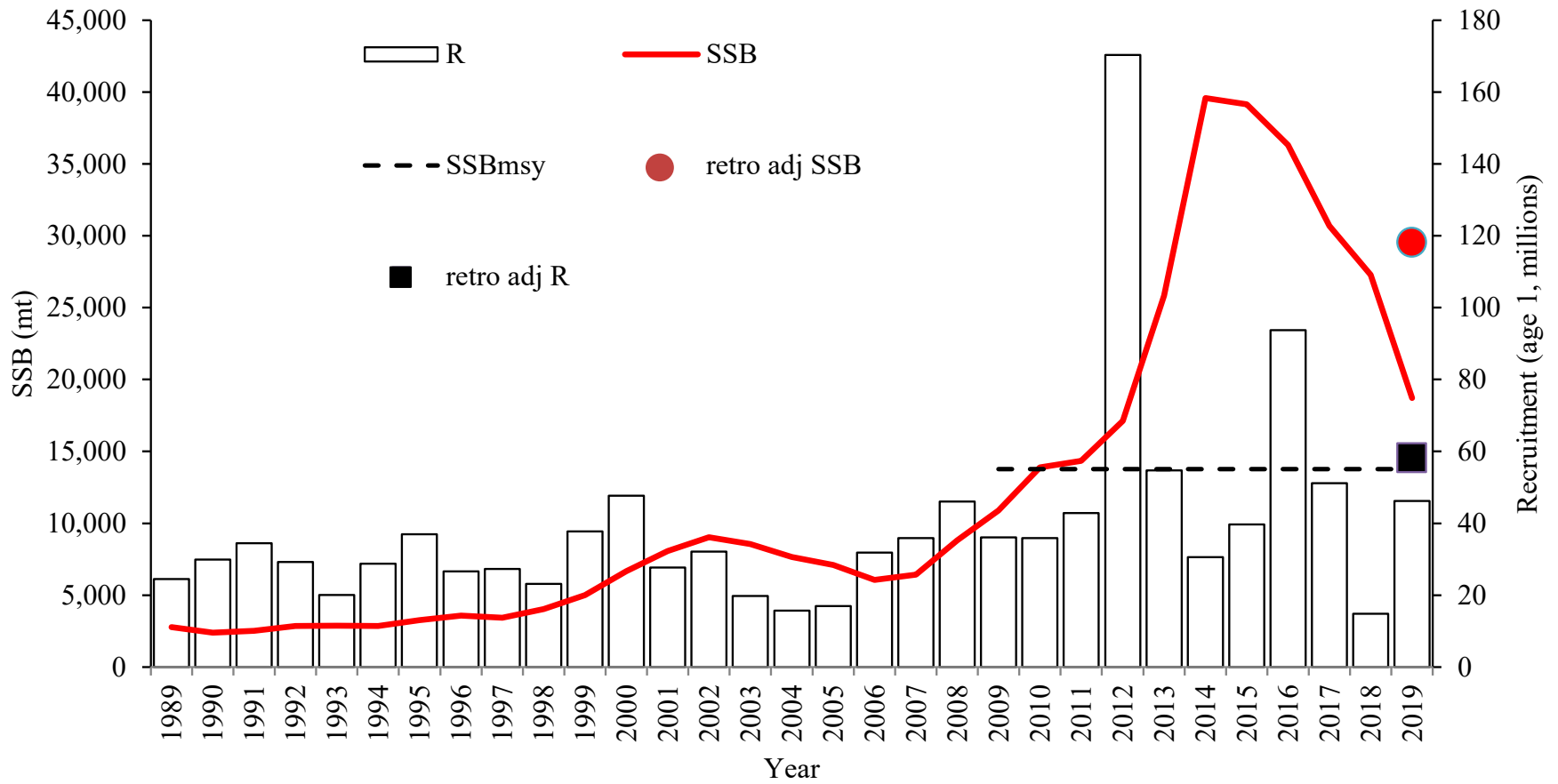
- 2022-2023 catch and landings limits
- Changes to 2022 commercial mgmt. measures and February recreational opening, if warranted (no changes recommended)

Stock Status



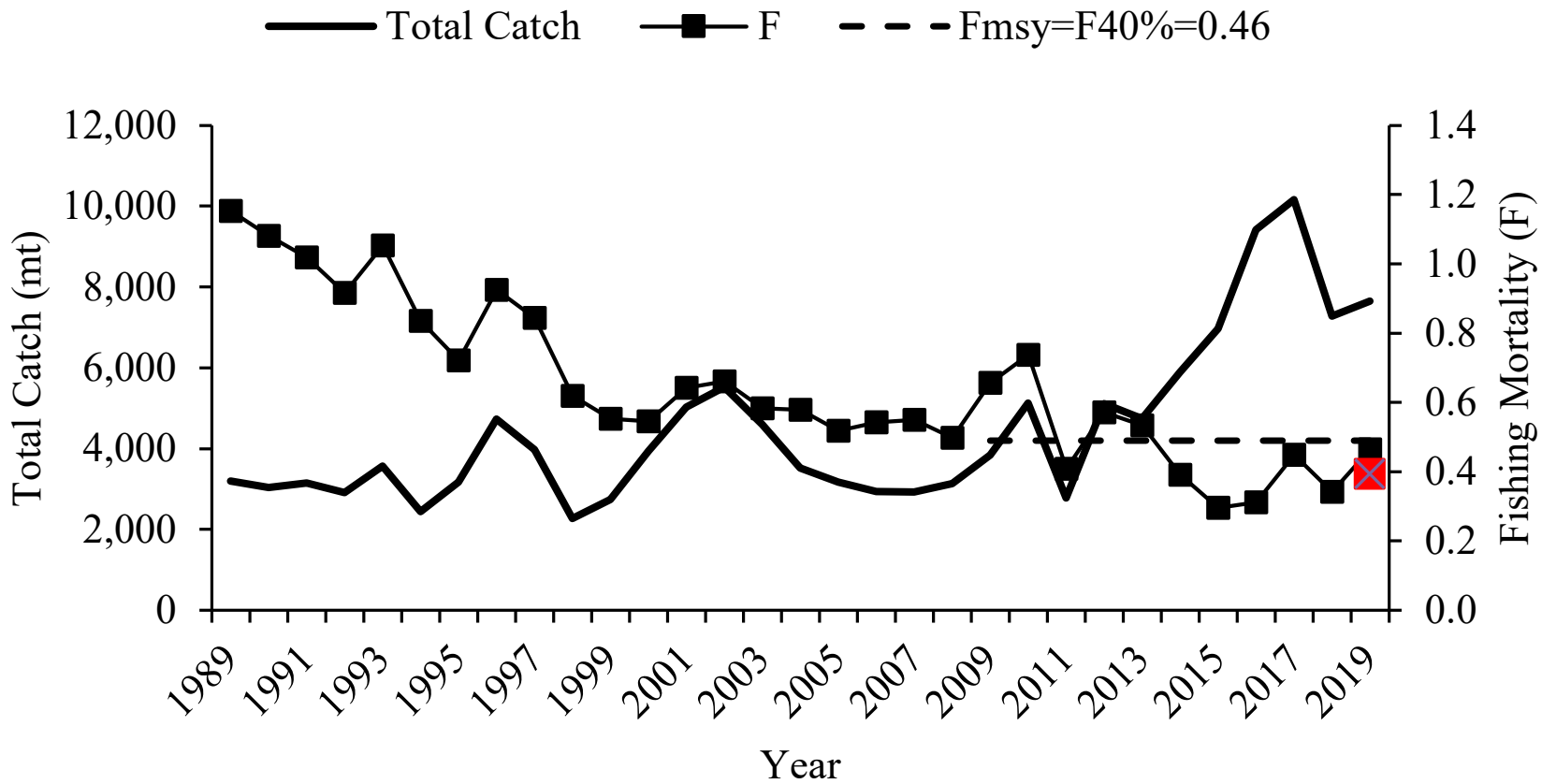
- 2021 management track assessment
 - 1 additional year of data compared to last 2019 mgmt. track assessment.
- **Not overfished in 2019**
 - 2019 SSB = 29,769 mt (65.63 mil lb)
 - 210% of SSB_{MSY} proxy = 14,441 mt (31.84 mil lb)
- **Overfishing not occurring in 2019**
 - 2019 F = 0.39
 - 85% of F_{MSY} proxy = F_{40%} = 0.46

Spawning Stock Biomass and Recruitment



Retrospective adjusted points indicated in terminal year

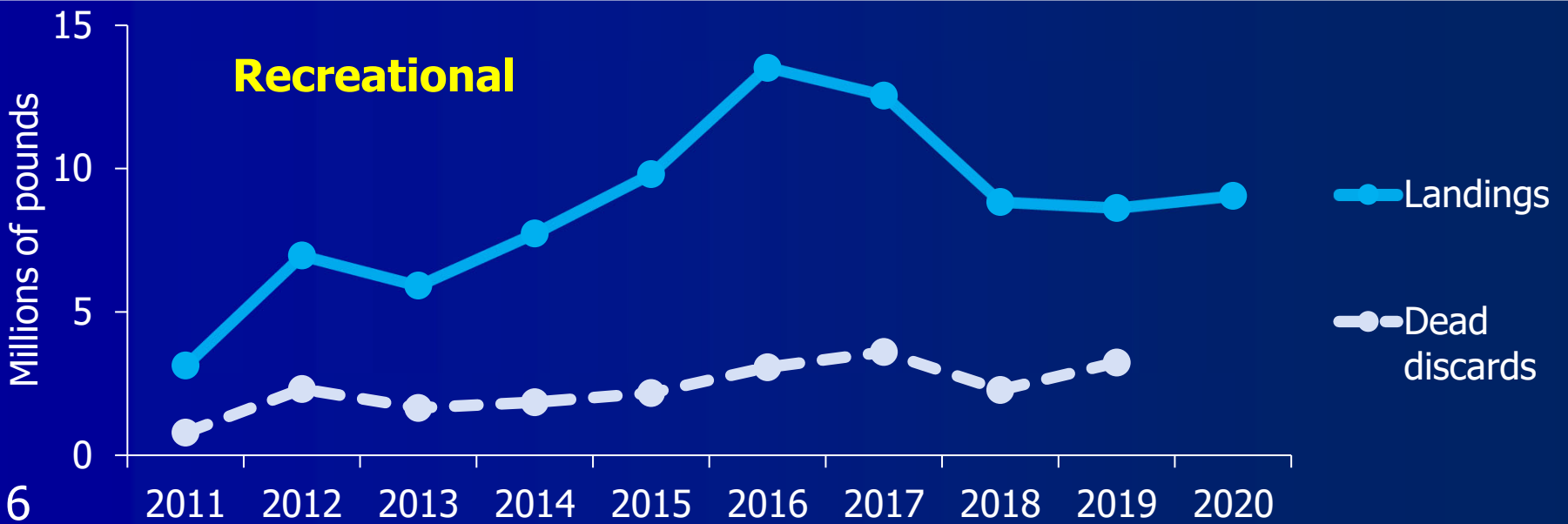
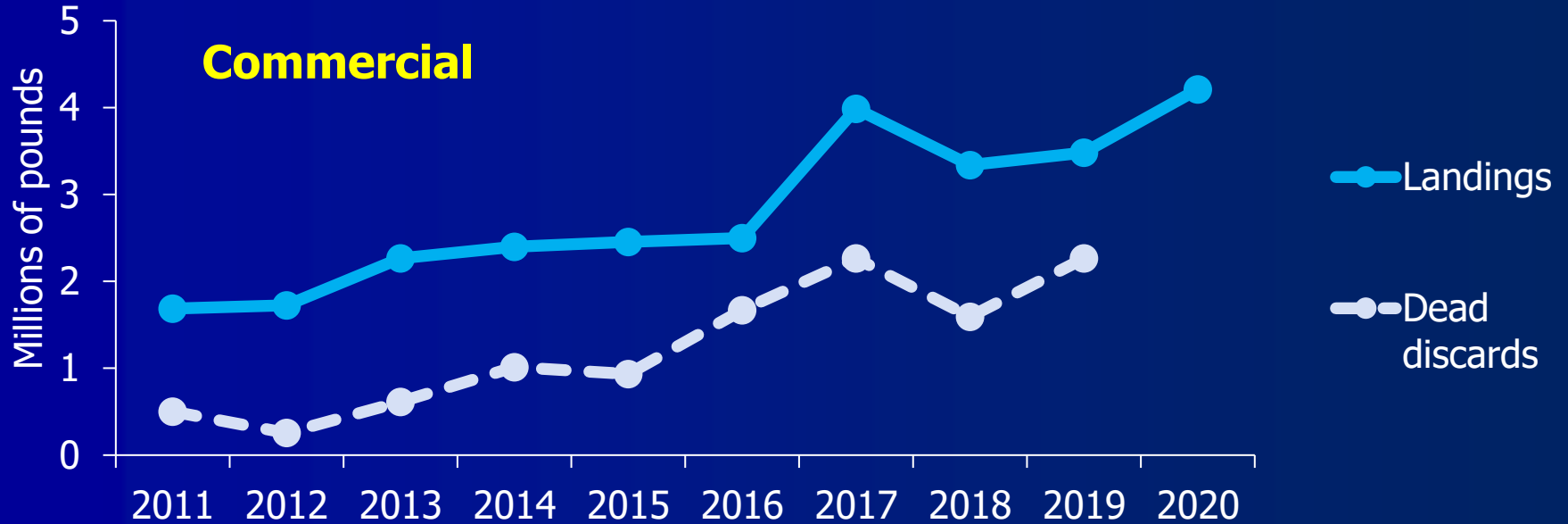
Total Catch and Fishing Mortality



Retrospective adjusted points indicated in terminal year

Recent Fishery Landings & Discards

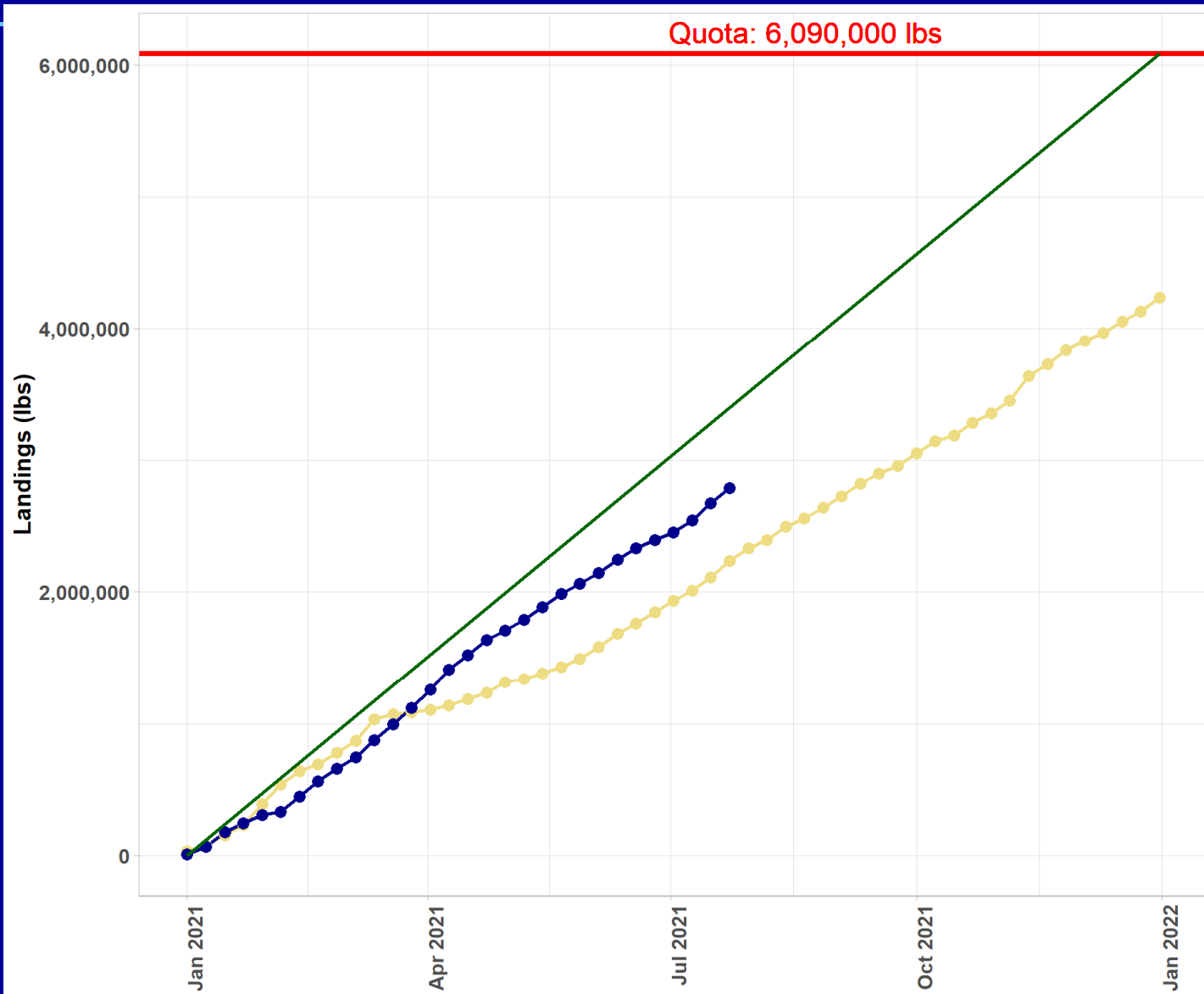
Landings through 2020, discards through 2019



Recent Landings Relative to Quota and RHLs

Year	Com. landings	Com. quota	Quota overage/ underage	Rec. harvest (old MRIP estimates)	Rec. harvest (revised MRIP estimates)	RHL	RHL overage/ underage
2016	2.59	2.71	-4%	5.19	12.05	2.82	+84%
2017	4.01	4.12	-3%	4.16	11.50	4.29	-3%
2018	3.46	3.52	-2%	3.82	7.92	3.66	+4%
2019	3.53	3.52	0%	3.47	8.61	3.66	-5%
2020	4.21	5.58	-25%	--	9.05	5.81	+56%
2021	--	6.09	--	--	--	6.34	--

2021 Commercial Landings



AP Fishery Performance Report

- Comments about all 3 species covered in summer flounder presentation.
- **COVID-19 impacts**
 - Restrictions on restaurants caused significant drop in price. Price remains low.
 - Restaurant market for fresh fish is important in some areas and has not fully recovered.
 - For-hire impacts varied by state.
 - High demand for nearshore trips off VA Beach and Oregon Inlet – stimulus payments. No issues finding for-hire crew in VA.
 - Almost no charter trips out of NY until fall 2020.

AP Fishery Performance Report

■ Recreational fishery

- Payback of 2020 rec. ACL overage will not be required based on stock status. Fairness issue - commercial fishery must always pay back quota overages.
- Concern about rec. compliance (e.g., exceeding the bag limit when fishing from private docks, anglers selling catch).
- Better info on # of anglers could improve MRIP.
- Feb rec. opening in VA: limited by bad weather, but caught a lot of BSB when vessels could go out. Desire for a longer winter opening.

AP Fishery Performance Report

■ Biological issues

- Concern that trawl surveys don't sample offshore habitat.
- Impacts of abundant BSB population on shellfish – need emergency liberalizations.

■ Research recommendations

- Impacts of EMF, pile driving, seismic testing, and sub-bottom profiling on BSB and other fishery species (offshore wind energy, oil and gas).

Black Sea Bass—SSC Comments

- Most recent benchmark for Black Sea Bass was 2017; updated again in 2019. The 2019 assessment included revised MRIP data, which resulted in an overall increase in stock abundance.
- Black Sea Bass are modeled as two spatial area units to reflect substantial differences in recruitment north and south of Hudson River Canyon. Overall stock status is determined by combining the results of each spatial unit. No migration rates between these units are estimated or assumed.
- Expressed concerns about the increasing retrospective patterns in both northern and southern areas and look forward to results of Research Track Assessment in 2022
- The current high level of abundance reflects the strong 2011 and 2015 year classes.
- The SSC discussed whether the use of simple averaging of fishing mortality rates between areas was appropriate, but did not recommend an alternative approach.
- Expressed appreciation for dedicated service of Gary Shepherd and best wishes in retirement.

Black Sea Bass—Terms of Reference

- Accepts the OFL proxy ($F_{40\%} = 0.46$) used in the assessment.
- Continues to use the 100% OFL CV.
 - Strong retrospective bias present in the assessment results and this pattern differs between the two spatial sub-areas.
 - Large recreational component (~60-80% of total harvest in recent years); increased uncertainty
 - Spatially explicit models were implemented
 - Consistent patterns in the fishery independent indices.
- Could not use averaged ABC approach because this results in a $P^* > 0.5$ in 2023. Used P^* instead.

Black Sea Bass—Uncertainty & Research

Sources of scientific uncertainty

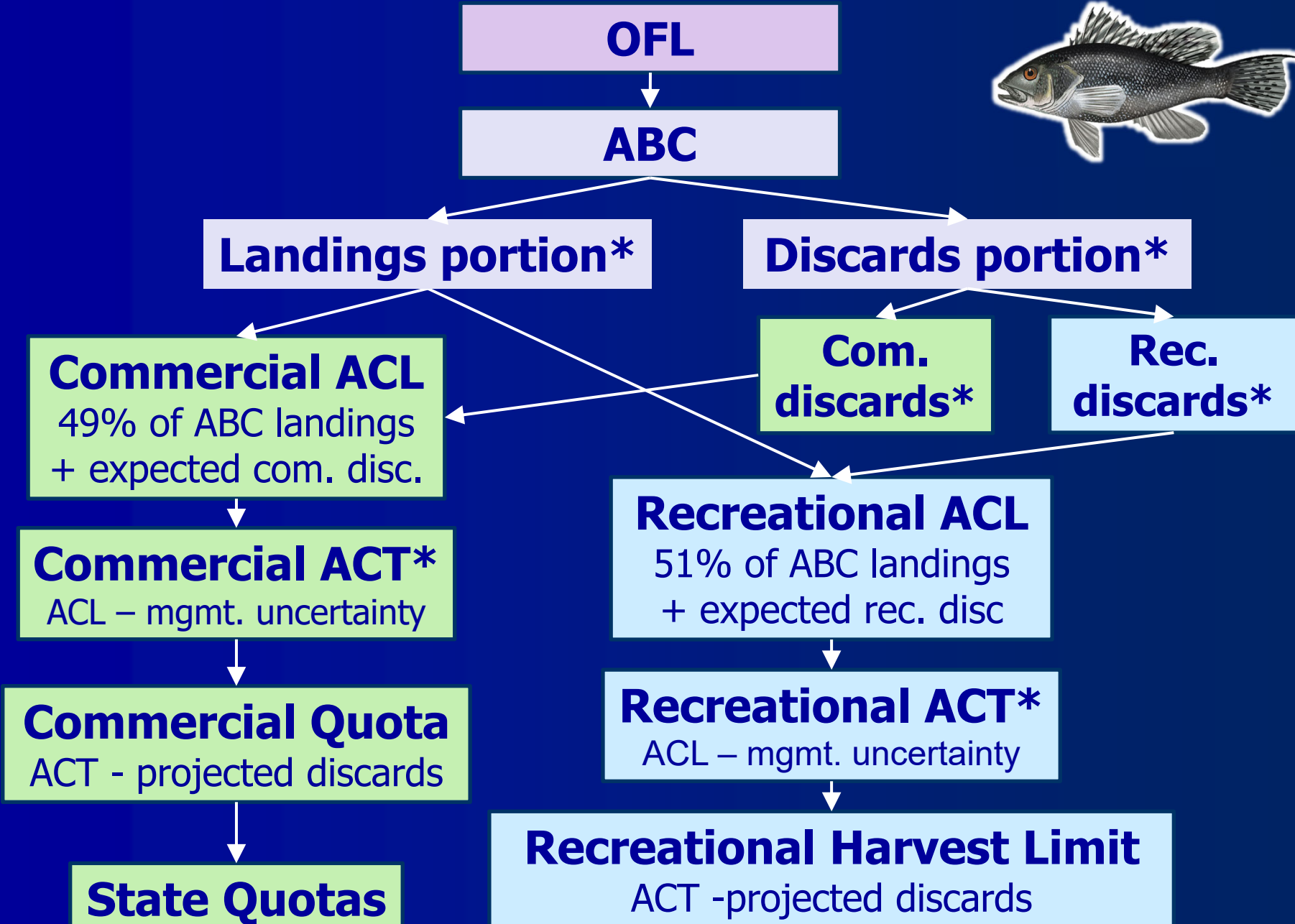
- Retrospective pattern required adjustment; spatial differences
- Potential sex-based differences in natural mortality
- Spatial distribution of productivity.
- Temporal pattern, and spatial distribution of recreational catches.
- Movements between spatial regions.
- Combining reference points over spatial units.
- COVID effects on data collection in 2020.

Research Recommendations

- Alternative approaches for calculating fishing mortality and reference points over spatial units
- Investigate the implications of progression of strong year classes on projected discard mortality
- Update discard mortality rates based on new research
- Investigate additional models that account for spatial stock structure.
- Investigate modeling approaches to include climate drivers on spatial dynamics
- Consider effects of diurnal vertical migration on catchability in surveys

Black Sea Bass—Bottom Line

Species	Year	Overfishing Limit (OFL) (mt)	Acceptable Biological Catch (ABC) (mt)	Probability of Overfishing (P*)
Black Sea Bass	2022	8,735	8,555	0.49
	2023	7,716	7,557	0.49



* Can be defined by Monitoring Committee

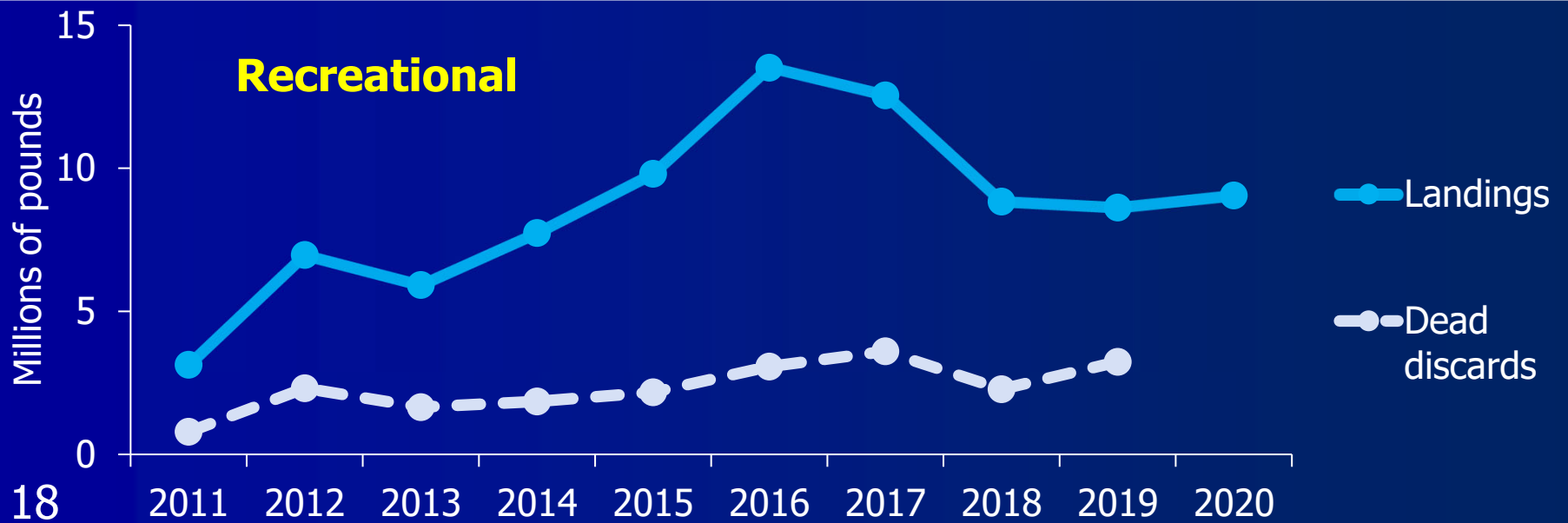
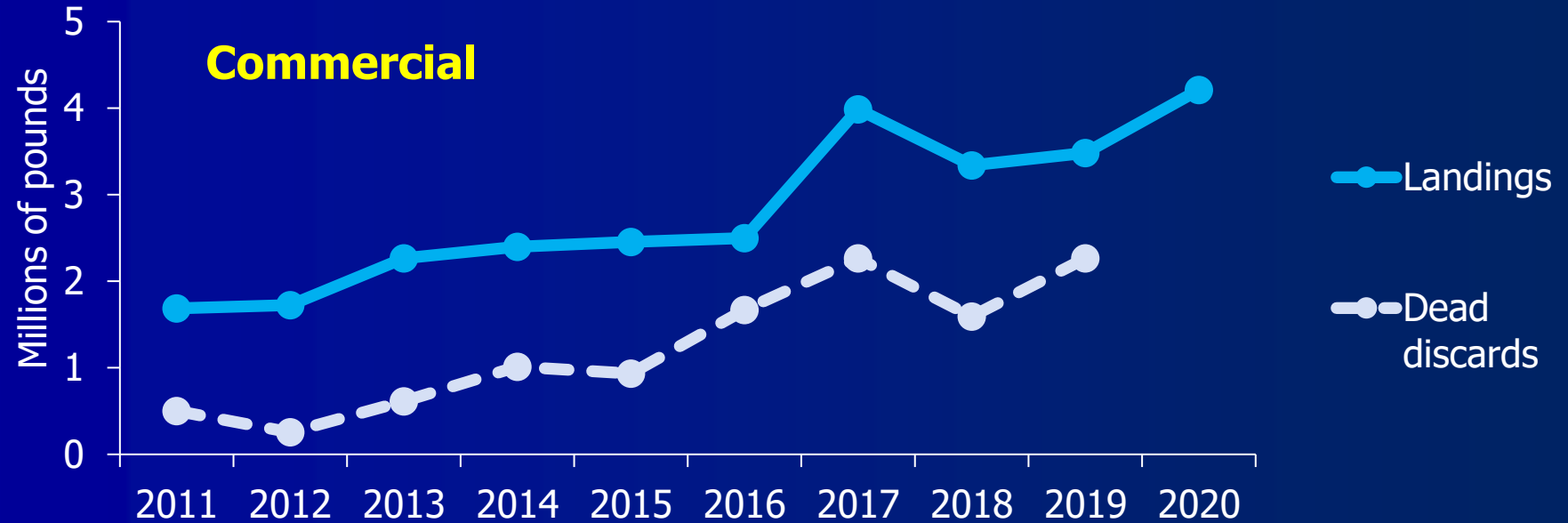
Projected Discards



- Assume dead disc as proportion of total dead catch in each sector equal to most recent 3 yr avg proportions.
 - 36% of com dead catch = dead discards.
 - 23% of rec dead catch = dead discards.
 - These proportions are relatively stable over time.
 - Data show that discards scale up with landings, especially in com. fishery.
- Method first used for BSB for 2021 specs to help address repeated ACL overages.

Recent Fishery Landings & Discards

Landings through 2020, discards through 2019



Management Uncertainty

- MC recommendation: no mgmt. uncertainty buffer in either sector.
- Commercial fishery
 - Generally held close to quota.
 - Well monitored, controlled.
- Recreational fishery
 - Inherently more difficult to constrain, predict (MRIP is a survey, not a census; open access; etc.).
 - Notable 2020 overage expected due to mgmt. decision.
 - Ongoing Rec. Reform Initiative.

Mgmt measure	2021	2022	2023	Basis
	Mil lb	Mil lb	Mil lb	
OFL	17.68	19.26	17.01	Stock assessment projections
ABC	17.45	18.86	16.66	Stock assessment projections and Council risk policy
Expected com. dead discards	3.43	3.63	3.21	Calculated based on assumption that com. dead disc. would be 36% of com. catch in all 3 years (2016-2018 and 2017-2019 avg.)
Expected rec. dead discards	1.58	2.02	1.79	Calculated based on assumption that rec dead disc would be 20% of rec catch in 2021 (2016-2018 avg) and 23% of rec catch in 2022 & 2023 (2017-2019 avg)
ABC landings	12.44	13.20	11.66	ABC - expected com. and rec. dead discards
Com. ACL	9.52	10.10	8.93	49% of ABC landings portion + expected com. disc.
Com. ACT	9.52	10.10	8.93	Equal to the ACL; no deduction for management uncertainty
Com. quota	6.09	6.47	5.71	Com. ACT minus expected com. dead discards
Rec. ACL	7.93	8.76	7.74	51% of ABC landings portion + expected rec. disc.
Rec. ACT	7.93	8.76	7.74	Equal to the ACL; no deduction for management uncertainty
RHL	6.34	6.74	5.95	Rec. ACT minus expected rec. dead discards

Fed. Commercial Measures

- No possession limit (state-specific limits)
- Min. trawl mesh size of 4.5" diamond if retaining more than
 - 500 lb, Jan – Mar
 - 100 lb, Apr – Dec
- Pots/traps
 - 2 escape vents, degradable hinges
 - 1.375" x 5.75" rectangular, 2" x 2" square, 2.5" circular
- Min. size: 11" total length
- MC recommendation: No changes for 2022

Recreational Measures

- Bag, size, season for March-Dec will be considered this fall.
- Optional February recreational BSB opening.
 - States must opt-in. Must modify measures later in the year so participation does not increase annual harvest.
 - Allowed since 2018.
 - Only NC and VA have participated.
 - NC indicated they do not intend to participate moving forward. Challenges with relying on MRIP data.
 - MC has been supportive of VA program for monitoring, adjusting as needed in the past.
 - No changes recommended to this program for 2022.
 - States will consider their participation in late 2021/early 2022.
- MC recommendation: No changes for 2022

Additional AP Input

- No signs of declining biomass off NJ.
- Assumption of 36% commercial dead catch coming from discards seems high.
 - Personal experience discarding only ~5-10%.
 - Trawl and pot/trap requirements allow most BSB to escape.
 - Changes to state allocations may result in fewer dead discards.
- Council/Board should consider rec. hook size restrictions to reduce discard mortality.
- Concerns about ability of trawl surveys to sample structured habitat.
- Allowing harvest of smaller fish would benefit low income and minority communities.

Catch vs ACLs

Recreational

	2017	2018	2019	Avg
Landings	4.16	3.82	3.46	3.81
Discards	1.27	1.1	0.5	0.96
Total catch	5.43	4.92	3.96	4.77
ACL	5.38	4.59	4.59	4.85
Overage/underage	0.93%	7.19%	-13.73%	-1.72%

- All in "old MRIP" units.
- Evaluation based on 3-year average, which shows underage.

Commercial

	2017	2018	2019
Landings	4.01	3.46	3.53
Discards	2.26	1.59	2.26
Total catch	6.27	5.05	5.79
ACL	5.09	4.35	4.35
Overage/underage	23.18%	16.09%	33.10%

- All overages due to discards; no quota overages in these years.
- Given stock status and discards-only overage, payback not required.
- Discard projection method for 2021 and beyond attempts to reduce chances of future discards overages.

Discussion

Adopt:

- 2022-2023 ACLs, ACTs, commercial quota, and RHLs
- 2022 commercial measures
 - Minimum fish size
 - Gear requirements
 - Incidental possession limits
 - No motion needed if no changes
 - No changes recommended
- 2022 February recreational opening
 - No motion needed if no changes
 - No changes recommended

BACKUP SLIDES

Commercial Discards

- 2015-2019 observer data
- 43% discards (by weight) due to quota regulations (quota filled, no quota in area)
- 46% other regulations (min size, closed season, etc.)
- 17% market (retaining certain size for better price, no market available for certain size)

SSC OFL & ABC Recommendations

Year	Assumed Catch		OFL		ABC		F	ABC p*	SSB		B/ B _{MSY}
	MT	Mil. lb	MT	Mil. lb	MT	Mil. lb			MT	Mil. lb	
2020	8,310	18.32	8,795	19.39	6,835	15.07	0.33	N/A	26,375	58.15	1.83
2021	9,149	20.17	8,021	17.68	7,916	17.45	0.40	N/A	25,057	55.24	1.74
2022	8,555	18.86	8,735	19.56	8,555	18.86	0.41	0.49	22,637	49.91	1.57
2023	7,557	16.66	7,716	17.01	7,557	16.66	0.41	0.49	19,538	43.07	1.35