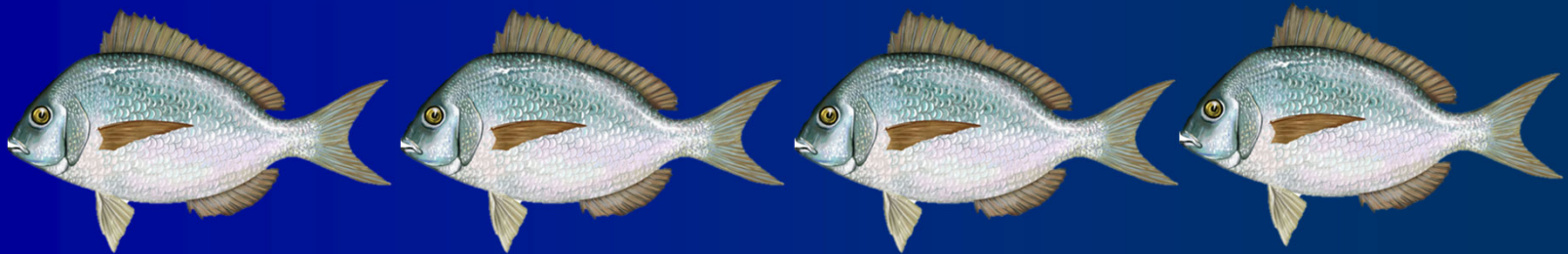




# Scup

## 2022-2023 Specifications



Council and Board

*August 9, 2021*

# Overview



- Presentation:
  - 2021 Management Track Assessment results
  - Recent Fishery Performance and AP FPR
  - SSC recommendations
  - Monitoring Committee recommendations
  - AP Feedback
- Adopt 2022-2023 catch limits and review 2022 commercial measures

# Stock Status: 2021 Management Track Assessment

## SSB

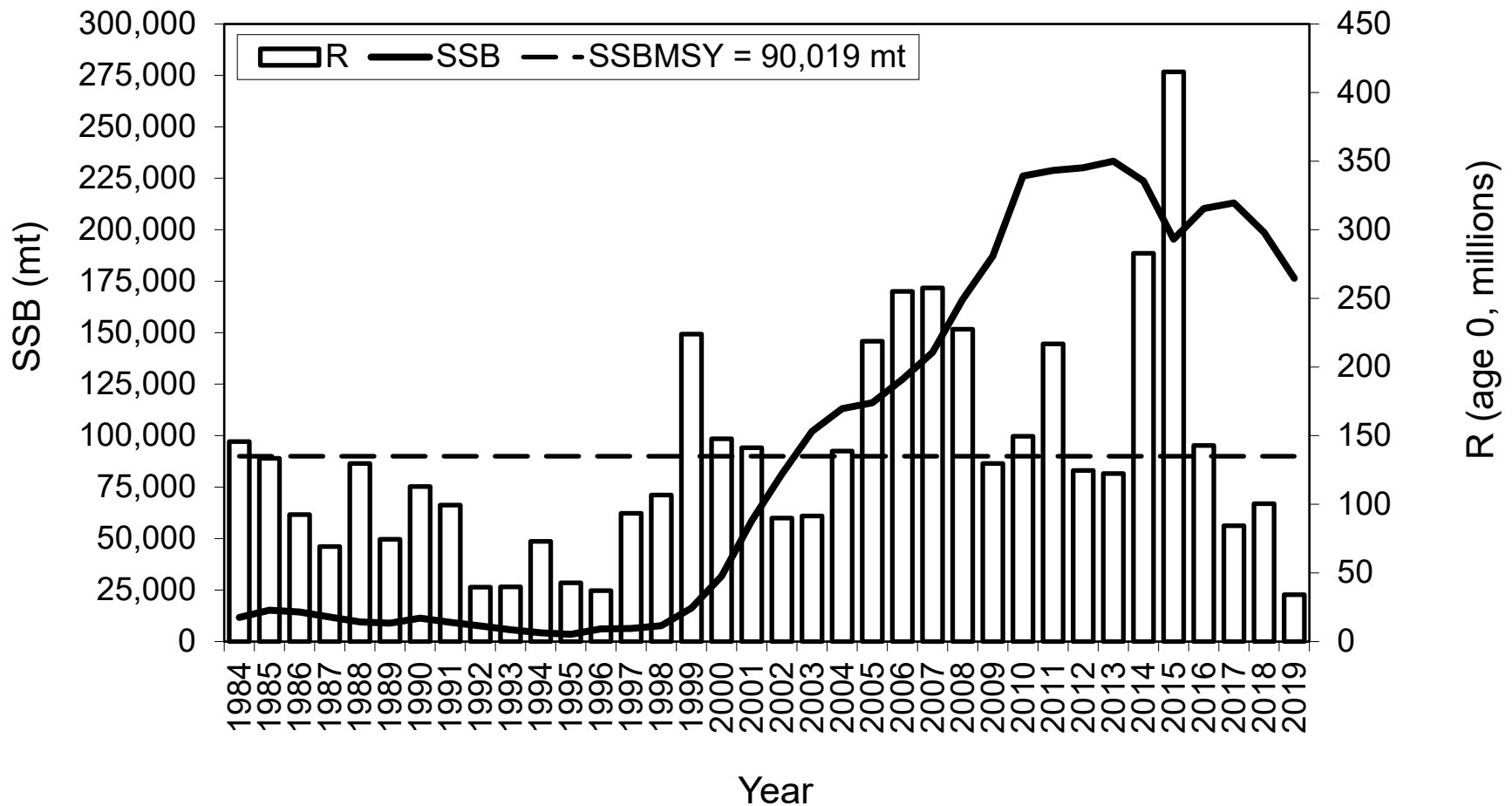
- Not overfished in 2019
- 2019 SSB = 176,404 mt
- double  $SSB_{40\%} = SSB_{MSY} = 90,019$  mt

## F

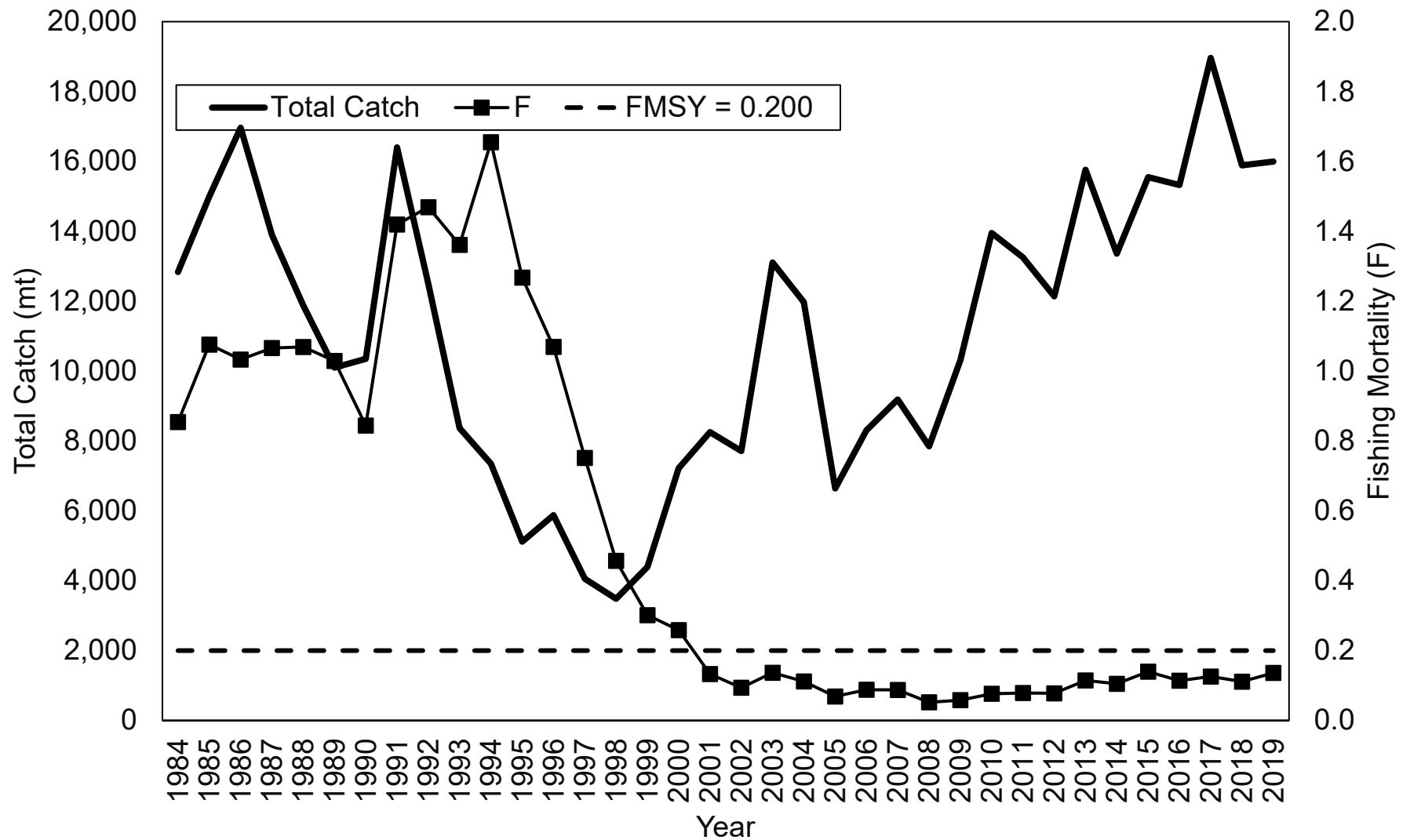
- Overfishing not occurring in 2019
- 2019  $F = 0.136$
- 68% of  $F_{40\%} = F_{MSY}$  proxy = 0.200

# SSB and Recruitment

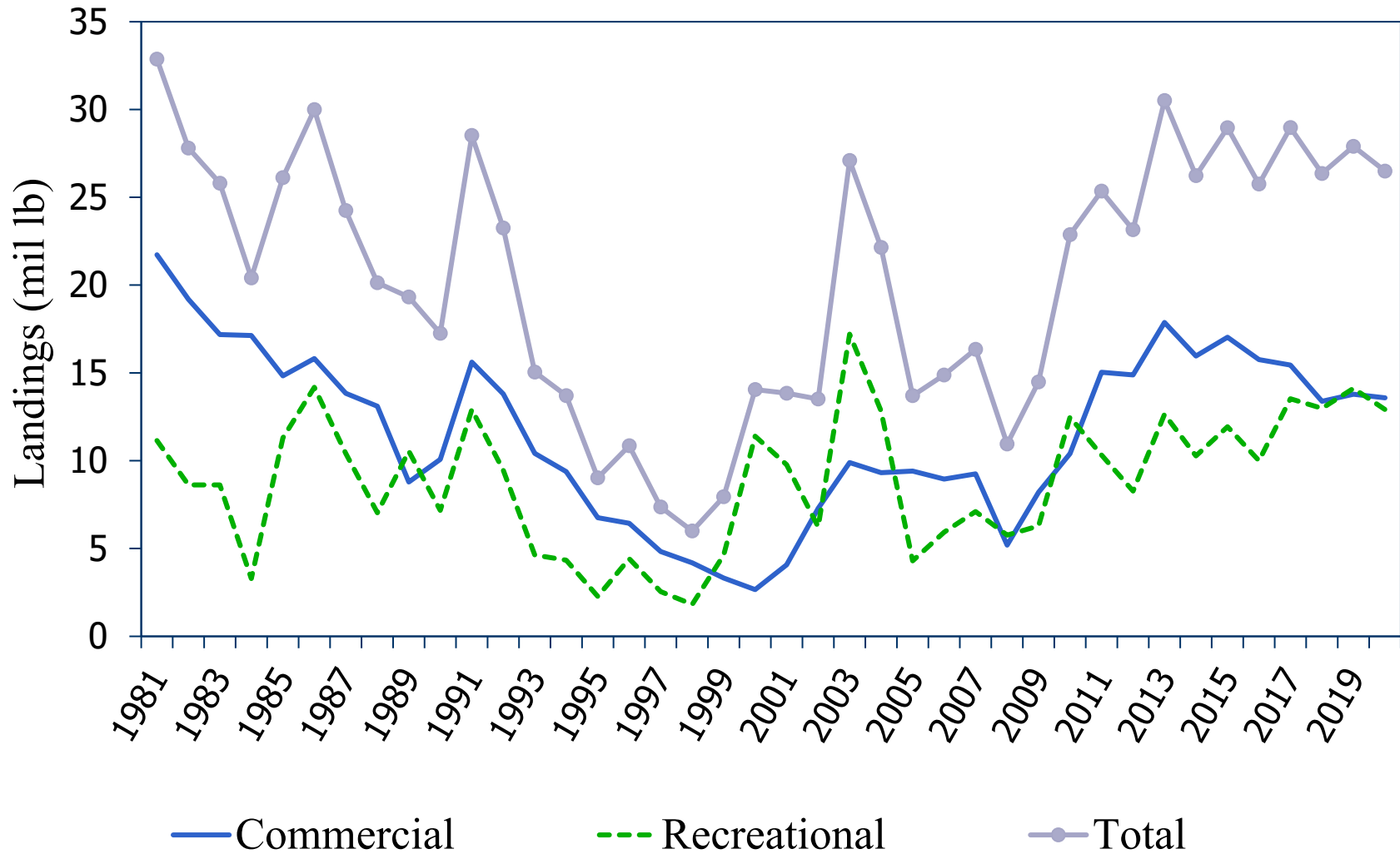
Spawning Stock Biomass (SSB) and Recruitment (R)



# Fishing Mortality and Total Catch



# Fishery Landings



# Commercial Quota and Landings

Year	Quota (mil lb)	Landings (mil lb)	% of quota landed
2015	21.23	17.03	80%
2016	20.47	15.76	77%
2017	18.38	15.44	84%
2018	23.98	13.37	55%
2019	23.98	13.78	57%
2020	22.23	13.58	61%
2021	20.50		

# Recreational Harvest and RHLs

Year	RHL (mil lb)	Harvest (old MRIP, mil lb)	% of RHL harvested (old MRIP)	Harvest (new MRIP, mil lb)
2016	6.09	4.26	70%	10.00
2017	5.50	5.42	98%	13.54
2018	7.37	5.61	76%	12.98
2019	7.37	--	--	14.12
2020	6.51	--	198%	12.91
2021	6.07	--	--	--



# AP Fishery Performance Report

## *Scup*

- COVID-19 had major impacts on the scup market and prices, and commercial landings.
- Less rec fishing effort due to COVID, especially on for-hire vessels.
  - Multiple advisors felt the 2020 the MRIP estimates of harvest do not make sense/were too high.
- One advisor recommended a cumulative length limit approach in the rec. scup fishery, could first be tested for the shore-based mode before applying it to the entire rec fishery.
- Email comment: scup have been abundant last 2 yrs.

# *Scup —SSC Comments*

- Assessment
  - One additional year of data from the 2019 update. Last benchmark 2015.
  - No changes in the model structure apart from the addition of a selectivity stanza for 2013 onward.
  - Insignificant retrospective patterns.
  - Large 2015 year class resulted in higher than expected discards from 2015 to 2018.
  - Discards are expected to decline in 2020 (incomplete data) and later years.
  - Changes in mean weights-at-age and maturation factored into revised biological reference points. Changes in  $F_{msy}$  were modest 0.215 to 0.200. SSB remains nearly double  $B_{msy}$  of 90,019 mt, but is expected to trend downward over the next few years in the absence of another strong year class.
  - No strong indication of a trend in recruitment. Parametric stock-recruitment model will likely be examined at Research Track Assessment.
- Recommendation for constant ABC quota included years in which  $P^* > 0.5$ . Exceeding a 50:50 chance of overfishing is not allowed under MSA. Accordingly, the SSC could not consider this alternative further.

## *Scup—Recommendations for OFL CV*

- The SSC recommends using an OFL coefficient of variation (CV) level of 60%
- High data quality, as well as consistency of signals, from surveys, catch-at-age, and model results; the data agree with theory throughout.
- Relatively low effect of revised MRIP estimates;
- Only minor retrospective patterns in the model,
- Age structure in commercial landings-at-age and recreational landings-at-age show similar trends of increasing abundance of older ages in the stock
- Overall trends are consistent with lower fishing mortality rates in recent years, and increasing stock abundance as indicated by model results.
- No obvious trend in recent recruitment over the past decade, so adjustment of projected recruitment currently appears unwarranted.
- No discernable impact of thermal habitat on interannual variation in availability, so adjustment for thermal habitat effects also appears unwarranted.

## *Scup—Recommendations for ABC*

- The SSC used a CV of 60 % in the OFL for the ABC. Since  $B/BMSY > 1$ , then  $P^*=0.49$ . The Council's request for ABCs that are constant for 2022 and 2023 leads to an ABC recommendation for 2023 with an infeasible  $P^* = 0.516$ .
- Only ABCs associated with the variable  $P^*$  approach are offered.
- As a general observation, the Council's risk policy that implements  $p^*=0.49$  will likely result in instances in which a constant ABC approach, as currently implemented, will result in estimates of  $P^*$  for individual years that are  $P^*>0.5$ . The SSC cannot recommend an ABC in any single year in which  $P^*>0.5$ . The SSC recommends the implementation of the constant ABC policy be re-evaluated.

## *Scup—Sources of Uncertainty*

- While older age Scup (age 3+) are represented in the assessment model, most indices used in the model do not include ages 3+.  
→ dynamics of the older ages of Scup are driven principally by catches and inferences regarding year class strength.
- Sizeable portion of the stock biomass is in older age classes which are assumed to have low Fs as a result of the selectivity pattern estimated in the model.
- Natural mortality (M) used in the assessment.
- Basis for the MSY proxies ( $SSB_{40\%}$ ,  $F_{40\%}$ ) selected
- Survey indices are sensitive to Scup availability; research on this should continue.
- The projection for 2022 assumes that the 2020 and 2021 ABCs will be caught.

# *Scup—Research Recommendations*

- Investigate further
  - Selectivity for older ages of Scup in both surveys and fisheries.
  - Basis for Natural Mortality
  - Basis for 40% MSP for reference points
  - Measures of availability for fishery independent surveys
  - Additional source of age-length data from historical surveys to inform the early part of the time series
- Continue monitoring
  - Declines weights-at-age
  - Increases in age-at-maturity
- Evaluate
  - Influence of gear restriction areas on recruitment
  - Potential influence of long-term climate variation
  - Experiments to estimate catchability of Scup in NEFSC surveys.
  - Influence of lack of abundance indices for scup older than 3 years
- Improve
  - Estimates of discards and discard mortality for commercial and recreational fisheries.
- SSC is concerned over the reduction in port sampling which has the potential to exacerbate concerns about the dynamics of older fish.

## *Scup—Bottom Line*

Species	Year	Overfishing Limit (OFL) (mt)	Acceptable Biological Catch (ABC) (mt)	Probability of Overfishing (p*)
Scup	2022	14,770	14,566	0.49
	2023	13,648	13,460	0.49

# 2022-2023 SSC Recommendations

## Varying 2022-2023 ABCs

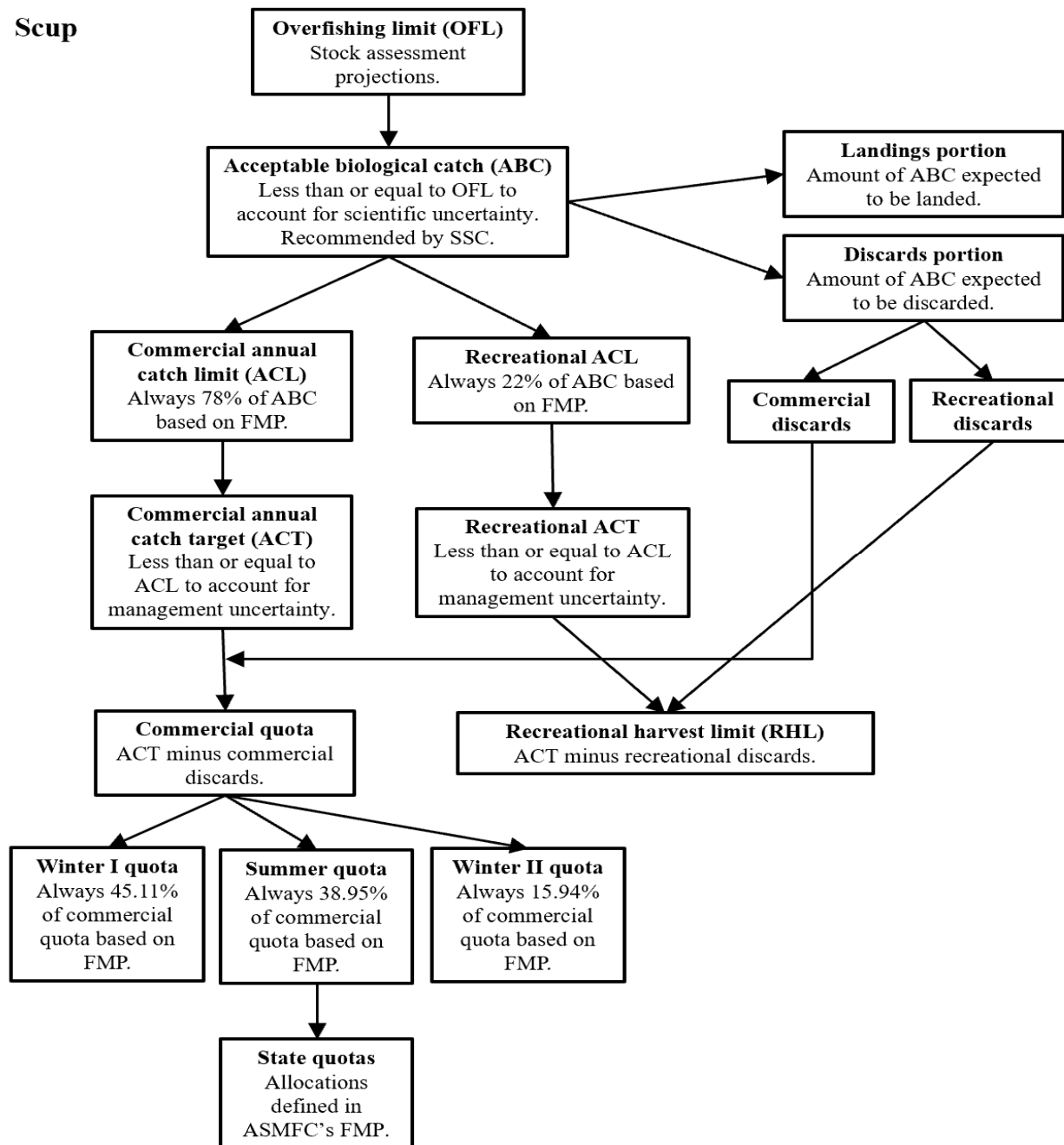
Year	OFL (mt)	ABC (mt)	ABC F	ABC P*	SSB (mt)
2021	18,005	15,791	0.166	0.406	173,993
2022	14,770	14,566	0.197	0.490	156,947
2023	13,648	13,460	0.197	0.490	139,650

## Constant 2022-2023 ABCs

Year	OFL (mt)	ABC (mt)	ABC F	ABC P*	SSB (mt)
2021	18,005	15,791	0.166	0.406	173,993
2022	14,770	14,013	0.189	0.462	157,165
2023	13,708	14,013	0.205	<b>0.516</b>	137,963



# Scup



# MC Recommended Catch and Landings Limits

Mgmt measure	2021		2022 (Varying ABCs)		2023 (Varying ABCs)		Basis
	mil lb	mt	mil lb	mt	mil lb	mt	
OFL	35.30	16,012	32.56	14,770	30.09	13,648	Assessment projections
ABC	34.81	15,791	32.11	14,566	29.67	13,460	Assessment projections & risk policy
ABC discards	8.24	3,740	5.65	2,564	6.39	2,900	Assessment projections
Com. ACL	27.15	12,317	25.05	11,361	23.15	10,499	78% of ABC (per FMP)
Com. ACT	27.15	12,317	25.05	11,361	23.15	10,499	Set equal to commercial ACL (MC recommendation)
Projected com. discards	6.65	3,018	4.67	2,117	5.28	2,394	82.6% of ABC discards (avg. % of dead discards from commercial fishery, 2017-2019)
Com. quota	20.50	9,299	<b>20.38</b>	<b>9,245</b>	<b>17.87</b>	<b>8,105</b>	Commercial ACT minus discards
Rec. ACL	7.66	3,474	7.06	3,205	6.53	2,961	22% of ABC (per FMP)
Rec. ACT	7.66	3,474	7.06	3,205	6.53	2,961	Set equal to recreational ACL (MC recommendation)
Projected rec. discards	1.59	722	0.99	447	1.12	506	17.4% of the ABC discards (avg. % of dead discards from rec. fishery, 2017-2019)
RHL	6.07	2,752	<b>6.08</b>	<b>2,757</b>	<b>5.41</b>	<b>2,455</b>	Recreational ACT minus discards

# 2022-2023 Sector-Specific Limits

- Commercial/recreational allocation amendment pending final action Dec. 2021
  - Would impact 2023 sector catch and landings limits if allocations were modified

# 2022 Commercial Measures: Lund's Fisheries Request

Request that the monitoring committee discuss:

- Decreasing the commercial minimum fish size from 9 inches to 8 inches
- Increasing the Winter I possession limit to 100,000 pounds and analyze eliminating it entirely
  - Support developing frozen markets, with value added domestic scup products becoming more widely available to consumers at the retail outlets where they shop

# AP June Discussion

- Two advisors did not support an 8 inch min size due to maturity concerns and maintaining a healthy SSB
- One supported an 8 inch min size due to the preference of some to buy smaller fish
- Email comments: 8 inch min size is a poor management move, it could increase discards, shifting effort to smaller scup
- Fresh market will not be able to sell a scup that small

# AP June Discussion

- Two advisors did not support an increase or elimination of the possession limit due to tanking the price for the fresh fish market or competition from vessels shifting their effort
- One advisor added that fishermen generally do not land the current possession limit
- Email comments: this increase would open the fishery to way larger vessels
  - Destroy the fresh fish market
  - Larger trip limits will lead to even more discards

# MC Discussion: Minimum Size

- Based on NEFSC survey data proposed decrease in min size would allow for the harvest of scup at a size where about 57% are mature
- At the current minimum size ~84% are mature.
- Potential for shifting the fishery selectivity to smaller or younger scup caught, may not decrease discards
- 2019: lowest recruitment in the time series, low for the past 3 years

# MC Discussion: Minimum Size

- July 2018-June 2019, 53.8% of scup discards were due to size regulation, 36.5% were due to no market
- MC member: interested in exploring some sort of bycatch allowance for undersized fish, esp. in high recruitment years, further analysis
- Recommended min size remain 9 in TL



# MC: Possession Limit

- Based on Council staff analysis, 2018-2020 less than 1% of scup trips in Winter I landed more than 20,000 pounds
  - Suggests that the current possession limit of 50,000 pounds is not limiting harvest opportunities in Winter I
- One MC member and industry members noted that trips are being landed higher than this but spread over multiple dealers or multiple days, VTR and dealer data need to be matched
- Working with GARFO to capture the different types of trips taken in Winter I before Council/Board meeting

# Post MC Meeting

Year	Total Winter I scup trips	Percent of trips greater than:			
		10,000 lbs	20,000 lbs	30,000 lbs	40,000 lbs
<b>2018</b>	1,247	12%	6%	3%	2%
<b>2019</b>	1,398	12%	6%	3%	1%
<b>2020</b>	1,106	15%	7%	4%	2%

Data Sources: DMIS and CFDERS as of August 2, 2021

# MC: Possession Limit

- If biomass continues to decline and markets increase or stay the same, increased/eliminated possession limit could lead to harvesting the quota more quickly
  - After 80% of the Winter I quota landed, the possession limit drops to 1,000 pounds
  - Opportunity loss for those that fish later in the year, may have regional impacts based on where scup are located throughout Jan-April

# MC: Possession Limit

Supported further analysis of:

- Potential impacts of higher trips on bycatch
- Unintentional shifts in access by different user groups
- Impacts to smaller fleets in fresh markets
- Analyze incremental increases in future years
- Holistic look at why quota is underharvested
  
- MC members did not support a change in the possession limit in 2022

# Commercial Measures

MC recommended no changes for 2022

- Quota period possession limits
- Minimum fish size
- Gear requirements
- Incidental possession limits
  - Further analyses including economics, impacts of incremental changes

# AP Comments on MC recommendations

- Four advisors did not support a decrease in the scup minimum size or an increase in the Winter I possession limit in the commercial fishery
- Encourage greater harvest from much larger boats, harm the current fleet of smaller fishing vessels and businesses
- The winter price per pound for scup can go over a dollar or more, very important to the current fishermen during that time
- One advisor: 8 inch scup are bony with no meat, no advantage of decreasing the size limit, noting that even 9-10 inch scup can ruin the market when landed
- Harvesting more immature fish is bad for stock health given recent recruitment especially 2019

# AP Comments on MC recommendations

- One advisor said that all 3 species should have a smaller mesh size and scup should have a smaller minimum fish size to better compete with tilapia imports
- An advisor representing Lund's supported their proposed changes but understood why the MC would require more analysis
  - No intention of fishing smaller fish, rather turning discards into landings, room to grow in Winter I fishery

# Council and Board Decision Points

- Adopt 2022-2023 ACLs, ACTs, commercial quota, and RHLs
- Recommendations/comments on commercial measures
  - Quota period possession limits
  - Minimum fish size
  - Gear requirements
  - Incidental possession limits

MC recommended no changes to commercial measures for 2022



# MC Recommended Catch and Landings Limits (mil lb)

Mgmt measure	2022 (Varying ABCs)	2023 (Varying ABCs)
OFL	32.56	30.09
ABC	32.11	29.67
Commercial ACL=ACT	25.05	23.15
Commercial quota	<b>20.38</b>	<b>17.87</b>
Recreational ACL=ACT	7.06	6.53
RHL	<b>6.08</b>	<b>5.41</b>

# BACKUP SLIDES



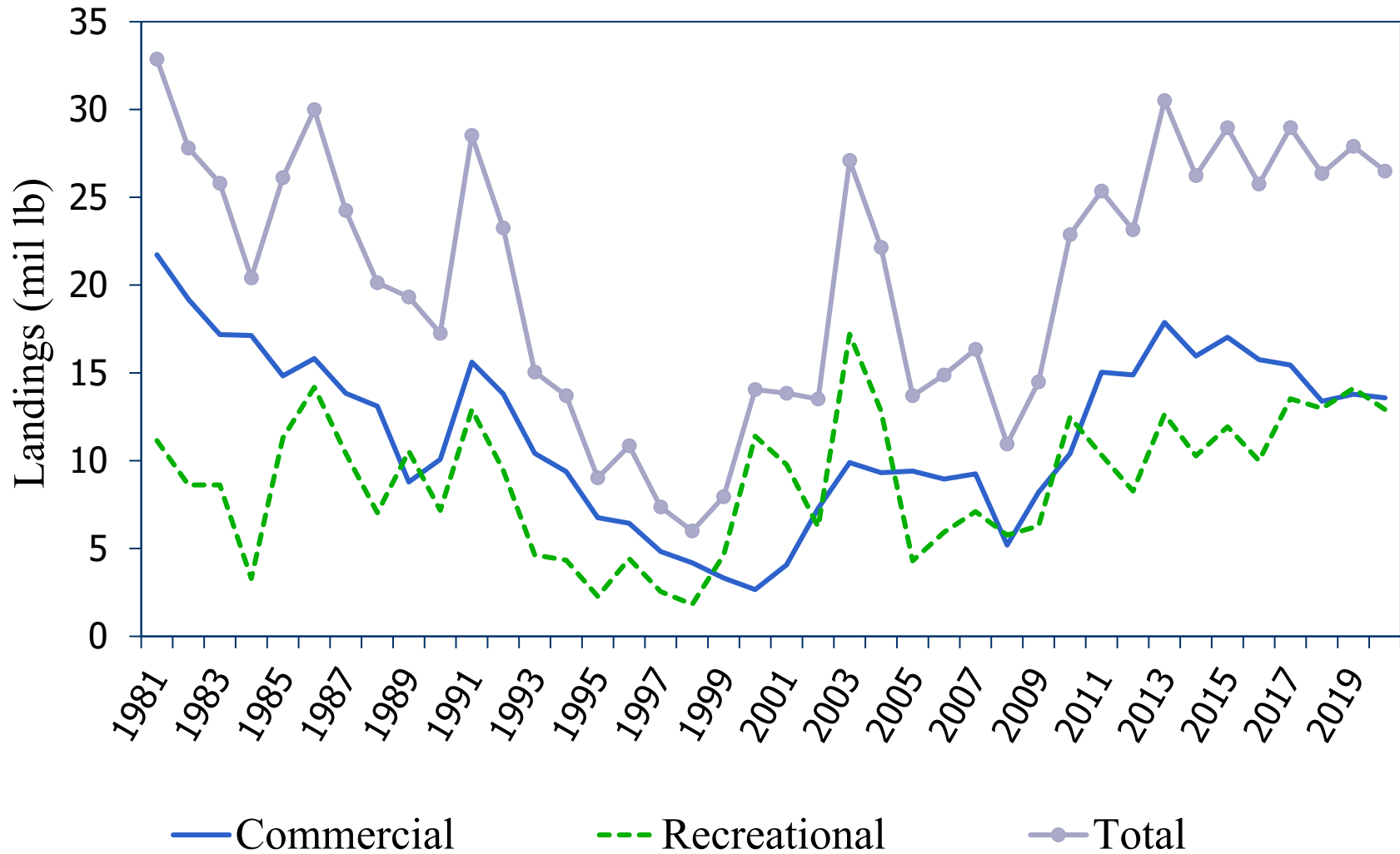
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# Quota/Landings: Winter I

- Scup annual and Winter I commercial landings relative to quotas in millions of pounds, 2016-2020 (2020 values are preliminary)

Year	Com. landings	Com. quota	Quota underage	W. I landings	W. I quota	W. I quota underage
2016	15.76	20.47	-23%	6.08	9.23	-34%
2017	15.44	18.38	-16%	5.92	8.29	-29%
2018	13.37	23.98	-44%	4.85	10.82	-55%
2019	13.78	23.98	-43%	5.55	10.82	-49%
2020	13.58	22.23	-39%	5.18	10.03	-48%

# Fishery Landings



# Possession Limit Considerations

- The total number of scup trips during the Winter I period from 2018-2020, and the number of trips landing greater than 10,000, 20,000, 30,000, and 40,000 pounds of scup:

Year	Total # Winter I trips	Number of trips landing more than:			
		10,000 lb	20,000 lb	30,000 lb	40,000 lb
2018	3,269	61	11	C	0
2019	3,712	79	14	C	0
2020	3,172	89	13	C	0

# Recreational Harvest and RHLs

Year	RHL (mil lb)	Harvest (old MRIP, mil lb)	% of RHL harvested (old MRIP)	Harvest (new MRIP, mil lb)
2016	6.09	4.26	70%	10.00
2017	5.50	5.42	98%	13.54
2018	7.37	5.61	76%	12.98
2019	7.37	--	--	14.12
2020	6.51	--	198%	12.91
2021	6.07	--	--	--

# Current Measures

Management measure	2021		Basis
	mil lb	mt	
OFL	35.30	16,012	Assessment projections
ABC	34.81	15,791	Assessment projections & risk policy
ABC discards	8.24	3,740	Assessment projections
Commercial ACL	27.15	12,317	78% of ABC (per FMP)
Commercial ACT	27.15	12,317	Set equal to commercial ACL (staff recommendation)
Projected commercial discards	6.65	3,018	80.7% of ABC discards (avg. % of dead discards from commercial fishery, 2016-2018)
Commercial quota	<b>20.50</b>	<b>9,299</b>	Commercial ACT minus discards
Recreational ACL	7.66	3,474	22% of ABC (per FMP)
Recreational ACT	7.66	3,474	Set equal to recreational ACL (staff recommendation)
Projected recreational discards	1.59	722	19.3% of the ABC discards (avg. % of dead discards from rec. fishery, 2016-2018)
<b>RHO</b>	<b>6.07</b>	<b>2,752</b>	Recreational ACT minus discards



# Prior SSC Recommendations

Sept 2019:

- Recommended 2020-2021 constant & varying ABCs based on 2019 operational assessment projections
  - OFL CV = 60%
- Council/Board adopted varying ABCs for 2020-2021

July 2020:

- Revised previously adopted 2021 ABC based on Dec. 2019 revisions to Council risk policy

# Recent Changes to Commercial Measures

- 2016 — Possession limit change both Winter periods
- 2017 — Southern GRA boundary change
- 2018 — October moved from Summer to Winter II
- 2019 — Spring incidental possession limit change

# 2021 Commercial Landings: Summer Period

