Summer Flounder 2020 Recreational Measures

Council and Board

December 10, 2019

Annapolis, MD

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

ATLANTIC STATES MARINE FISHERIES COMMISSION

Objective

- Adopt either conservation equivalency or coastwide measures for 2020 recreational fishery
  - If conservation equivalency: associated non-preferred coastwide and precautionary default measures
  - If coastwide measures: identify coastwide bag, size, and season

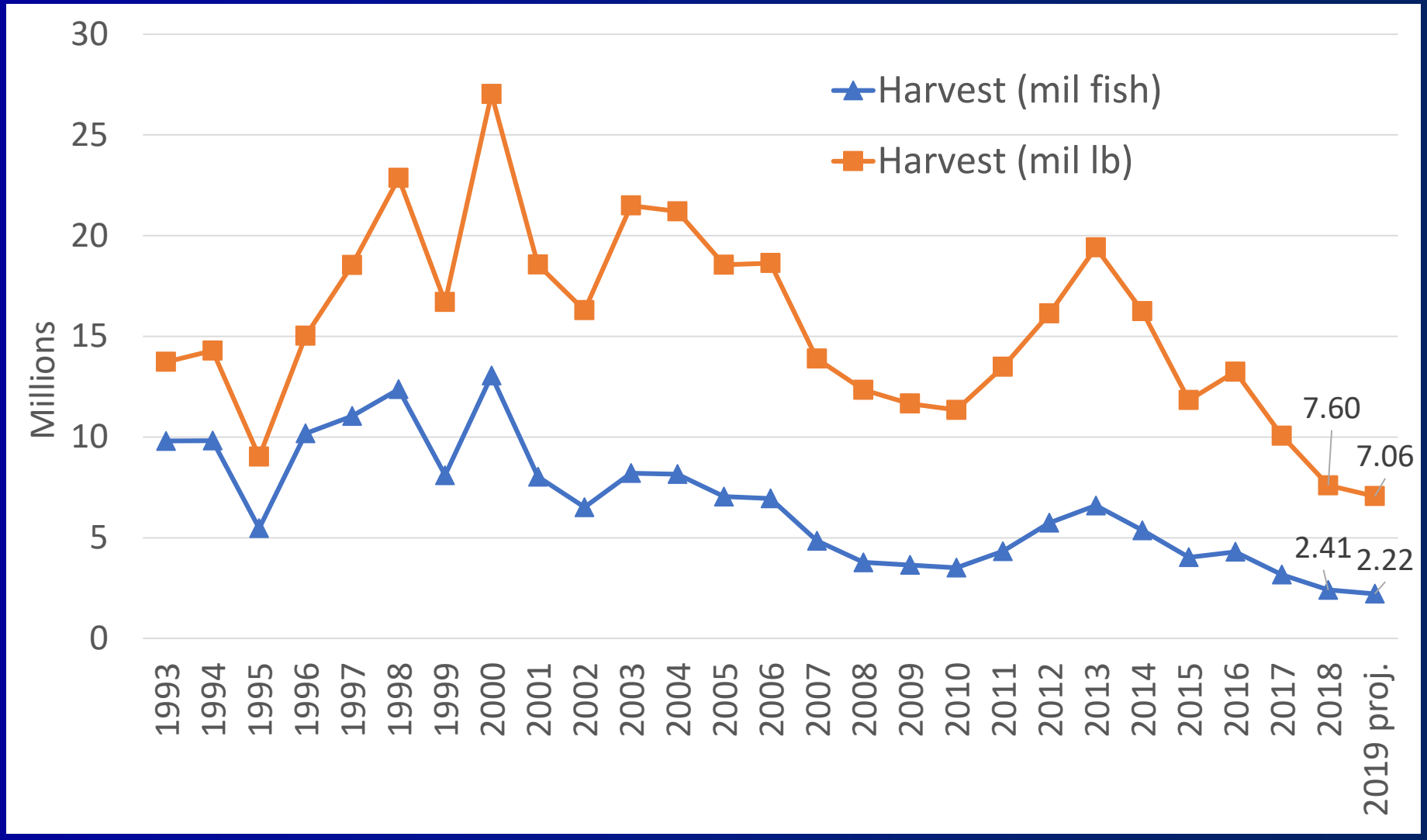
2019 Preliminary MRIP Estimates and Projections (Revised MRIP)

	Harvest (mil lb)	Harvest (mil fish)	Catch (mil fish)
Preliminary 2019 through Wave 4	6.23	1.93	24.23
Projected* 2019 full year	7.06	2.22	28.69

Projected 2019 harvest of 7.06 mil lb is 8% below the 2020 RHL of 7.69 mil lb

*Projected using % landings by wave by state in 2018 and preliminary wave 1-4 2019 data (no adjustments for any states)

Harvest 1993-2019



Rec. Harvest Limit Performance

Recreational performance can only be evaluated using PRIOR MRIP estimates

Year	Rec. Harvest OLD MRIP (mil lb)	RHL (mil lb)	Rec. % Over / Under	Rec. Harvest NEW MRIP (mil lb)
2014	7.39	7.01	+5%	16.24
2015	4.72	7.38	-36%	11.83
2016	6.18	5.42	+14%	13.24
2017	3.19	3.77	-15%	10.06
2018	3.35	4.42	-24%	7.60
5-yr Avg.			**-11%**	

Recreational Catch Limit Performance: Accountability Measures Not Triggered for 2020

Recreational AMs reviewed based on 3-year moving average of dead recreational catch vs. recreational catch limits (OLD MRIP)

	Rec. Harvest (Old MRIP)	Rec. Dead Discards (Old MRIP)	Total Rec. Catch (Old MRIP)	Rec. ACL	Over / Under
2016	6.18	1.48	7.66	6.83	+12%
2017	3.19	0.94	4.13	4.72	-13%
2018	3.35	0.97	4.32	5.53	-22%
AVG	4.24	1.13	5.37	5.69	**-6%**

2019 Recreational Measures

- **Regional Conservation Equivalency**
  - State measures control harvest; federal measures waived
- **Non-preferred coastwide measures**
  - Combined state measures are “equivalent” to these
  - Implemented in federal regulations, but waived
  - 19-inches, 4 fish, May 15-Sept. 15
- **Precautionary default measures**
  - “Deterrent” measures
  - 20-inch TL, 2 fish, July 1-August 31

2019 State Measures

	Min. Size (in)	Possession Limit	Season
MA	17	5	May 23-October 9
RI	19	6	May 3-December 31
RI SHORE	19	4[a]	
	17	2[a]	
CT	19	4	May 4- September 30
CT SHORE SITES	17		
NY	19		
NJ	18	3	May 24- September 21
NJ SHORE SITE	16	2	
NJ DE BAY	17	3	
DE, MD, PRFC, VA	16.5	4	January 1- December 31
NC	15	4	January 1- September 3[b]

[a] Combined limit of 6 fish, no more than 2 at 17 inches

[b] Closed 9/4/19 due to measures to end overfishing on southern flounder

2020 Staff Recommendation

- Deviate from current system of conservation equivalency and test slot limit measures on coastwide basis

Challenges of Current Measures

- CE adopted every year since 2001
- Highly complex measures; analysis increasingly complicated
- MRIP data used at fine scales (high uncertainty)
- Stakeholder frustration with measures

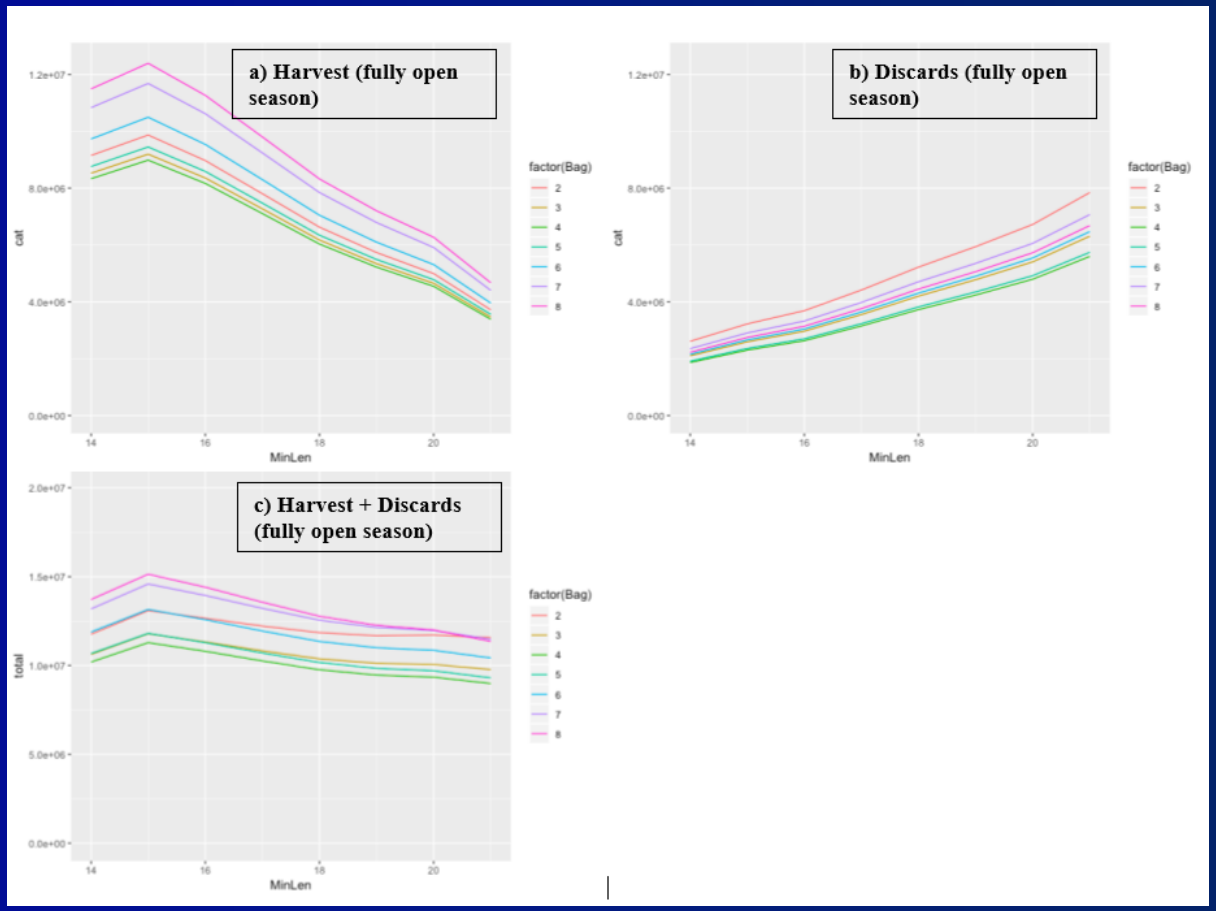
Size Limits Under CE Since 2002

- When harvest reductions needed, size limit increases typically most effective

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
MA	16.5	16.5	16.5	17	17.5	17.5	17.5	18.5	18.5	17.5	16.5	16	16	16	16	17	17	17
RI	18	17.5	17.5	17.5	17.5	19	20	21	19.5	18.5	18.5	18	18	18	18	19	19	19
CT	17	17	17	17.5	18	18	19.5	19.5	19.5	18.5	18	17.5	18	18	18	19	19	19
NY	17	17	18	17.5	18	19.5	20.5	21	21	20.5	19.5	19	18	18	18	19	19	19
NJ	16.5	16.5	16.5	16.5	16.5	17	18	18	18	18	17.5	17.5	18	18	18	18	18	18
DE	17.5	17.5	17.5	17.5	17	18	19.5	18.5	18.5	18	18	17	16	16	16	17	16.5	16.5
MD	17	17	16	15.5	15.5	15.5	17.5	18	19	18	17	16	16	16	16	17	16.5	16.5
VA	17.5	17.5	17	16.5	16.5	18.5	19	19	18.5	17.5	16.5	16	16	16	16	17	16.5	16.5
NC	15.5	15.5	14	14	14	14	14	15	15	15	15	15	15	15	15	15	15	15

Challenges of Current Measures

- Harvest reductions from size increases heavily offset by increase in dead discards (from Fay/McNamee)



Stakeholder Perspectives

- Many concerned with higher size limits
- **Biological:** Concern that size limits focus recreational mortality on larger, more fecund female fish; may influence recruitment
- **Social/economic:** Frustration with high discard rates (~90%), low retention ability, low angler satisfaction, lower for-hire revenues

Stakeholder Perspectives

- Requests for alternative size limit regulations
  - Slot limits
  - Total length limit
  - Generally lower size limits

Consideration of Slot Limits

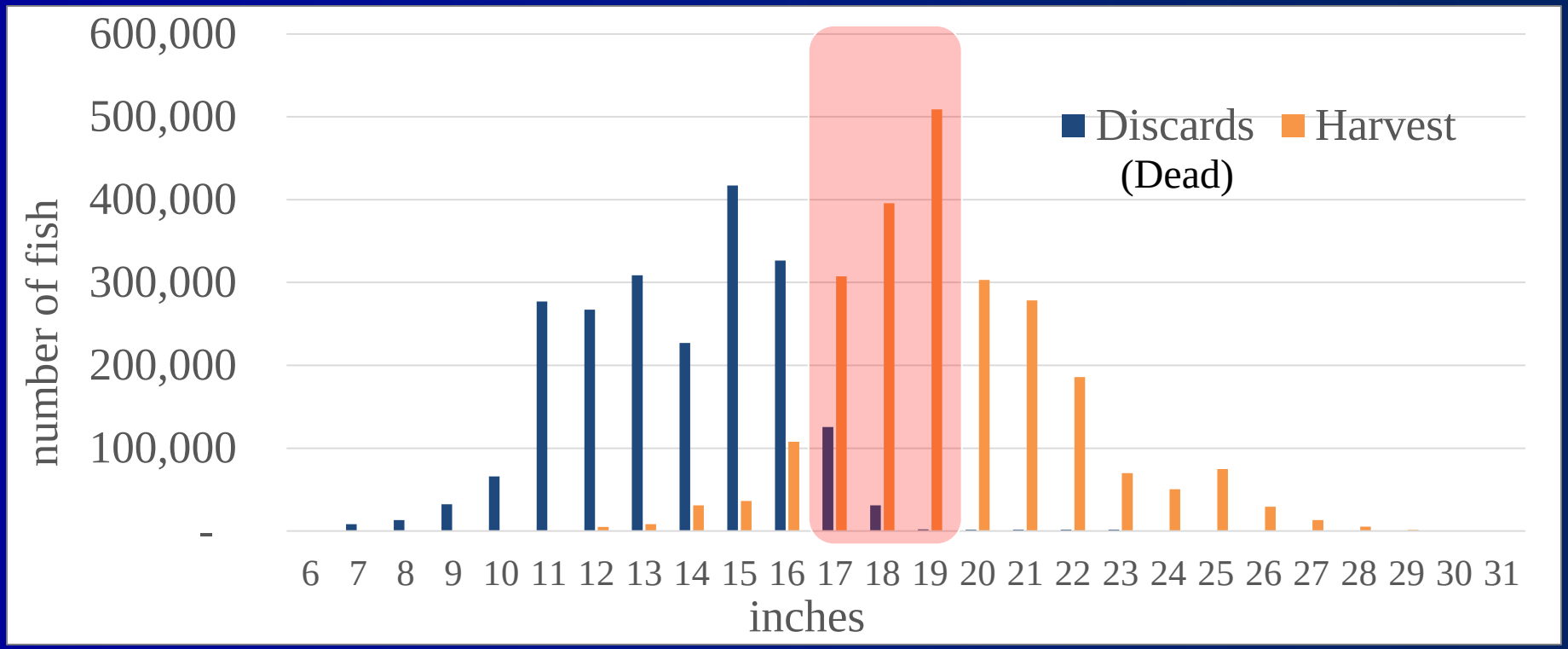
- Harvest slots designed to protect both immature fish and older/larger fish with greater reproductive value
- Has been considered in past MC and other analyses
- Past analyses (Wong 2009; Wiedenmann et al. 2013) concluded slots would likely result in much greater harvest in numbers of fish; may require restrictive slot & other measures

Staff Recommendation Summary

- Coastwide measures including:
  - 17-20” slot (17.0” to 19.99”)
    - Memo describes 17-19”, but more accurately described as 17-19.99” based on how length frequency data is binned
  - Open season May 15-September 15
  - 1 fish possession limit or 2 if possible

Length Frequency (2018 data)

- 2018 harvest and dead discard at length data used to estimate harvest change (in # of fish) from proposed slot



Slot Analysis (2018 data)

- Rough estimate of harvest under 17-19.99” slot = **2.80 million fish**
  - 16% increase in harvest in # from 2018
- Caveats:
  - Assumes conditions (effort/catch rates/ availability at size) remain the same as 2018
  - Does not account for non-compliance
  - Staff memo did not analyze changes in harvest & discards in weight (calculations done during MC meeting)

Staff Memo Bag Limit Analysis

- 67% of trips and 45% of fish harvested in 2018 were angler-trips landing only 1 summer flounder
  - Affected by size limits & availability of legal sized fish
  - Higher harvest per angler would likely occur under slot depending on bag limit

Coastwide Bag Limit Analysis

2018 Harvest (#fish)	2 fish bag limit		1 fish bag limit	
2,400,346	Est. total harvest (#fish)	2,190,434	Est. total harvest (#fish)	1,649,987
	Reduc. from 2018 (# fish)	209,913	Reduc. from 2018 (# fish)	750,359
	Reduc. from 2018 (%)	9%	Reduc. from 2018 (%)	31%

- Assumes same # of trips as 2018
- Assumes non-compliant harvest (more than 6 fish; highest state bag) will remain non-compliant
- Actual coastwide non-compliance underestimated given variation in bag limit by state in 2018

Coastwide Season Analysis

- **May 15-September 15** analyzed
- Estimated ~8% coastwide reduction in # of fish (variable by state)
- Caveats
  - Based only on 2018 data – state harvest by wave can fluctuate annually
  - Assumes equal harvest distribution throughout wave

Staff Recommendation Summary

- **17-19.99”** slot
- **May 15-September 15** season
- **1 or 2 fish** bag
- Uncertain combined effect on harvest
  - Expected increase in number of fish harvested offset by coastwide bag and season, but interaction between measures not calculated
  - Staff memo did not include calculations in weight

MC Recommendation Summary

- Supports further analysis of slot limits but does not recommend coastwide application in 2020
- Agreed on example coastwide slot measures that could work, but disadvantageous to southern states
- Could pursue regional/state slots under CE in 2020, but need more analysis at state/regional level to fully support (mixed opinions within MC)
- Recommend conservation equivalency in 2020 with status quo non-preferred coastwide and precautionary default measures

MC Comments: Biological Implications of Size Limits

- Discussion of stakeholder concerns regarding negative impacts of recreational measures on removals of large females
- MC does not believe there is necessarily cause for concern about current recreational harvest of females

MC Comments: Biological Implications of Size Limits

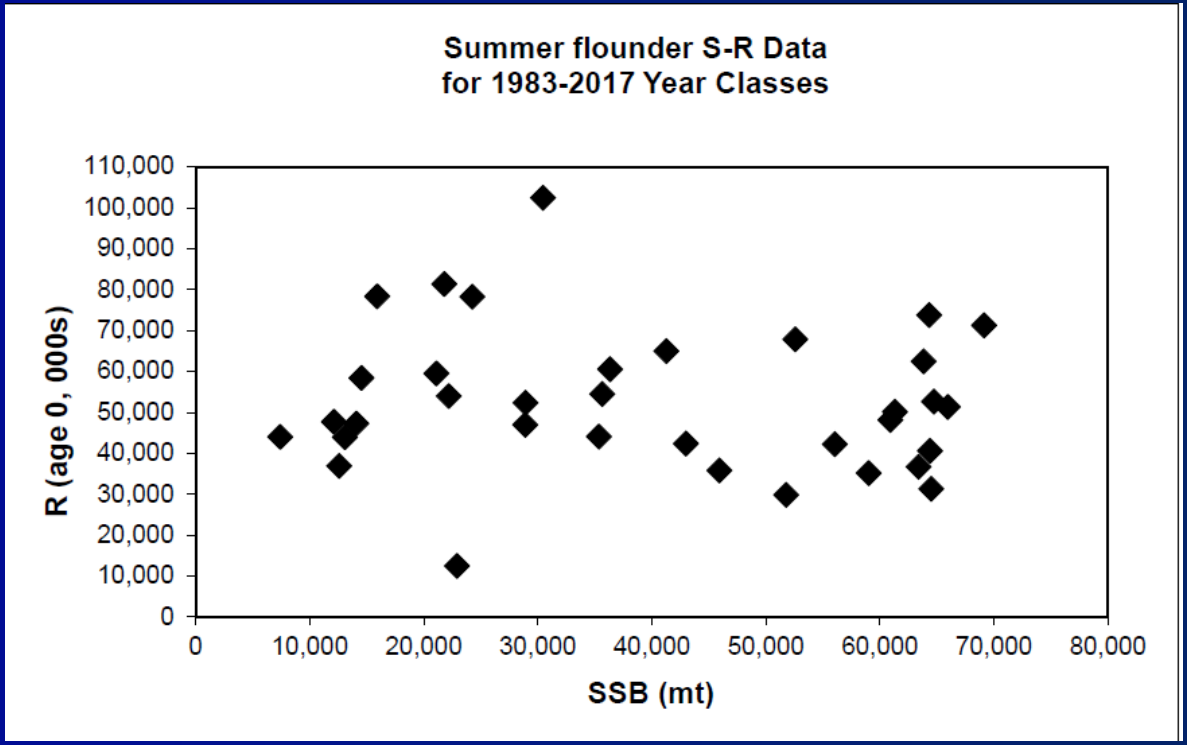
- Several ongoing trends in stock dynamics over past 10-15 years:
  - Slower growth rates for both sexes
  - Reduced mortality rates overall have allowed fish of both sexes to live longer/grow larger
  - Males living longer/growing to larger sizes
  - Sex ratio shifting closer to 50/50 for larger fish

MC Comments: Biological Implications of Size Limits

- Assessment work exploring sex-based modeling:
  - Most total fishery catch now appears to be male, due to factors described on previous slide
- On an absolute basis, removals of females are far less than they were a decade ago due to lower F rates
- Effects of recreational measures and selectivity on recruitment unclear

MC Comments: Biological Implications of Size Limits

- No defined stock-recruitment relationship for summer flounder (flat relationship)
- Several factors appear to be affecting recruitment including environmental



MC Comments: Biological Implications of Size Limits

- Additional considerations:
  - Slot limits would impact yield per recruit over time
  - If mortality too high within slot, not enough survive through to higher sizes
  - Protecting large females in rec. fishery does not reduce their availability to commercial fishery (likely to increase it)

MC Comments: Socioeconomic Implications of Slot Limits

- Benefits appear mostly related to angler satisfaction (increased retention, potentially reduced discards)
- However, changes in angler behavior uncertain
- Tradeoff of ability to keep large fish vs. increased retention rates (variable angler preferences)

MC Comments: Slot Limits with Trophy Fish

- “Trophy fish” allowance likely to make slot infeasible from harvest constraint perspective
- Very difficult to analyze expected harvest & discards
- Cuts down on “reduced trip length” effect as many will keep fishing to find trophy fish (high grading could also be an issue)

MC Maximum Size Comments

- Dealing with maximum size: does 17-20” slot allow for harvest of exactly 20”?
- MC recommended that 17-20” slot include fish at, but no larger than 20” for simplicity in enforcement and communication

MC Comments on Slot Limits

- Requested analysis of slot impacts on weight of harvest/discards
- At meeting, used NEFSC trawl survey length-weight relationship to estimate changes in harvest & discards in weight
  - Caveat: trawl survey relationship does not exactly match recreational fishery relationship

MC Additional Analysis of Effects on Weight

- 17-20” slot increases harvest in numbers but decreases harvest in weight
- Slight increase in discards in weight

	2018	Proj. 2019	Est. Under 17-19.99“ Slot	Change from 2018	Change from proj. 2019
Harvest mil lb	7.60	7.06	6.11	**-20%**	-13%
Harvest numbers	2.41	2.22	2.80	**+16%**	+26%
Dead discards mil lb	2.27	--	2.35	**+4%**	--

MC Comments on Associated Bag Limit

- Expected reduction in harvest in weight would allow for possession limit larger than 1 fish
- But, very difficult to analyze change in harvest
  - Slot means large increase in availability of legal sized fish; many more anglers would harvest more than 1 or 2 fish
  - Cannot accurately predict expected change in harvest from 3 fish bag under slot limit
  - 3 fish is the highest the MC would recommend under this slot

MC: Example Coastwide Slot Measures

- 17-20” slot
- May 15-September 15
- 3 fish possession limit
- Would likely constrain harvest to RHL, but not recommended due to negative impacts on southern states

Overall Caveats and Considerations

- Changes in angler behavior difficult to predict
- Non-compliance not fully accounted for and may be high, esp. with max. size
- Size limit analysis is based on length-weight relationship from trawl survey, not recreational fishery data
- Analysis assumes same conditions as 2018, including effort and availability at size
- Cannot currently predict interaction between bag, size, season changes under move to slot

Slot Limit: Further Analysis

- State-level impacts of measures
- Feasibility of regional-level measures
- Evaluation using more statistically robust methods/modeling approaches
- Estimates of non-compliance and how to account for them
- Effects on flounder tournaments?
- Possibility of specific slot limits for designated shore sites?

Slot Limit: Further Analysis

- Important for long-term implementation: evaluation of dynamic aspects
  - Effects of varying year class strength/availability at size
  - To avoid high discards and/or lack of available slot fish in a given year
  - May require moving slot every few years

MC Recommendations

- Regional conservation equivalency in 2020
- *Status quo* non-preferred coastwide measures of 4 fish, 19 inches, May 15-September 15
  - Analyzed with Fay/McNamee fleet dynamics tool; expected harvest of 7.13 mil lb (7% under 2020 RHL)
- *Status quo* precautionary default measures of 2 fish, 20 inches, July 1-August 31
- *Status quo* harvest/no liberalizations under state measures given that PSE of estimate encompasses 2020 RHL

Advisory Panel Comments

- Opinions mixed on slot limits; most opposed (at least 7 expressed opposition on the call)
- Concern about impacts to for-hire industry in particular
- Customers less willing to pay for trips with smaller sizes and lower possession limits
- Several agreed that 1 or 2 fish possession limit would kill the for-hire industry; at least 3+ needed

Advisory Panel Comments

- Vessels in some areas (e.g., MA) already travel far to find fluke; clients would be less likely to pay to fish under slot regulations plus long travel times

Advisory Panel Comments

- Most agreed that coastwide measures (with or without slot) are unworkable; different measures by area needed
  - One disagreed; recommended coastwide measures due to high PSEs associated with state/mode level estimates
- Coastwide slot sizes would negatively impact southern states and some states would not like proposed season

Advisory Panel Comments

- One advisor supports slot limits at state level; believes existing minimum sizes are harming industry
  - Possession limit needs to be higher than 2 fish
  - Should be implemented in combination with measures that reduce discard mortality (e.g., hook size measures)
- Also commented that fishery should be regulated based on reproductive value of fish removed, not poundage
  - Stated that males contribute little to reproductive potential of stock

Advisory Panel Comments

- Two advisors expressed uncertainty or mixed opinions about slot limits
  - One stated there is diversity of angler preferences in his area; recommends status quo for now
  - Another has favored state-level slot limits but given recent changes in population dynamics, slot limits need more research

Advisory Panel Comments

- Another advisor supports total length limit and expressed frustration that this was not evaluated by MC
- One advisor suggested slot analysis be re-done with length-weight relationship from surveys with more inshore coverage (e.g., NEAMAP) if possible
- One comment that rec. measures do not work to rebuild stock unless measures are implemented to protect spawning fluke

Written Comments
Main briefing book & supplemental

Comment	#
Support for slot limits	14
Support measures to protect spawning fluke during spawning season	11
Concern regarding harvest of large female summer flounder	14
Support rec. total length limit	1
Recent fluke fishing has been poor (low avail. of legal sized fish)	3

Written Comments

- Tom Smith:
  - Fishery in decline since 2003 peak
  - Changes in fishery catch composition (size/age) in both rec. and comm. fisheries are driving “gender imbalance in SSB”
  - Driven by regulations (rec. fishery) and selective targeting of larger fish (comm. fishery)
  - Related increase in comm. fishery discards
  - Harvest of older fish since 1997 (more females) causing decline in R and biomass
  - Regulatory changes needed including harvest of smaller fish in both fisheries; return to harvesting more age 0-2

Written Comments

- Other written comments:
  - Consider allocating additional days to rec. season to make up for bad weather days
  - MRIP data is flawed; need better methodology to estimate rec. catch
  - Concerns regarding high discard mortality from commercial fleet
  - Full retention of catch should be required of commercial sector

Decision Points and Guidance Needed

- Conservation equivalency vs. coastwide measures for 2020
- If CE:
  - Associated non-preferred coastwide and precautionary default measures
- If coastwide:
  - Associated bag, size, and season
- For discussion: guidance to MC/TC on slot limit analysis for 2020 or future years if desired