



# Atlantic Mackerel

## 2024-2025 Specifications

August 2023 Council Meeting

Jason Didden

# Overview

- Management Summary
- A bit of history, old and new assessments
- Recent performance
- Advisory Panel (AP) Input
- Scientific and Statistical Committee (SSC)
- Staff/Monitoring Committee  
Recommendations
- Council discussion

# Management Summary

- First FMP for Atlantic mackerel was 1978
- *Limited Access* directed fishery
  - Three Tiers
  - No trip limits initially for Tier 1
  - Tier 2: 135,000 pounds; Tier 3: 100,000 pounds
  - Tier 3 also has a sub-quota, never reached
- open access/incidental permits: 20,000 pounds
- Phased trip limits as quota approached
- RH/S cap (2018, 2019 closures)

# 2023 Specifications (MT)

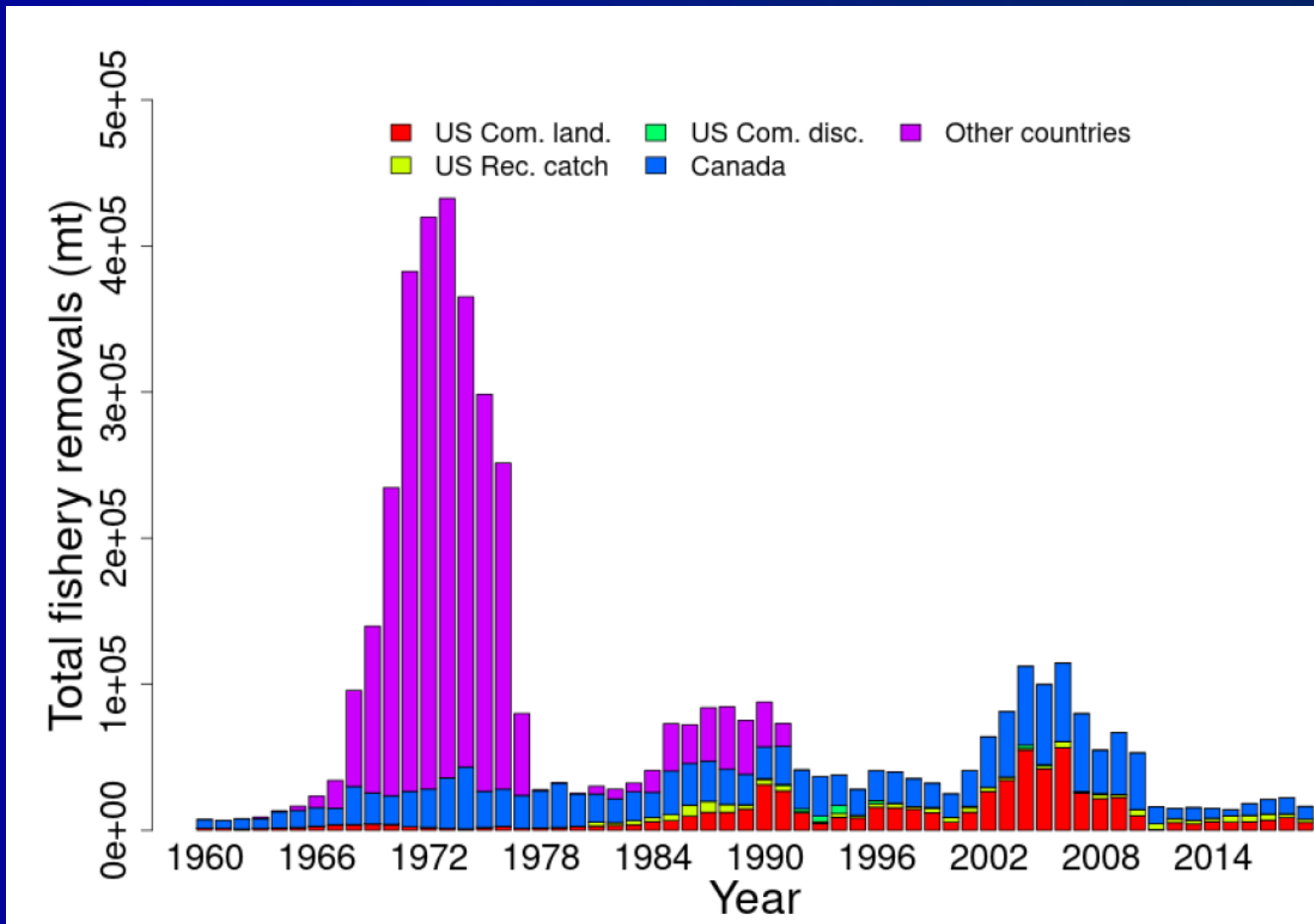
ABC/ACL	8,094	a
Canadian Catch Deduction	2,197	b
Rec Catch Deduction	2,143	c
Commercial Discards	115	d
Commercial Quota	3,639	$e = a - b - c - d$
Before May 1 First Closure Threshold (-886 mt)	2,753	$f = e - 886$
May1/after First Closure Threshold (-443 mt)	3,196	$g = e - 443$
Final Closure Threshold (-100 mt)	3,539	$h = e - 100$

# Rebuilding

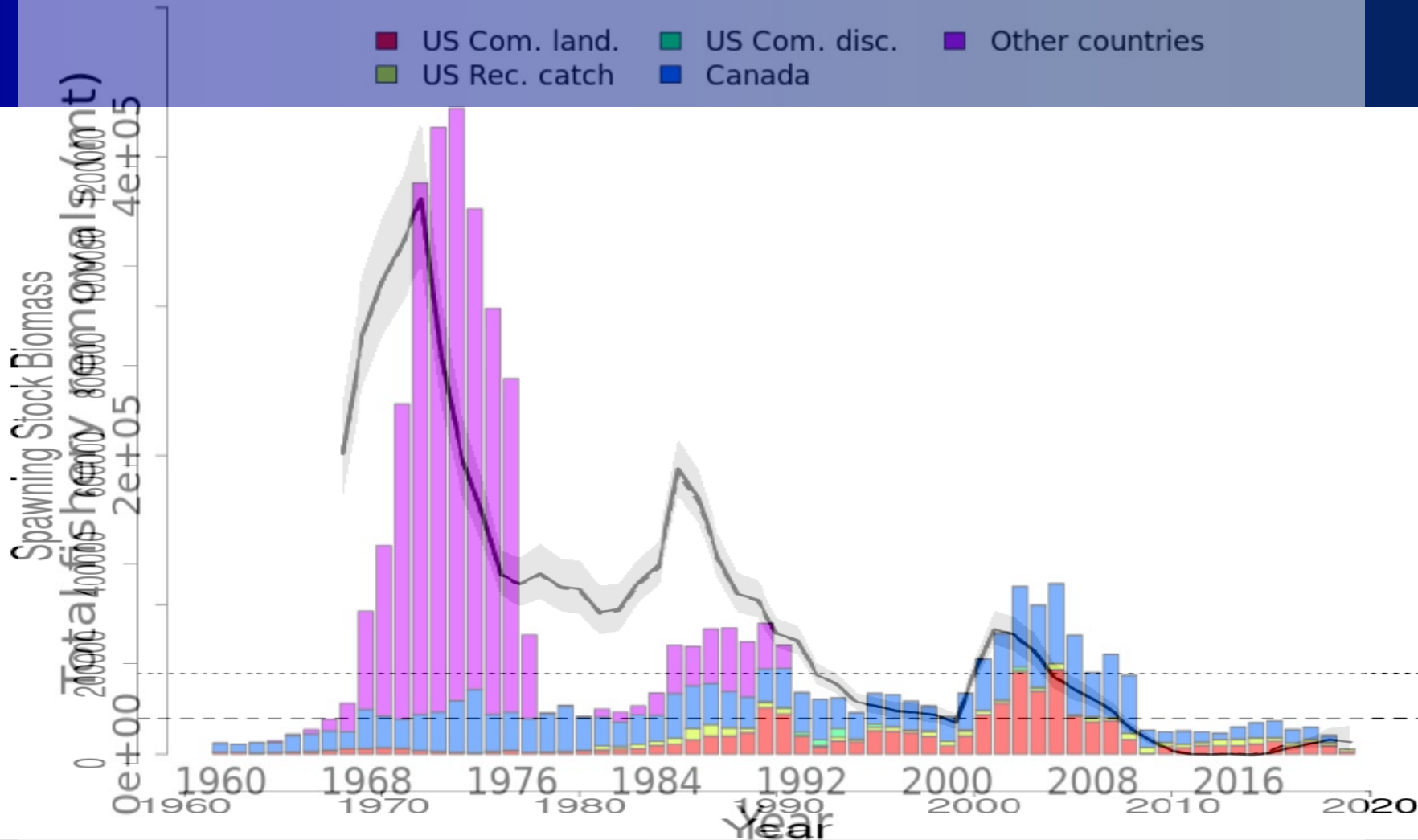
Table 1. Revised rebuilding plan catch and initial biomass trajectory.

	Catch (MT)	Biomass (MT)
2023	8,094	80,745
2024	9,274	91,738
2025	10,540	103,756
2026	11,906	116,857
2027	13,408	131,291
2028	15,004	146,553
2029	16,631	162,239
2030	18,261	177,731
2031	19,814	192,045
2032	21,215	204,796

# History – Fishery



# History – Fishery



# History - assessments

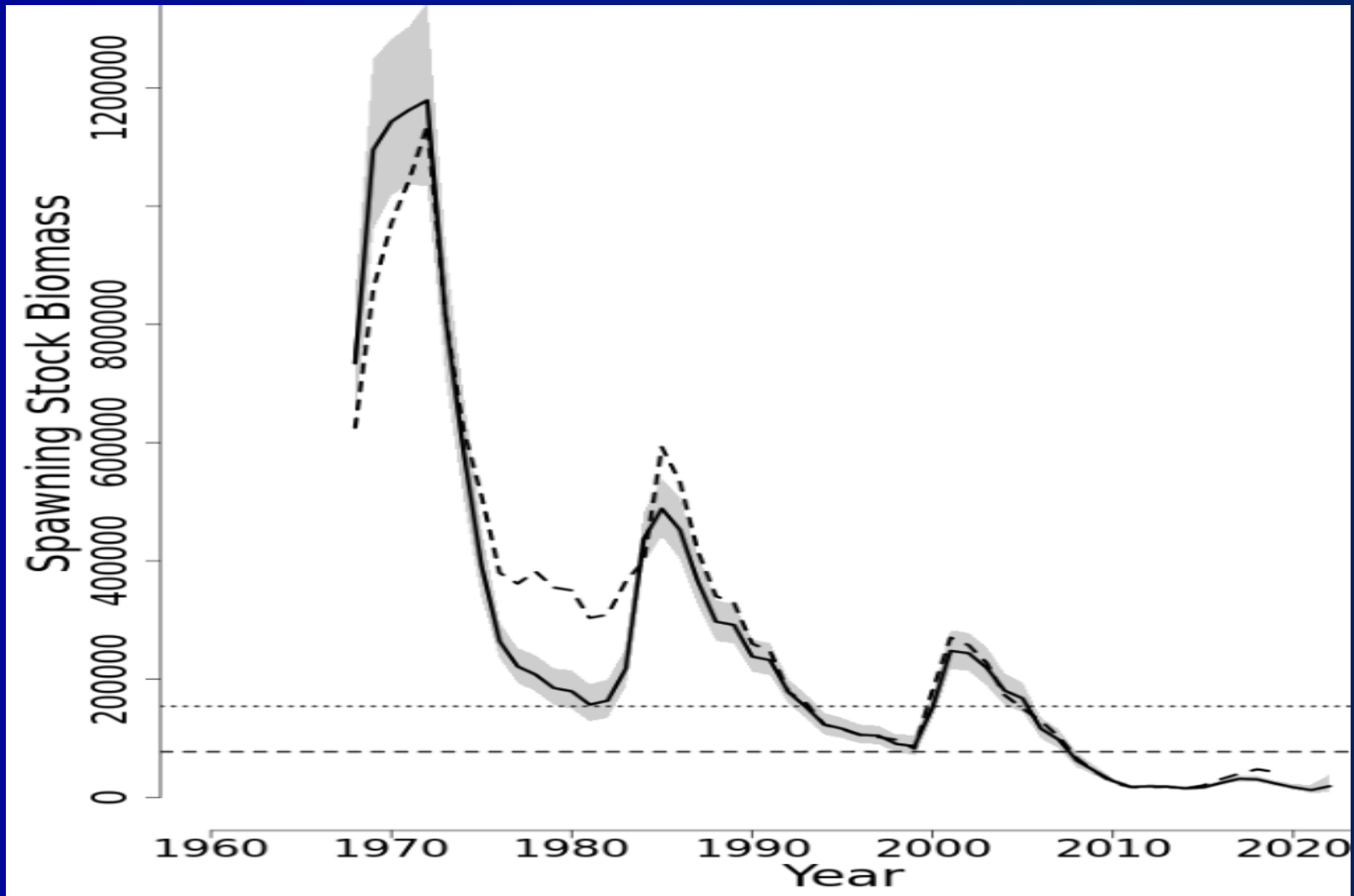
- Historical assessments were inaccurate...
- The 1997 mackerel allowable biological catch was specified about ten times higher than what we now think the entire SSB was in that year...



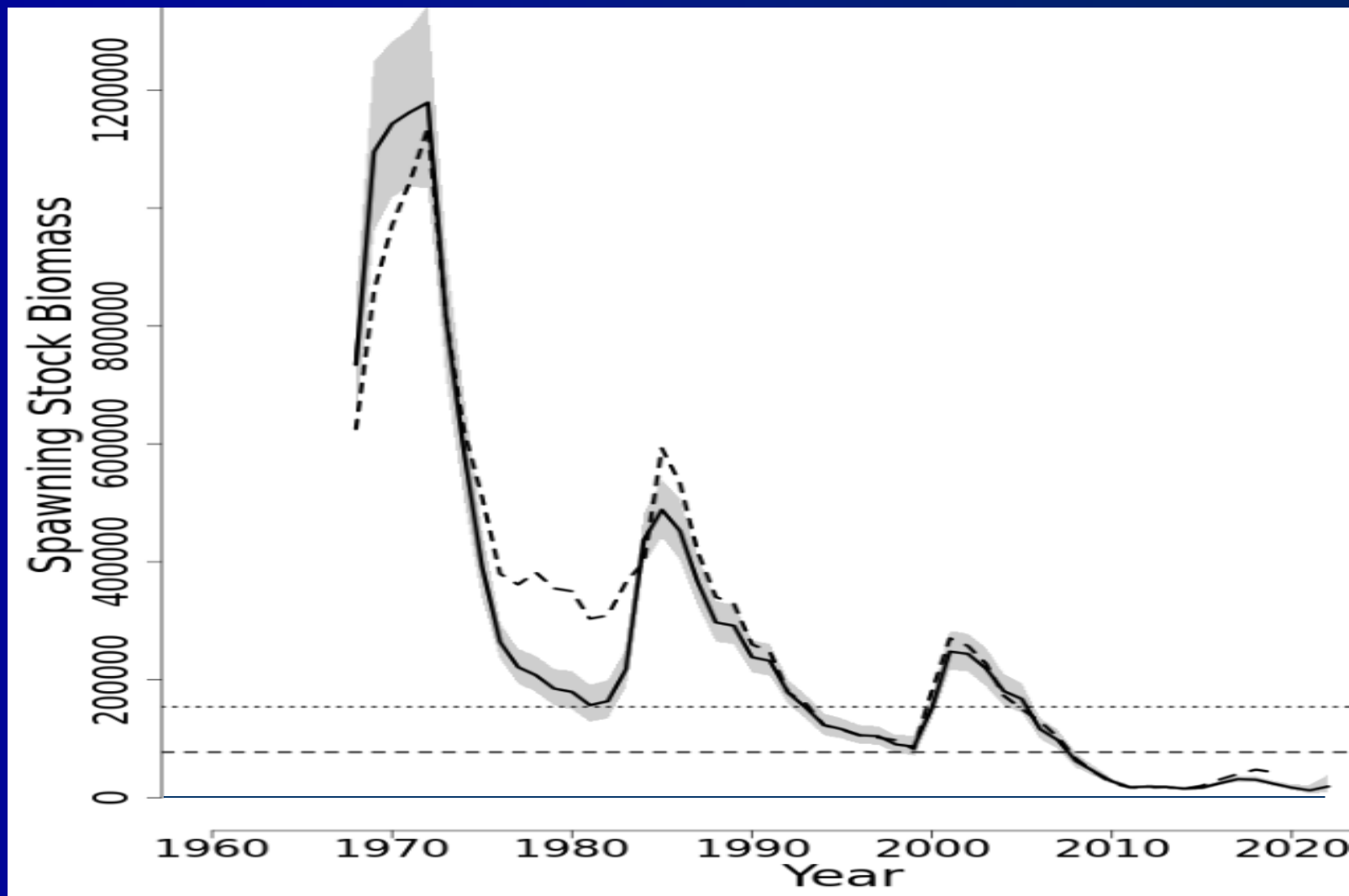
# Assessments

- 2005: In 2003/2004, stock highest ever...
- 2009/2010 TRAC: something's wrong...
- 2018 Benchmark: Overfished, and overfishing since late 1980s!
- 2021/2023 MTAs: not much change...

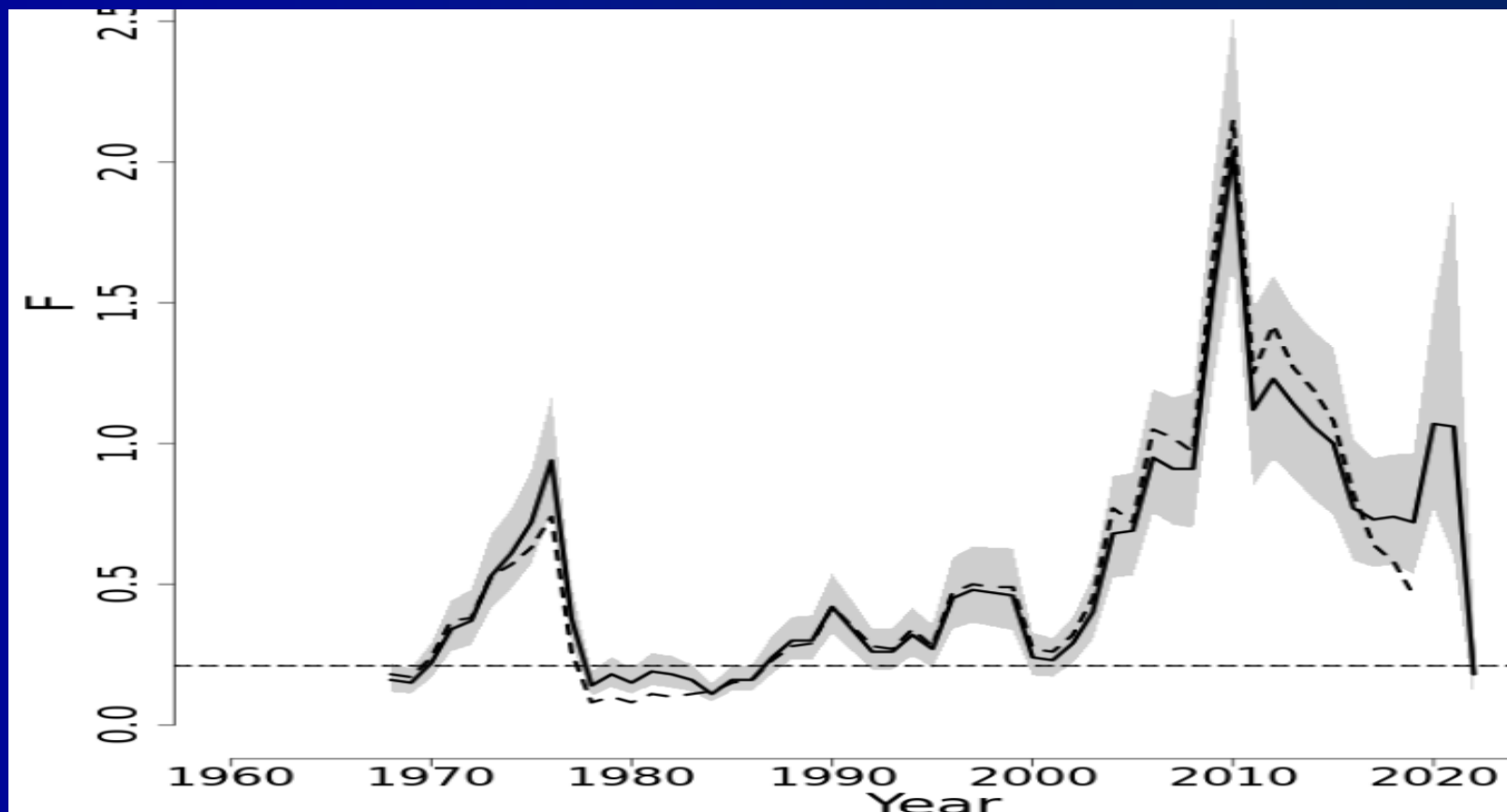
# Stock Status – to 2022



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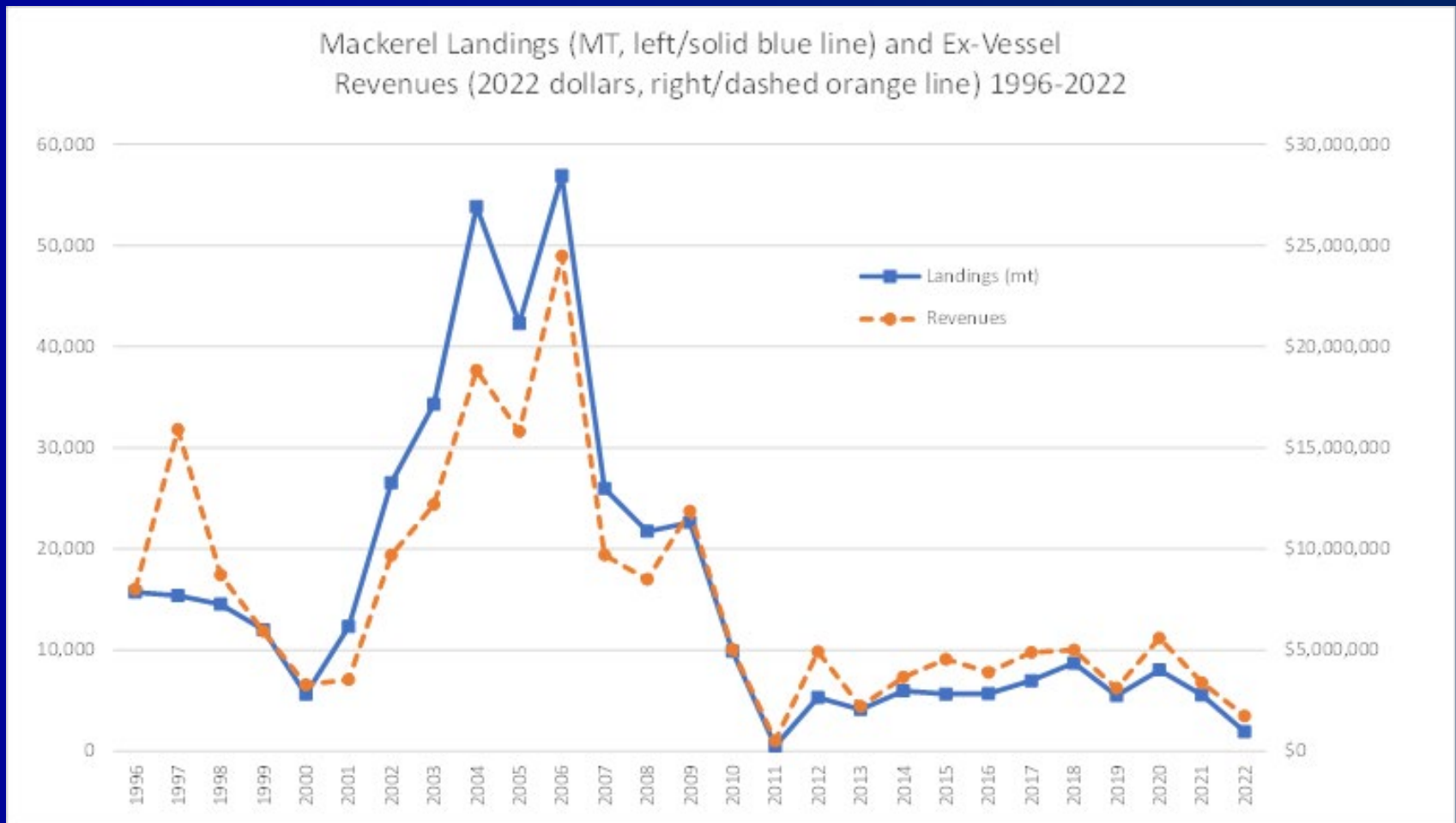


# Stock Status – in 2022

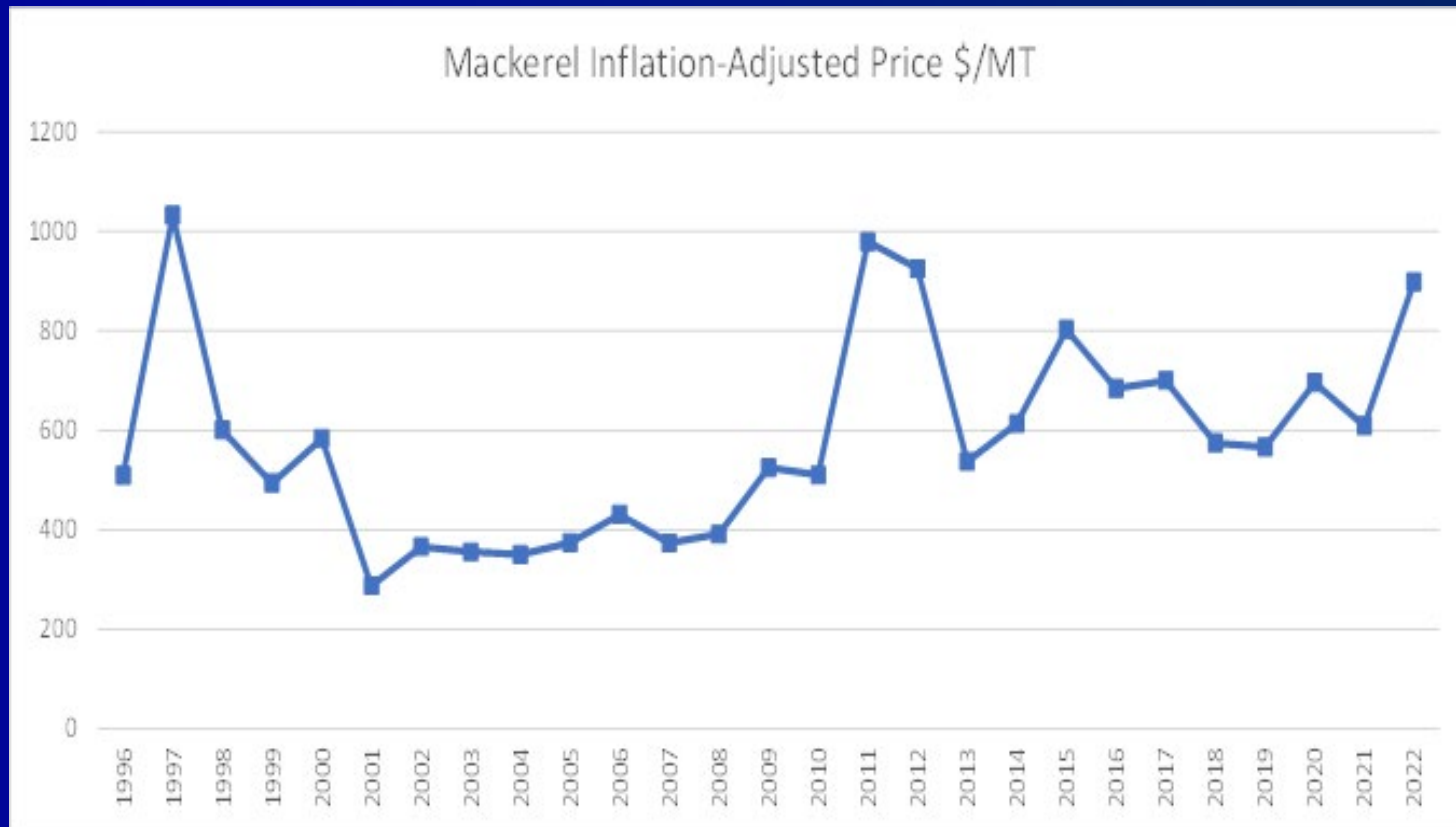
- 12% of the biomass target
- Just under overfishing (low 2022 catch)
  - 1<sup>st</sup> time in 35 years

# Recent Performance...

# Landings/Revenues 1996-2022



# Prices 1996-2022





# 2022 Landings Details

2021

2022

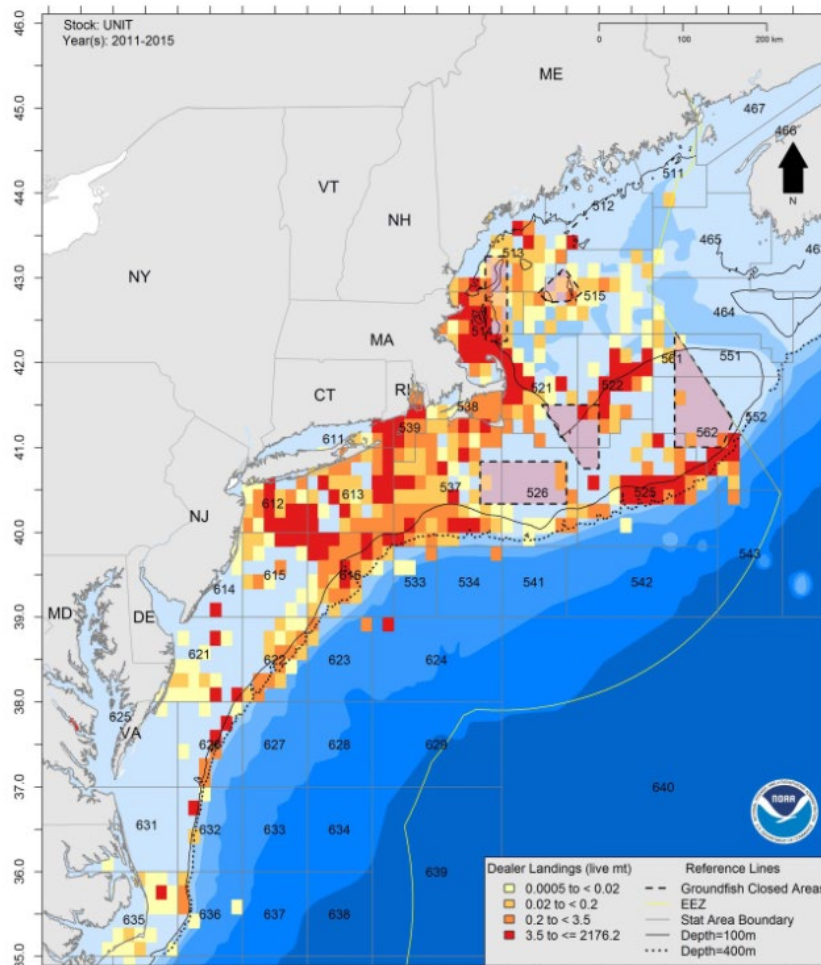
Stat Area	Metric Tons	Stat Area	Metric Tons
522	2,023	514	1,412
521	1,854	522	147
612	992	521	47
514	450	537	35
Other/CI	332	539	25
Total	5,652	611	22
		616	12
		Other/CI	27
		Total	1,725

GEAR	MT
TRAWL,OTTER,MIDWATER	1,155
HAND LINE, OTHER	249
LONGLINE, BOTTOM	247
UNKNOWN	165
TRAWL,OTTER,BOTTOM,FISH	90
Other	42
Total	1,948

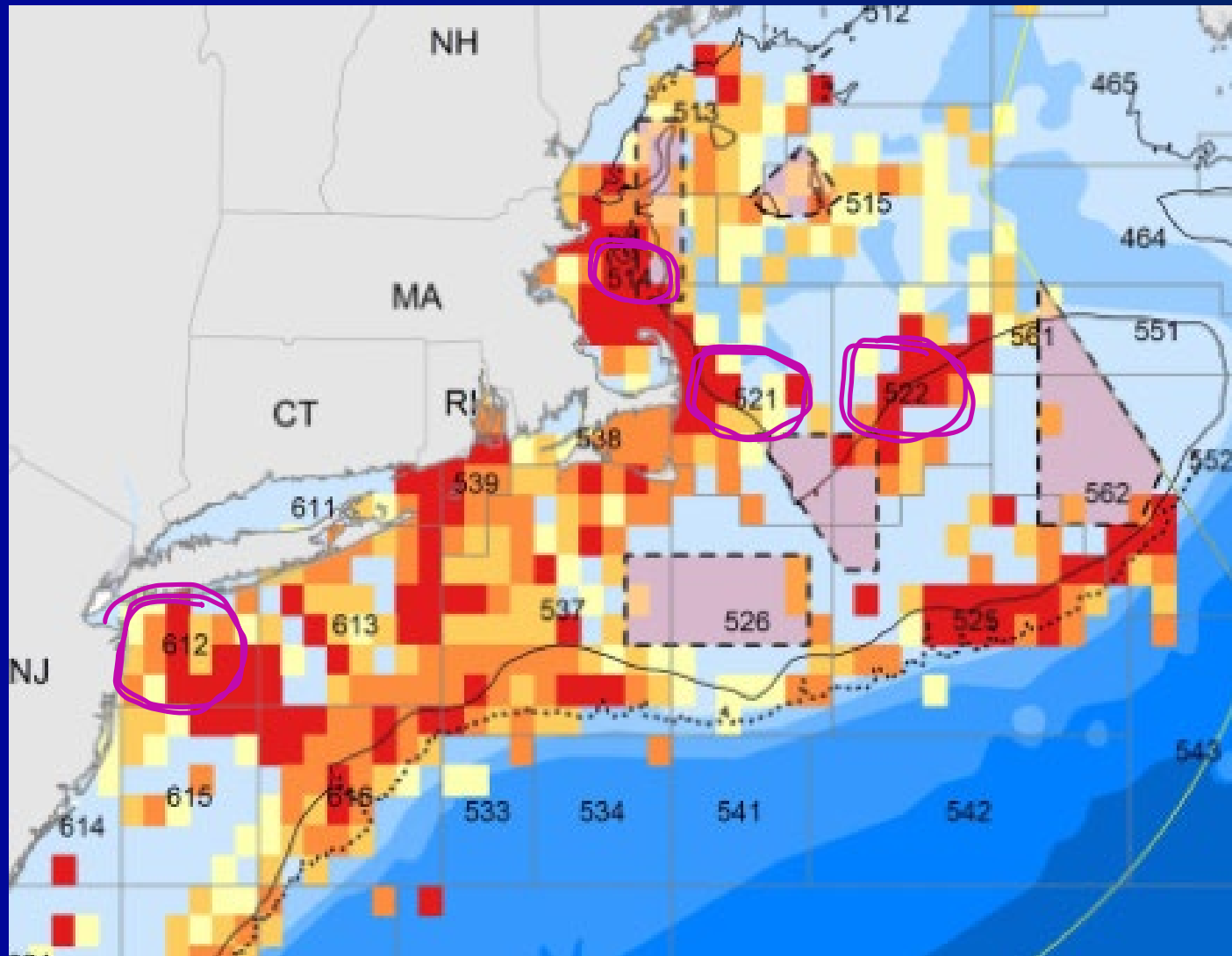
State	Metric_Tons
MA	1,530
ME	302
RI	88
NY	11
Other	17
Total	1,948

# Areas of catches 2011-2015

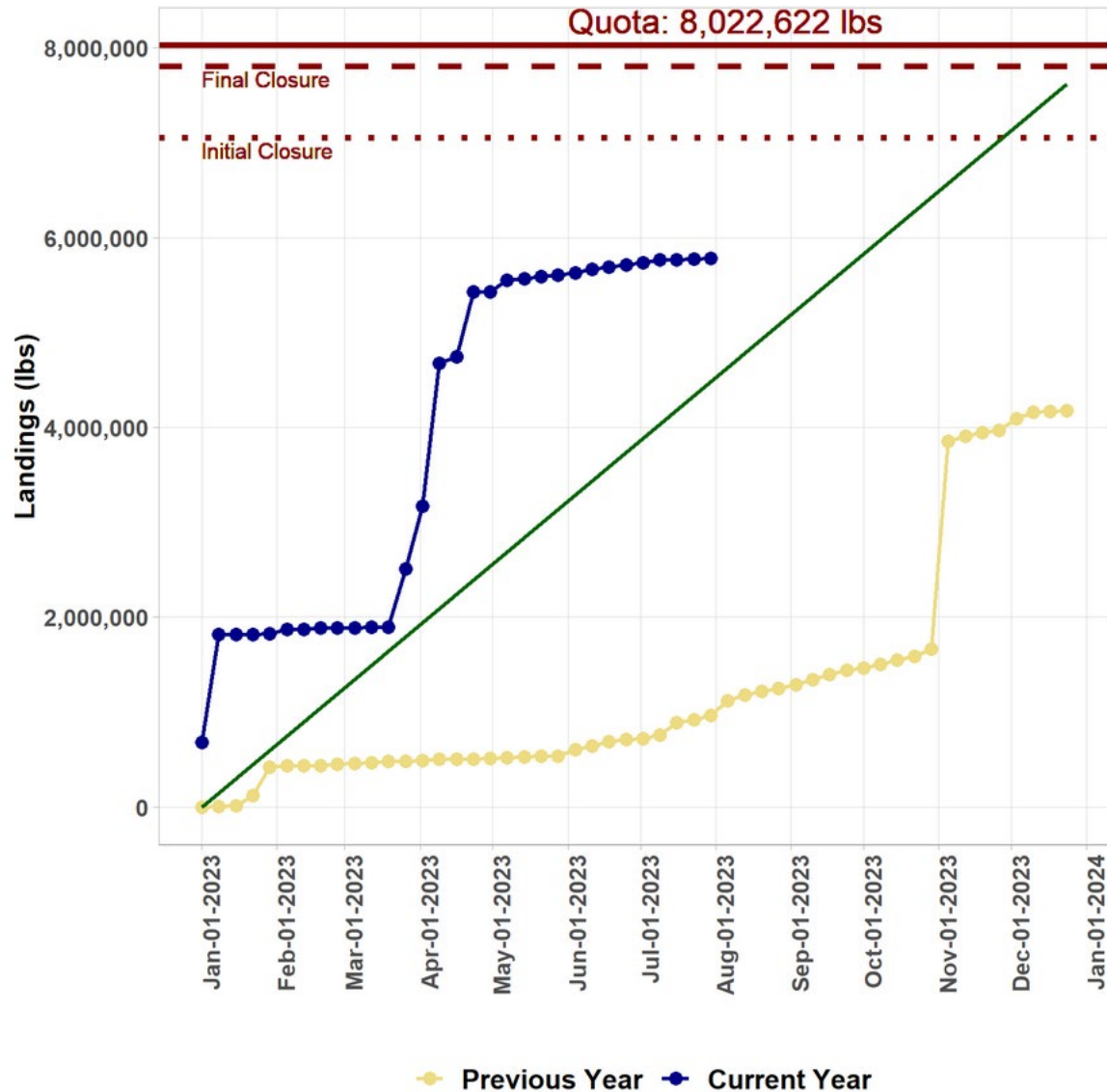
Figure A2: Atlantic mackerel commercial landings from 2011-2015. Landings for all gears other than paired midwater trawl were reported via dealer reports matched to a vessel trip report (VTR). Landings for paired midwater trawl vessels were reported via VTRs. Total Dealer Landings reported (mt): 21,490.5. Dealer Landings from trips with location data (mt): 20,352.0 (94.7% of total).



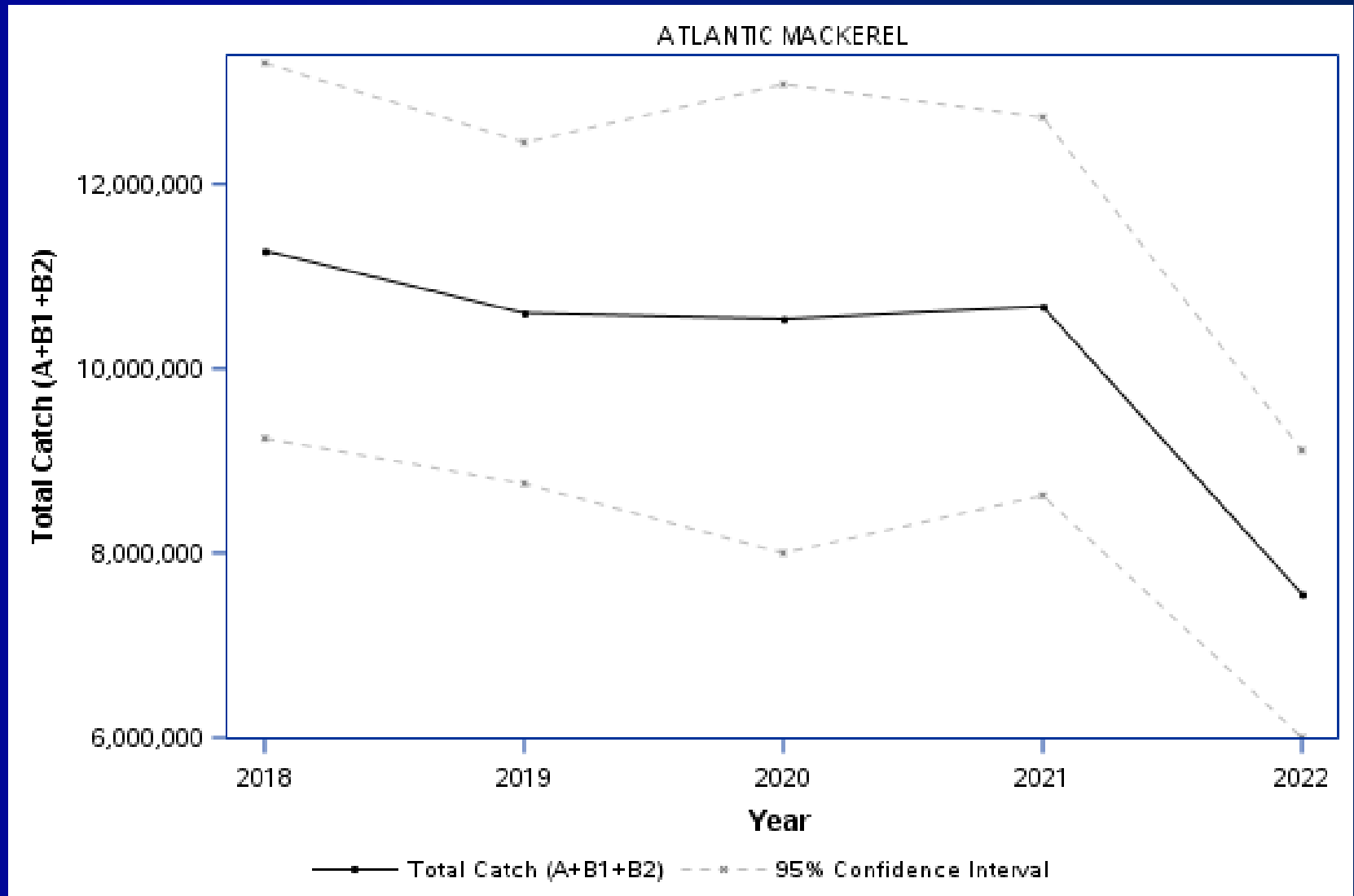
# Mackerel catches 2011-2015



# 2023 (blue) / 2022 (orange)



# Recreational Catch



# AP Fishery Performance Reports (FPR)

- **Insight from advisors:**

- On the water observations
- Factors influencing recent catch and landings
- Research recommendations
- Other issues or concerns

- **Purpose:**

- Bring advisor perspectives and recommendations to the Scientific and Statistical Committee, Monitoring Committee, and Council/Board when setting or reviewing catch limits and other measures

# 2020-2025 Research Priorities

## ATLANTIC MACKEREL

### SHORT-TERM/SMALLER SCALE

- 16. Continue to collect and evaluate mackerel egg data (ECOMON survey).
- 17. Revisit stock structure and spawning components based on recent otolith microchemistry and/or genetic data.

### LONG-TERM/LARGER SCALE

- 18. Evaluation of time and age-variant natural mortality and predation mortality for this stock
- 19. Evaluate data quality and assessment sensitivities for U.S. recreational data, and unmonitored Canadian data.
- 20. Develop methods for using acoustics to determine Atlantic mackerel abundance and/or catchability.
- 21. Initiate a reproductive study in the U.S. to obtain fecundity estimates and spawning seasonality. Update Canadian fecundity estimates (which are currently based on a 1986 publication) and compare estimates between countries.
- 22. Obtain biological samples from all components of the fishery and covering both spawning contingents.
- 23. Continue to pursue modeling approaches that explicitly account for the spatial structure of the stock (i.e. two spawning contingents).
- 24. Investigate possible growth and maturity differences between spawning contingents.
- 25. Explore potential changes in environmental conditions (habitat changes, larval diets, cannibalism, etc.) that impact larval survival and recruitment.

# Mackerel - FPR

- Demand strong
- Scarce in southern areas – no other unusual environmental observations
- Inshore NE buffer and low herring quotas impacted recent (2021/2022) landings
- Lower RH/S quota would have ended 2023 fishery prematurely; observer coverage
- Fishery Performance Report moot given criticism/restrictions on the fishery



# Mackerel - FPR

- Canadian alignment / Gear / size limit
- Recreational catch issues
  - 2022 decline after stability since 2018
  - Impact on fishing mortality?
  - Potential shift with state permitting

# Canada

- Stock assessment trends similar to US
- Closed fishery in 2022 and 2023
- Official Canadian correspondence has requested a similar response from US management

# SSC Recommendation

## *Atlantic Mackerel Specifications 2024-25*

- The SSC reviewed the results of a Level 1 MTA (direct delivery) of the updated assessment through 2022.
- Stock status changed from overfishing occurring to overfishing NOT occurring. Level 2 MTA required under current NRCC process
- Recovery of stock biomass has not occurred as previously predicted.
  - MTA suggested recent year classes were overestimated.
  - DFO Canada has recommended closure of its commercial fisheries.
- To address these prediction concerns, the 2022 year class was assumed to be equal to median value. As a result, Frebuild changes from 0.11 to 0.07. Rebuild probability estimated at 61% in 2032; SSC expressed low confidence in this projection.
- **The SSC recommended ABCs of 2,726 mt in 2024 and 3,900 mt in 2025.**
- Results considered provisional until reviewed by Level 2 MTA review in September.

# Monitoring Committee

- Deduct 74 MT for Canada
- Maintain deductions for recreational catch and commercial discards (2,143 MT and 115 MT)
- The remainder for commercial landings is...
  - 394 MT for 2024
  - 1,568 MT for 2025.

# Monitoring Committee

- No good options with only 394 MT, but based on 2022:

Starting trip limits for limited access/open access	Threshold to lower trip limits	Trip limits after threshold	Approximate Landings Result
20000/1000 lbs	80%	1000/250 lbs	339
20000/1000 lbs	85%	1000/250 lbs	351
20000/2500 lbs	80%	1000/250 lbs	357
20000/2500 lbs	85%	1000/250 lbs	371
20000/1000 lbs	80%	5000/1000 lbs	372
20000/1000 lbs	85%	5000/1000 lbs	372

# Monitoring Committee

- Uncertain performance at these low quotas
- Based on 2021, catches could end up higher
- Keep 2024 trip limits into 2025 until performance determined, then modifications could be considered

# Council Action

- SSC revisiting ABC in October after required peer review, suggested additional analyses
- Set preliminary 2024/2025 specifications now
- Revisit in December if necessary

# Council Action

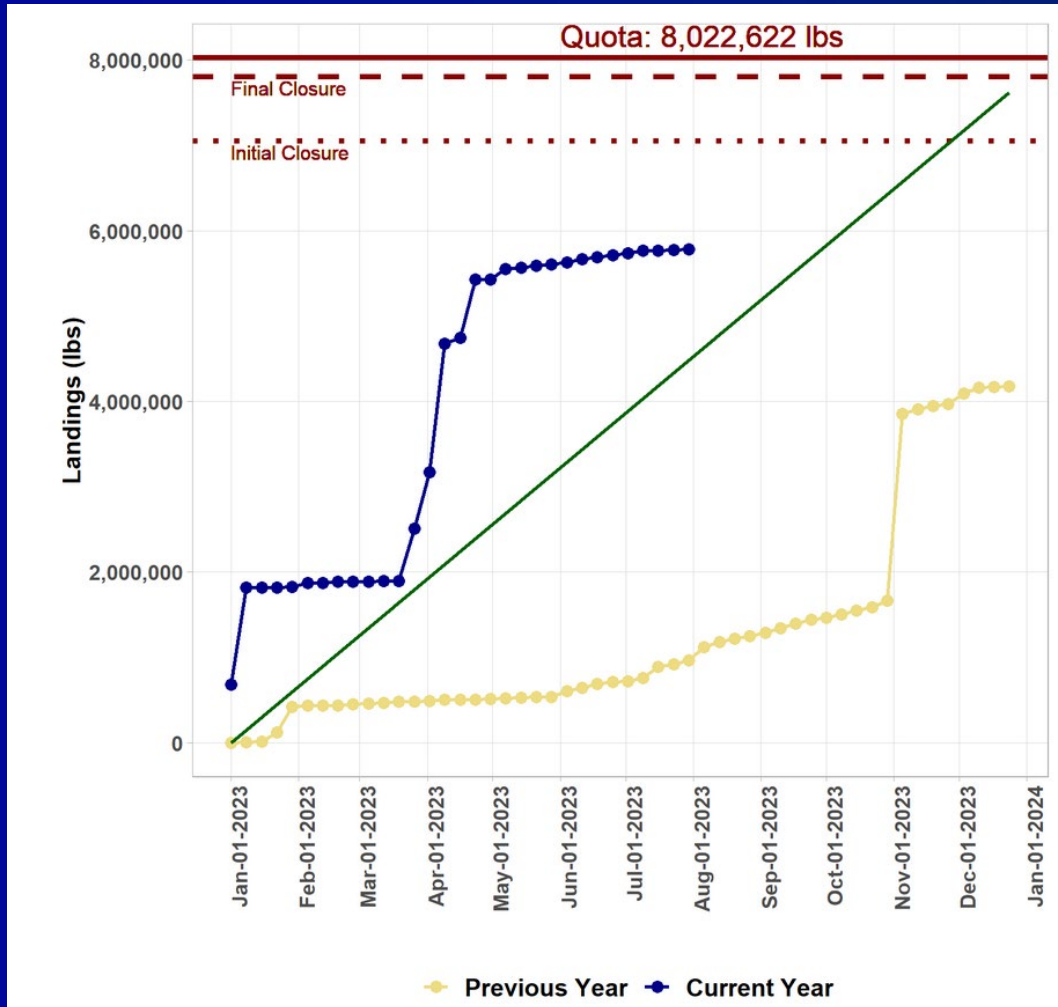
## ■ Emergency Action

- Using more pessimistic projections seems reasonable given performance (SSC preferred)
- Suggests overfishing returns in 2023 if full quota caught (F: 0.23 vs 0.21)
- Staff recommends requesting emergency action to mitigate
- 20,000 pounds trip limit for limited access
- 5,000 pounds for open access



# Council Action

## ■ Emergency Action



# ?s, Discussion, Motions

- Specifications
- Trips Limits
- Possible Emergency Action Request