



# Butterfish

## 2024 Specifications Review

June 2023 Council Meeting

# Overview

- Management
- A bit of history
- Assessments
- Recent performance
- Advisory Panel (AP) Input
- Scientific and Statistical Committee (SSC)
- Council discussion

# Management

- First FMP for butterfish was 1978
- *Limited Access* directed fishery
  - 274 “active,” 98 “CPH” (separated from longfin squid)
  - no trip limits initially
  - Gear: 3” mesh for more than 5,000 pounds
  - 5,000-pound trip limit when 1,000 MT of quota left
  - 600-pound trip limit at quota
- 600 pounds for incidental permits (open access)
- Butterfish discard cap for longfin squid fishery

# 2023-2024 Specifications

Table 1. Preferred 2023-2024 Butterfish Specifications

	Specification	2023	2024	Rationale Summary
	OFL	17,631	16,096	from projections
a	ABC	17,267	15,764	from SSC, scientific uncertainty
b	ACT Buffer %	5%	5%	for management uncertainty
c	ACT Buffer	863	788	a times b
d	ACT (a-c)	16,404	14,976	a-c
e	Butterfish Cap (longfin discards)	3,884	3,884	set by Council
f	Assumed other discards	1,248	1,248	2013-2021 average plus 1 SD
g	Total discard set-aside	5,132	5,132	e+f
h	Landings or "Domestic Annual Harvest" (DAH)	11,271	9,844	d-g
i	Close primary directed at this amount, i.e. with 1,000 mt left; go to 5,000 pound trip limit	10,271	8,844	h-1000

# Fishery History

- 2022 Research Track Assessment solicited industry input...
  - Substantial foreign under-reporting
  - Domestic fishery (Seafreeze): Japanese market
  - Google “JP Lee A Fish that Built a Port”
  - Fishery dried up late 90s/early 00s
    - Japanese economic issues
    - Non-prime butterfish
    - Abundance/availability
  - Then errant 2004 overfished finding locked fishery down into bycatch only from 2005-2013

# Assessments

- 2004: Overfished in 2002
- 2010: unknown status, previous criteria “do not seem applicable”
- 2012 Tim Miller/Paul Rago envelope analysis
- 2014: Not/never overfished, ASAP supported by envelope analysis
- 2022: Research and Management Track Assessments - Not/never overfished
  - WHAM Model – can include process variances in survival, recruitment, etc.

# Stock Status – to 2021

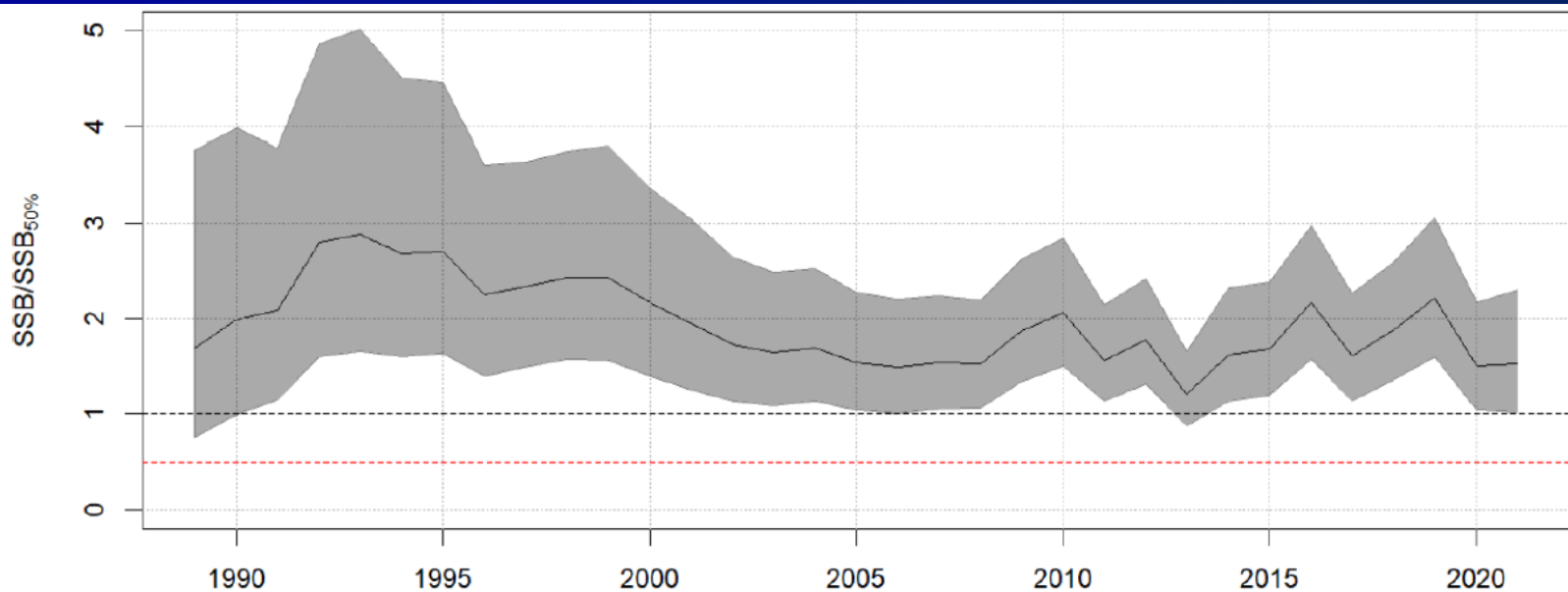
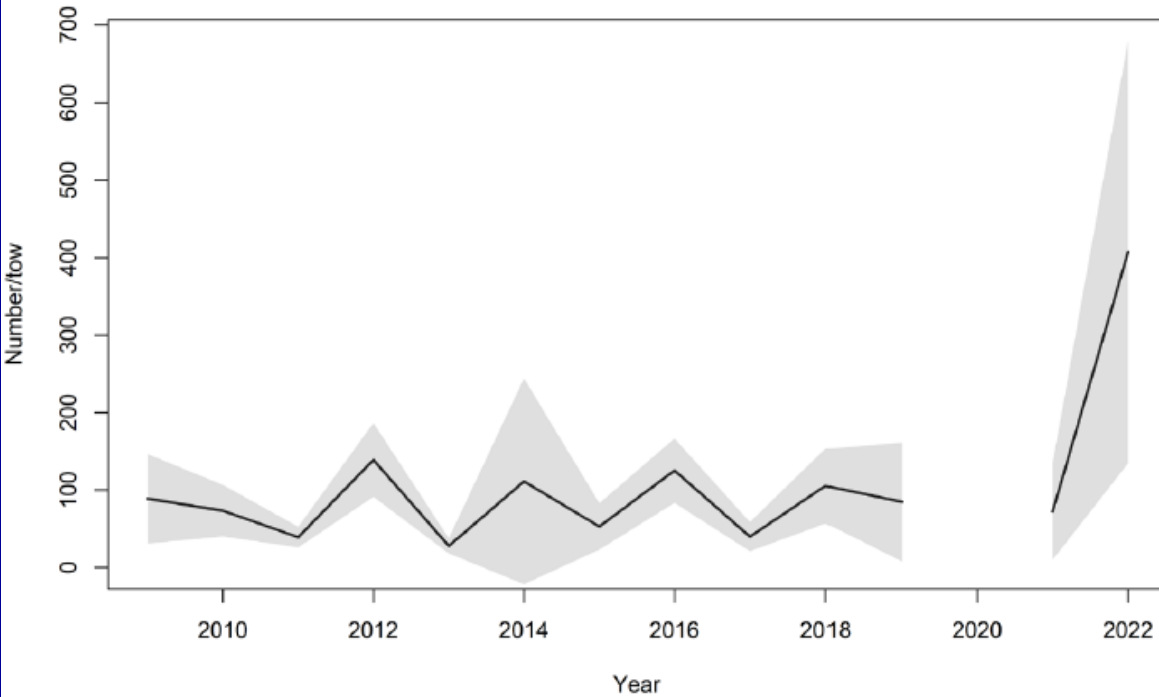


Figure 1. Butterfish stock status, 1989–2021, relative to the current biological reference points, biomass target = “1” or 39,436 MT (upper horizontal dashed line) and overfished threshold = 0.5 or 19,718 MT (lower horizontal dashed line).

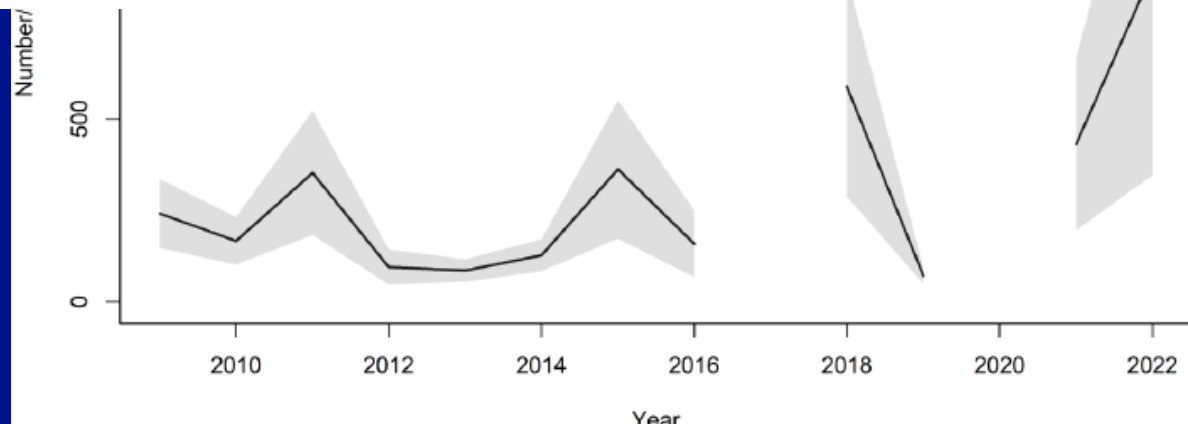
Also no overfishing

# Bigelow Indices – to 2002

NEFSC Spring Bigelow



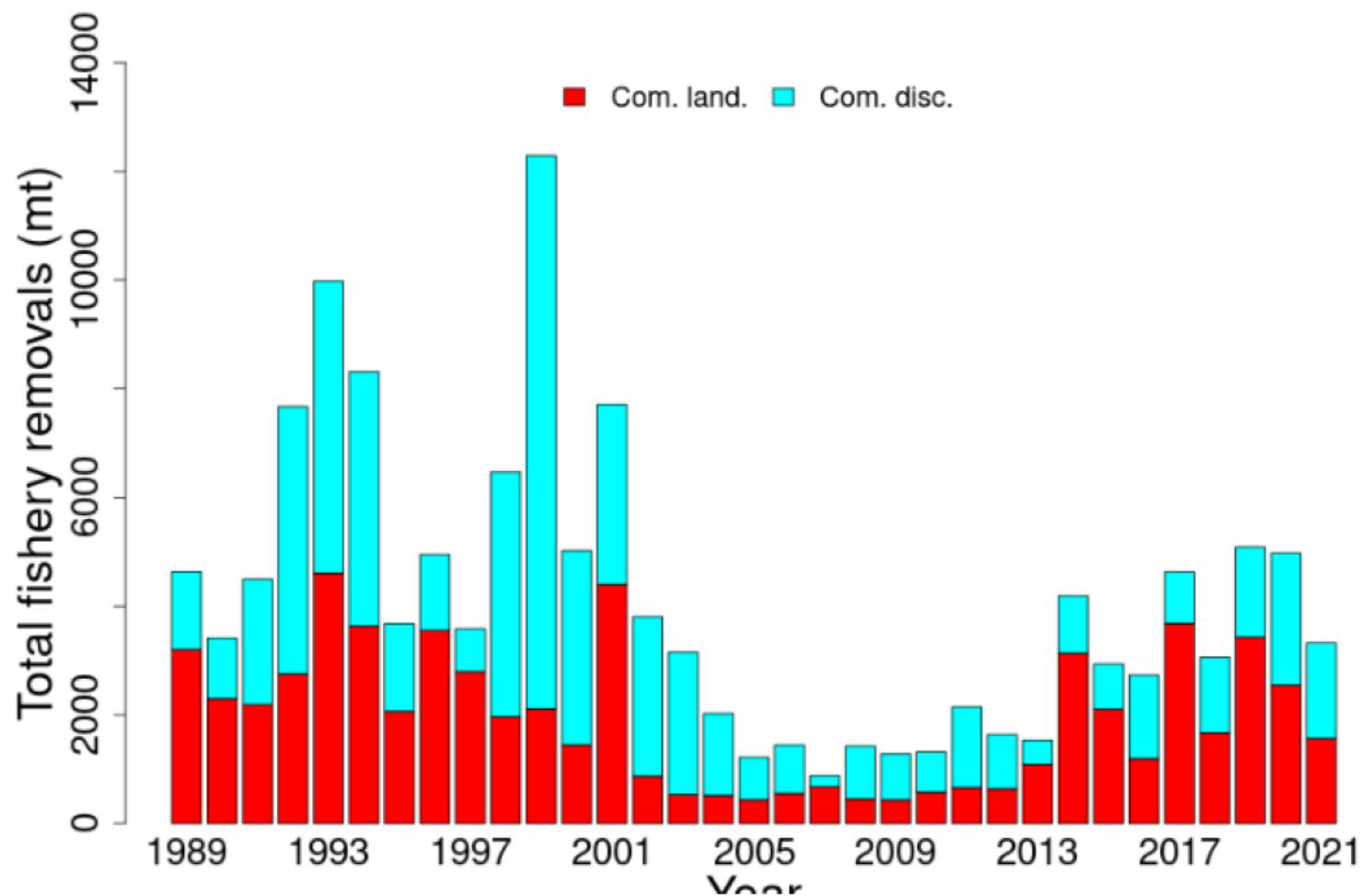
NEFSC Fall Bigelow





# Recent Performance...

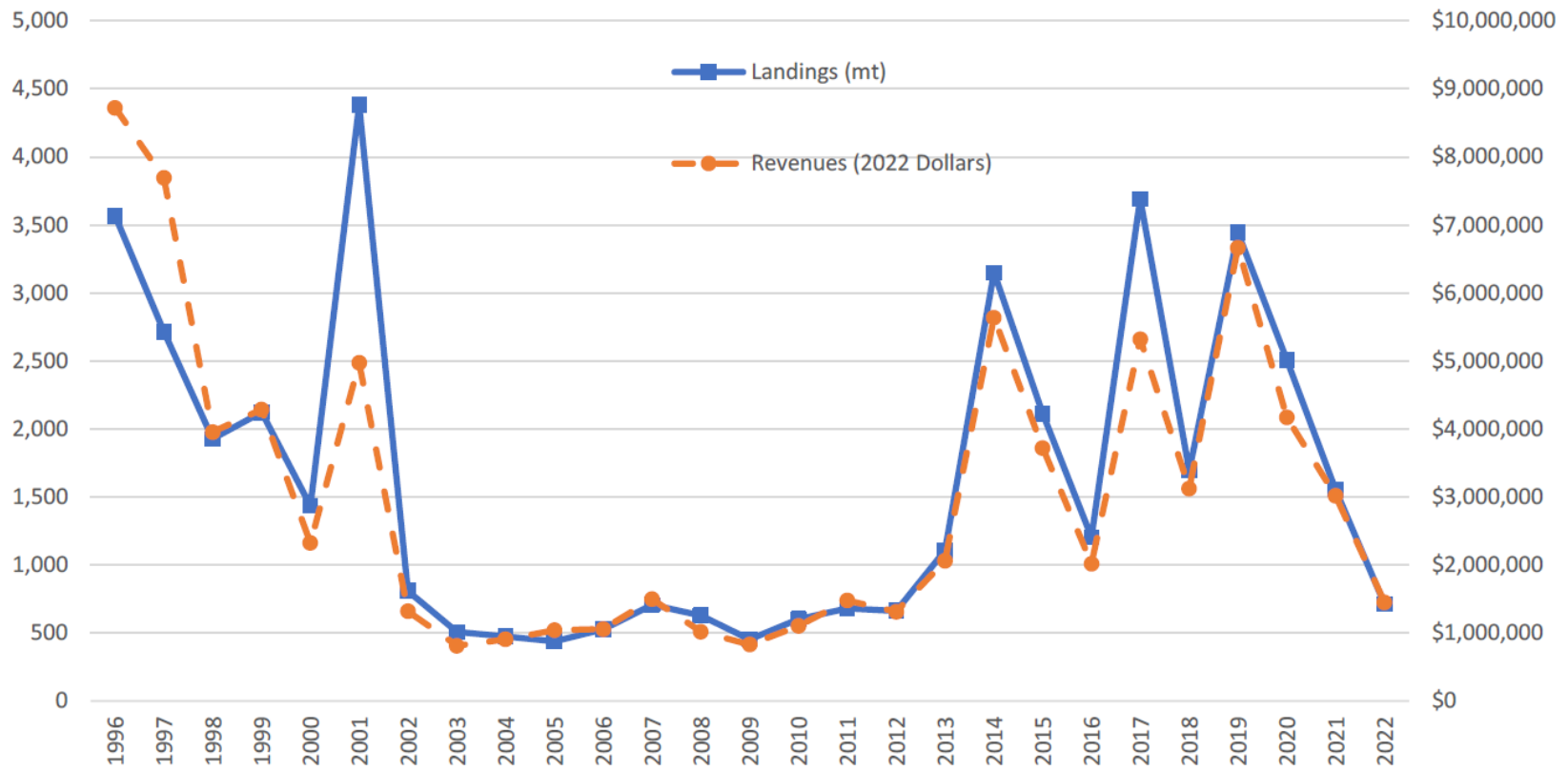
# Catch 1989-2021



**Figure 2.** Total commercial catch of butterfish between 1989 and 2021 (landings and discards).

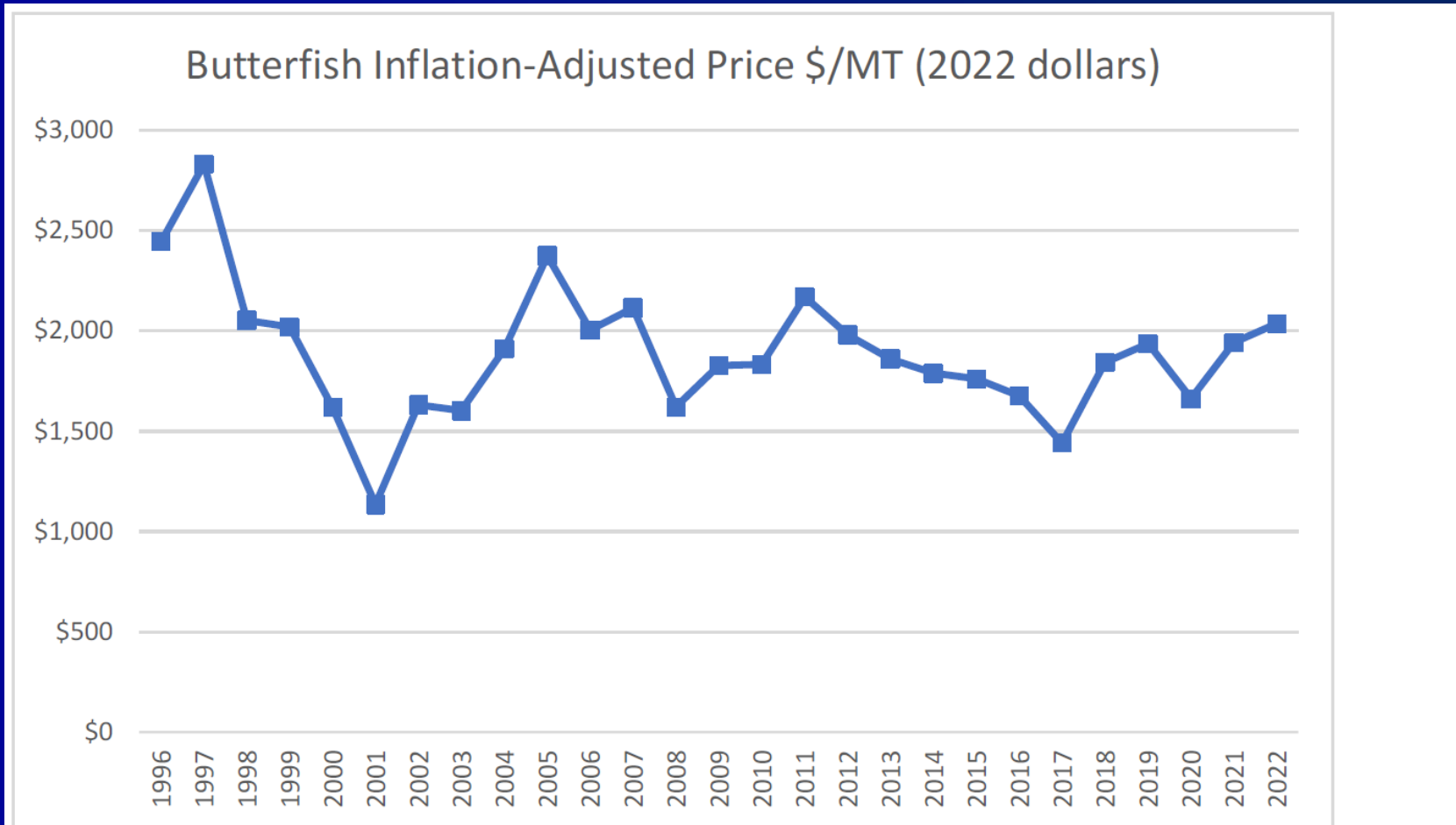
# Landings/Revenues 1996-2022

Butterfish Landings (MT, left and solid blue line) and Ex-Vessel Revenues (2022 dollars, right and dashed orange line) 1996-2022



**Figure 3.** U.S. Butterfish Landings and Butterfish Ex-Vessel Values 1996-2022. Source: NMFS unpublished dealer data.

# Prices 1996-2022



**Figure 4.** Ex-Vessel Butterfish Prices 1996-2022 Adjusted to 2022 Dollars Source: NMFS unpublished dealer data.

# 2022 Landings Details

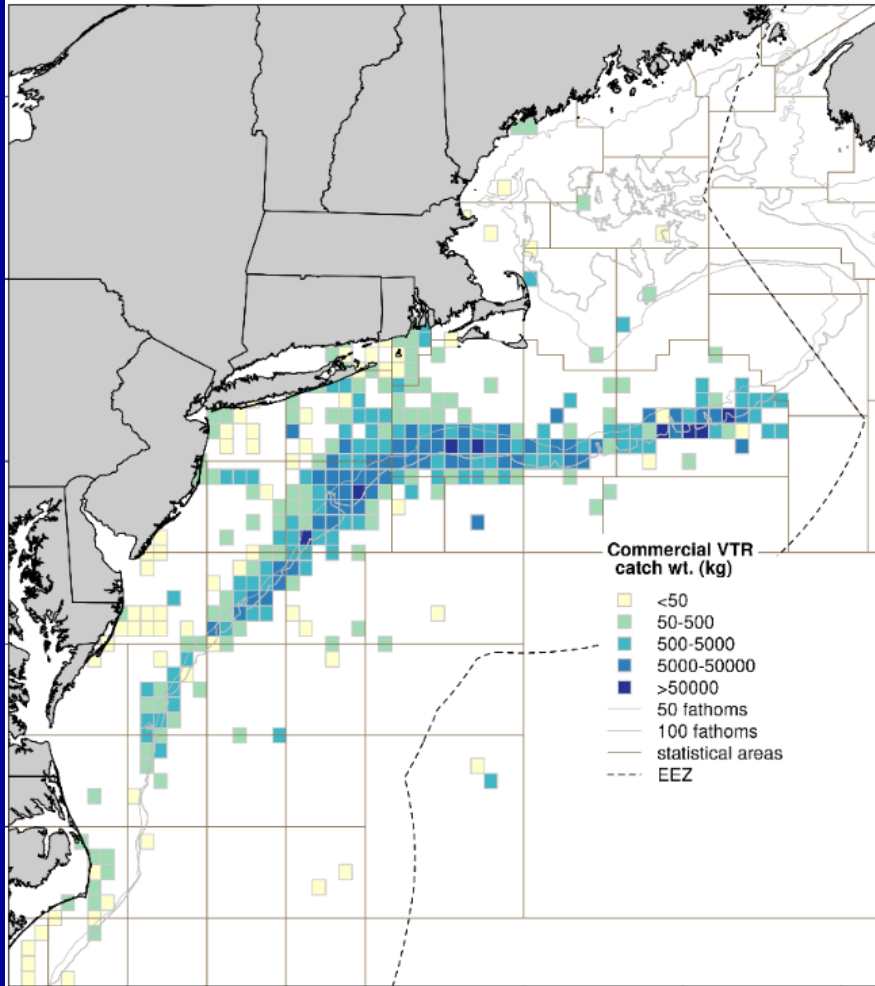
State	Metric Tons 2022
RI	373
NY	169
MA	96
NJ	38
CT	19
VA	14
MD	2
Other	2
Total	713

Gear	Metric Tons 2022
Otter Trawl, Bottom	654
Other	59
Total	713

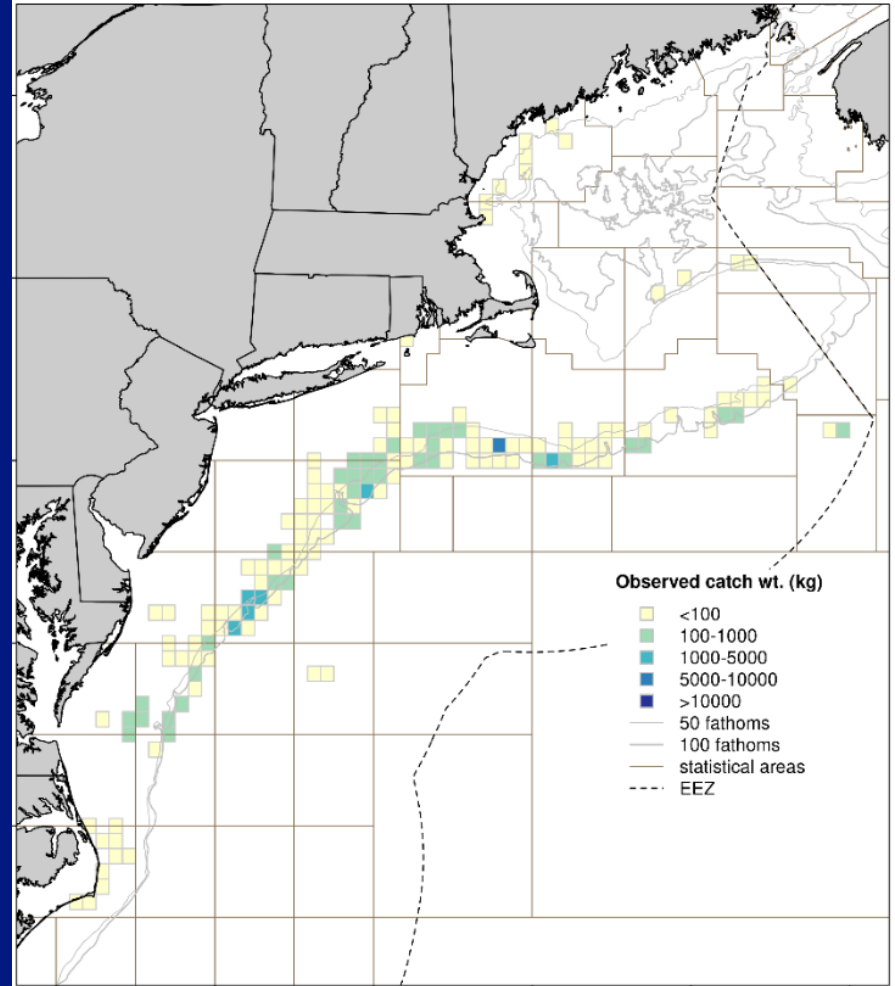
Statistical Area	Metric Tons 2022
537	156
539	149
611	79
613	59
562	58
616	54
622	52
522	20
514	15
525	12
538	9
612	6
521	6
533	6
626	5
526	3
Other	24
Total	713

# Areas of catches Jan-April

Jan-Apr Kept  
1994-1996

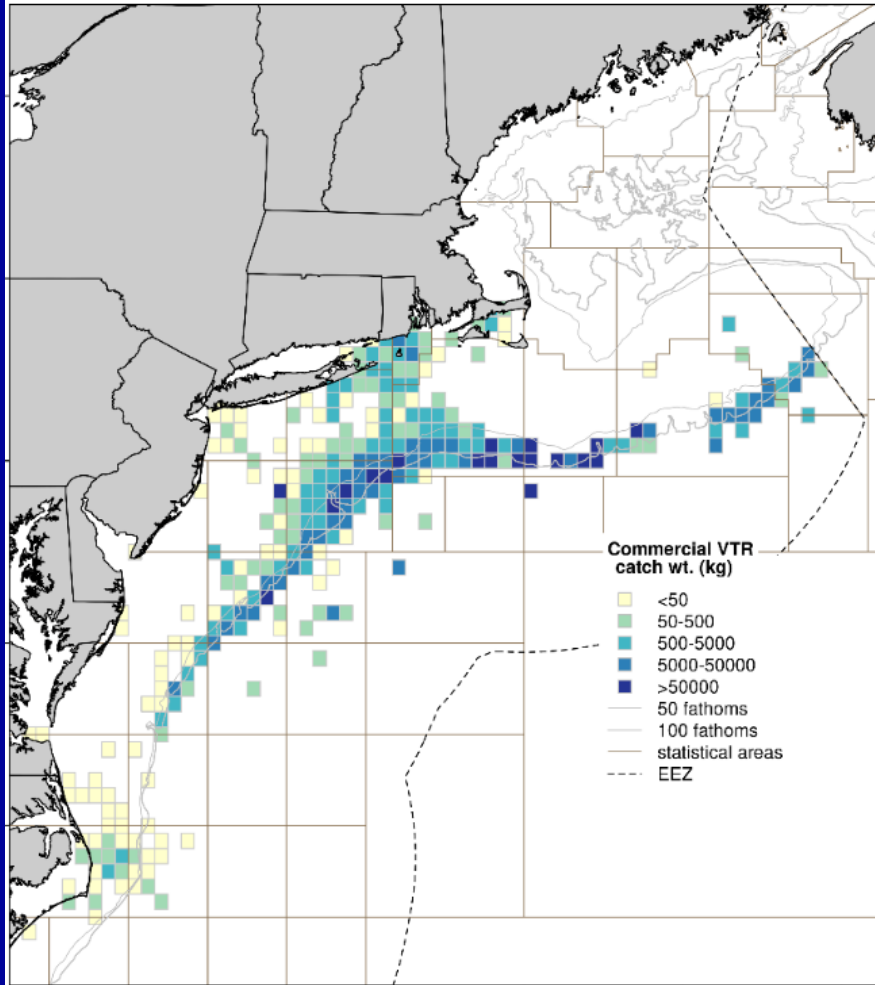


Jan-Apr Discards  
1993-1996

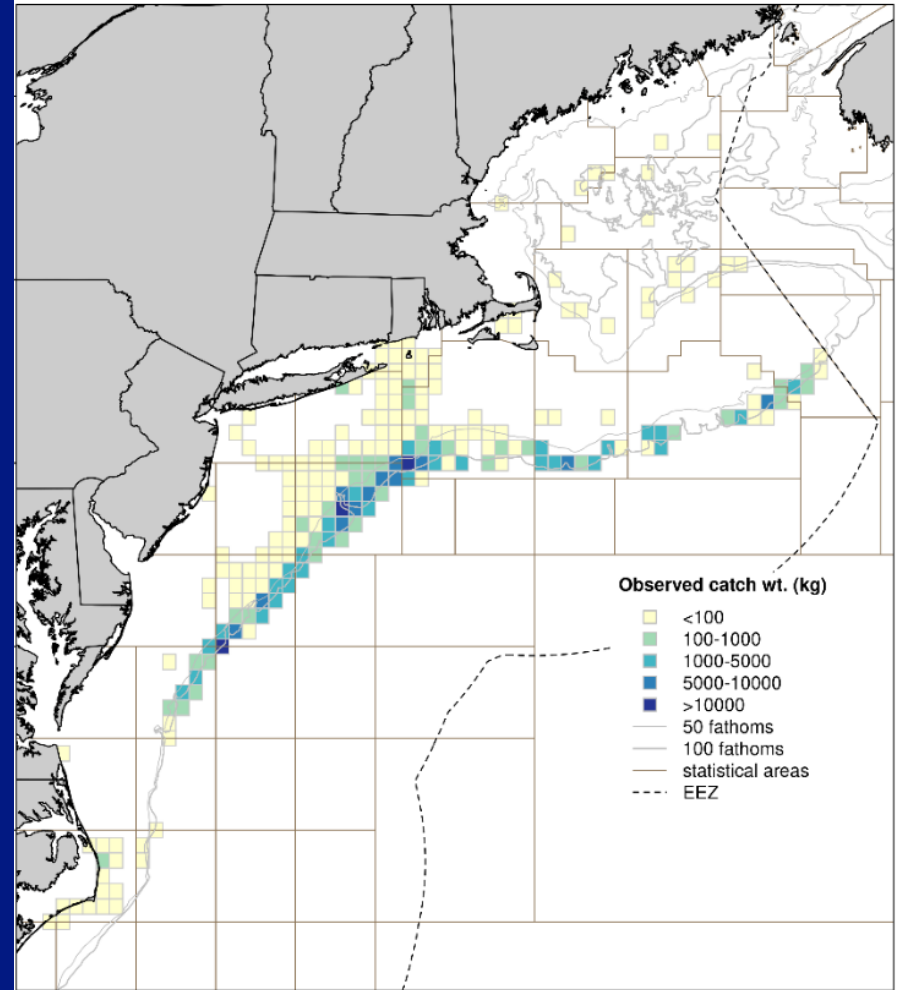


# Areas of catches Jan-April

Jan-Apr Kept  
2017-2020

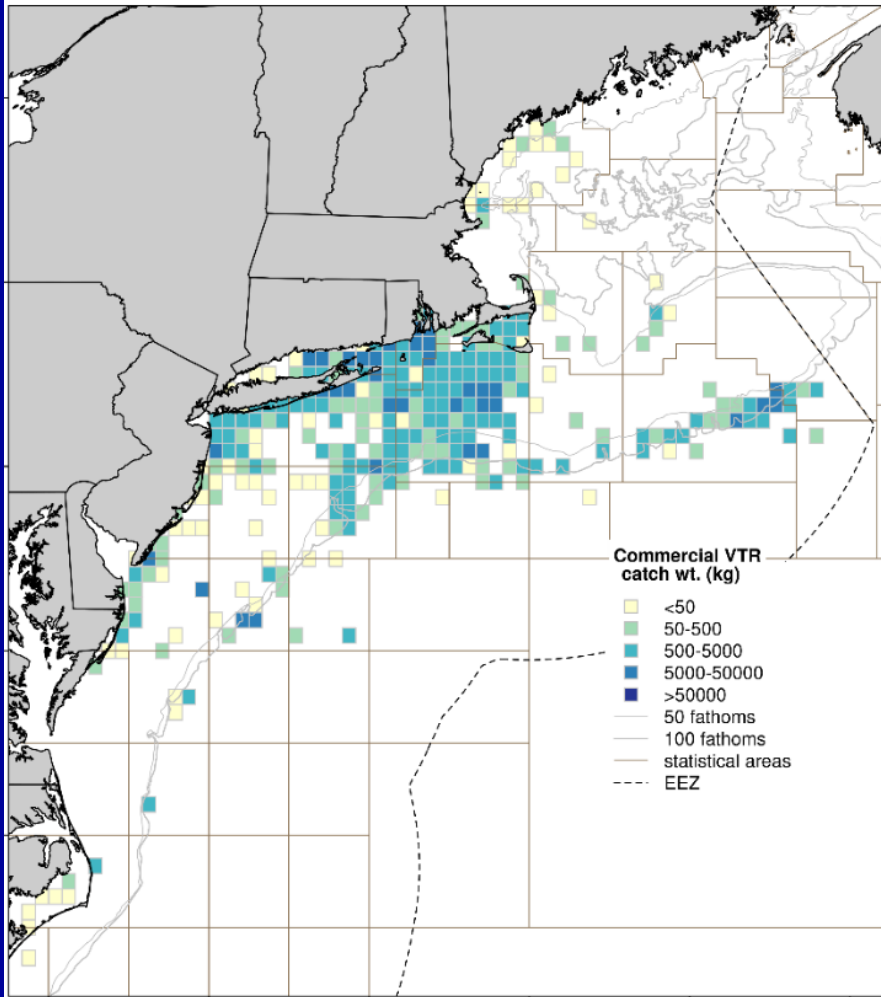


Jan-Apr Discards  
2017-2020

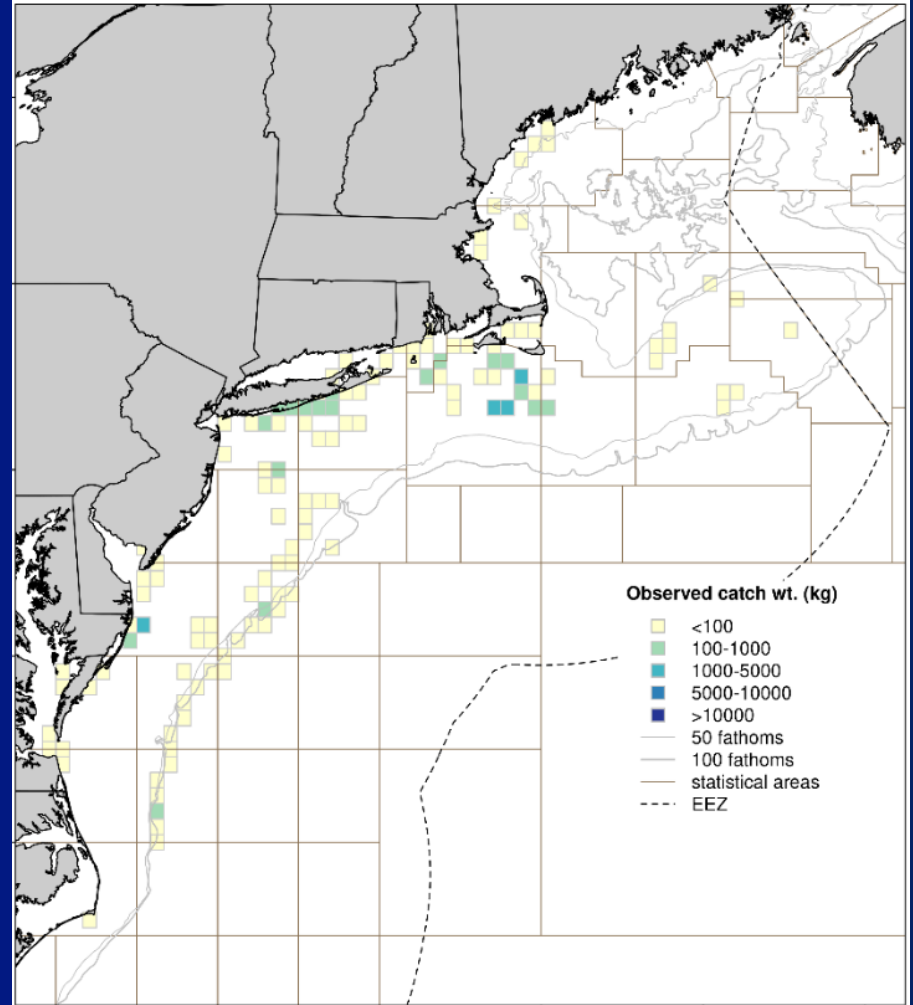


# Areas of catches May-Aug

May-Aug Kept  
1994-1996



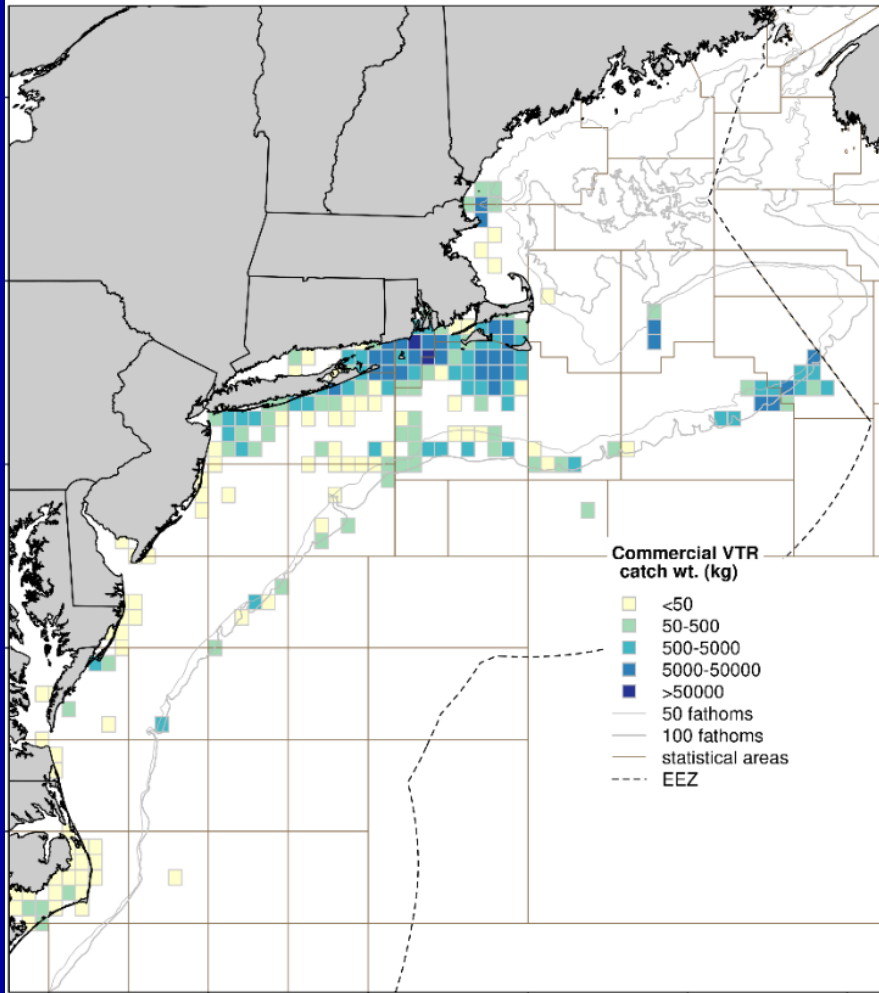
May-Aug Discards  
1993-1996



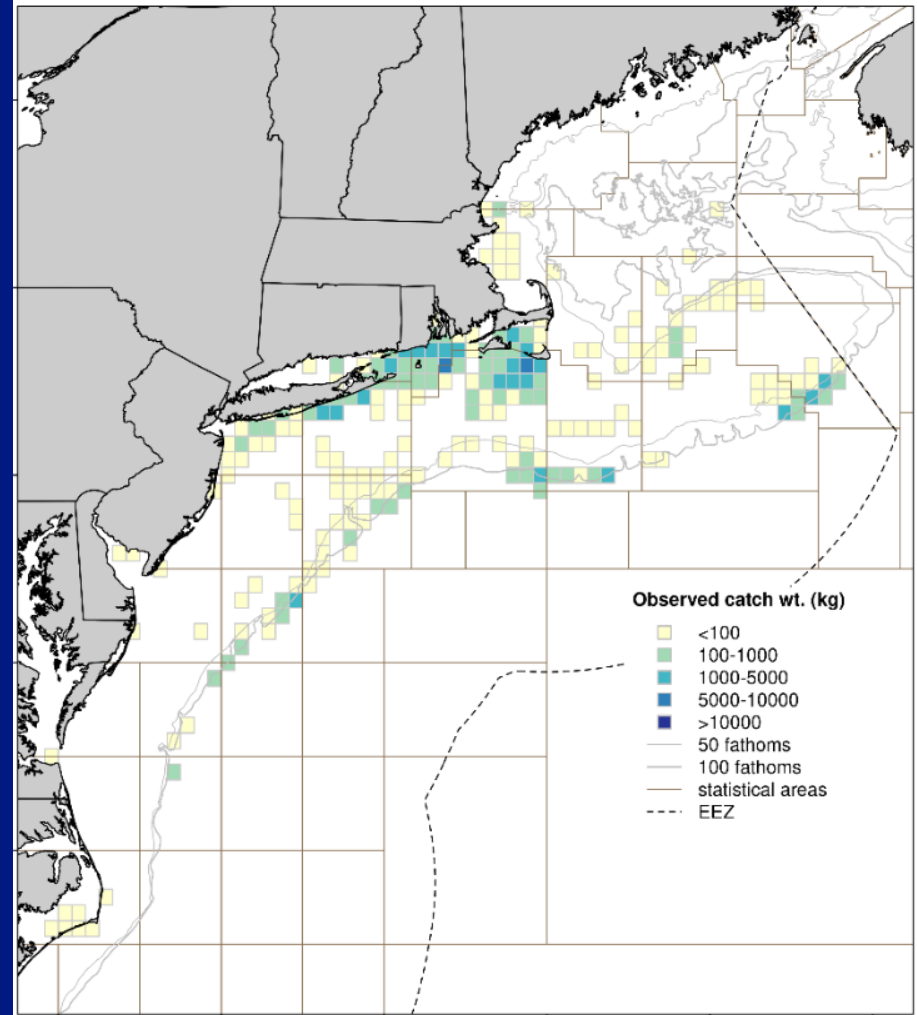


# Areas of catches May-Aug

May-Aug Kept  
2017-2020

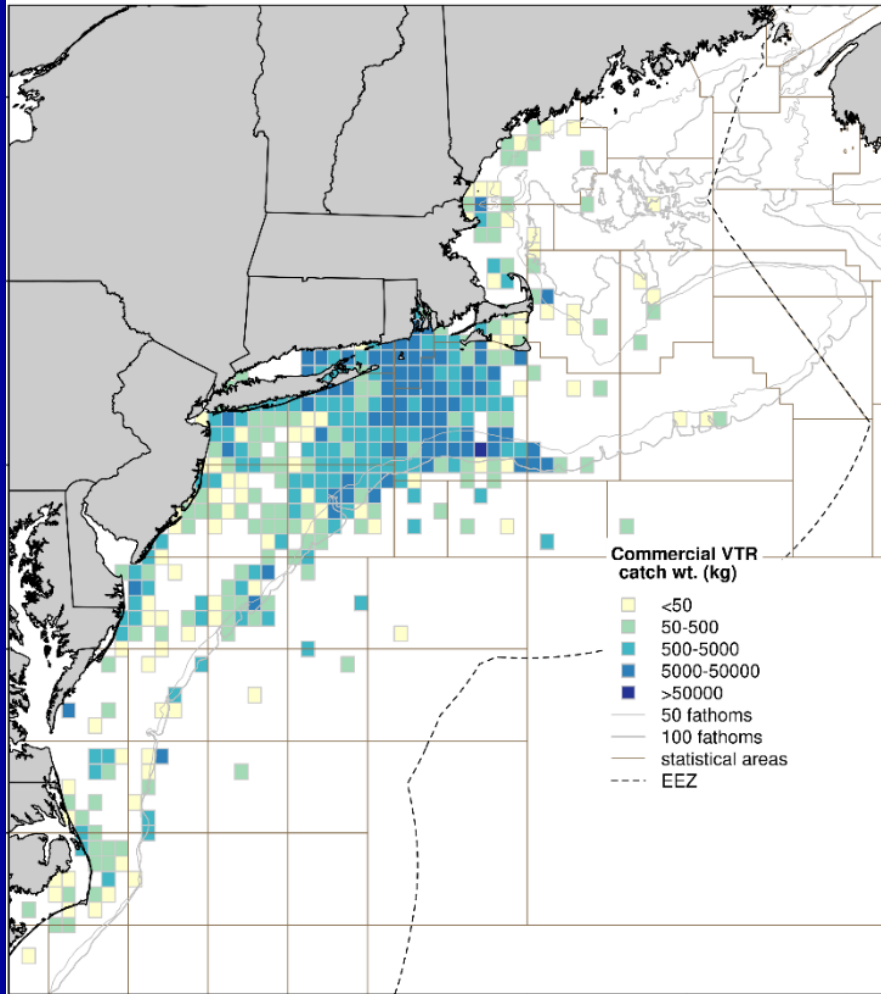


May-Aug Discards  
2017-2020

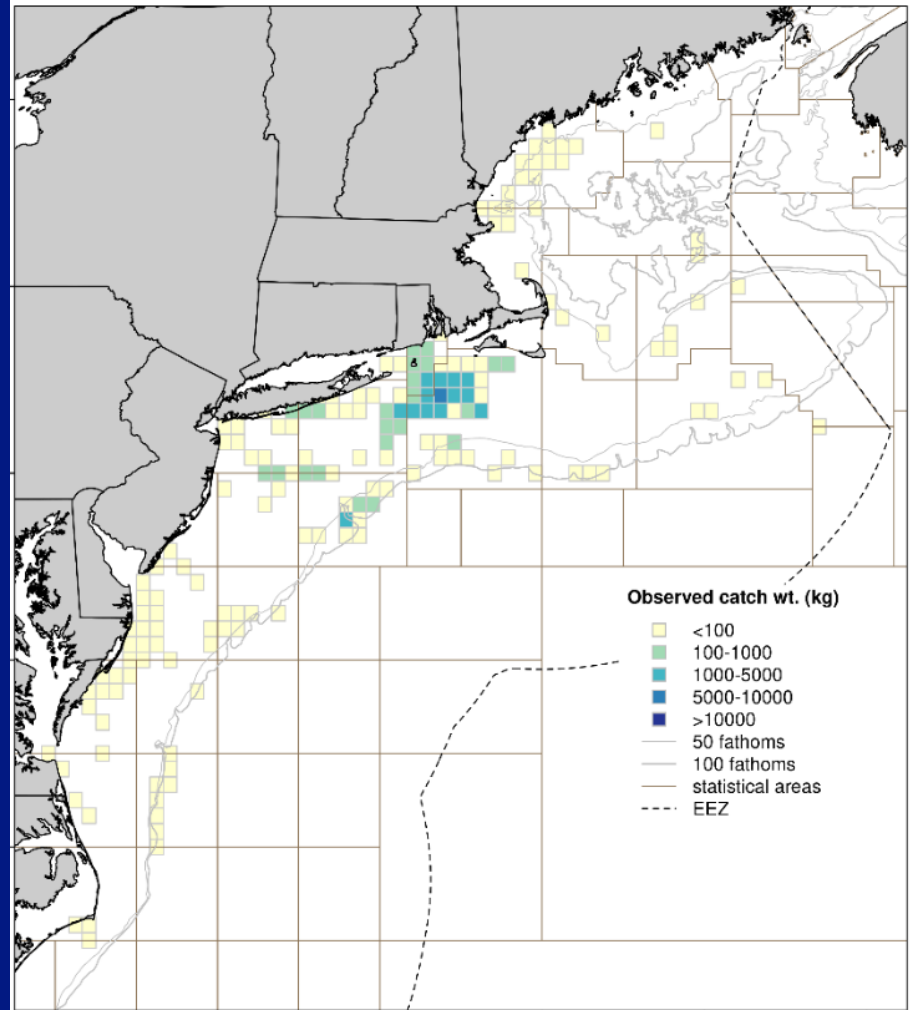


# Areas of catches Sept-Dec

Sept-Dec Kept  
1994-1996

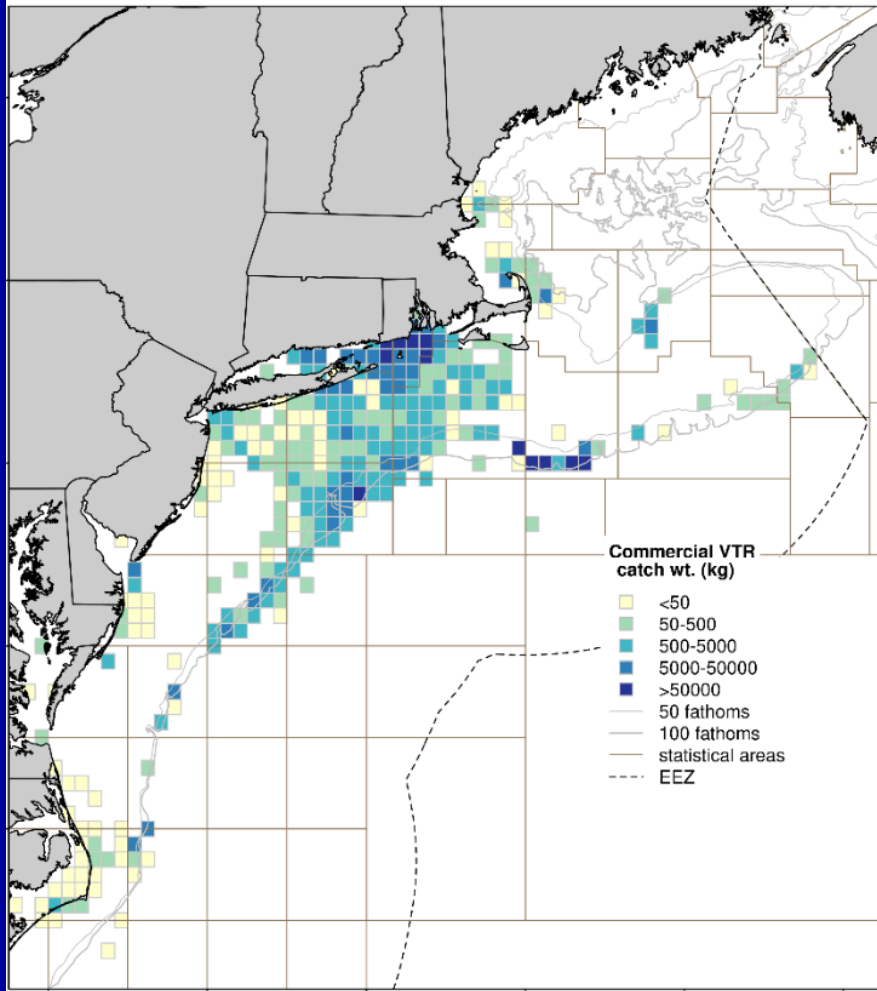


Sept-Dec Discards  
1993-1996

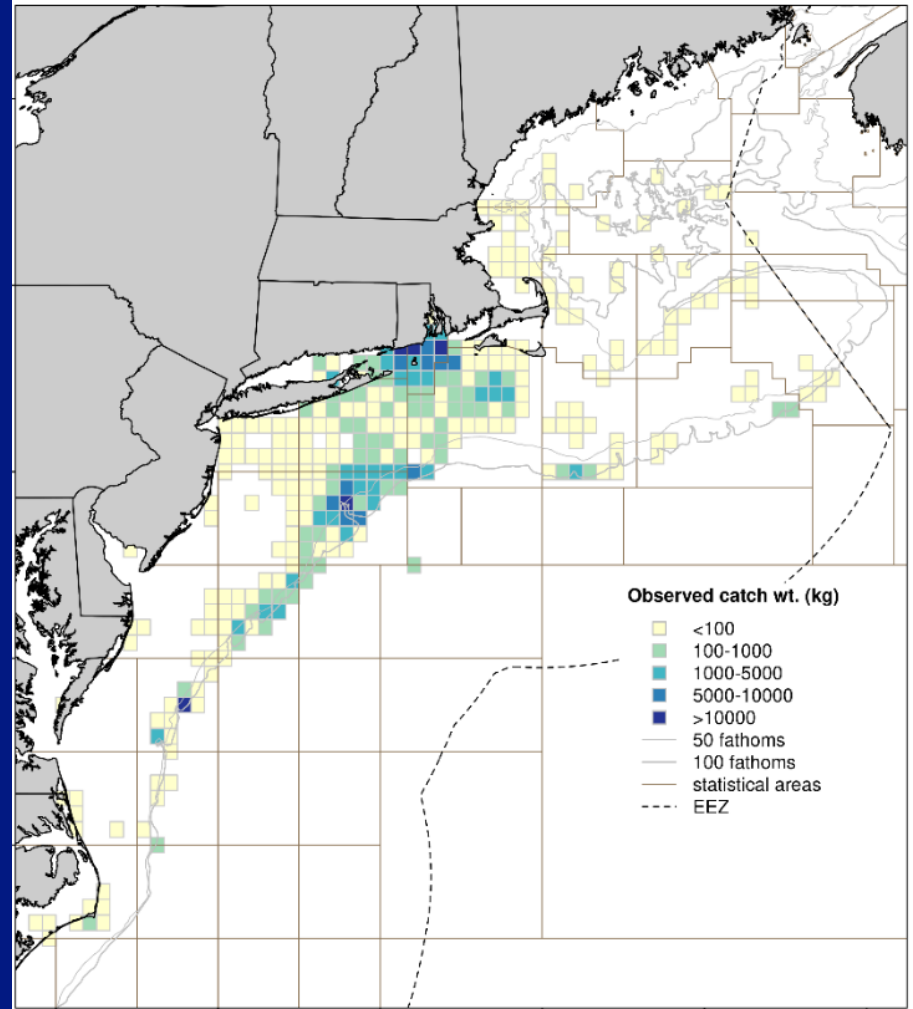


# Areas of catches Sept-Dec

Sept-Dec Kept  
2017-2020



Sept-Dec Discards  
2017-2020



# AP Fishery Performance Reports

- **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

# Discussion Questions

- What factors influence catch and landings?
- What other issues or concerns do you want to highlight?
- Recommendations for 2024 regulations?
- Research recommendations?

# Butterfish - FPR

- 2021 and especially 2022: better fishery for longfin squid than butterfish
- Good early 2023 fishing until fish had “feed”
- Less shipping issues
- Ecosystem concerns
- Reference point concerns

# Butterfish - FPR

- Other management concerns
  - Reasons for butterfish discards?
  - How precautionary is enough?
  - Future cap effects on longfin squid?

# Butterfish - FPR

- Same research priorities as last year
  - Windfarm impacts
  - Biomass accuracy
  - Natural mortality accuracy
    - Importance as prey
  - Catchability accuracy



# 2020-2025 Research Priorities

BUTTERFISH	Corresponding Theme(s)
<b>SHORT-TERM/SMALLER SCALE</b>	
<p><b>46.</b> Examine the efficiency (including day vs. night) of survey gear and potential changes in butterfish catchability including a parallel catchability estimate for NEFSC Spring surveys so that both Spring and Fall surveys can be included in the model.</p>	A
<p><b>47.</b> Evaluate approaches to include additional surveys (e.g., states) in the assessment model.</p>	A
<p><b>48.</b> Evaluate the uncertainty in the ad hoc <math>F_{MSY}</math> proxy and effects on catch advice.</p>	A
<p><b>49.</b> Consider development of reference points that are internal to the stock assessment model.</p>	A
<b>LONG-TERM/LARGER SCALE</b>	
<p><b>50.</b> Further investigate methods to inform population scaling within assessments.</p>	A
<p><b>51.</b> Further investigate the role of butterfish in the ecosystem and refine predation estimates.</p>	A, F
<p><b>52.</b> Reconsider stock structure and degree of exchange with south Atlantic stock component (i.e., stock ID).</p>	A, G

# Staff Recommendation

- Maintain the planned 2024 specifications

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# SSC Recommendation

- No changes appear warranted for 2024
- Relative biomass estimates in 2022 were the highest in the Bigelow time series for both the spring and fall bottom trawl surveys.

# Council Discussion

(No action needed today)