



# Integrating Fishermen's Knowledge into Standardized CPUE Indices for the Monkfish Fishery

Mel Sanderson & Aubrey Church (Cape Cod Commercial Fishermen's Alliance)

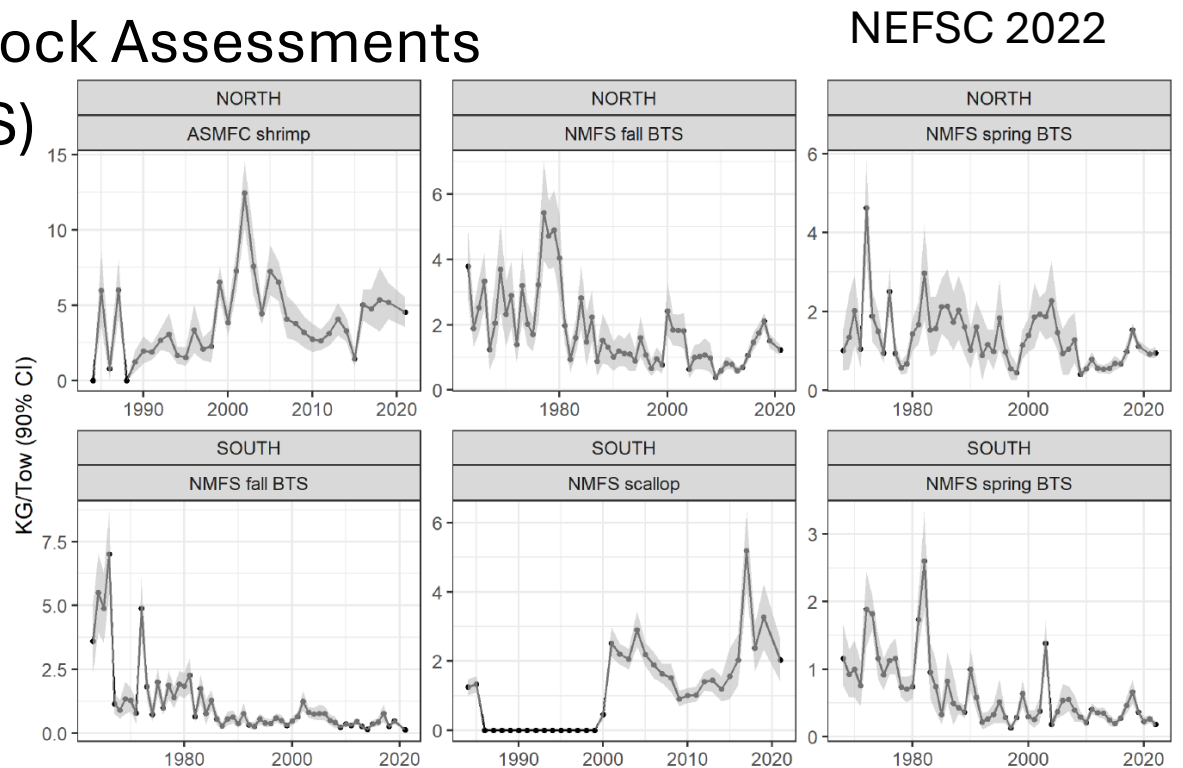
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July 28, 2025

Funded by Monkfish Research Set Aside #NA23NMF4540355

# Project Objectives

- Our goal was to develop standardized catch per unit effort (CPUE) indices for monkfish to be used for stock assessment.
  - Obtain fishery data and develop CPUE Standardization
  - Collaborate with Monkfish Fishermen to elicit expertise on monkfish catch rates
  - Contribute CPUE series for Monkfish Stock Assessments
  - Manage Monkfish RSA Days at Sea (DAS)



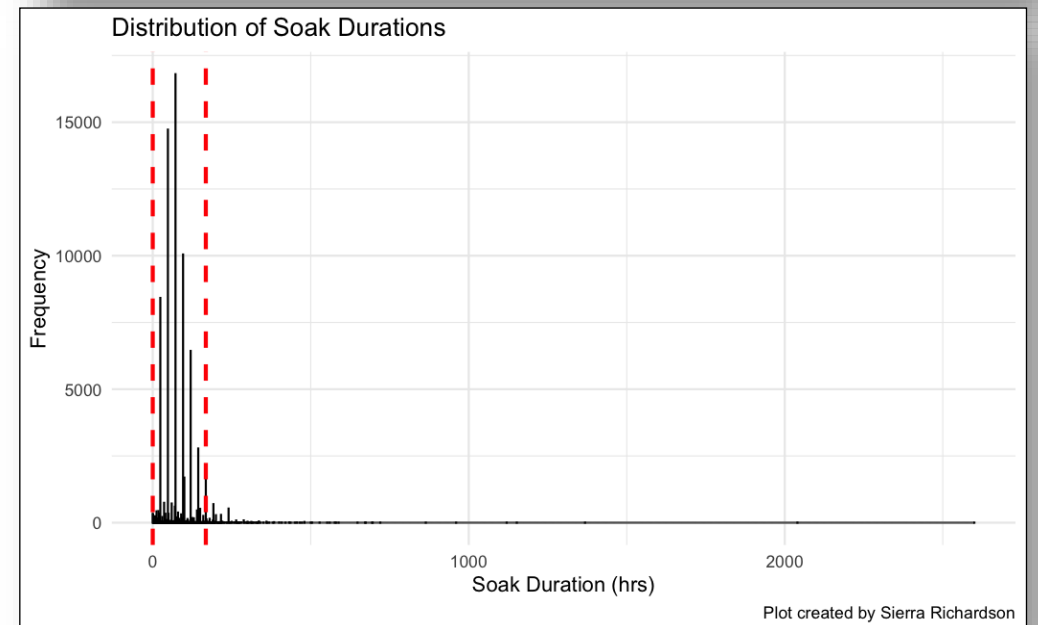
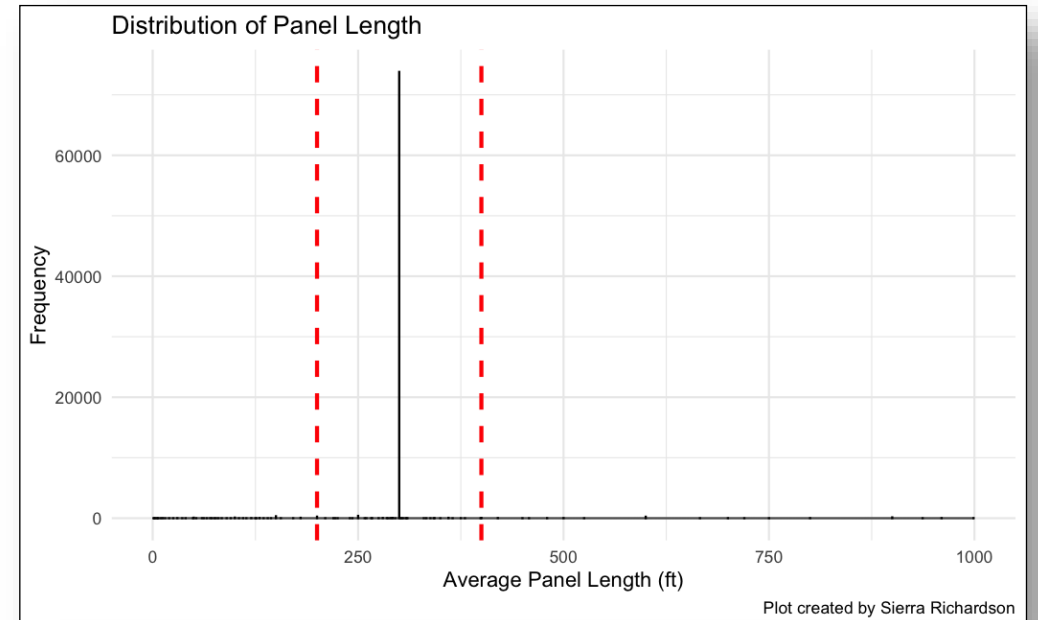
# Methodology

- Meet with monkfish fishermen in workshops to discuss patterns in catch rates.
- Analyze fishery monitoring data (logbooks, observers, dealers, study fleet) to produce stock indices.
- Standardize catch rates to account for fishing patterns (fishing gear, fishing areas, seasons, depth, ...)



# Workshop Takeaways

- Reduction in vessels/effort over time
- Increased skate catch since 2008
- Season shifts
- Overlap with protected species and other gears
  - Sturgeon, lobster
- Factors affecting catch rate / reasonable ranges
  - Mesh size: 10+
    - Larger more efficient for catching monk with less skates
  - Depth & temperature
    - < 200 fathoms
  - Soak duration
    - < 1 week
  - Market trends
  - Panel size ~ 300
  - Target species
  - Closures



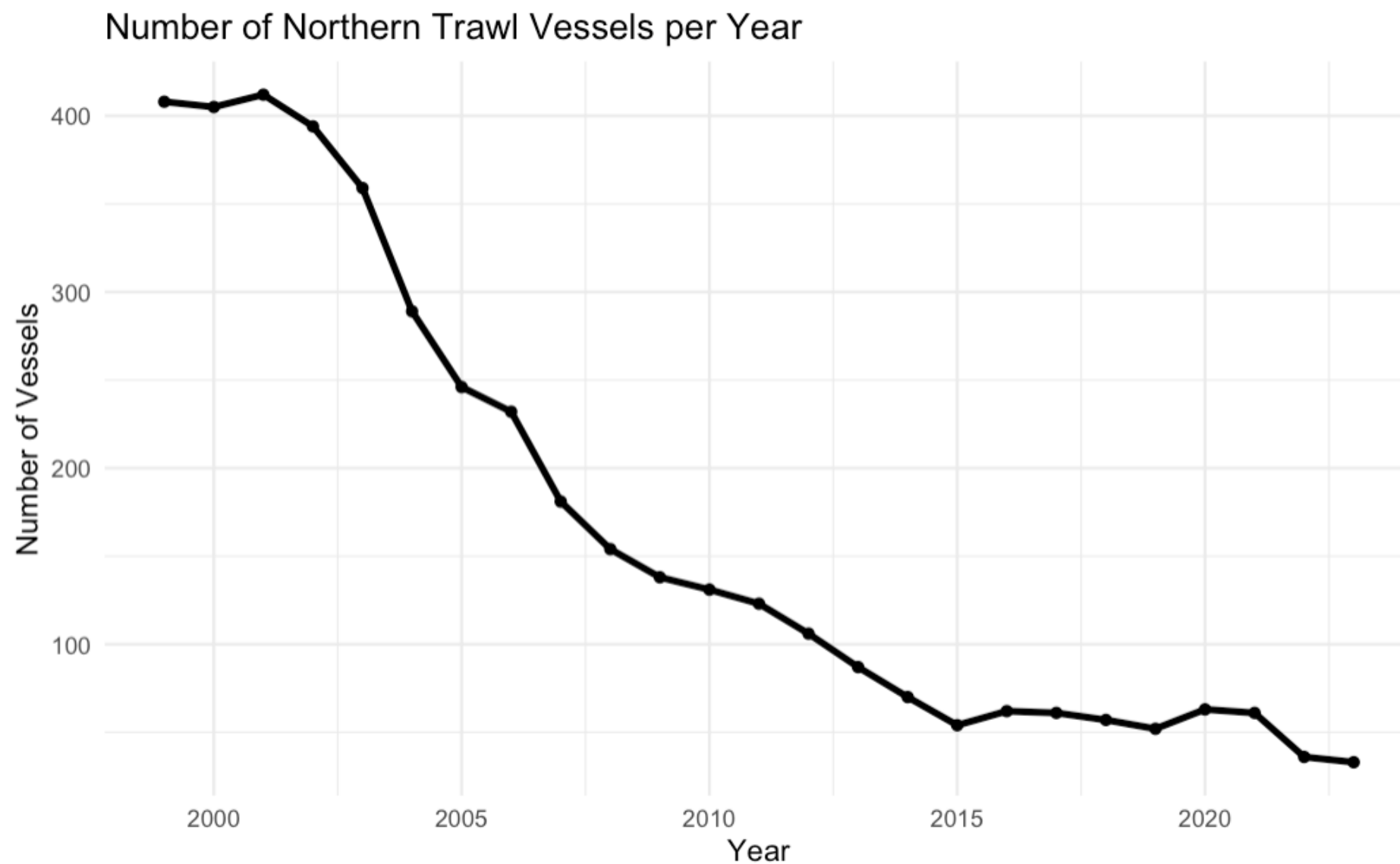


# Preliminary Results

# Northern Trawl – Effort Trends (Logbook Data)

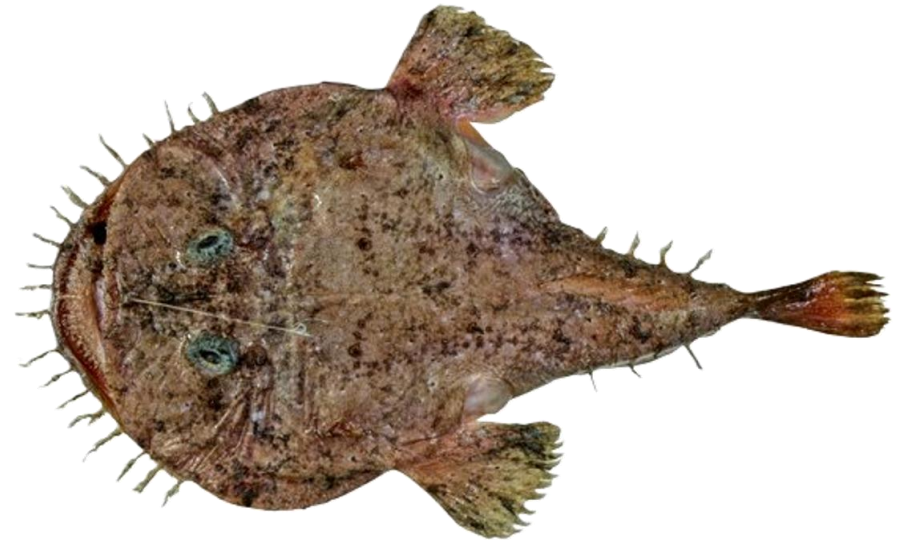


# Northern Trawl – Effort Trends (Logbook Data)



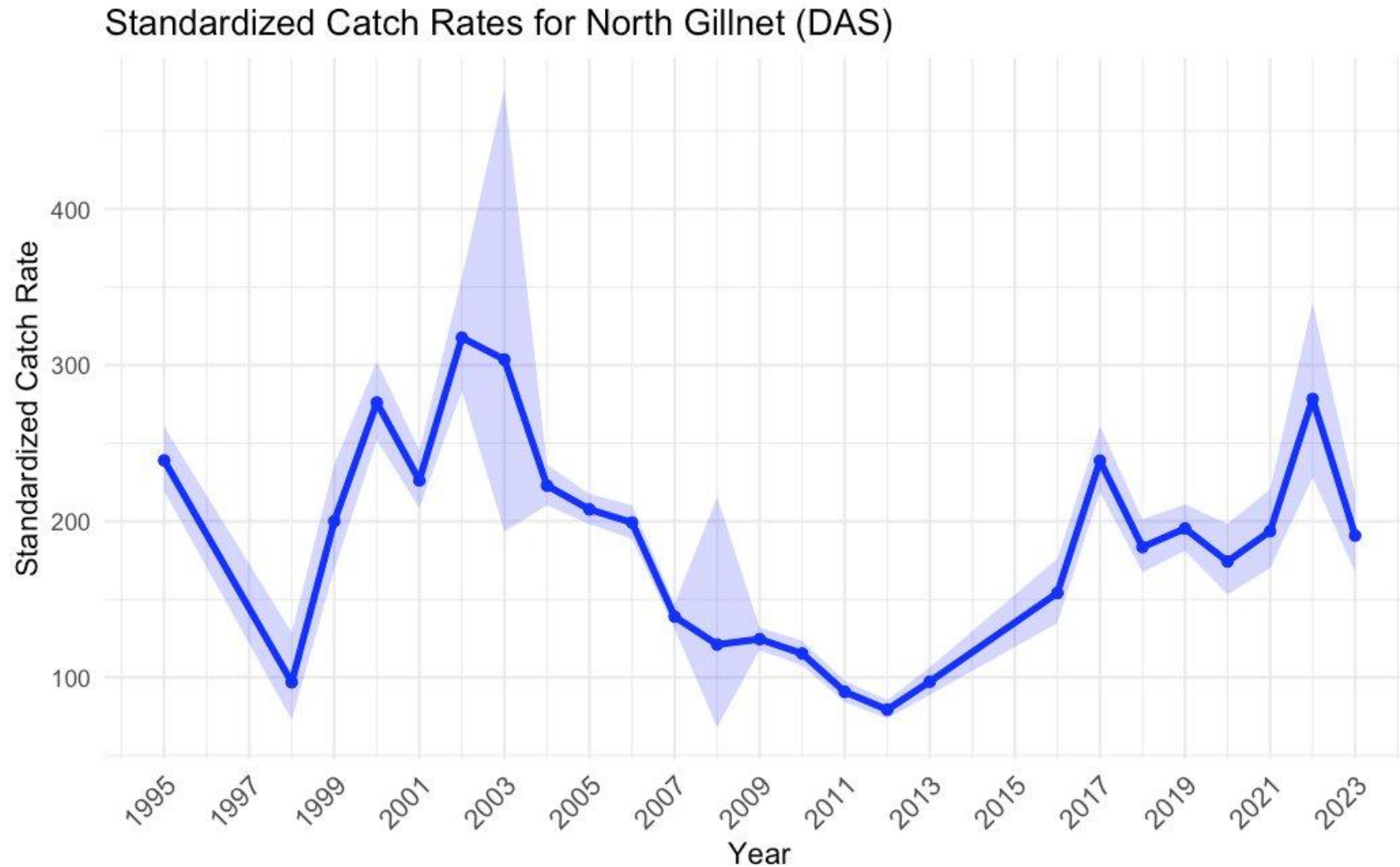
# Northern Trawl Model (Observer Data)

- CPUE: Hail weight / Days at sea
- Standardized for year, month, statistical area, depth, footrope length, and tow speed
- Performs well, acceptable diagnostics

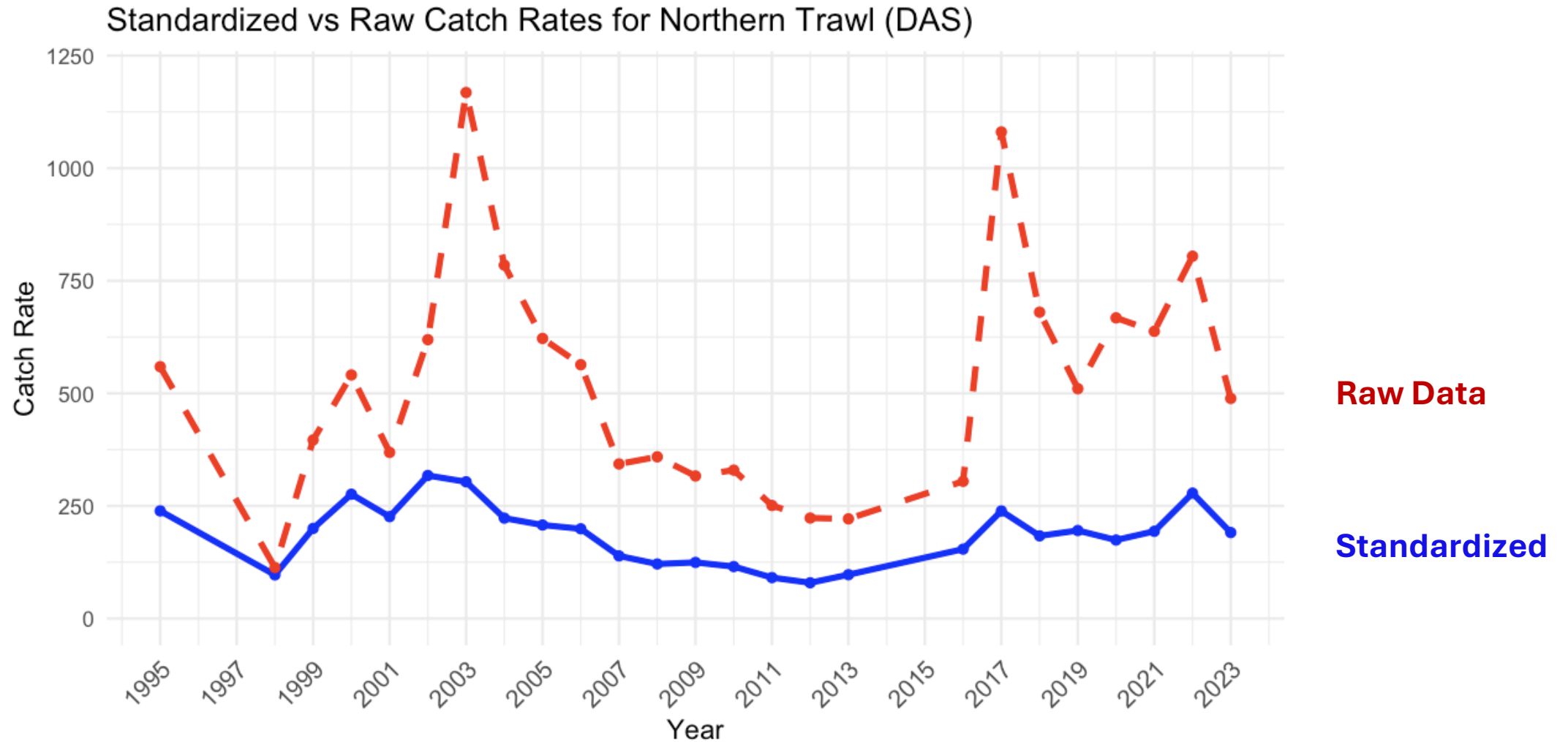




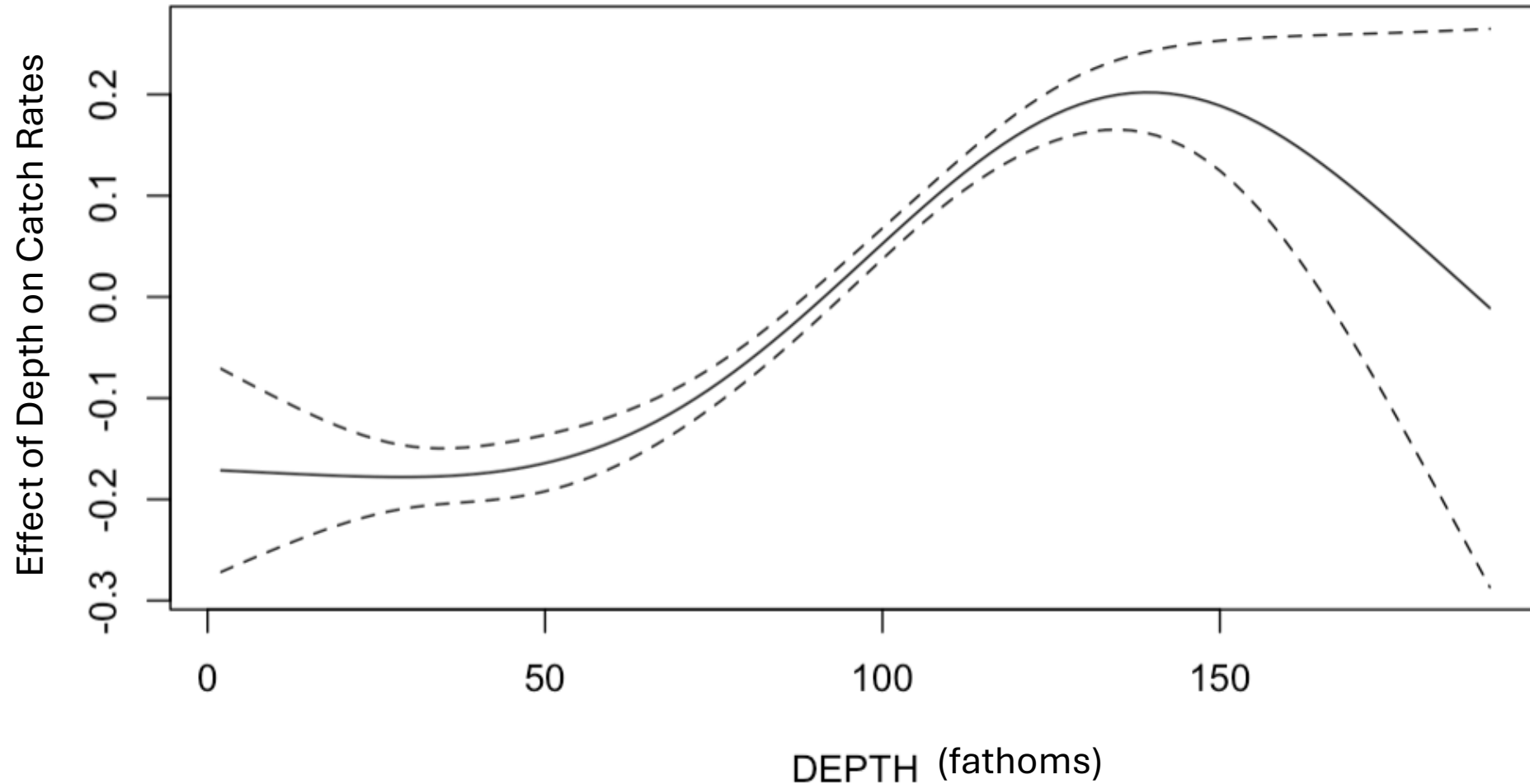
# Northern Trawl Model – Time Series (Observer Data)



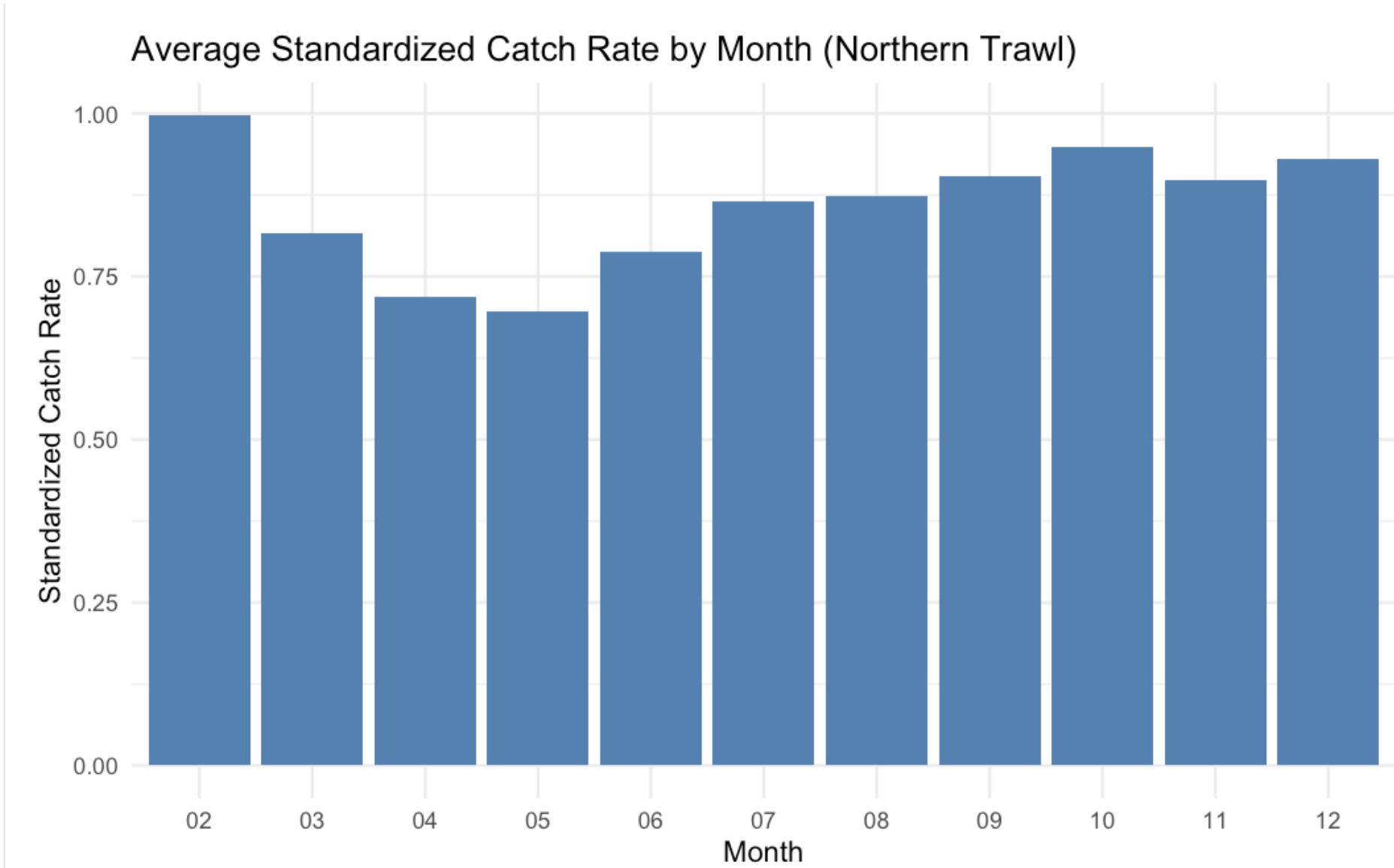
# Northern Trawl Model – Time Series (Observer Data)



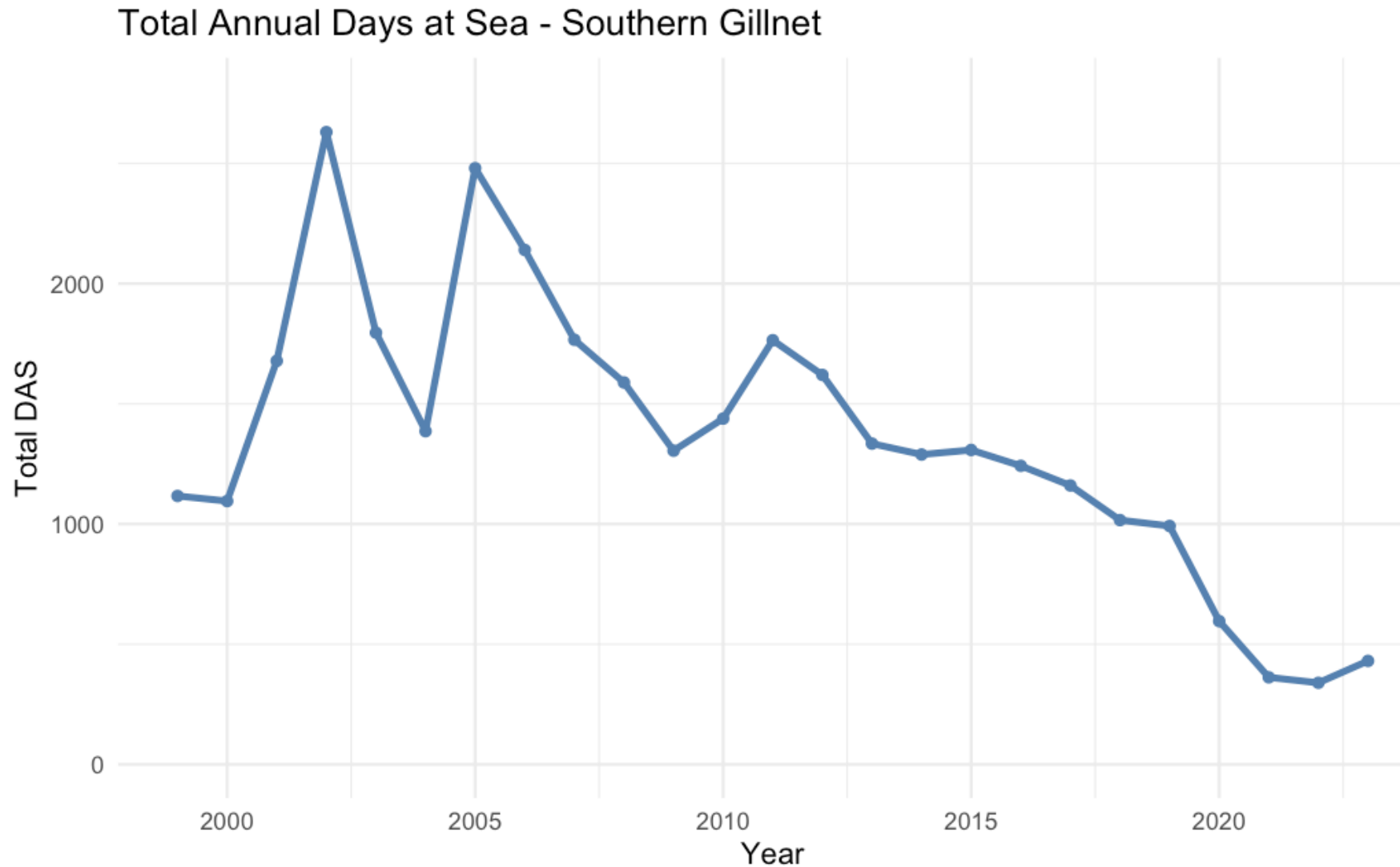
# Northern Trawl Model – Depth Effects (Observer Data)



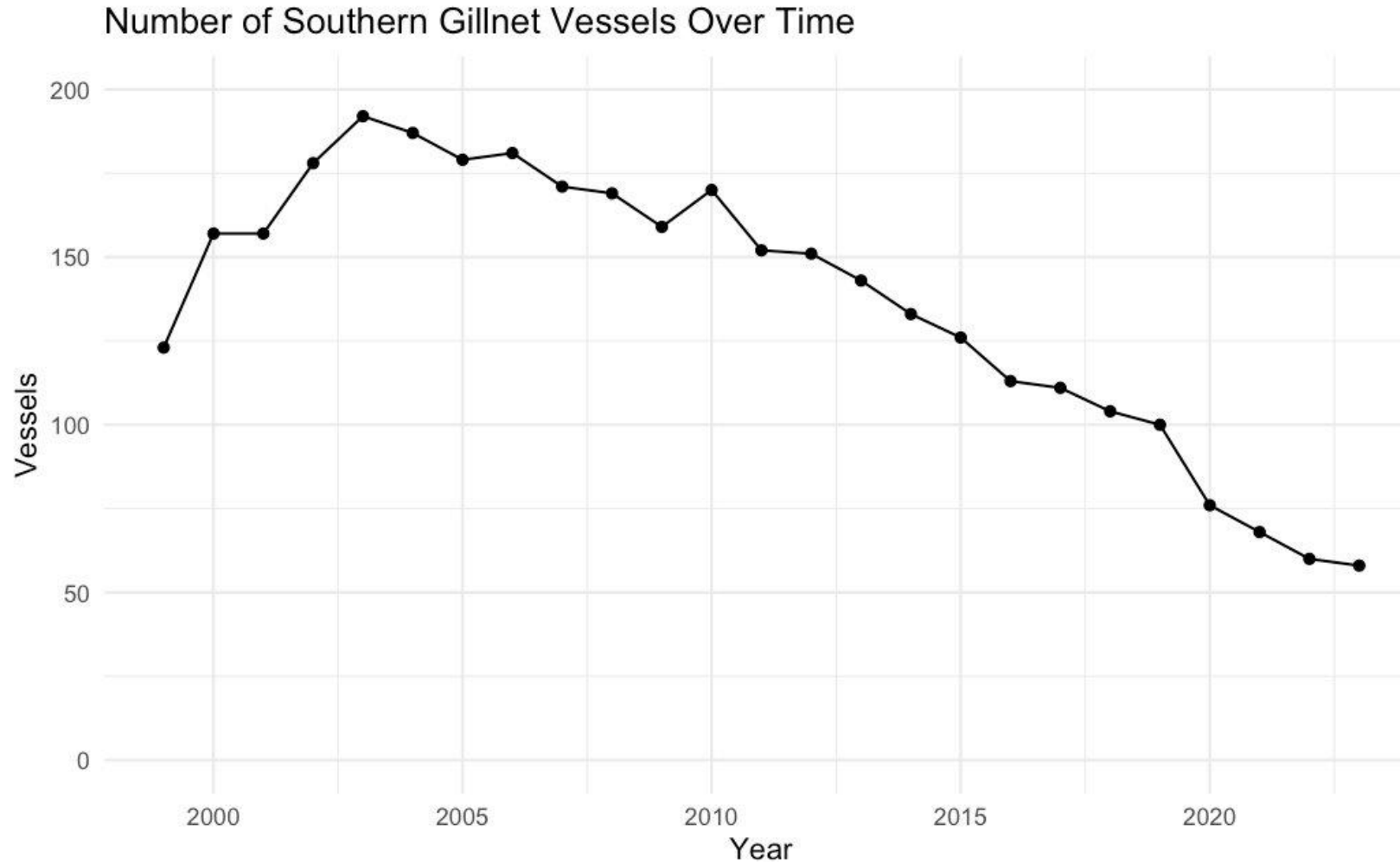
# Northern Trawl – Month Trends (Observer Data)



# Southern Gillnet – Effort Trends (Logbook Data)

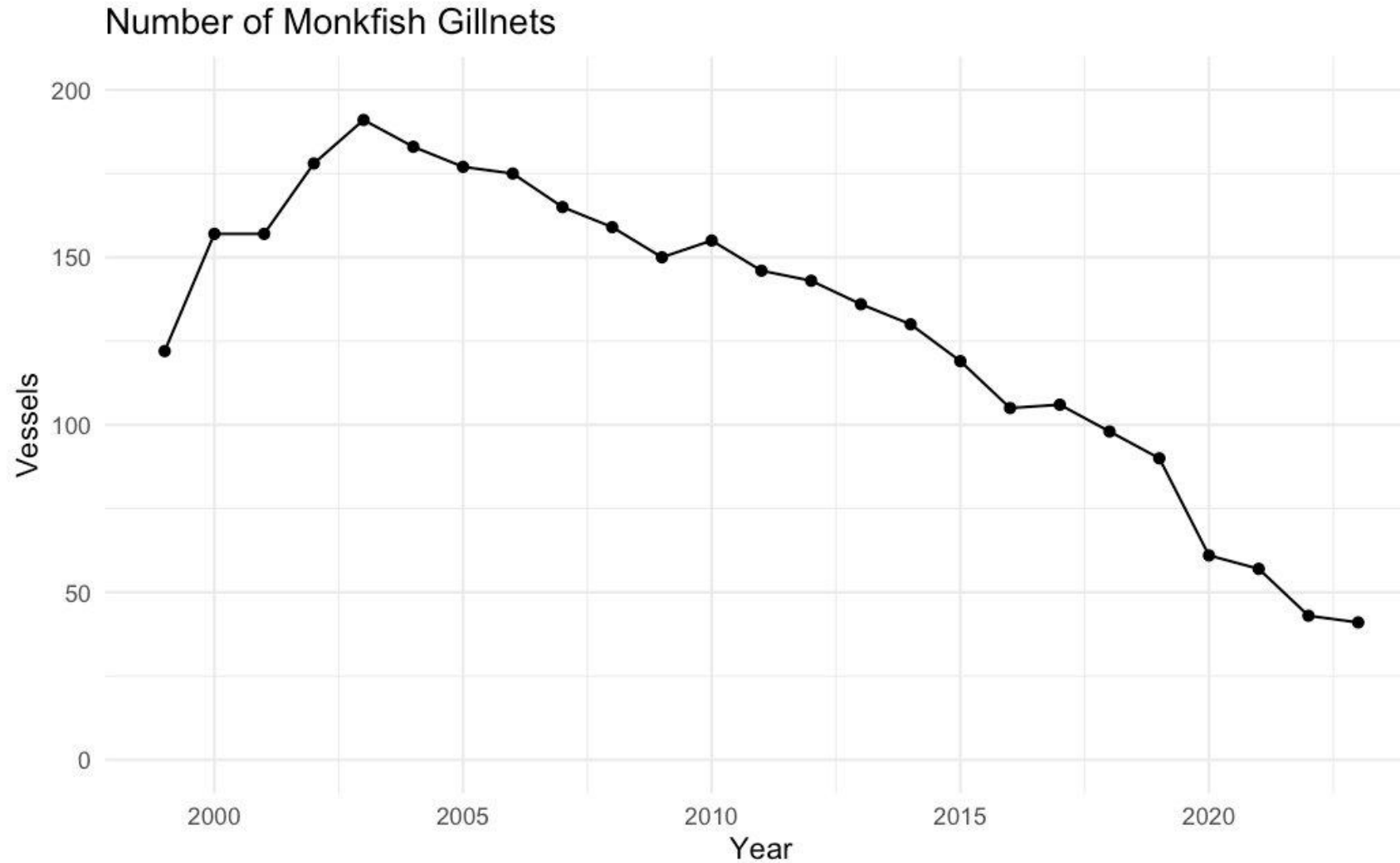


# Southern Gillnet – Effort Trends (Logbook Data)

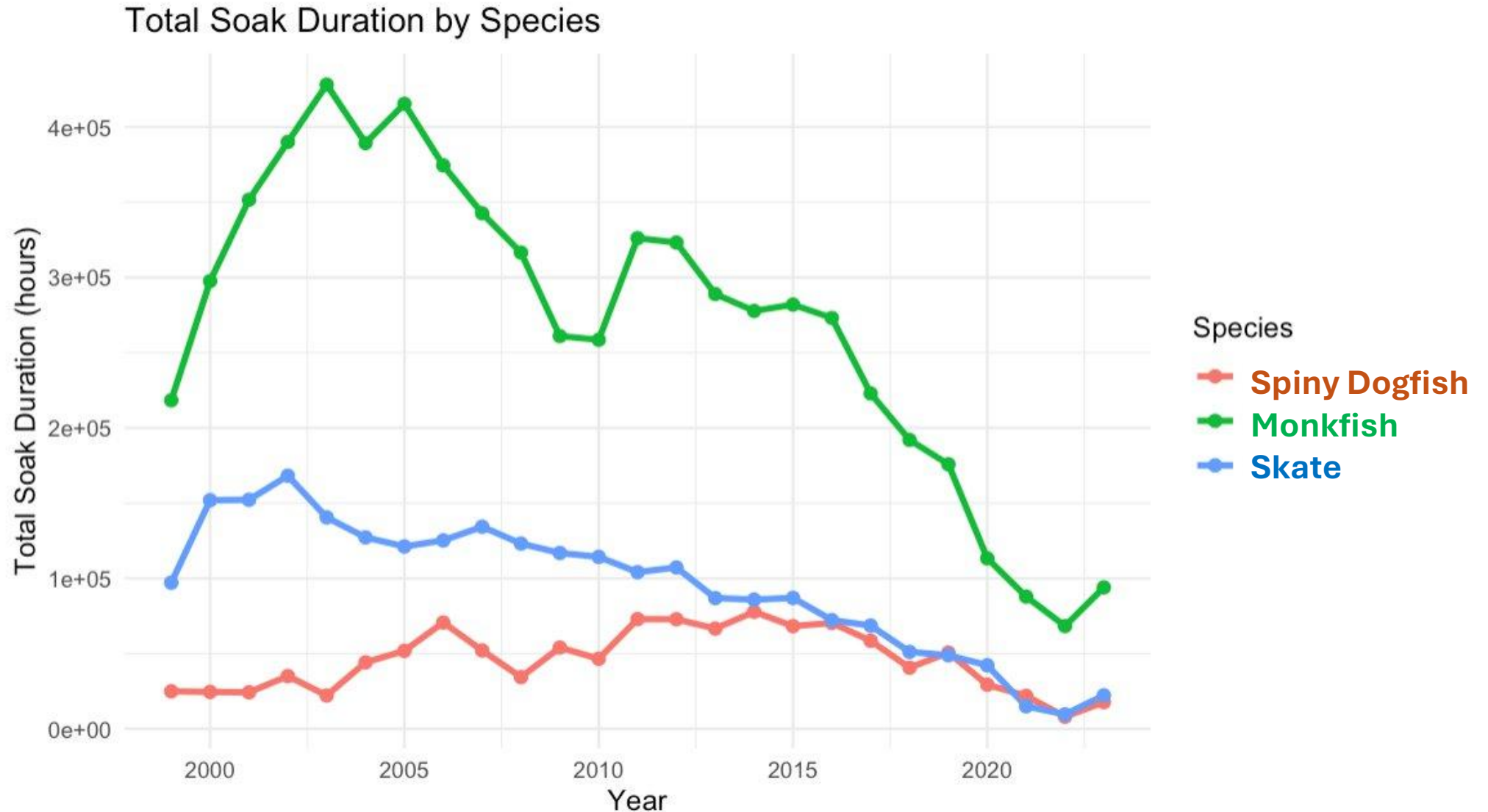




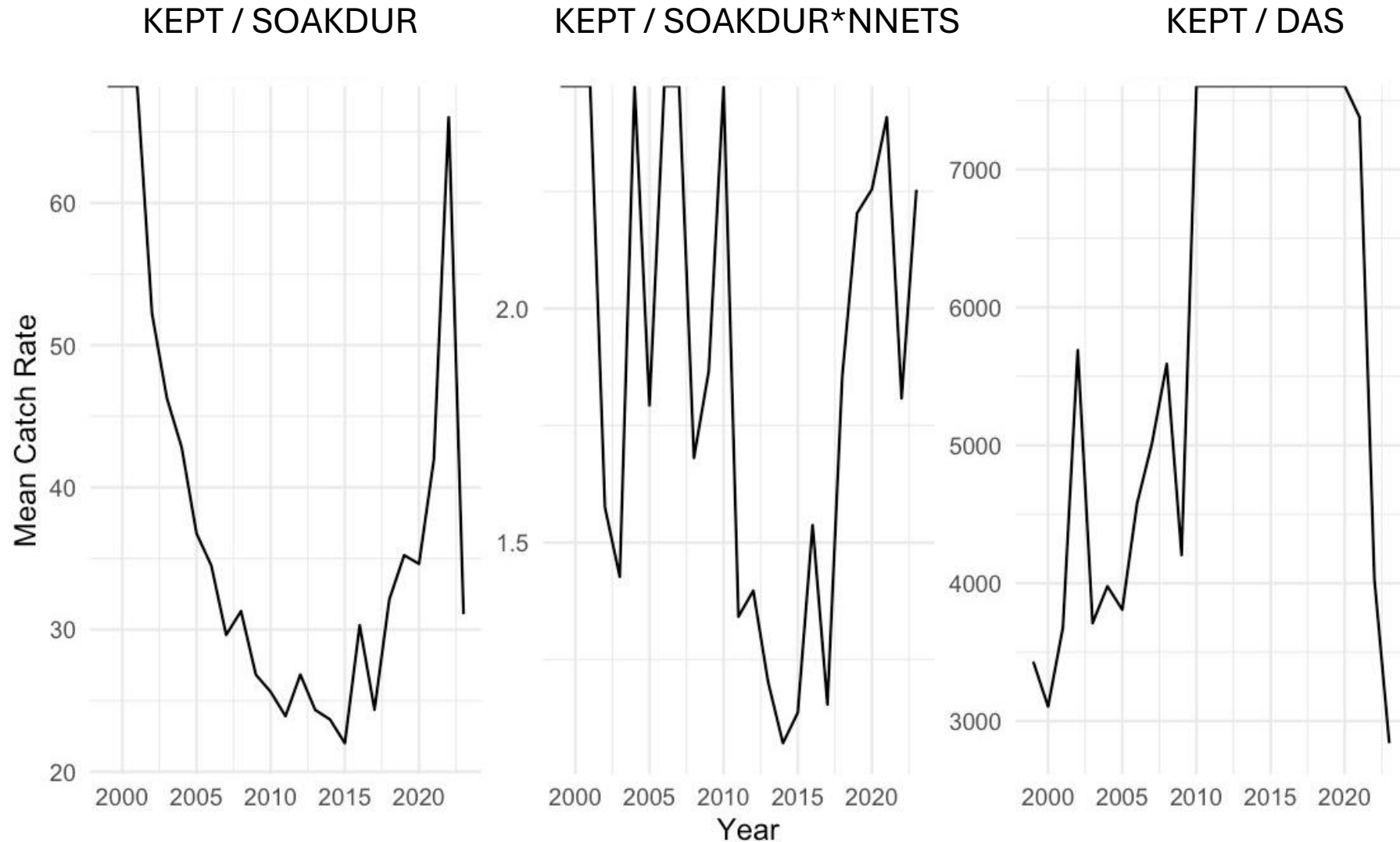
# Southern Gillnet – Effort Trends (Logbook Data)



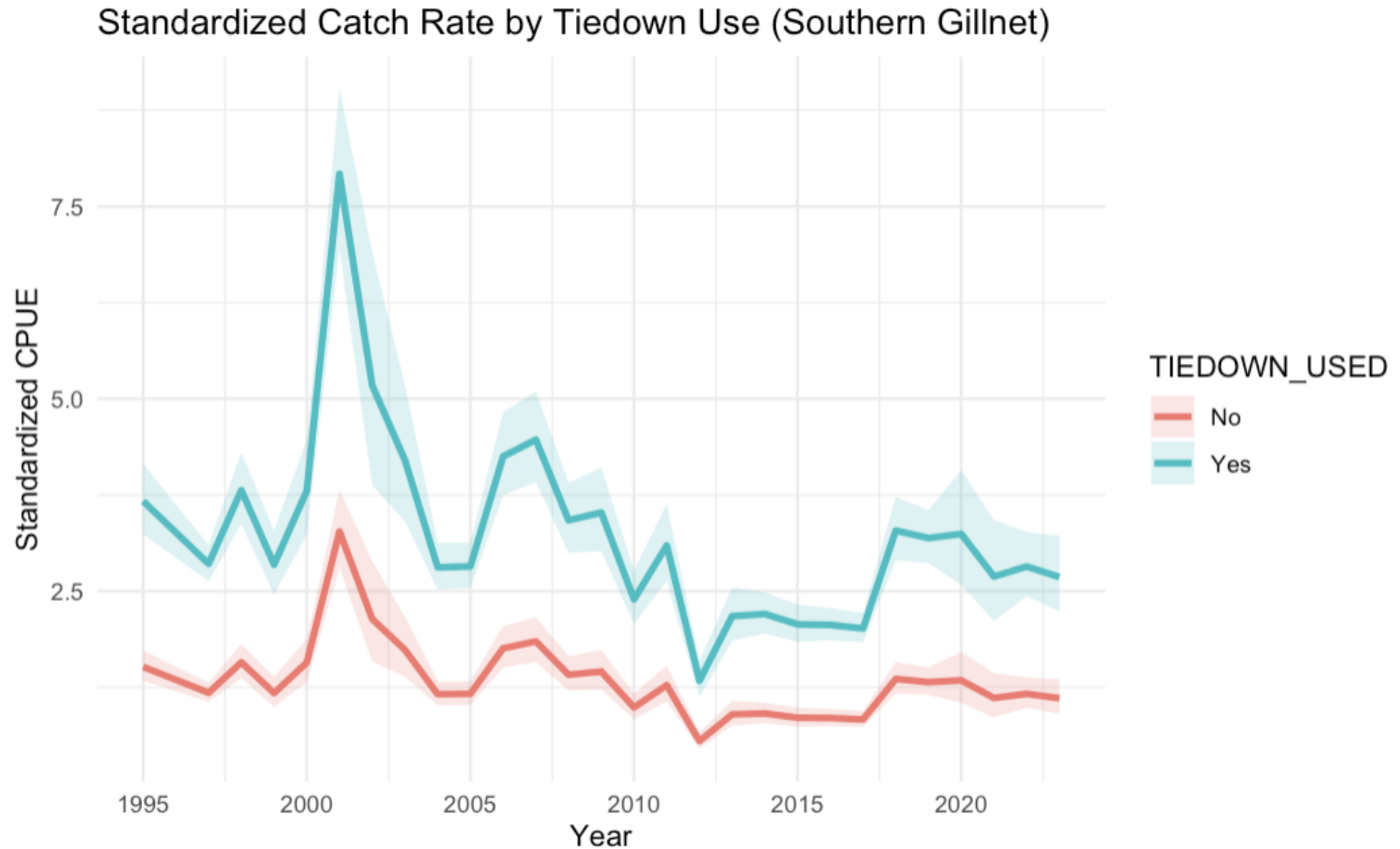
# Southern Gillnet – Effort Trends (Logbook Data)



# Southern Gillnet Effort Comparison (Logbook Data)

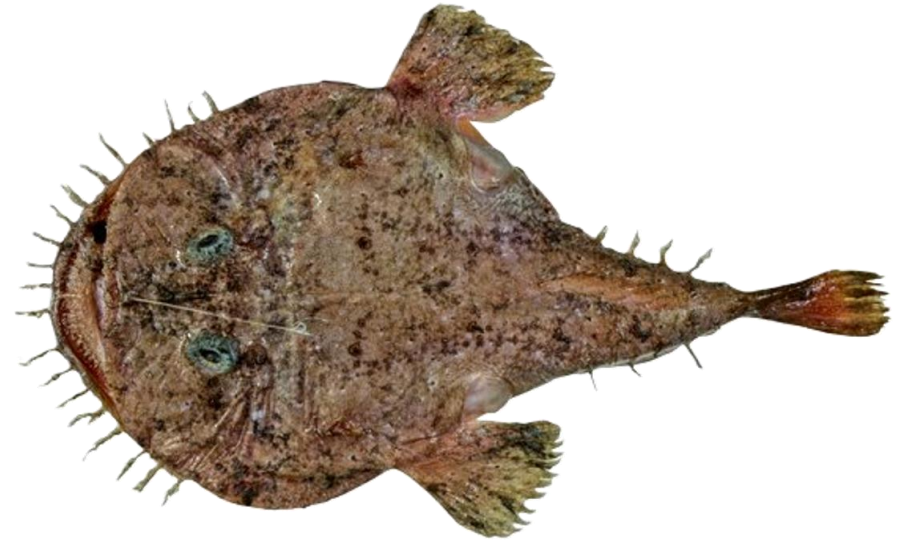


# Southern Gillnet Tiedown Effects (Observer Data)



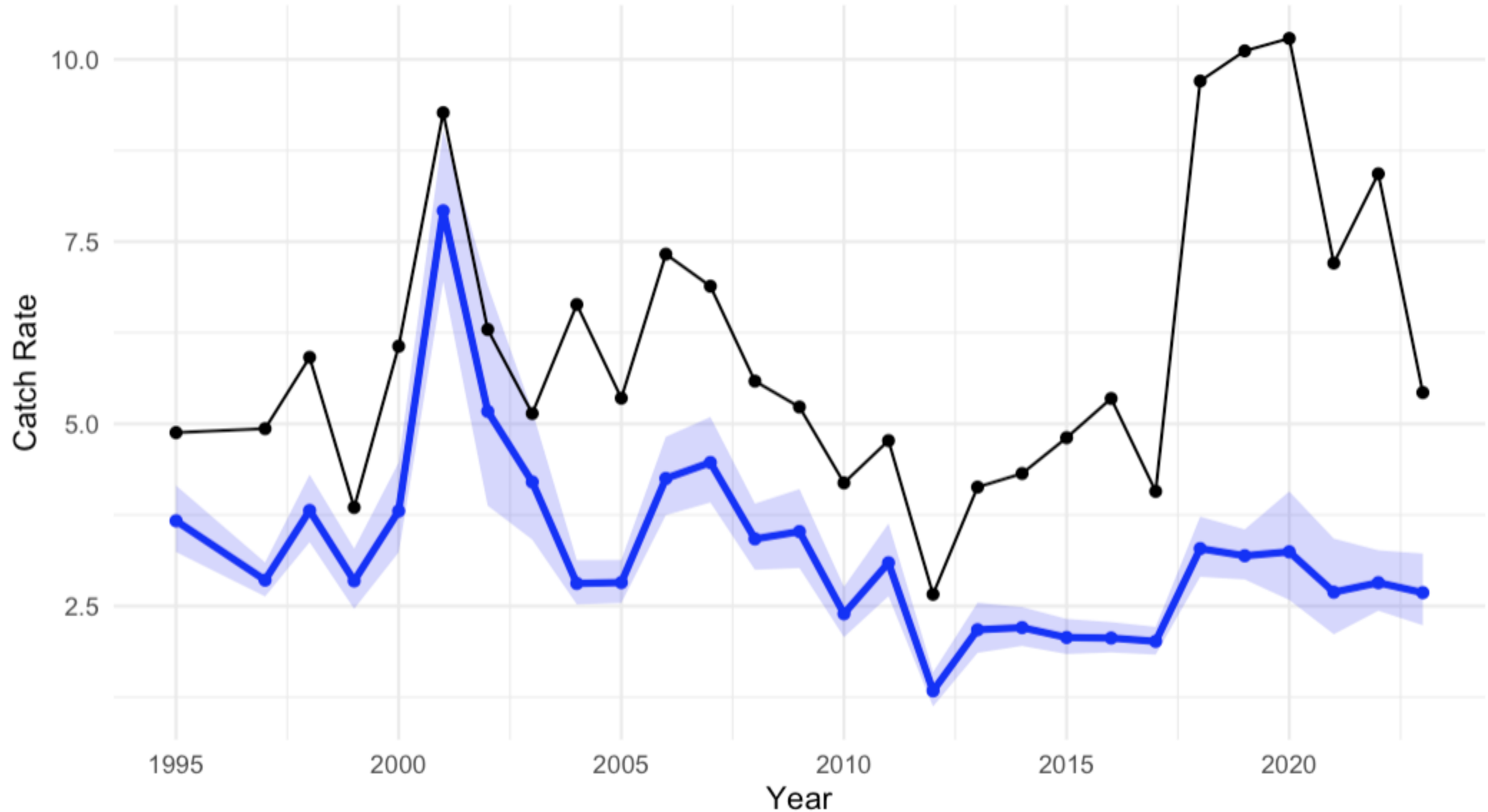
# Southern Gillnet Model (Observer Data)

- CPUE: Hail weight / Soak duration
- Standardizing for year, month, statistical area, depth, and tiedowns (presence/absence)
- Performs well, acceptable diagnostics



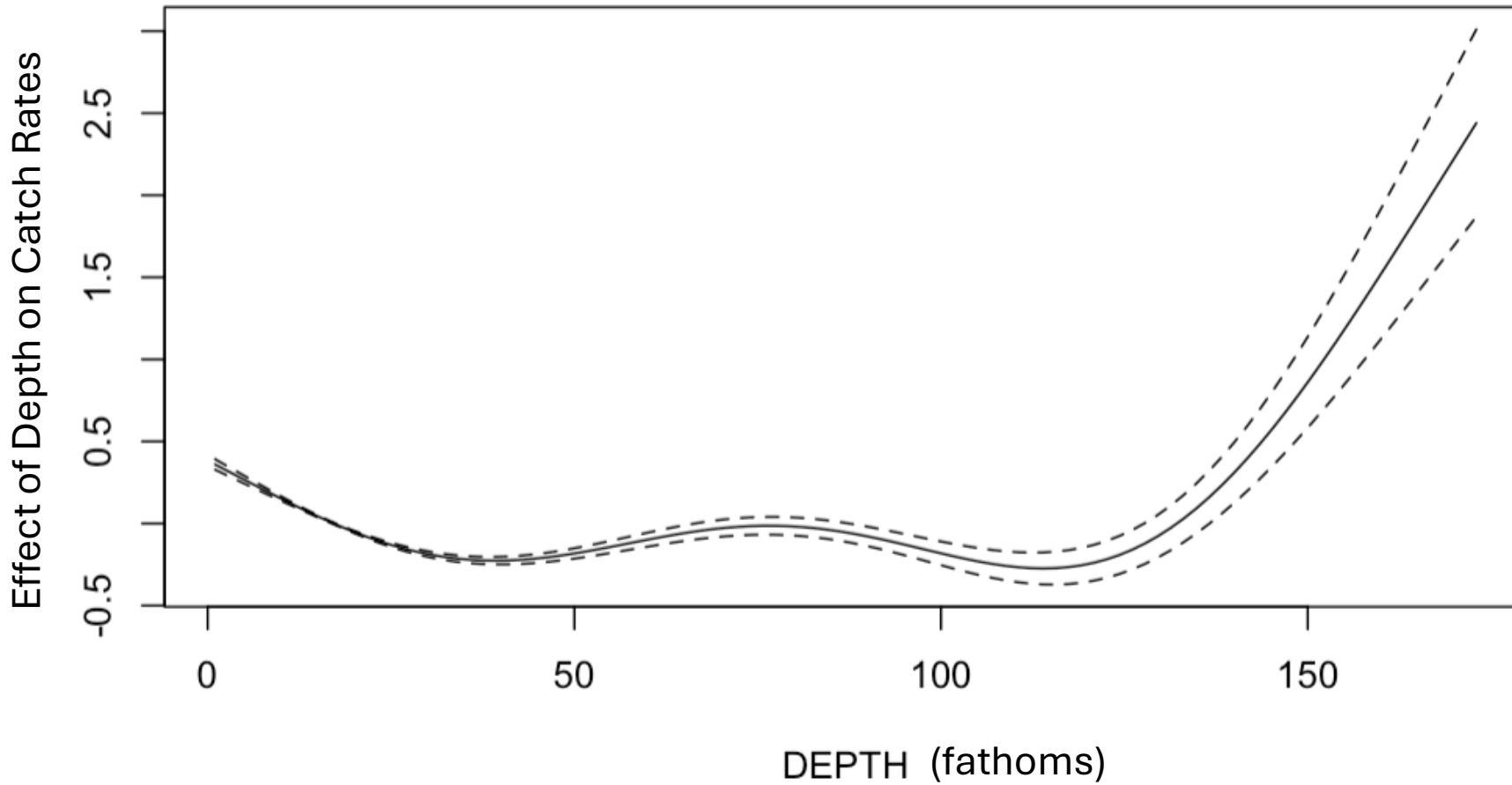
# Southern Gillnet Model – Time Series

Standardized vs. Raw Catch Rate (Southern Gillnet)

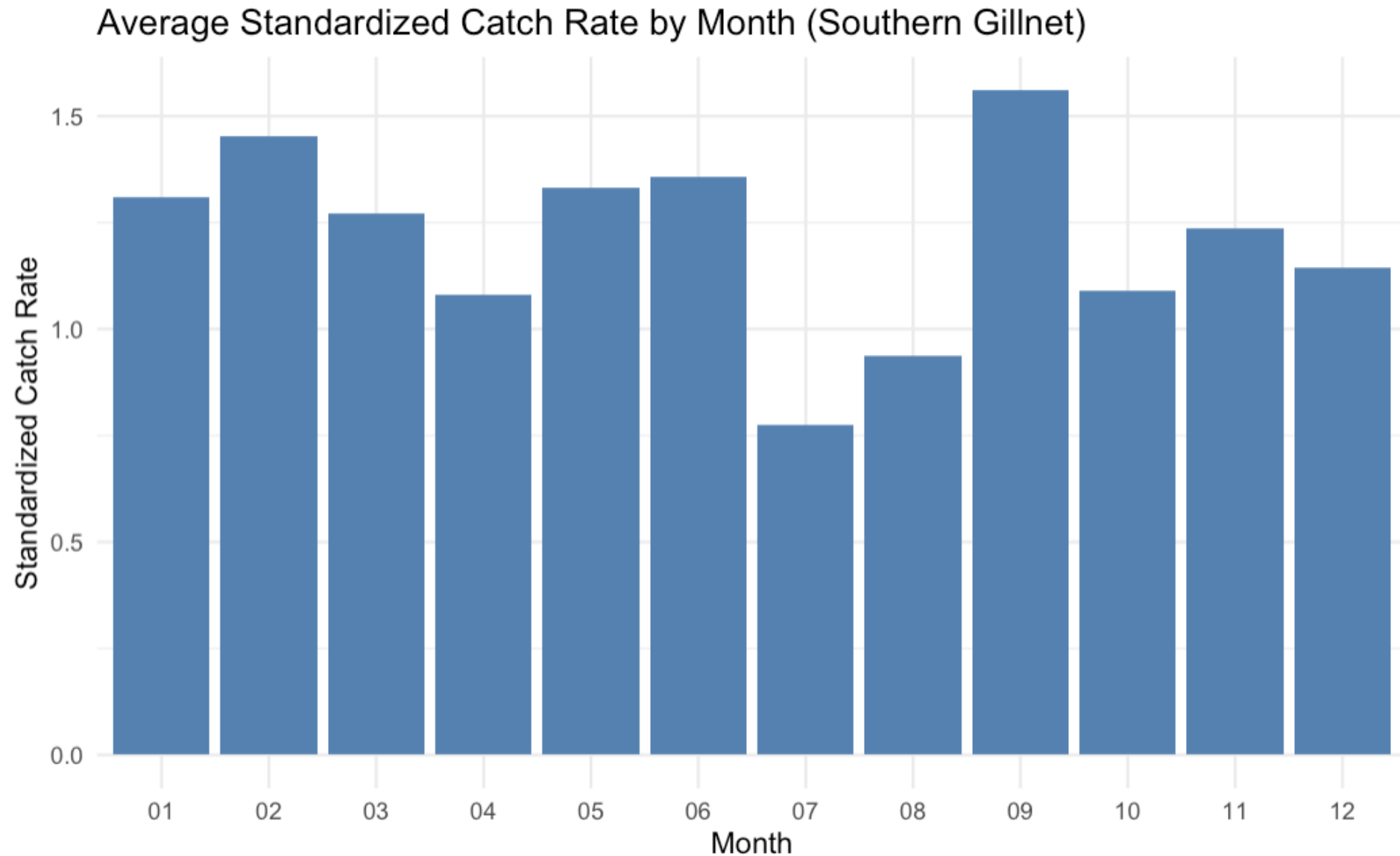




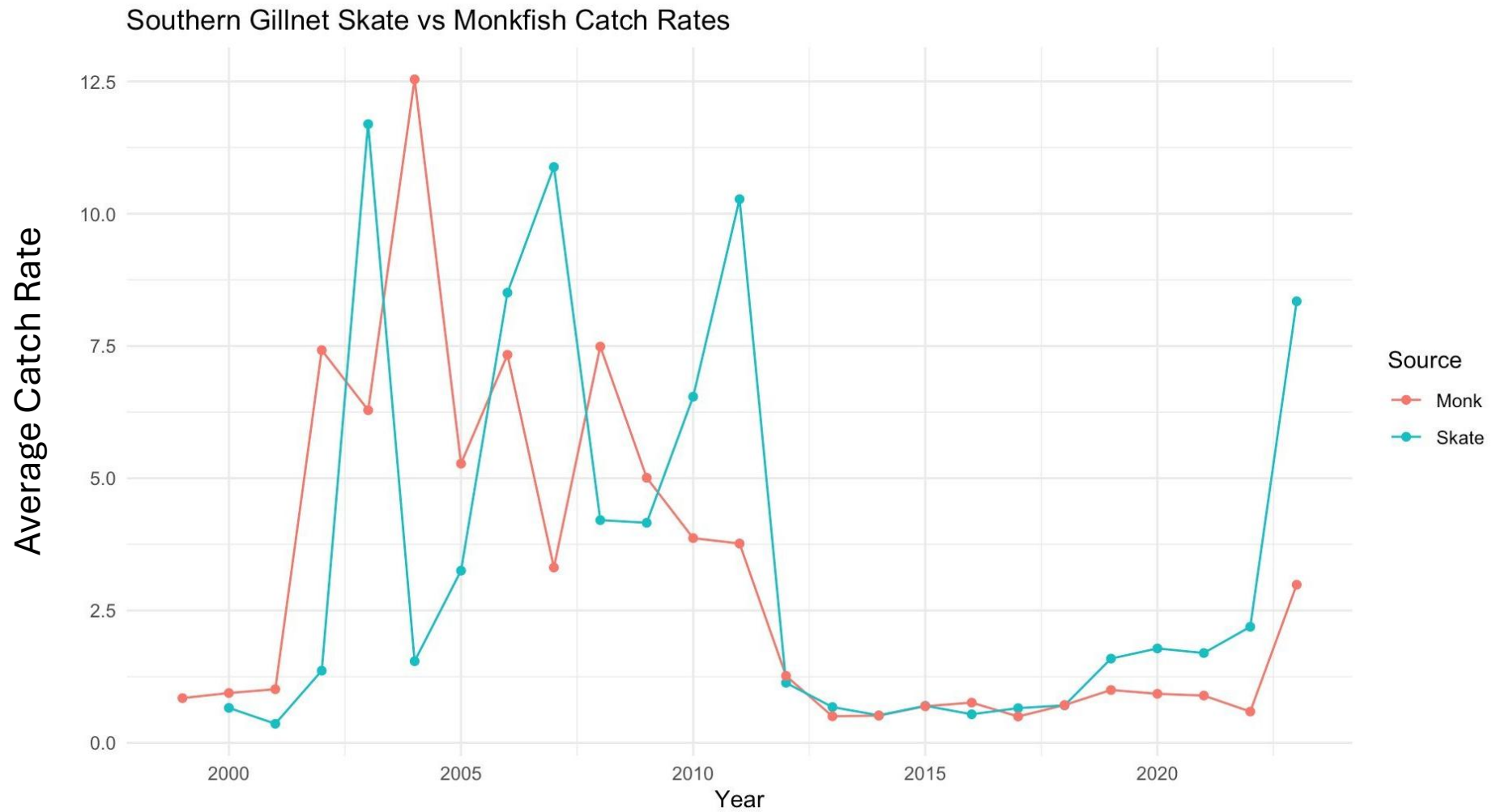
# Southern Gillnet Model – Depth Effects



# Southern Gillnet Model – Month Trends

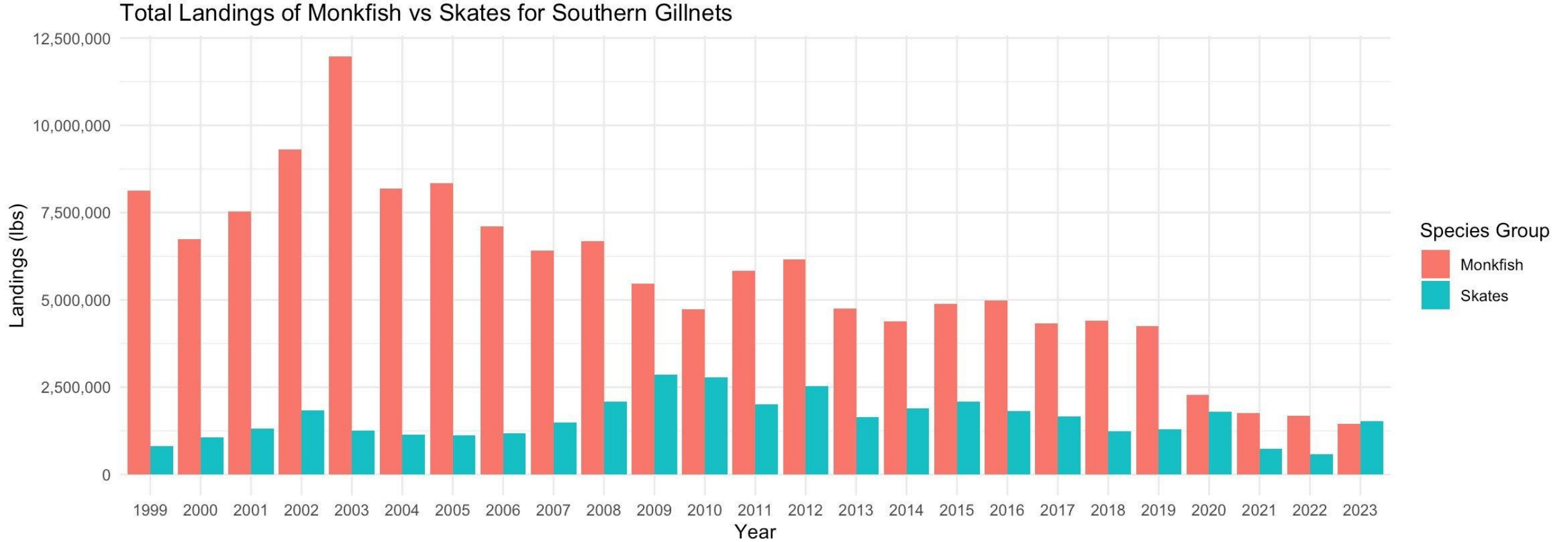


# Southern Gillnet – Monkfish vs. Skates (Logbook Data)



# Southern Gillnet – Monkfish vs. Skates

## (Logbook Data)




## Next Steps

Refine models

Share preliminary models and  
receive feedback

Technical report to council PDT

ICES poster presentation



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**Thank you!**



# Funded by FY23-24 Monkfish Research Set Aside

Fishing Year	% Lbs Used	% DAS Used	Remaining DAS
FY23 RSA DAS (expires 4/30/2025)	11%	14%	216
FY24 RSA DAS (expires 4/30/2026)	0%	0%	250

To be added to  
the EFP to use  
RSA DAS please  
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508 -945-2432

Scan for Monkfish RSA  
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