



# *Stock Assessment of Striped Bass in the Albemarle Sound & Roanoke River*

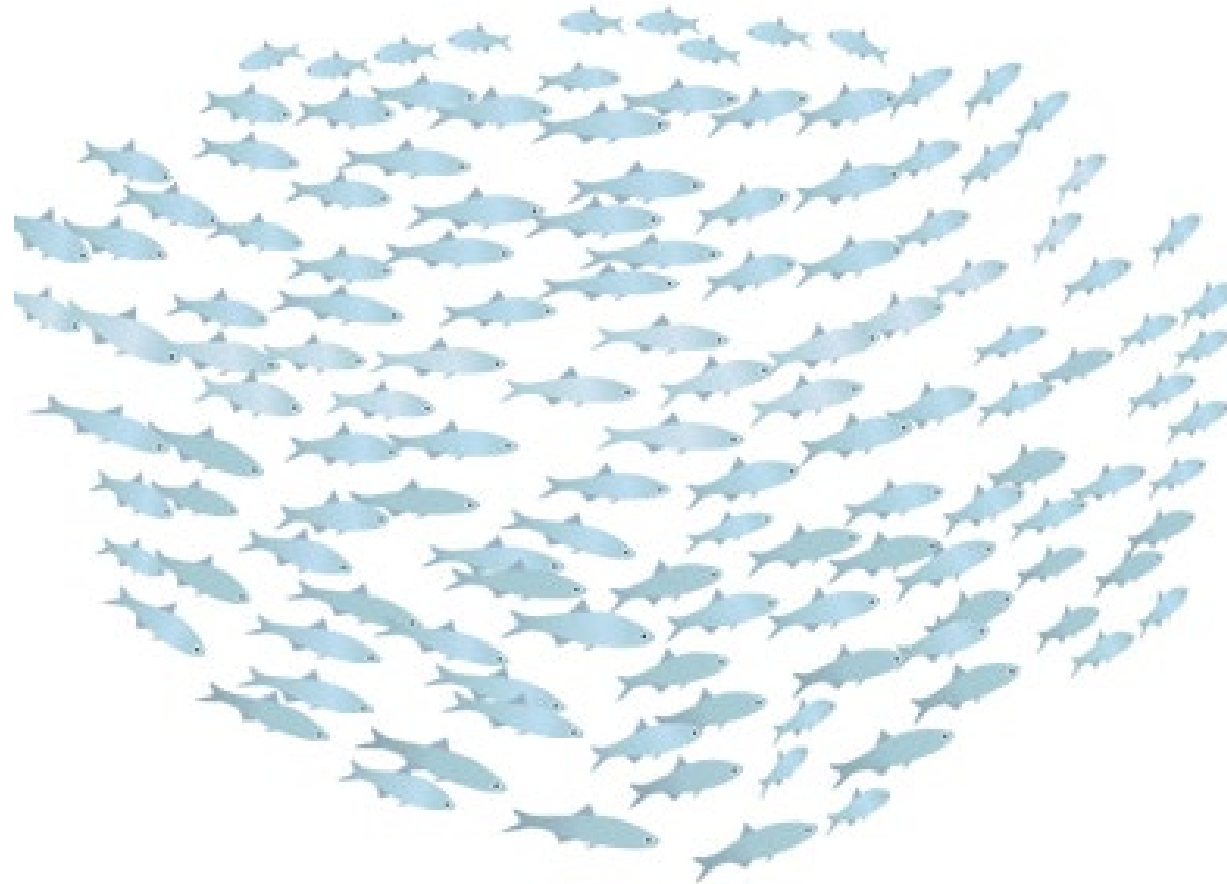
*DEPARTMENT OF ENVIRONMENTAL QUALITY*

Marine Fisheries

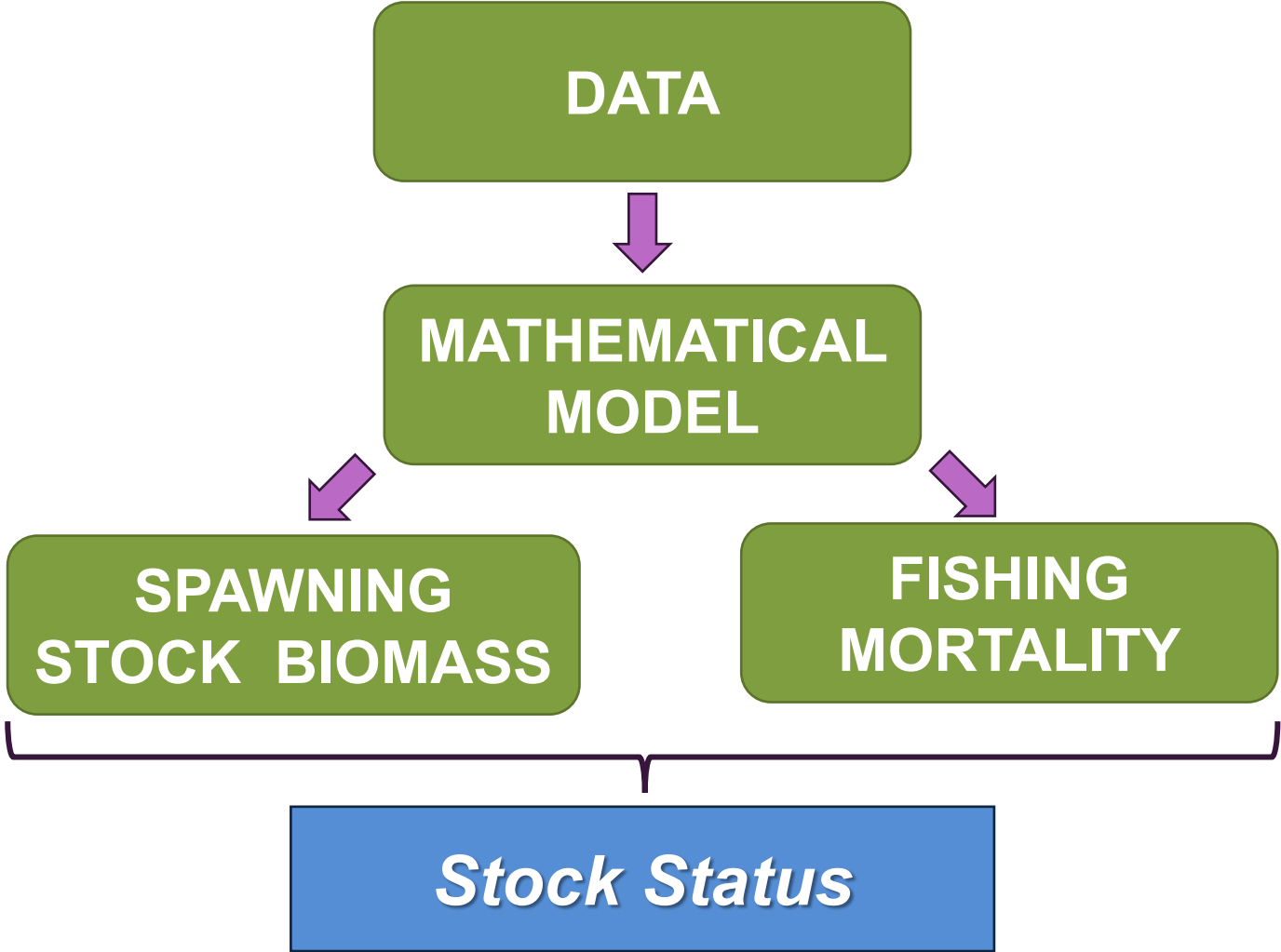
N.C. Marine Fisheries Commission | Laura M. Lee & Charlton Godwin | May 2023



# *Stock Assessment*

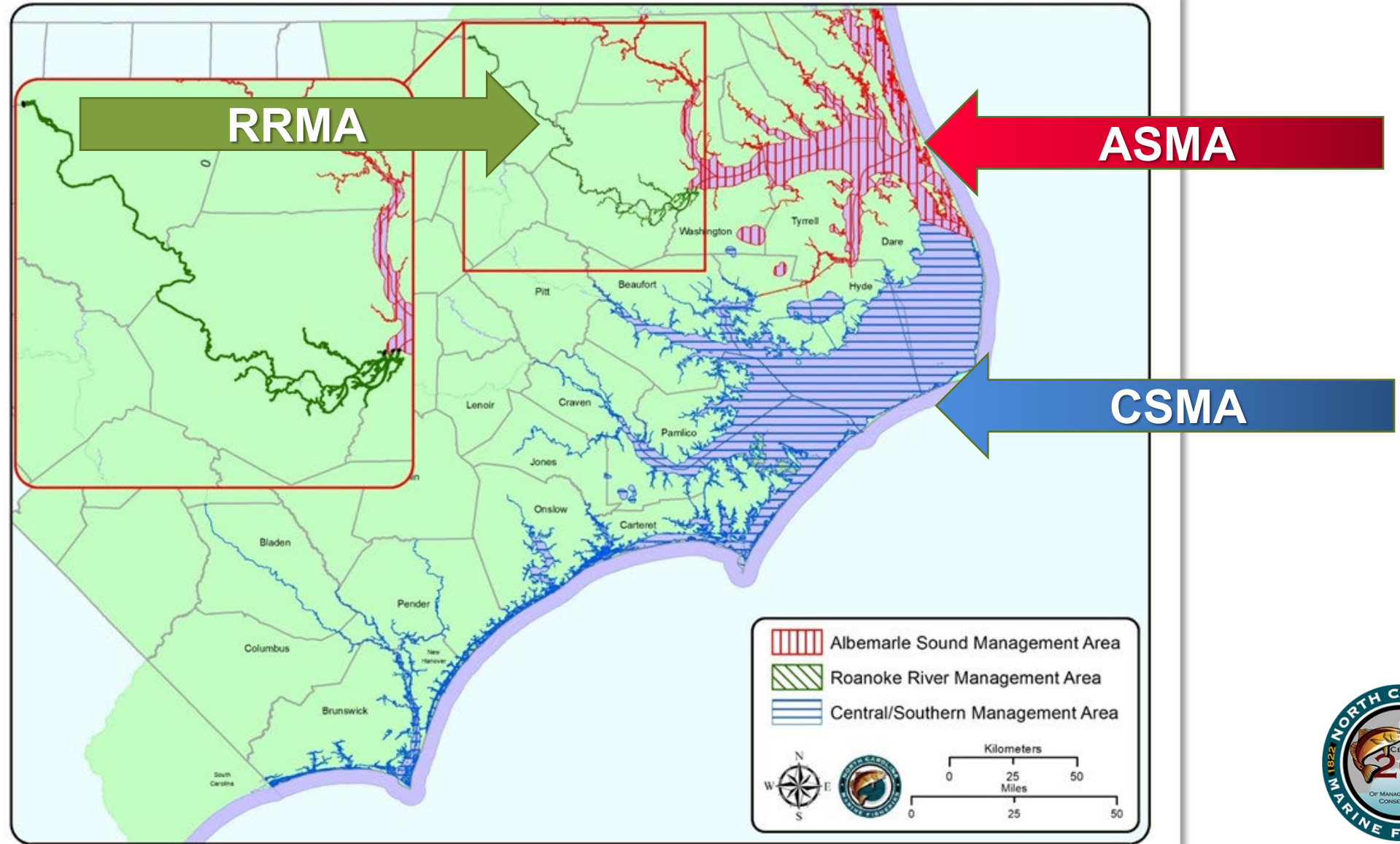


# Stock Assessments





# Striped Bass Management Areas

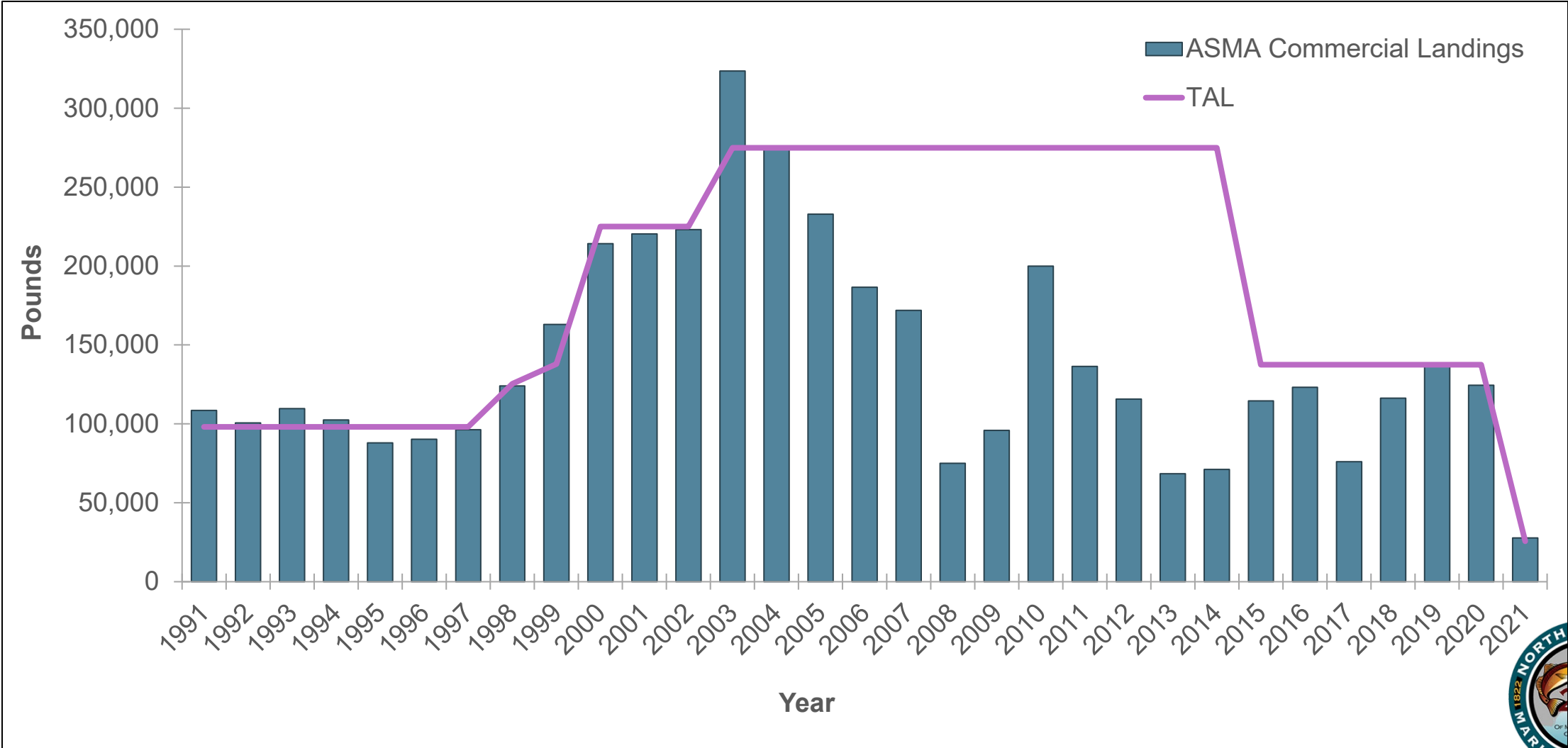


# *Model Set Up & Input Data*

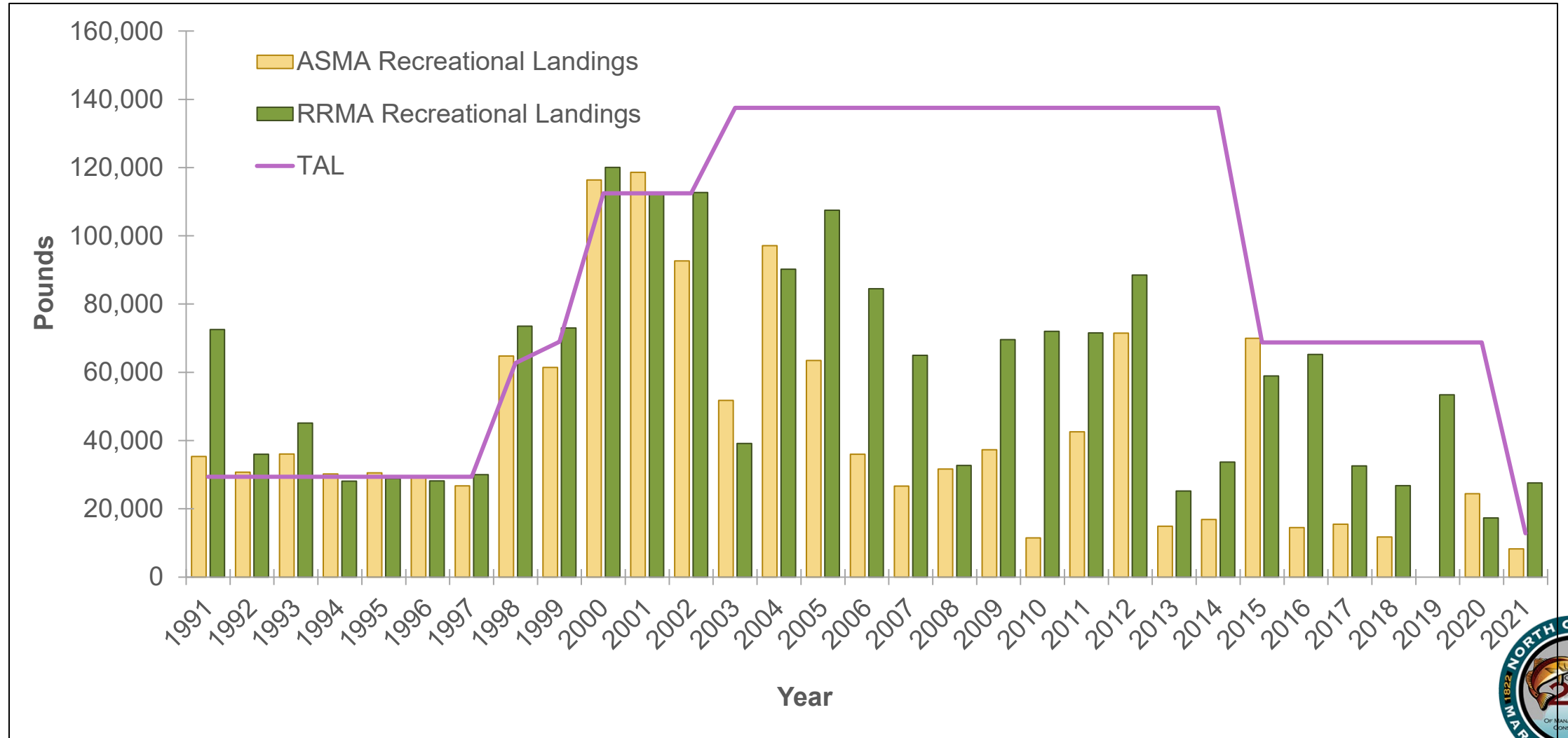
- Time series: 1991 through 2021
- Fisheries-dependent
  - Commercial landings and dead discards
  - Recreational landings and dead discards
  - Biological samples (length, weight, age, sex)
- Fisheries-independent
  - Juvenile trawl survey
  - Fall adult gill-net survey
  - Spring spawner gill-net survey
  - Spawner electrofishing survey
  - Biological samples (length, weight, age, sex)



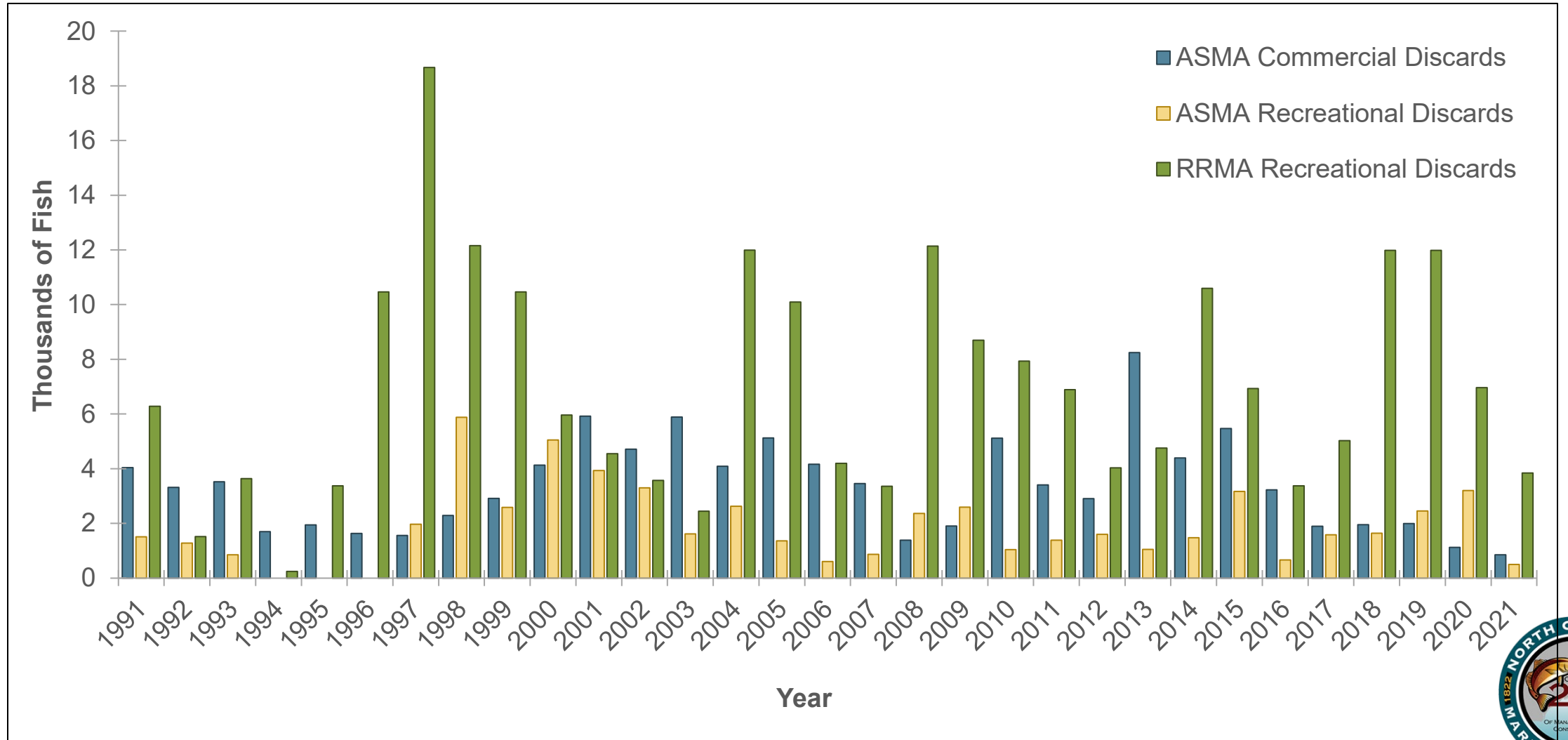
# Commercial Landings



# Recreational Landings

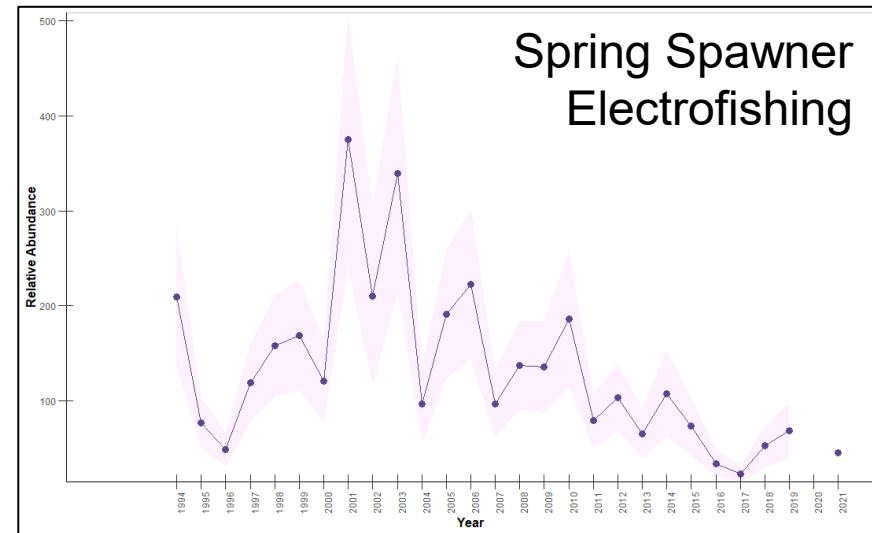
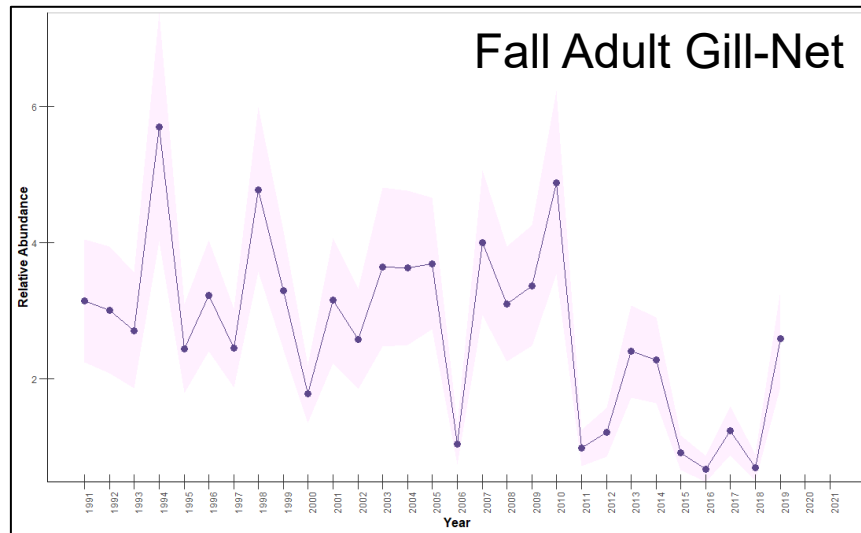
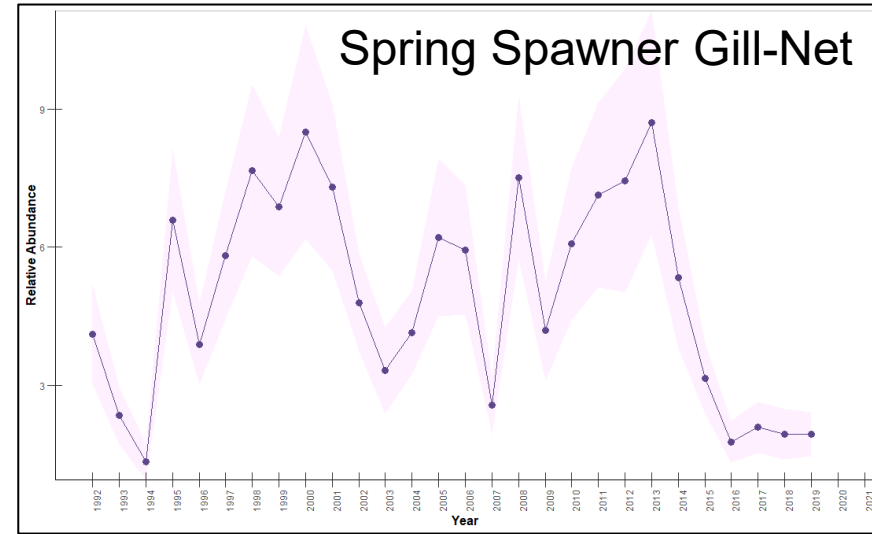
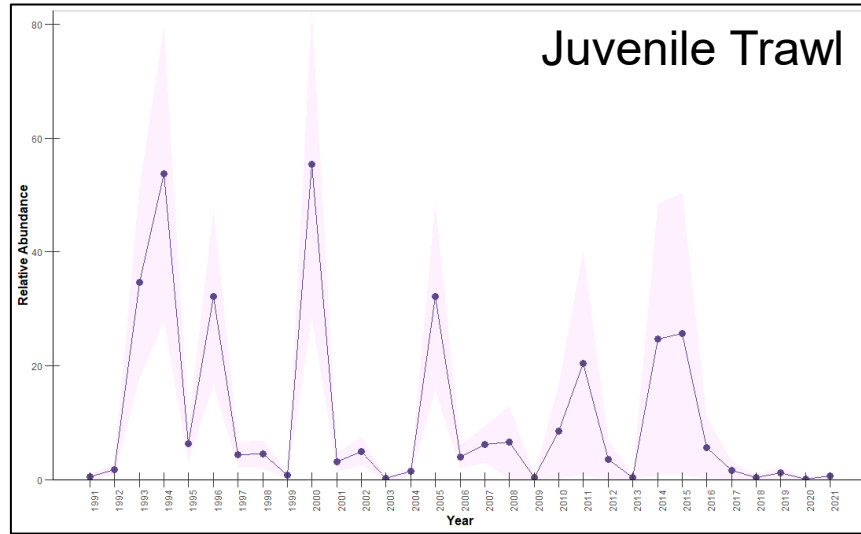


# Fishery Dead Discards

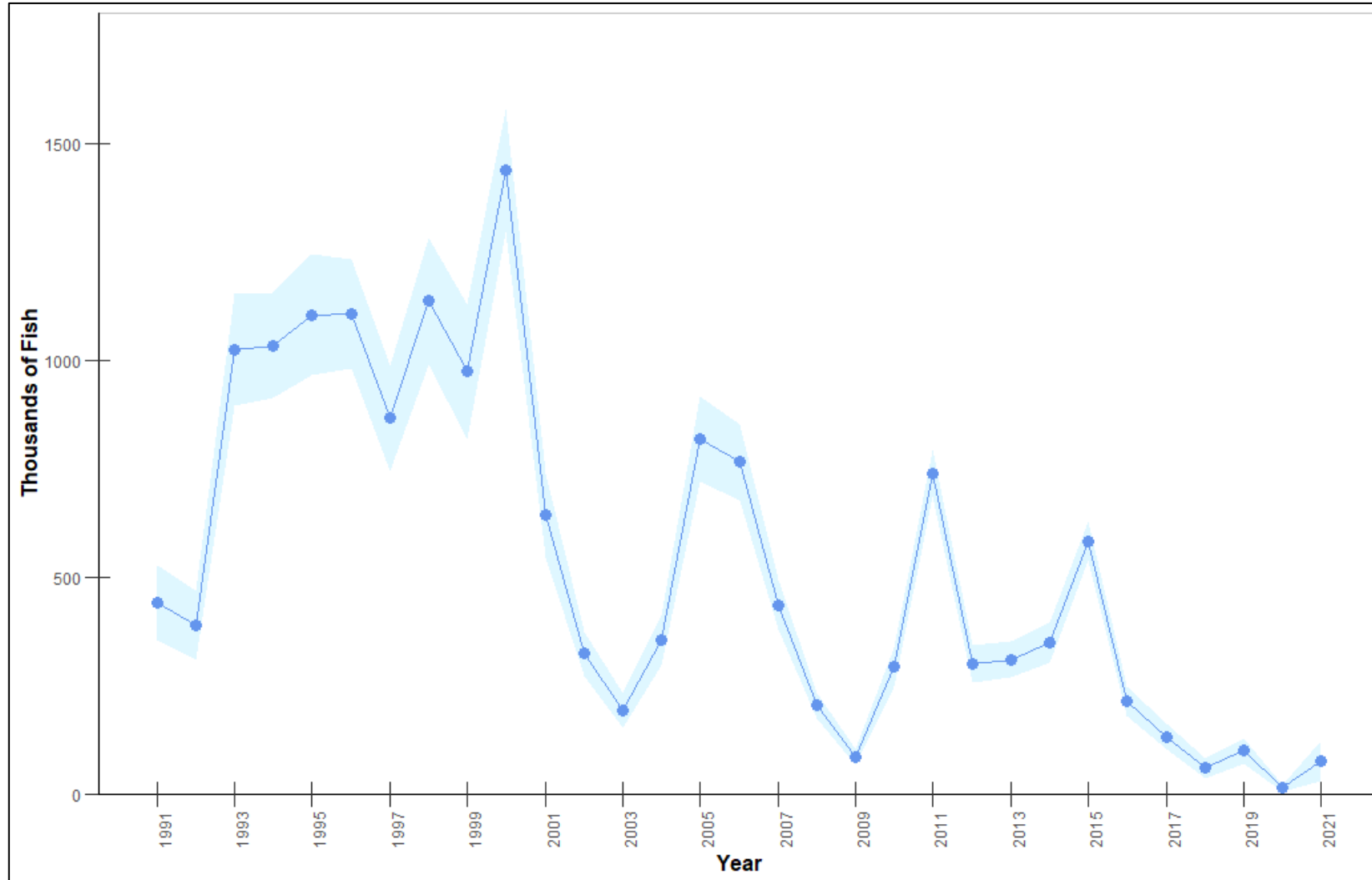




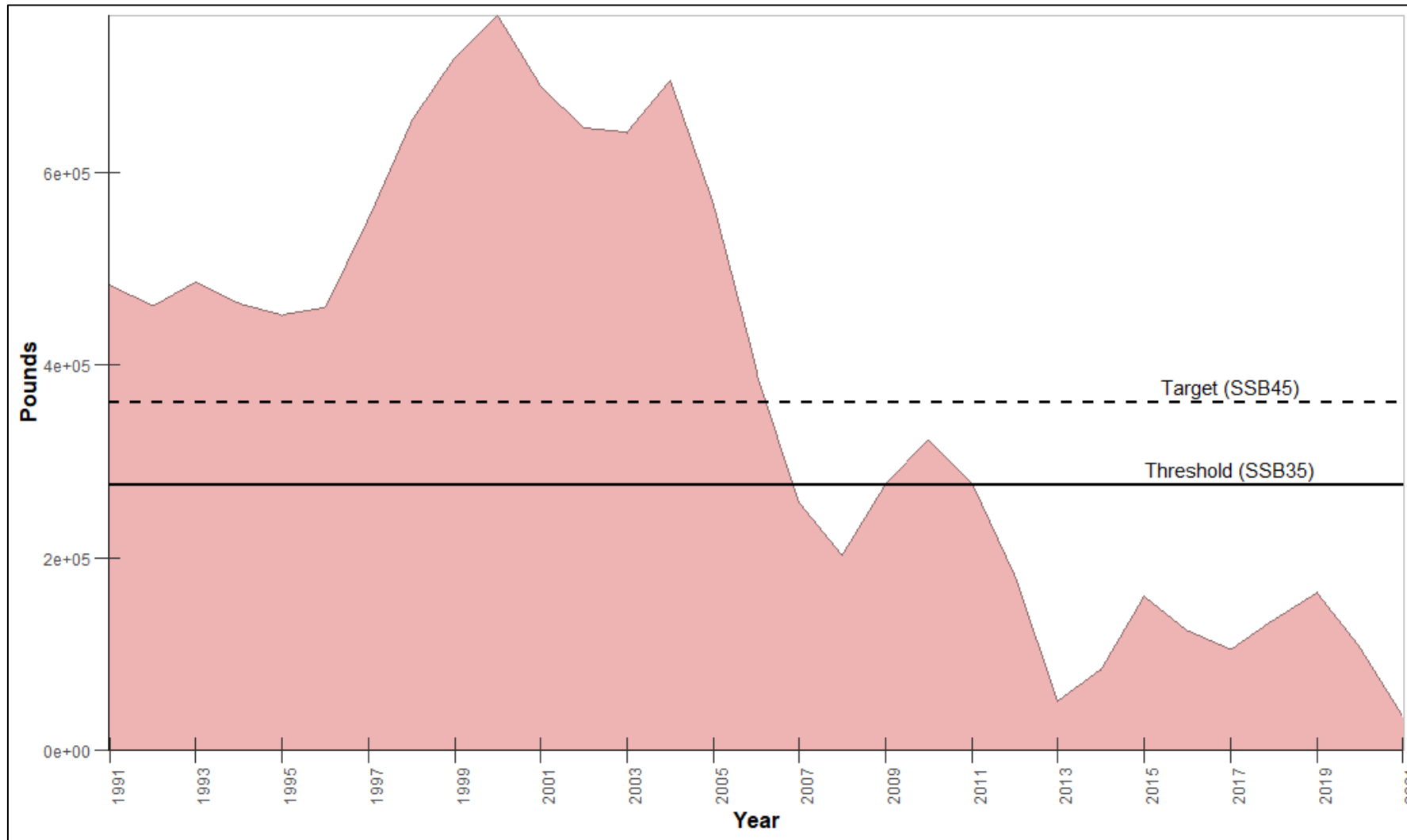
# Fisheries-Independent Surveys



# Predicted Recruitment



# Stock Status—Spawning Stock Biomass

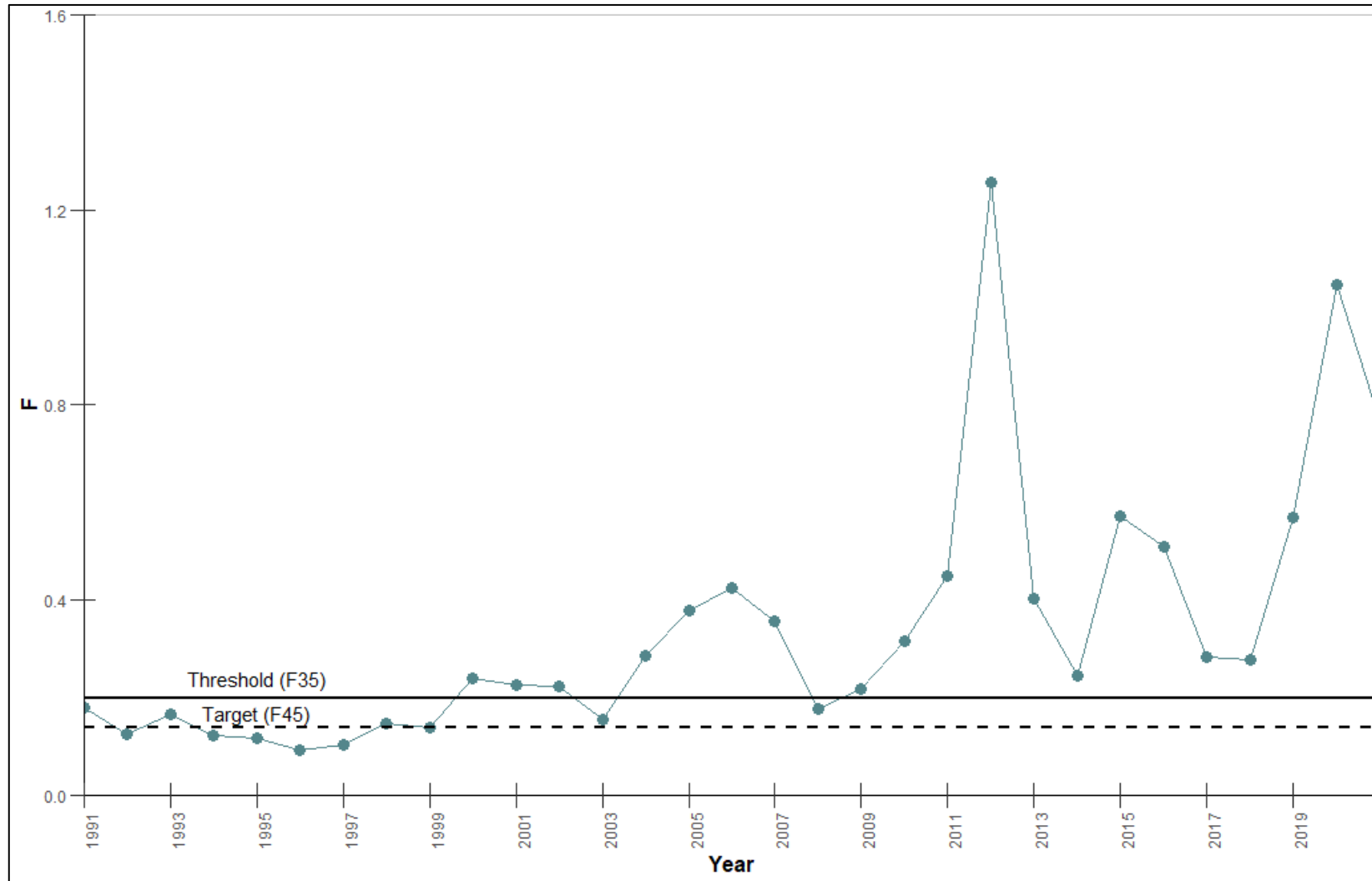


# Stock Status—Spawning Stock Biomass

- $SSB_{2021} = 35,567$  pounds
- $SSB_{35\%} = 275,287$  pounds (threshold)
- $SSB_{45\%} = 360,720$  pounds (target)
- $SSB_{2021} < SSB_{35\%} \rightarrow$  stock is overfished



# Stock Status—Fishing Mortality



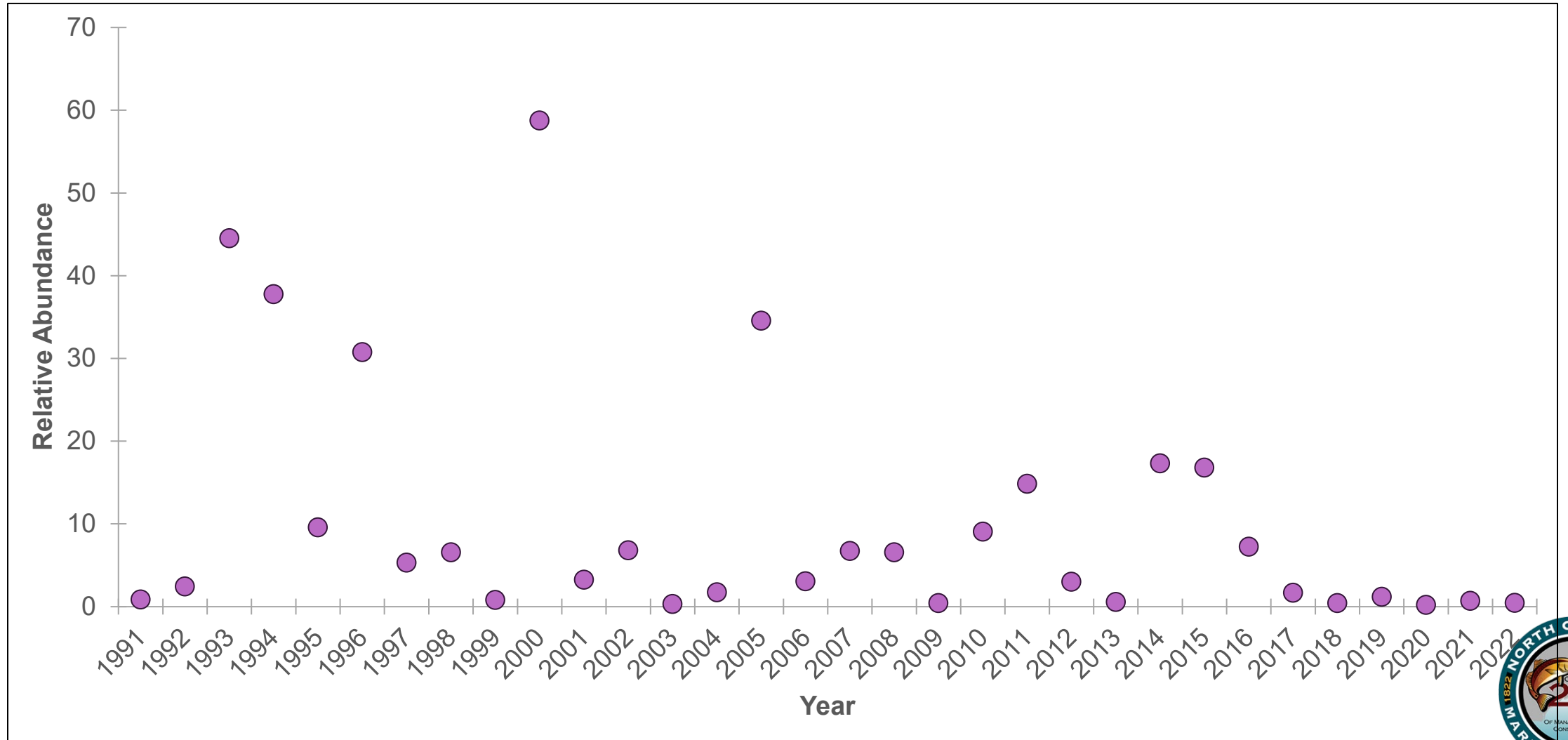


# Stock Status—Fishing Mortality

- $F_{2021} = 0.77$
- $F_{35\%} = 0.20$  (threshold)
- $F_{45\%} = 0.14$  (target)
- $F_{2021} > F_{35\%} \rightarrow$  overfishing is occurring



# Continued Decline in Recruitment



# *Motivation for Peer Review*

- Treatment of data during COVID-19 pandemic
- Continued low recruitment
- Poor model diagnostics
- Potential for significant management change



# *Peer Review Conclusions*

- Approach for handling data during Covid-19 was appropriate
- Base model estimates agree with general data trends
- Model results are a credible representation of current stock status
- Endorsed the results for management

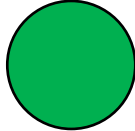
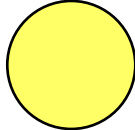
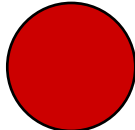


# Traffic Light Analysis



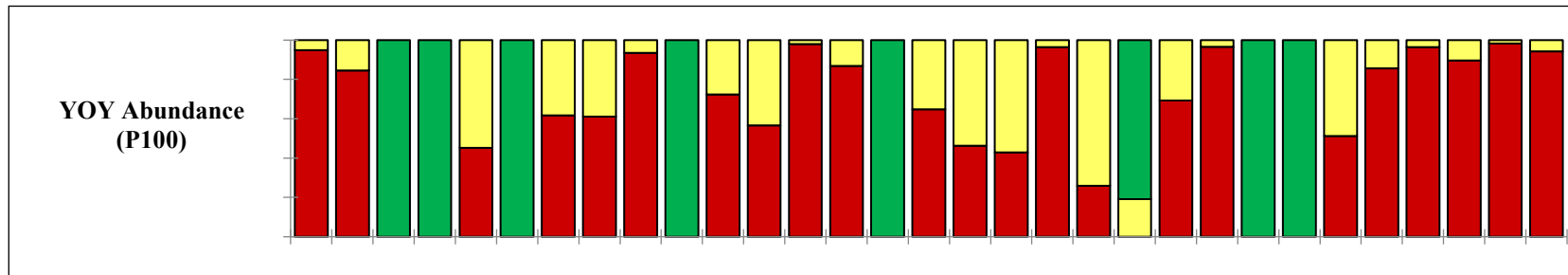
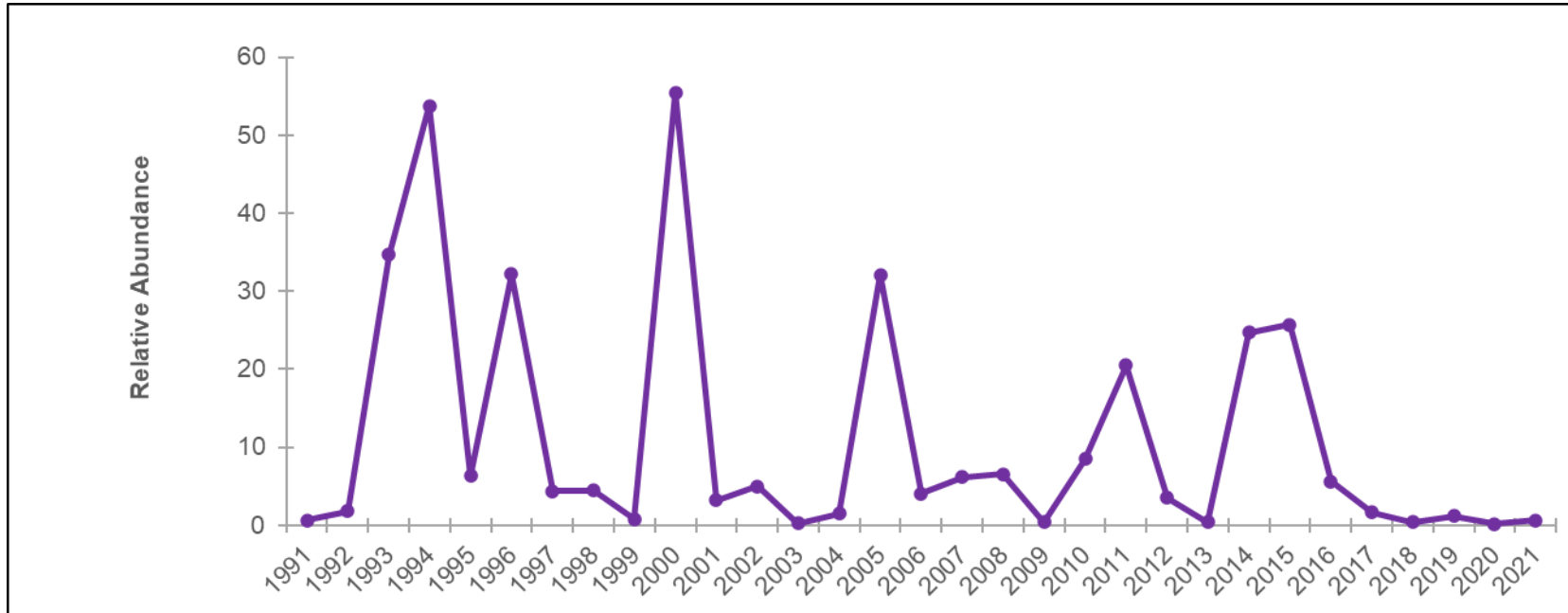


# *Traffic Light Key*

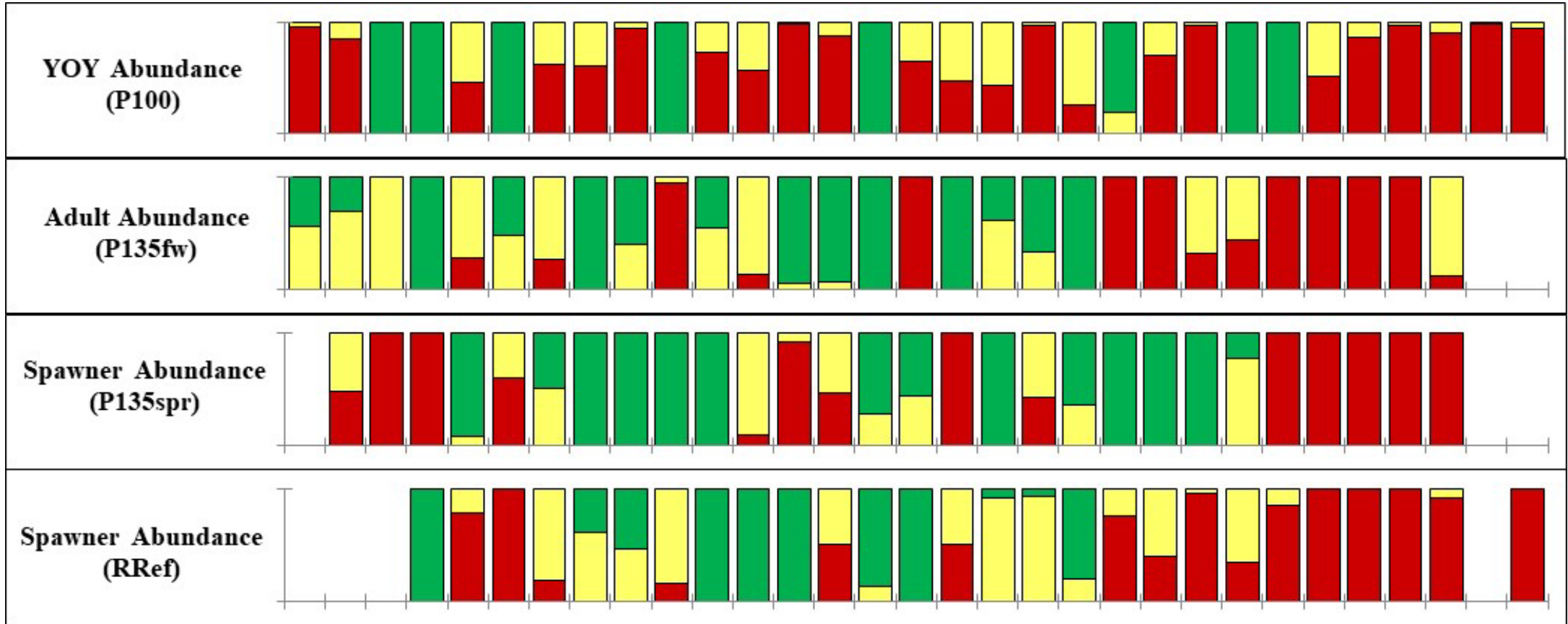
-  = Desirable
-  = Transition
-  = Undesirable



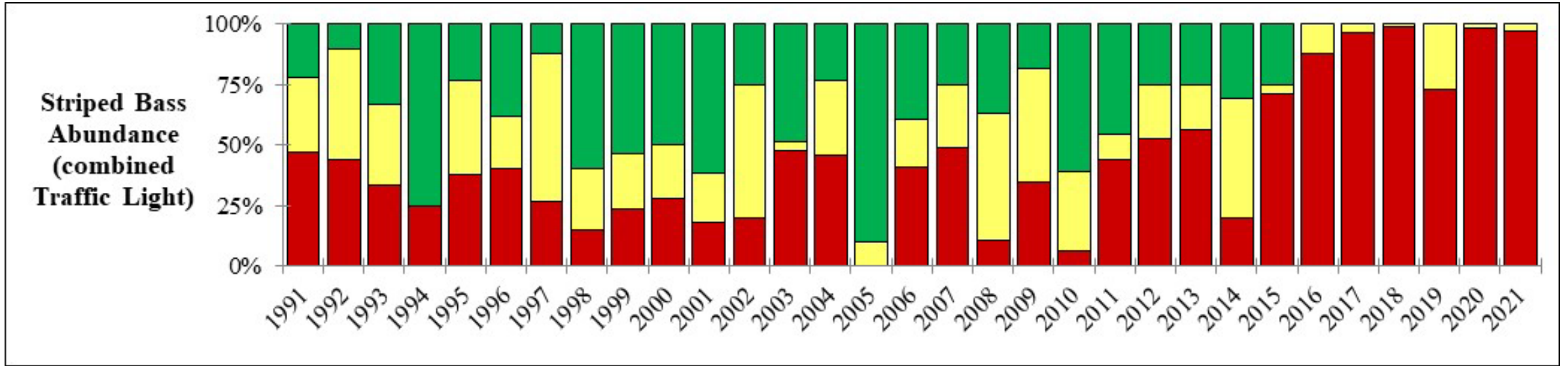
# Example—Juvenile Trawl



# Striped Bass Traffic Light



# Striped Bass Traffic Light





***Questions?***

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