



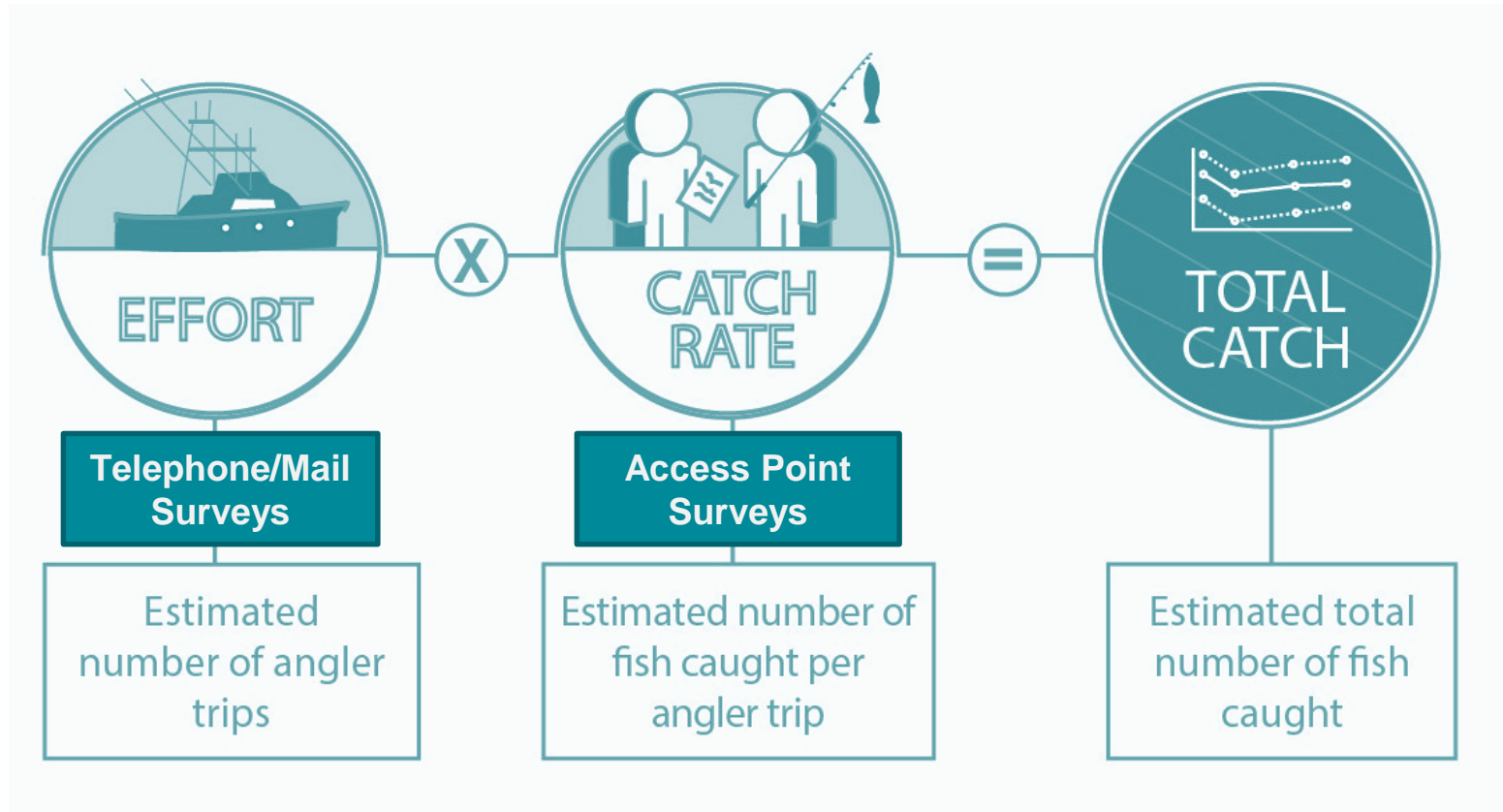
**NOAA  
FISHERIES**

# Marine Recreational Information Program

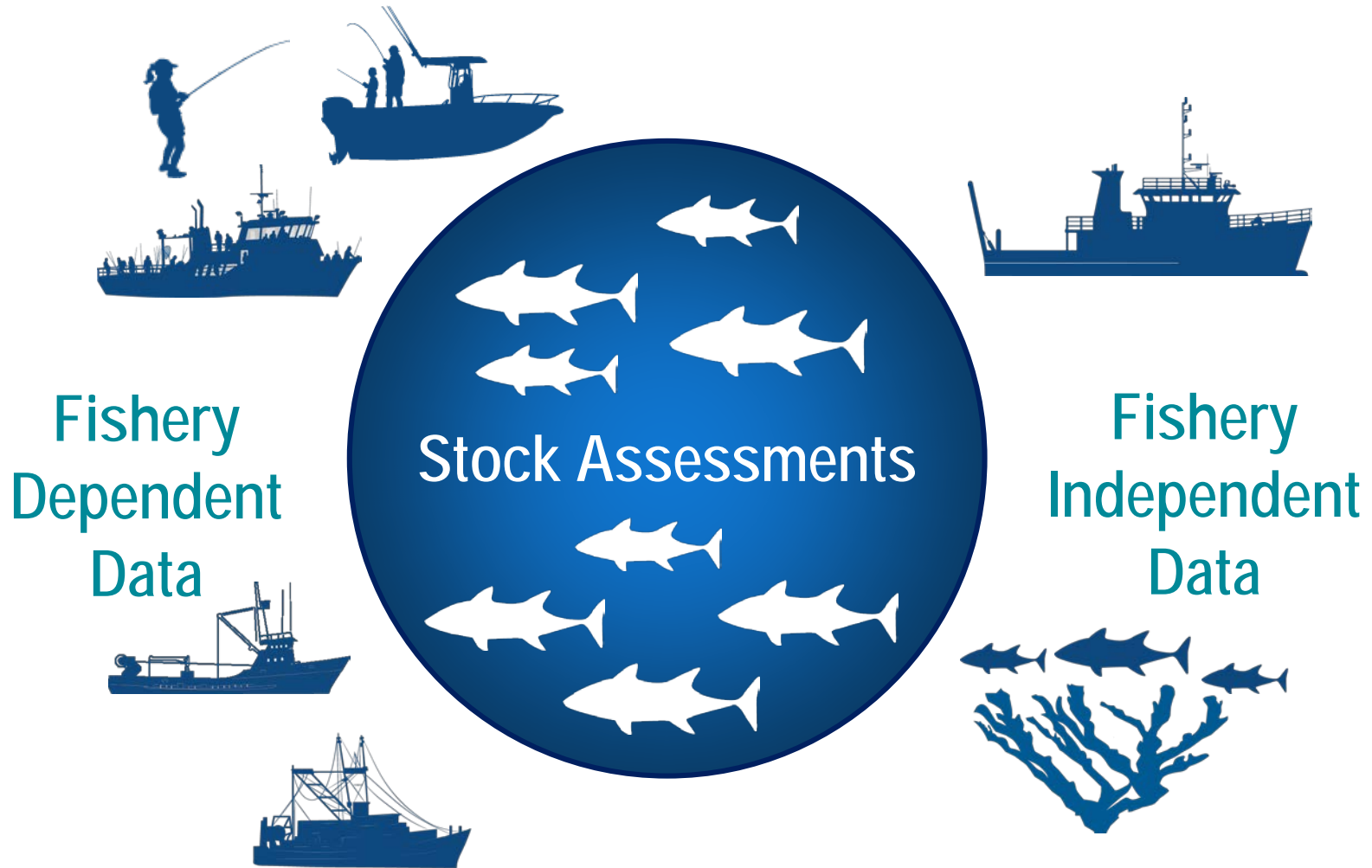
## Transition to Improved Survey Designs

Richard Cody, ECS  
In support of NOAA Fisheries  
Office of Science & Technology

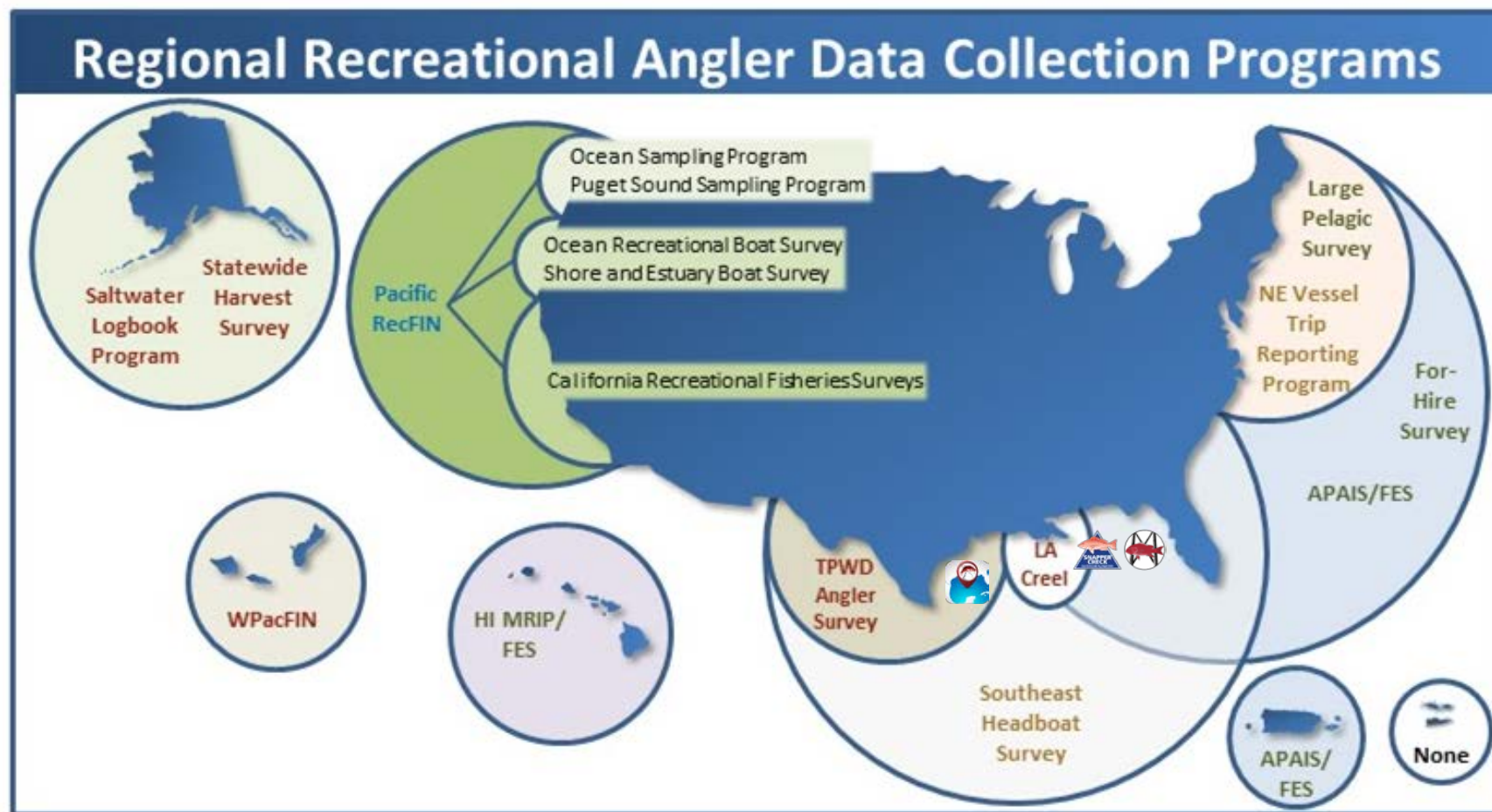
# Estimating Total Recreational Catch



# Assessing the Health of Fish Stocks

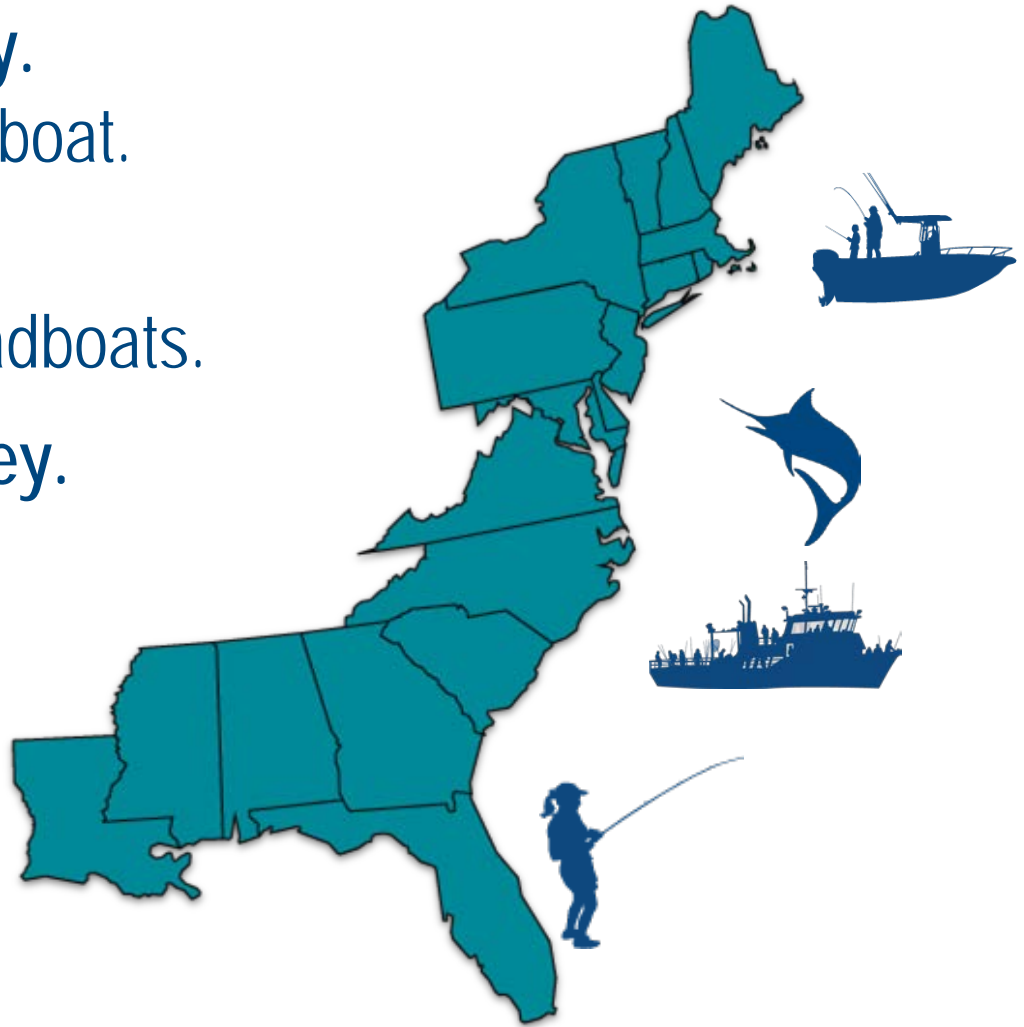


# Regional Surveys, National Certification



# Estimating Effort

- **Fishing Effort Survey.**
  - Shore and private boat.
- **For-Hire Survey.**
  - Charter, Party/Headboats.
- **Large Pelagics Survey.**
  - Telephone survey.



# Estimating Catch Rate

- Access Point Angler Intercept Survey.
  - Dockside Intercept.
  - At-Sea Party/Headboat Sampling.



- Large Pelagics Survey.
  - Dockside intercept.



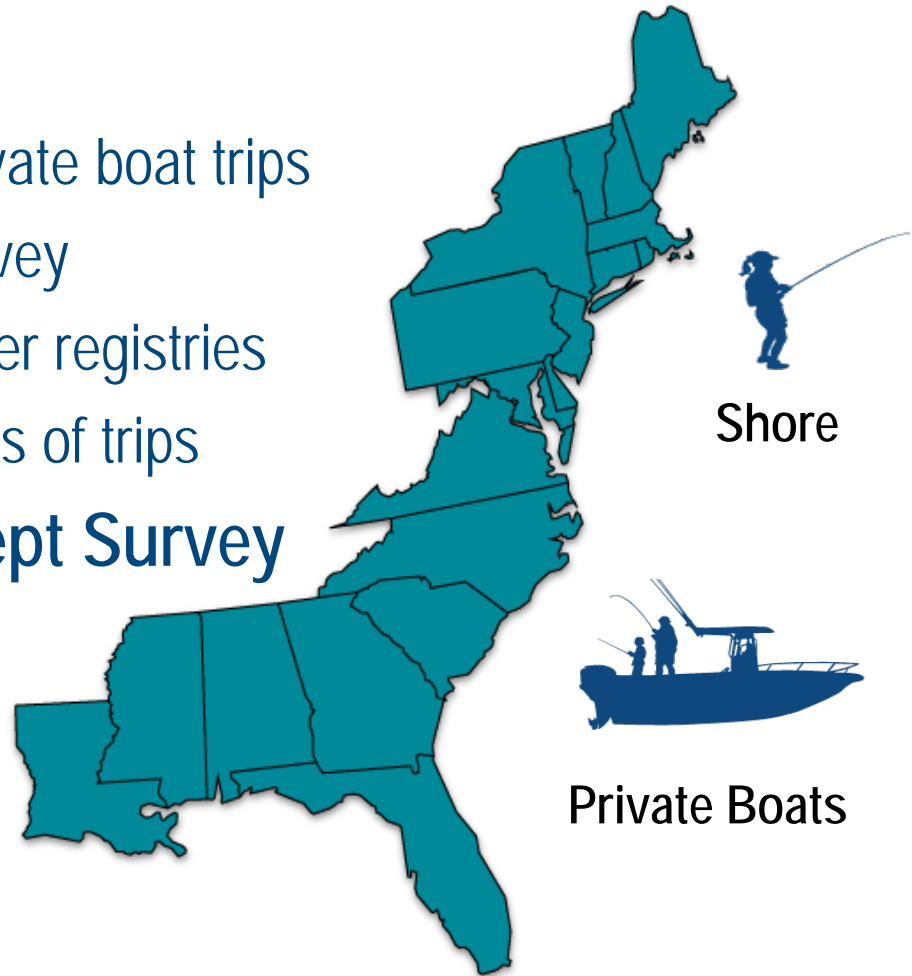
# Improved Survey Designs

## Fishing Effort Survey

- New mail survey of shore & private boat trips
- Replaces legacy telephone survey
- Uses USPS database and angler registries
- Higher, more accurate estimates of trips

## Access Point Angler Intercept Survey

- New design for sampling catch
- Better time-of-day coverage
- More statistically sound





# Fishing Effort Survey



We're reaching more anglers.



Surveys get into the right hands.

**3X**

Much higher response rate.



Improved questionnaire.



More complete answers.



# Extensive Testing and Peer Review

"The [Fishing Effort Survey] methodologies, including the address-based sampling survey design, are **major improvements.**"

"The current methods used in the APAIS ... are a vast improvement over the previous sampling and estimation procedures and reflect **state of the art methods** in survey sampling."

*The National  
Academies of*

SCIENCES  
ENGINEERING  
MEDICINE

# Transition Plan

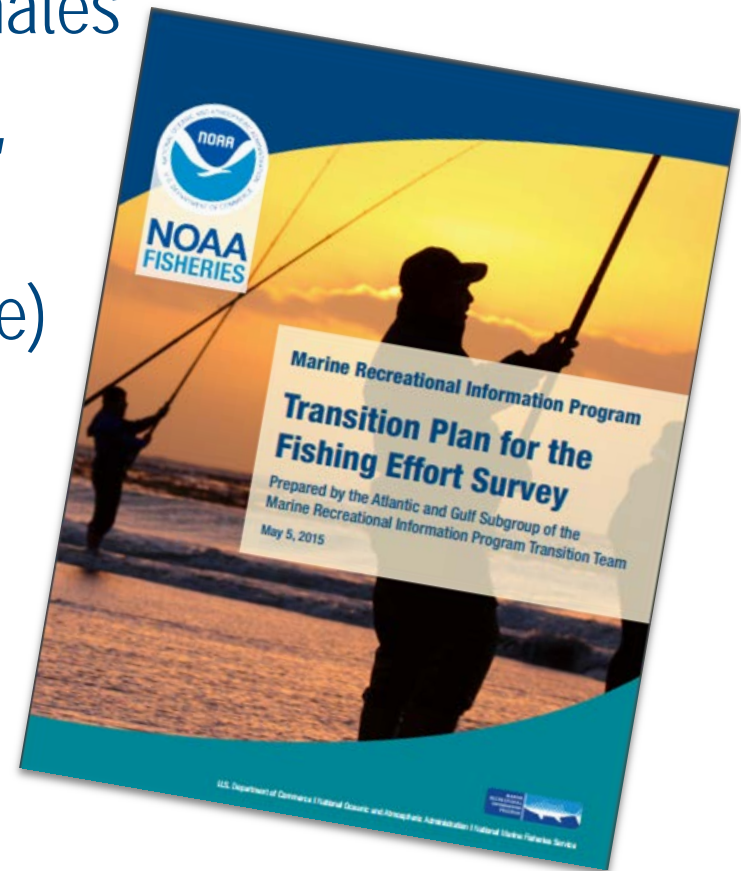
Improving designs can change estimates

Transition Plan developed by NOAA, states, councils, and commissions.

- ✓ Benchmarking (mail vs. phone)
- ✓ Calibration (old vs. new)
- ✓ Convert “old” estimates into “new” currency

Stock assessments

Management decisions



# 2018 Annual Catch Limits



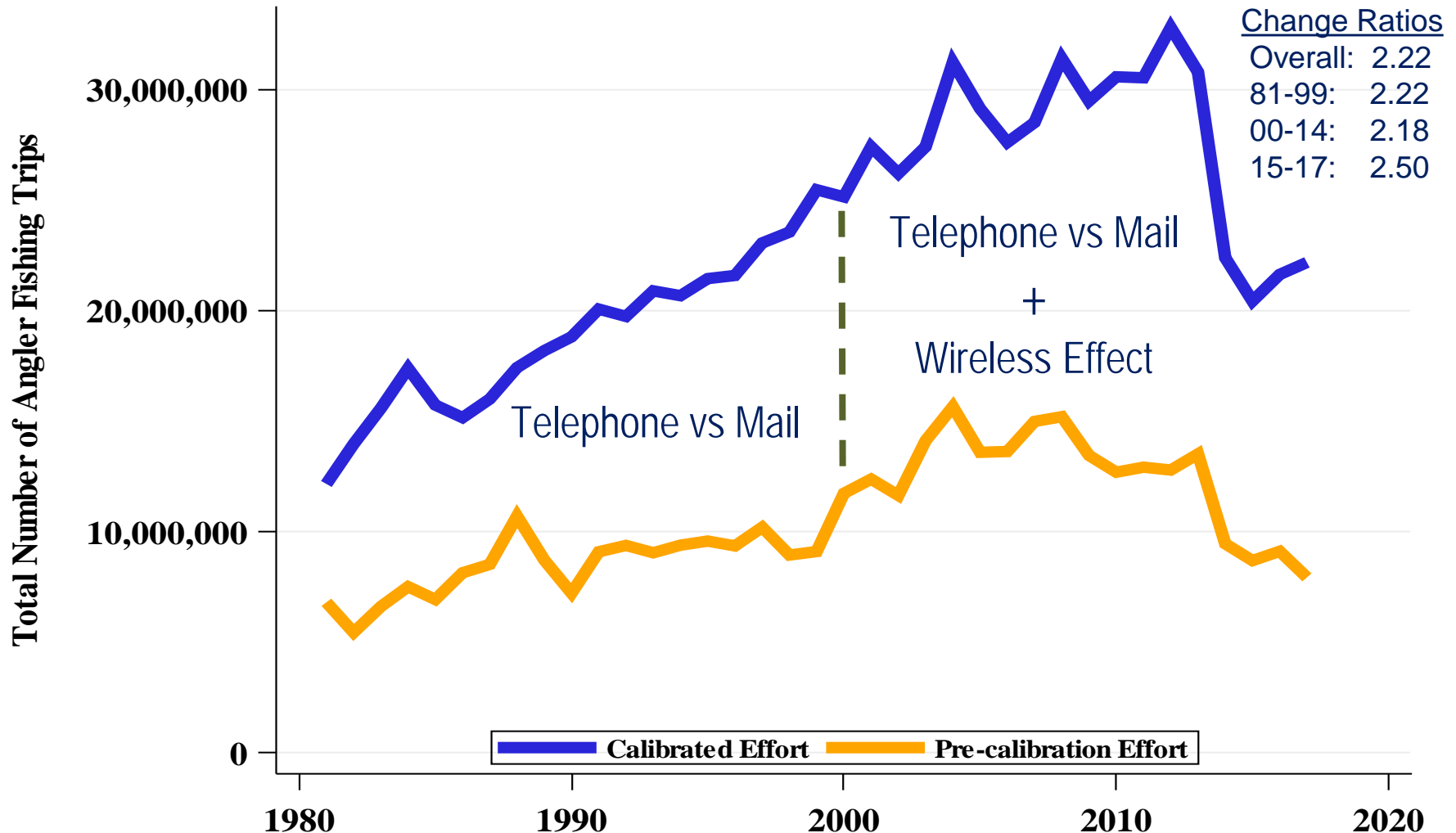
2018 ACLs set using CHTS estimates

FES  $\longleftrightarrow$  CHTS  
Calibration model converts both directions

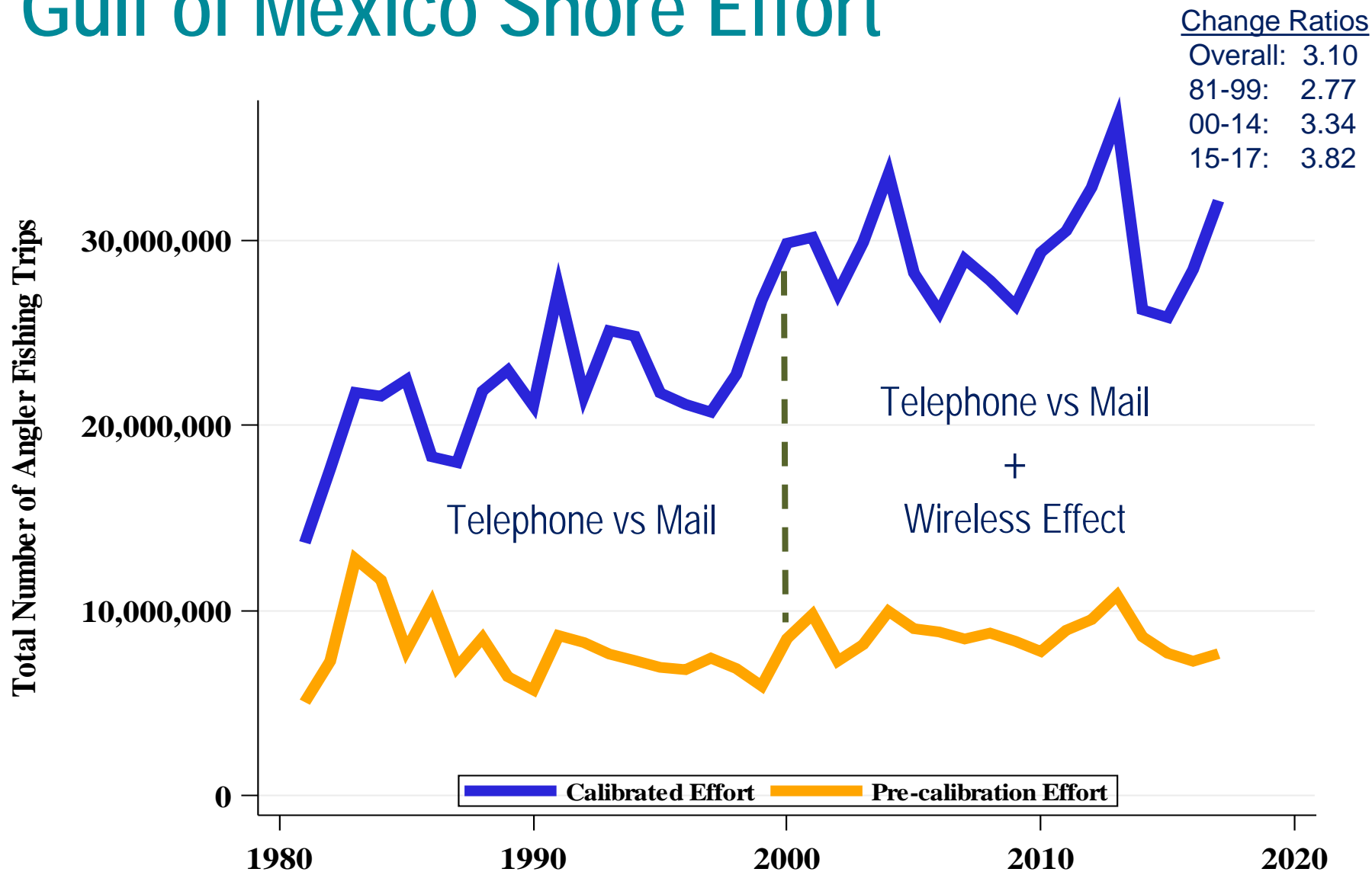


Year-end estimates in same "currency"

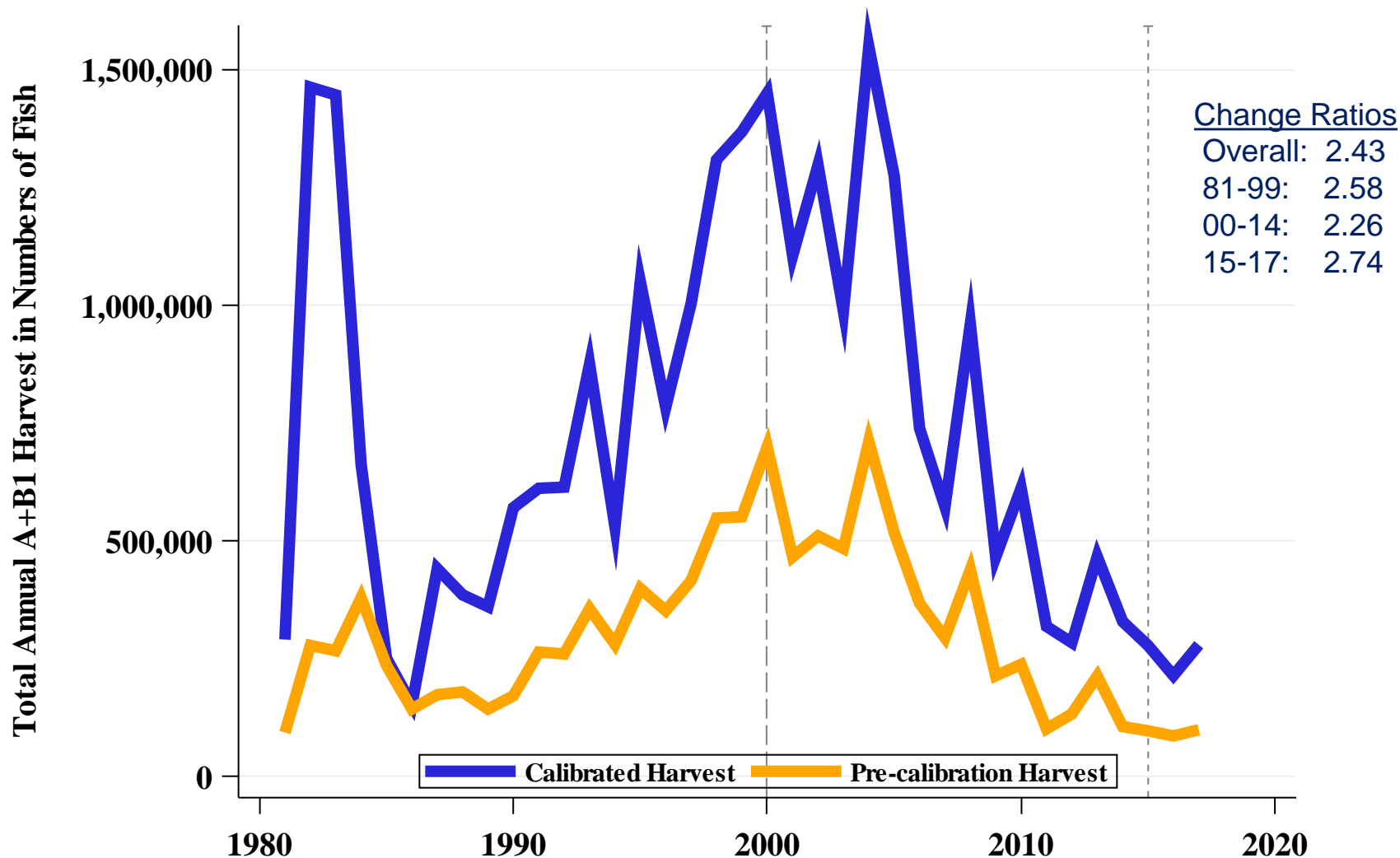
# Gulf of Mexico Private Boat Effort



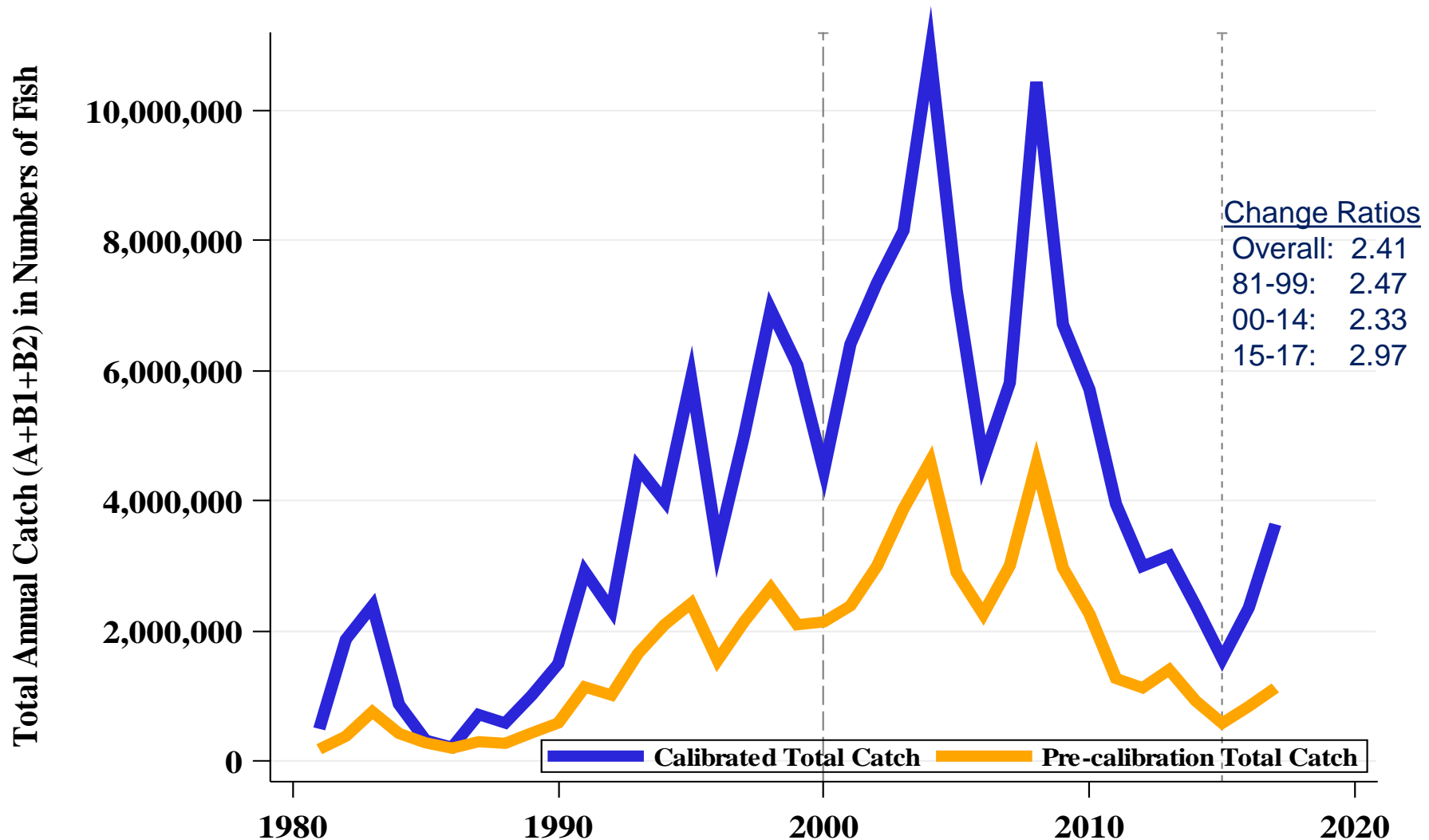
# Gulf of Mexico Shore Effort



# Gag Harvest

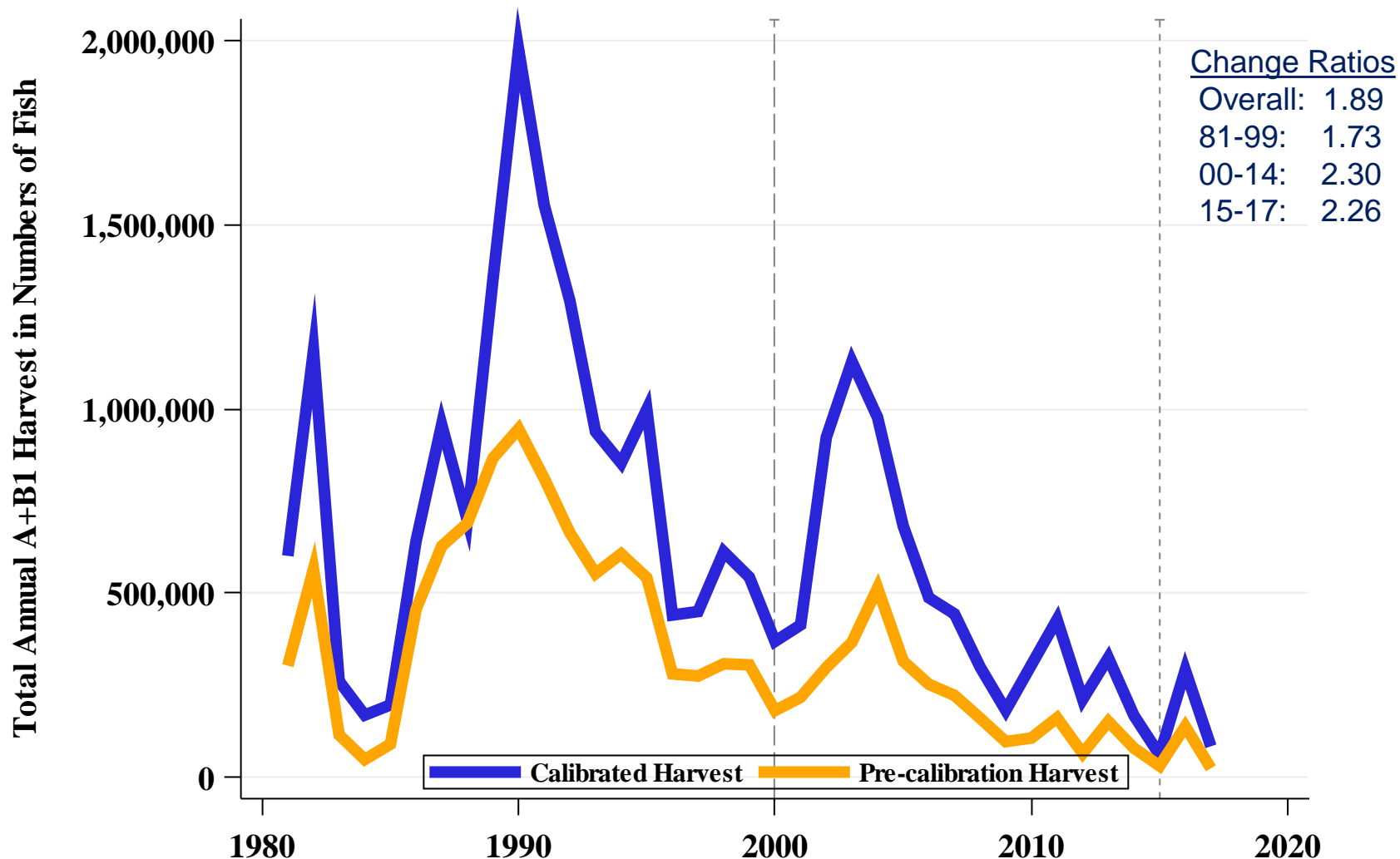


# Gag Total Catch

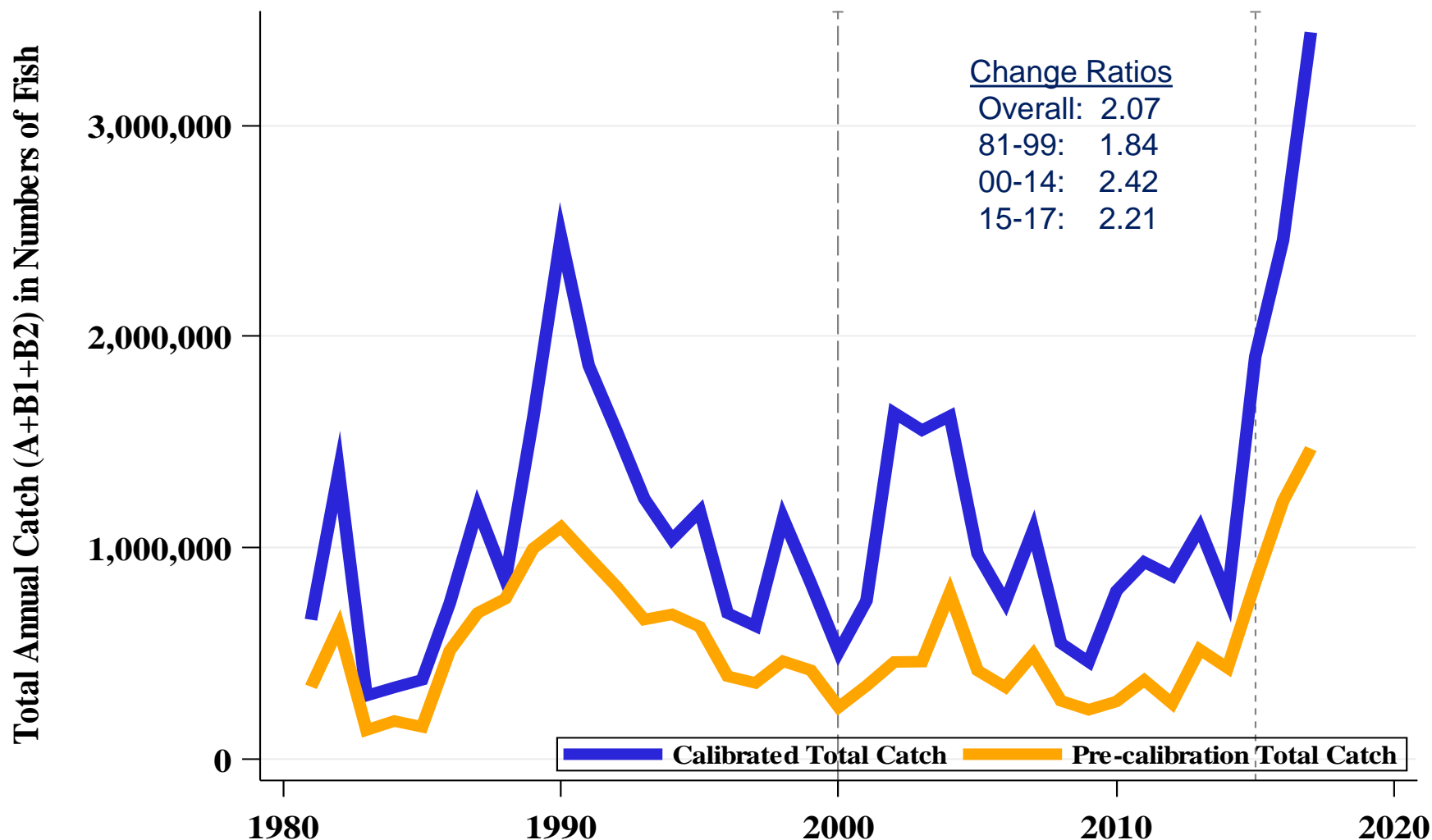




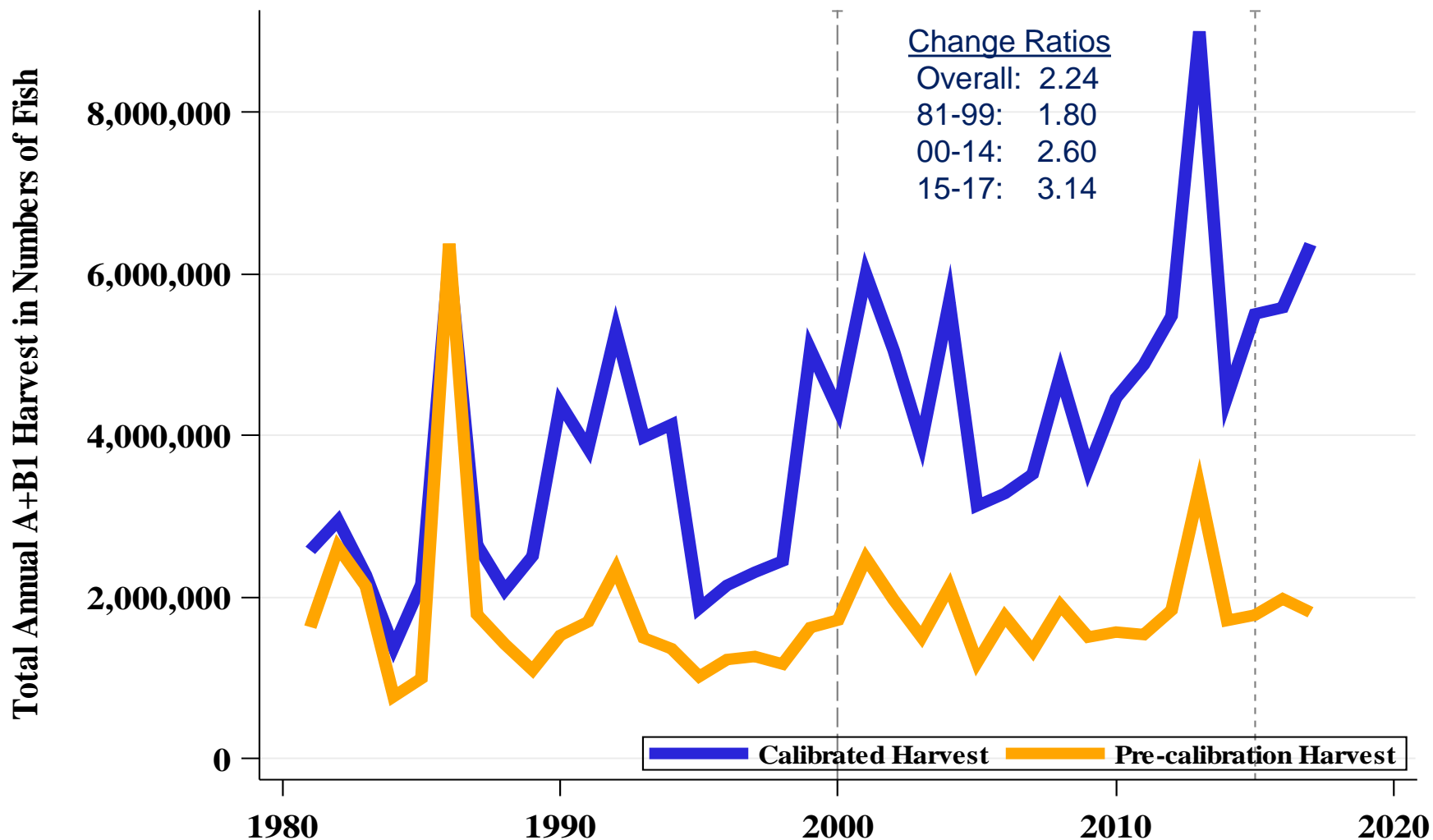
# Gray Triggerfish Harvest



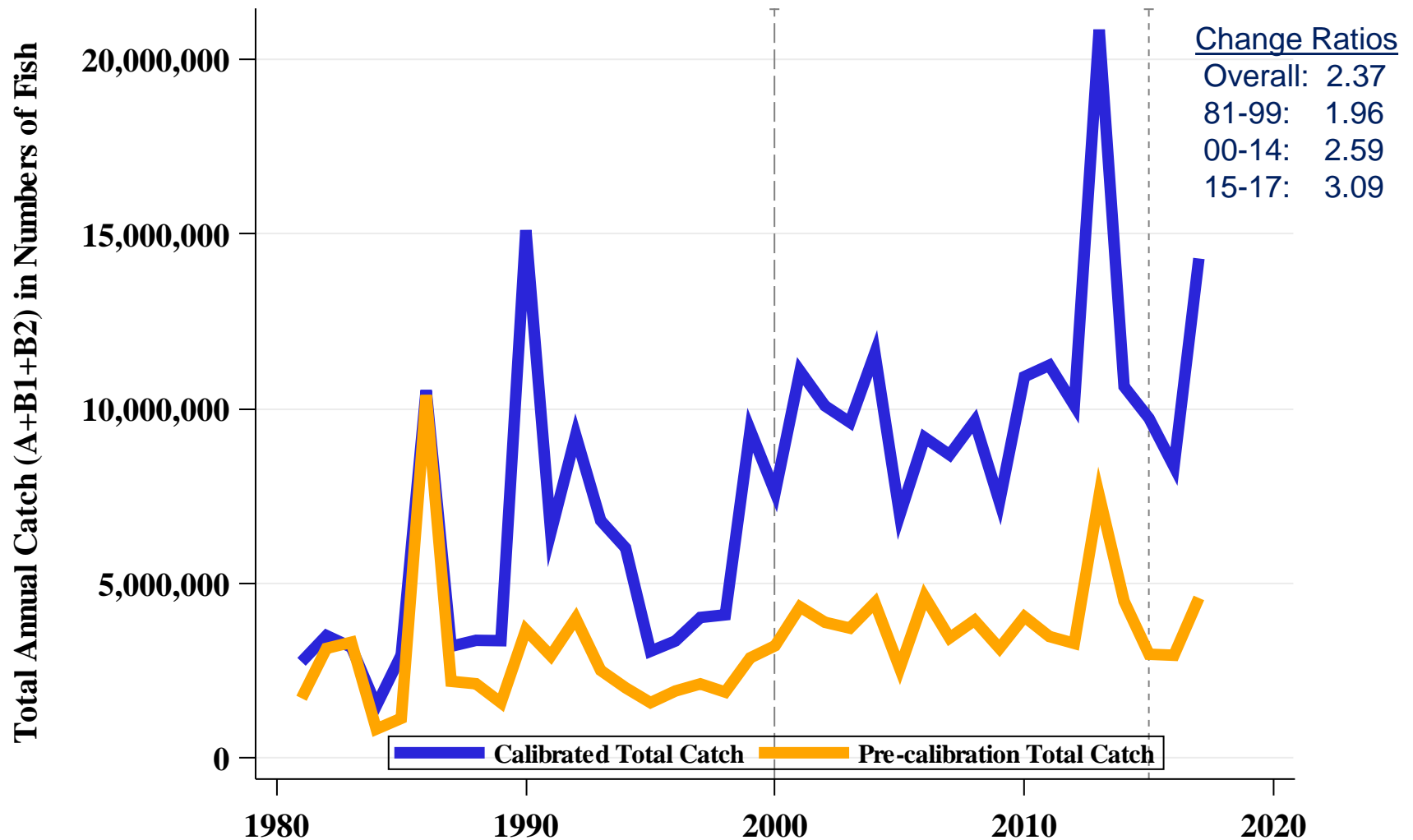
# Gray Triggerfish Total Catch



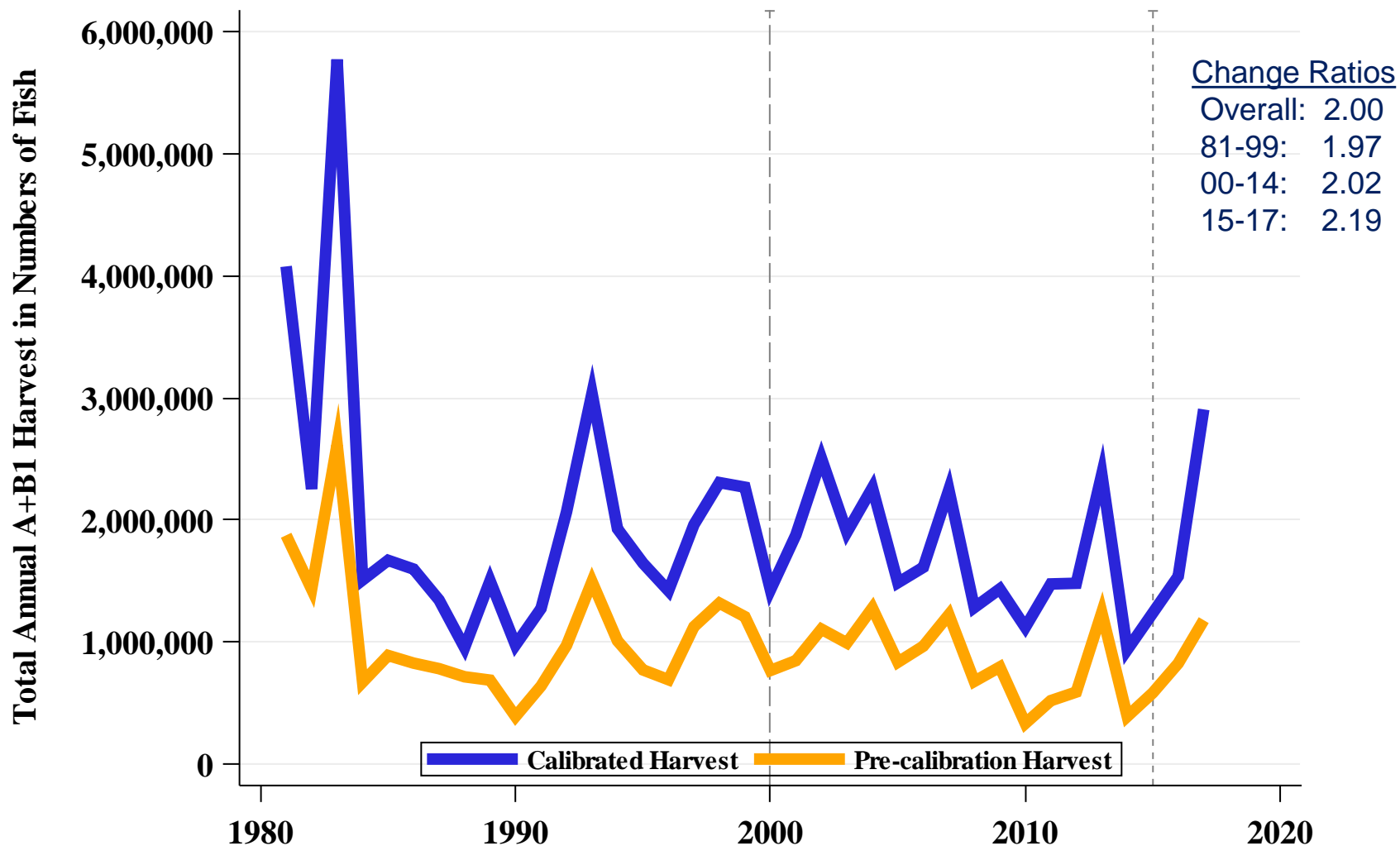
# Spanish Mackerel Harvest



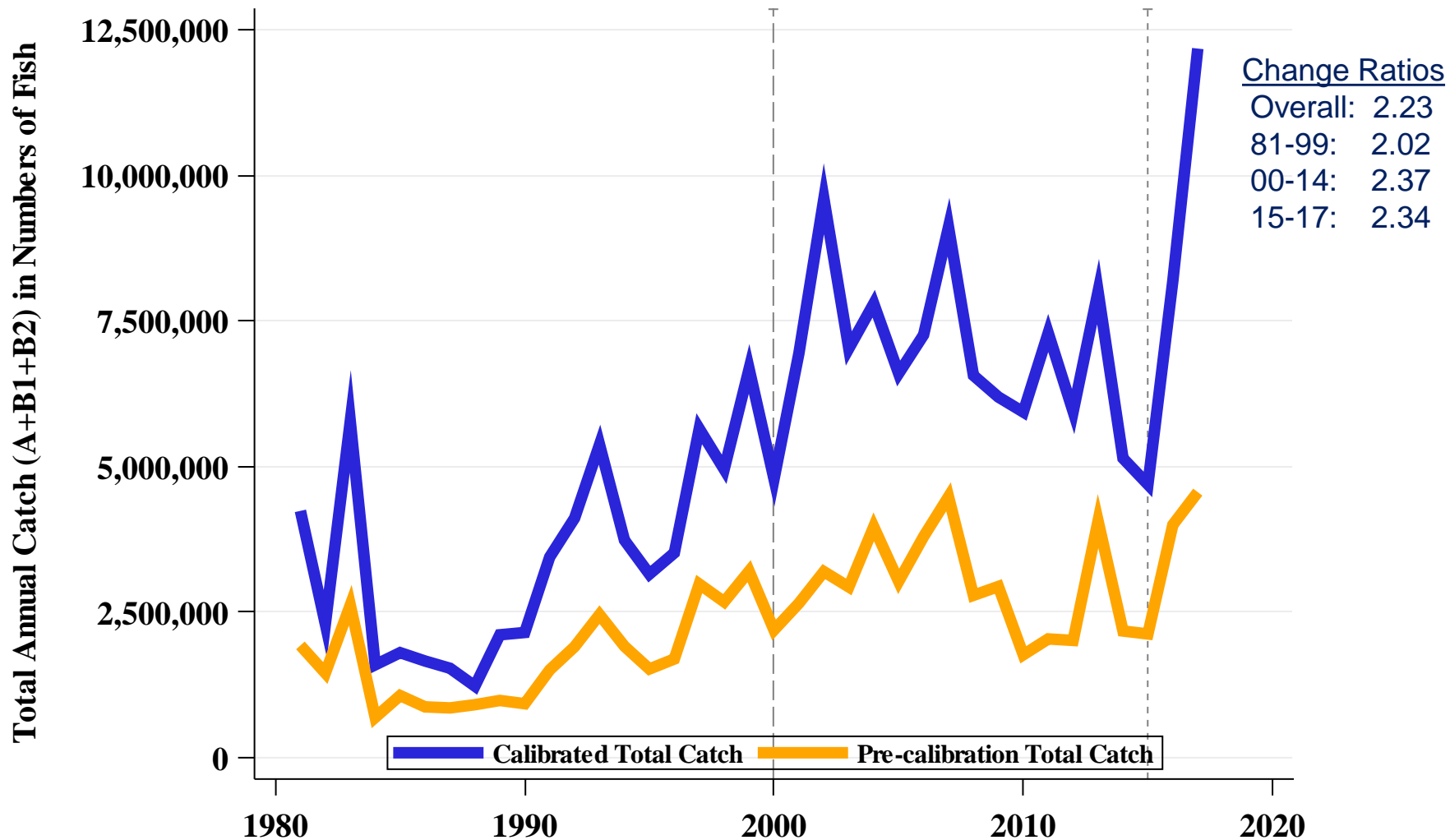
# Spanish Mackerel Total Catch



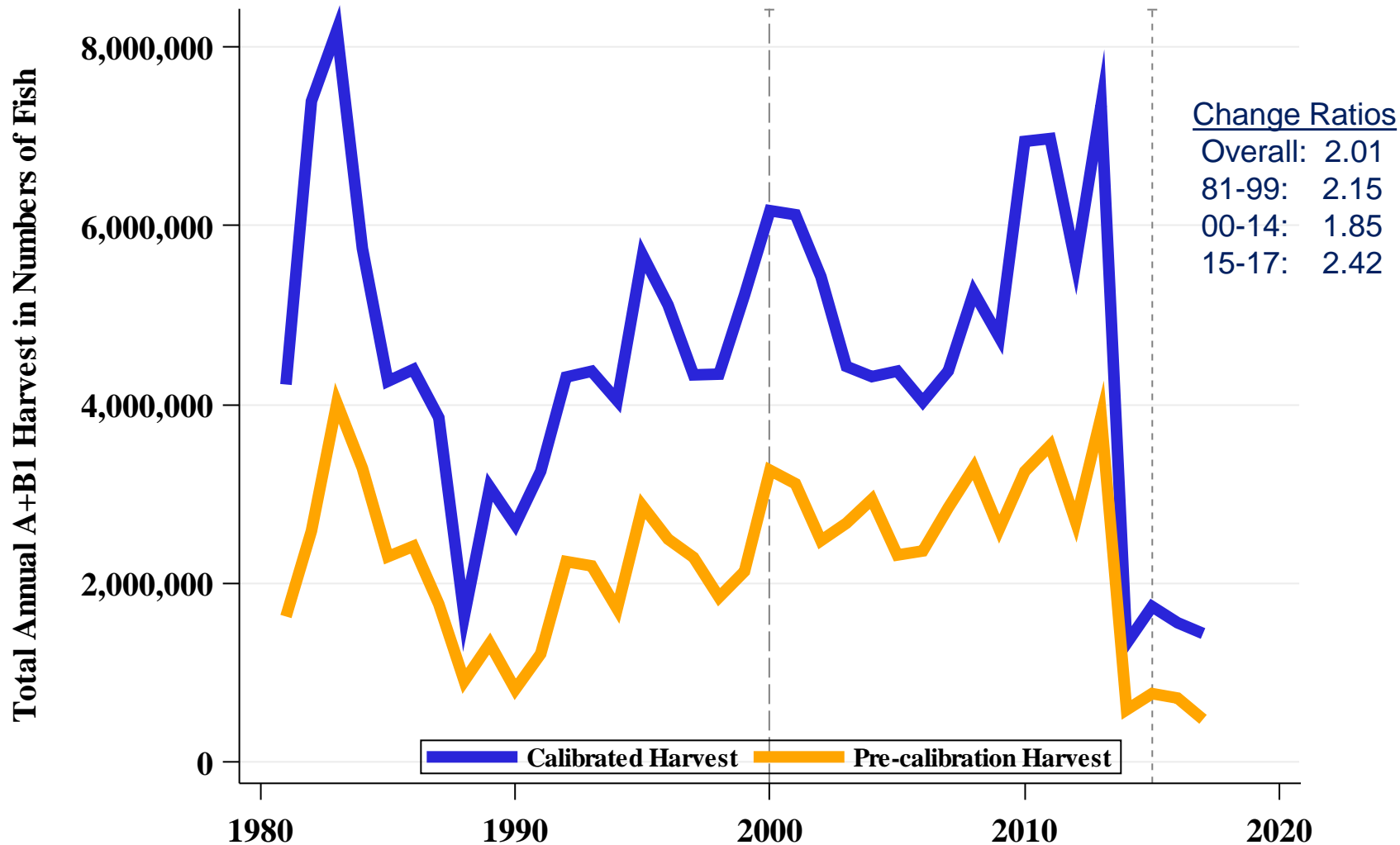
# Red Snapper Harvest



# Red Snapper Total Catch

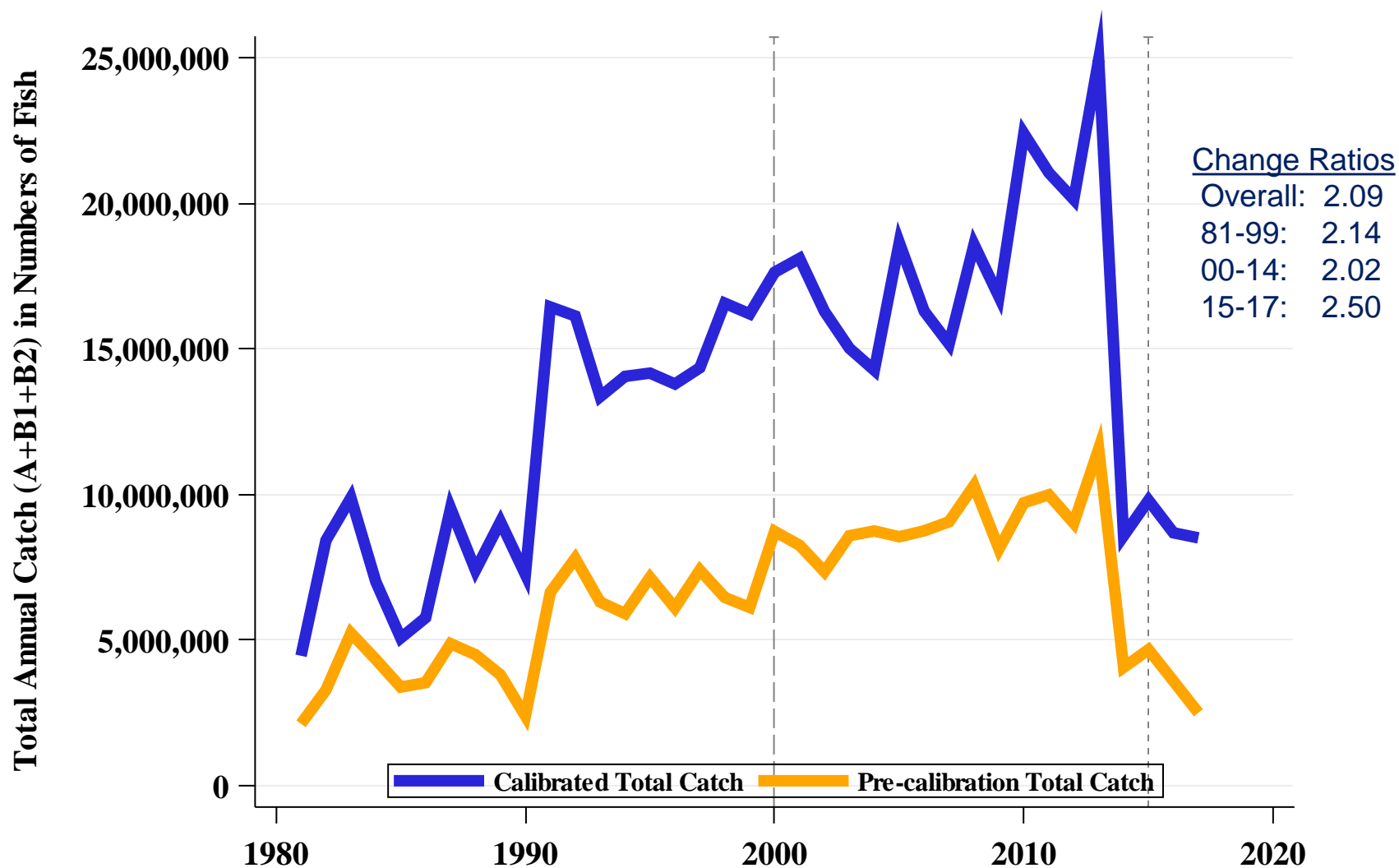


# Red Drum Harvest





# Red Drum Total Catch



# Impacts on Recreational Fishing



# Stock Assessment Schedule

Species	Region	Type	Timing
Striped Bass	Atlantic Coast	Benchmark	Fall 2018
Summer Flounder	Mid-Atlantic Coast	Benchmark	Fall 2018
Red Snapper	Gulf of Mexico	Data Update	Fall 2018
Black Sea Bass	Mid-Atlantic Coast	Operational	Early 2019
Bluefish	Atlantic Coast	Operational	Early 2019
Scup	Atlantic Coast	Operational	Early 2019
Spot	Atlantic Coast	Operational	Early 2019
Red Porgy	Southern Atlantic Coast	Full Update	May 2019
Greater Amberjack	Southern Atlantic Coast	Full Update	May 2019
Red Grouper	Gulf of Mexico	Full Update	July 2019
Gray Triggerfish	Gulf of Mexico	Full Update	Aug. 2019
Atlantic Cod	Gulf of Maine	Operational	Fall 2019
Yellowtail Snapper	Southern Atlantic Coast/Gulf of Mexico	Benchmark	Nov. 2019
Red Snapper	South Atlantic	Full Update	2020

# Key Takeaways

- We see a substantial increase in effort, especially in the shore mode.
- Those stocks that have high proportion of catch from shore are more heavily impacted.
- The changes in effort are generally larger in more recent years, mostly driven by the “wireless” effect.
- 2018 catch will be back-calibrated to ensure ACLs and catch are in the same “currency.”
- Stock assessments incorporating this new data will be used to determine stock status and ACLs.



# What's Next

2018

- Revised total catch estimates now available for use in planned stock assessments.
- 2018 ACLs and catch estimates will be in the **same "currency."**

2019

- Preliminary management changes may be made for re-assessed stocks.
- Calibrated statistics incorporated into additional stock assessments.

2020

- Based on new stock assessments, management changes could occur for a number of species.



**NOAA  
FISHERIES**

Questions?



**NOAA FISHERIES**

# State Surveys



LA Creel



MS Tails n' Scales



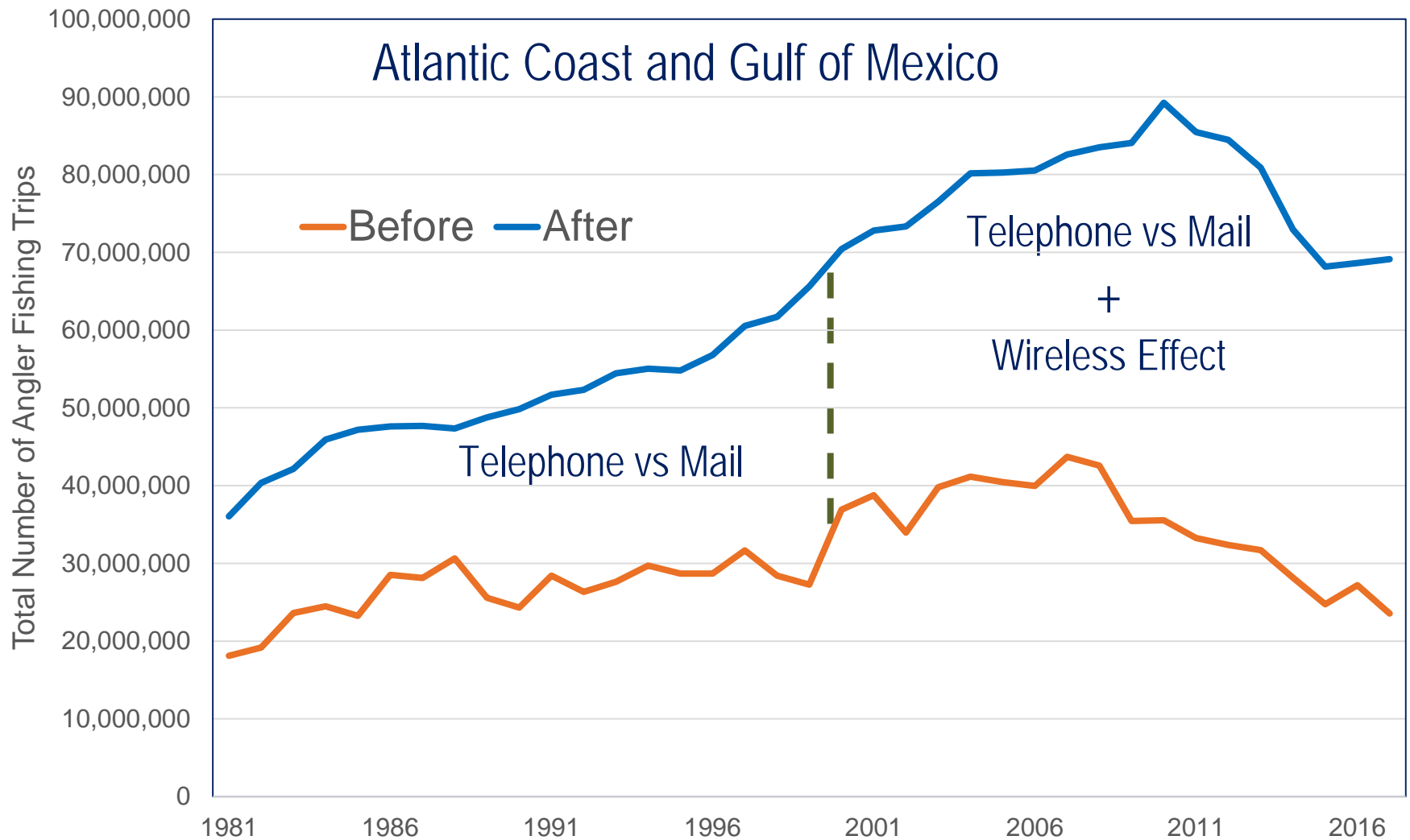
AL Snapper Check



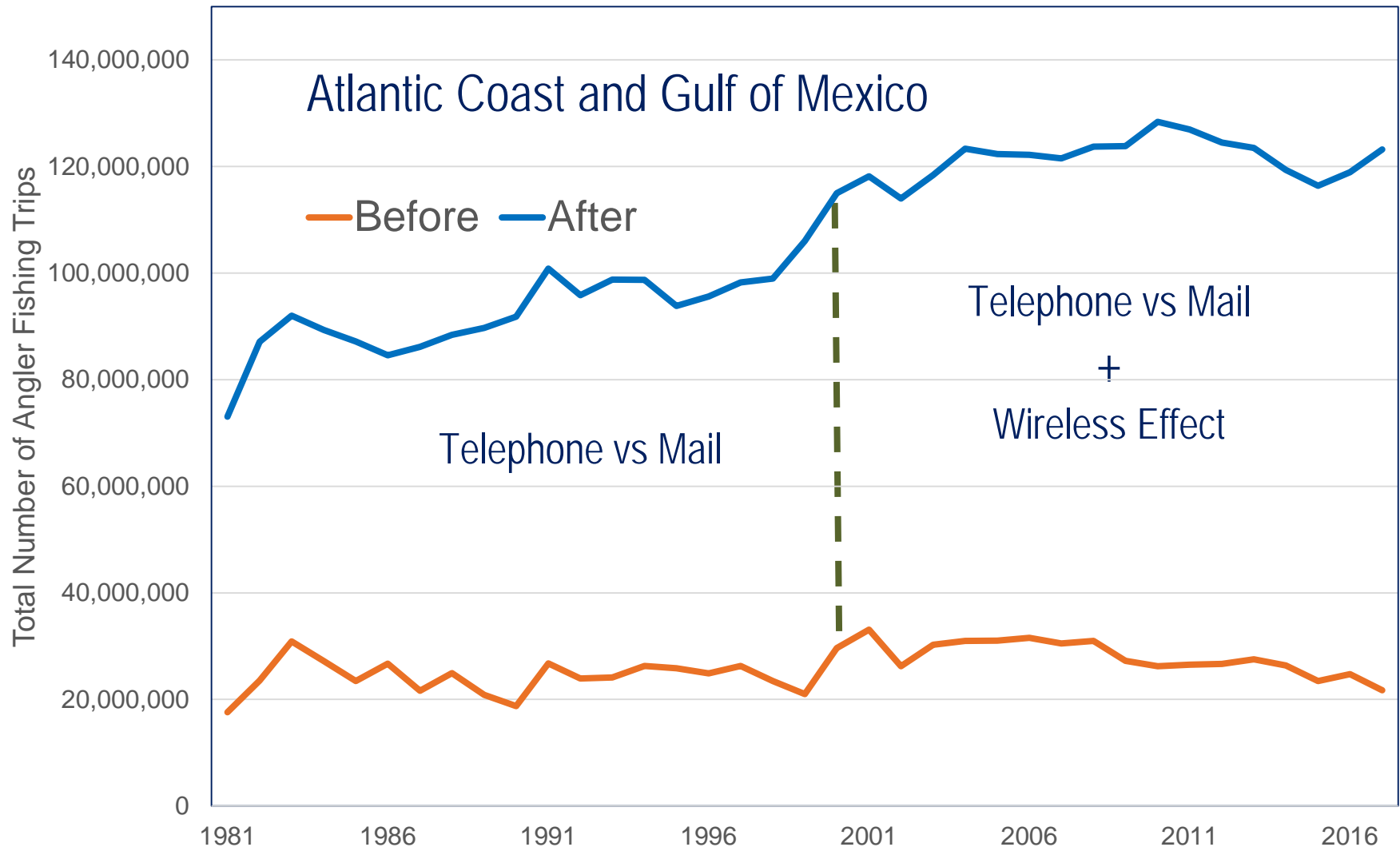
FL Gulf Reef Fish Survey



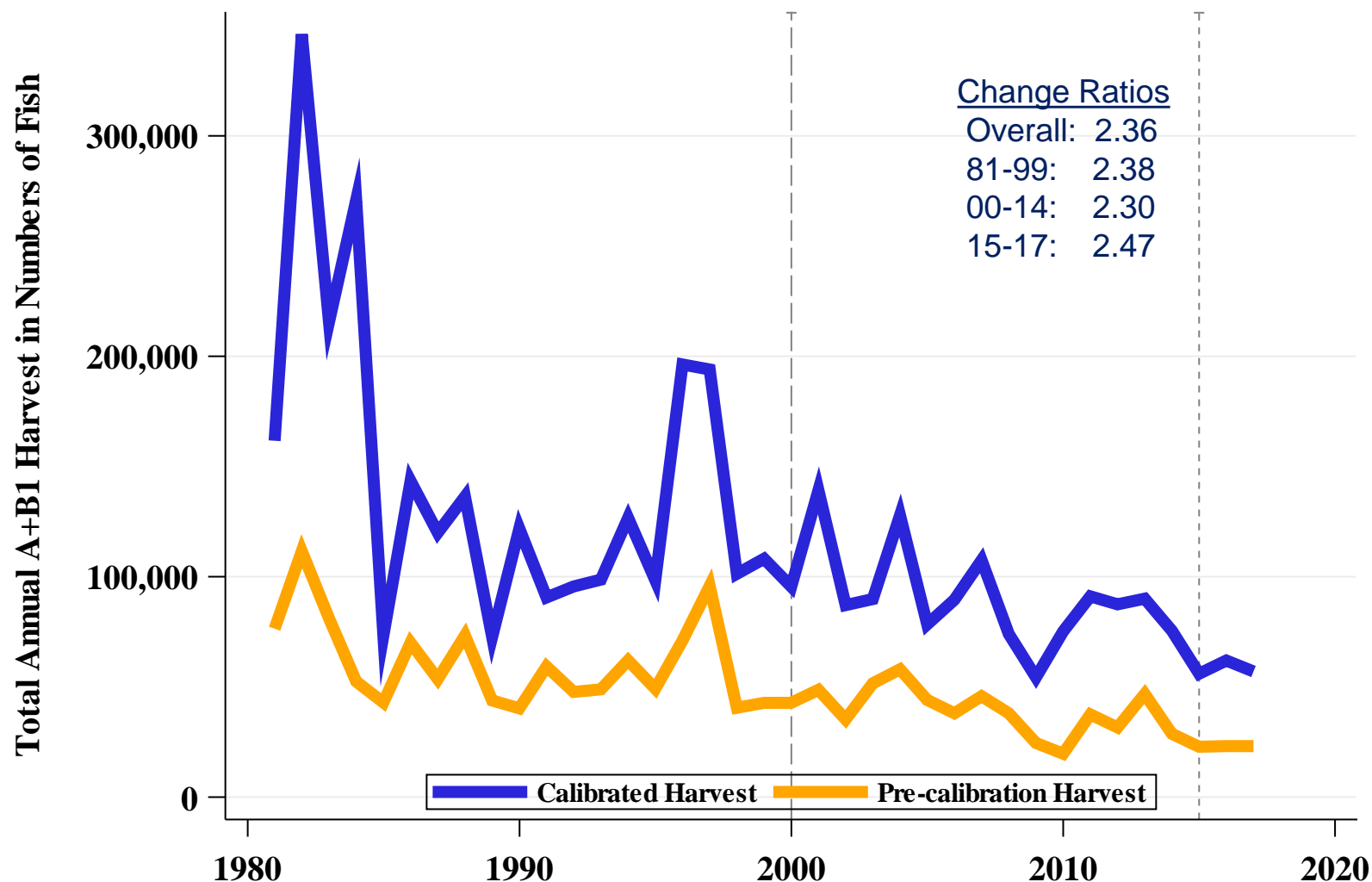
# Private Boat Effort



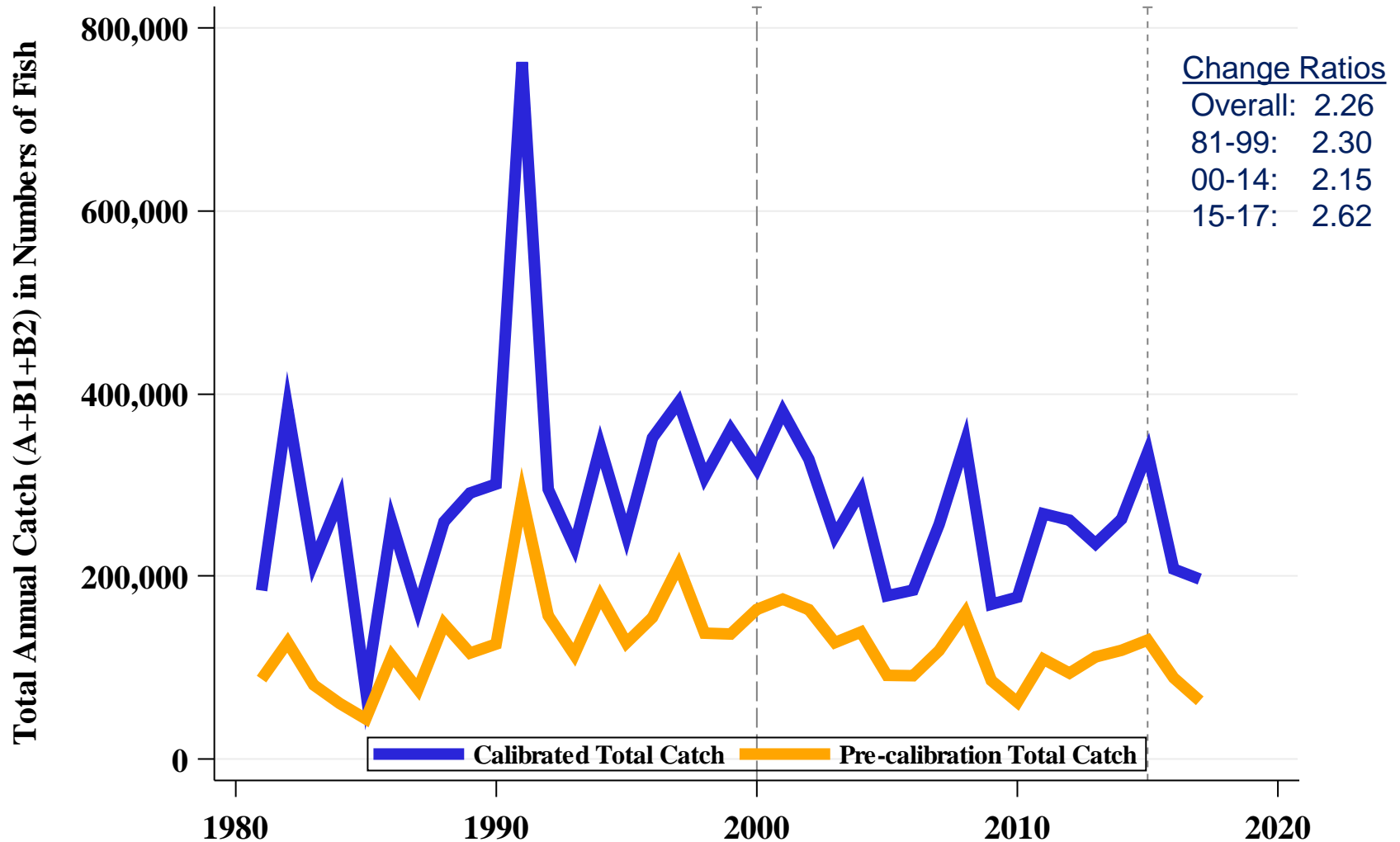
# Shore Effort



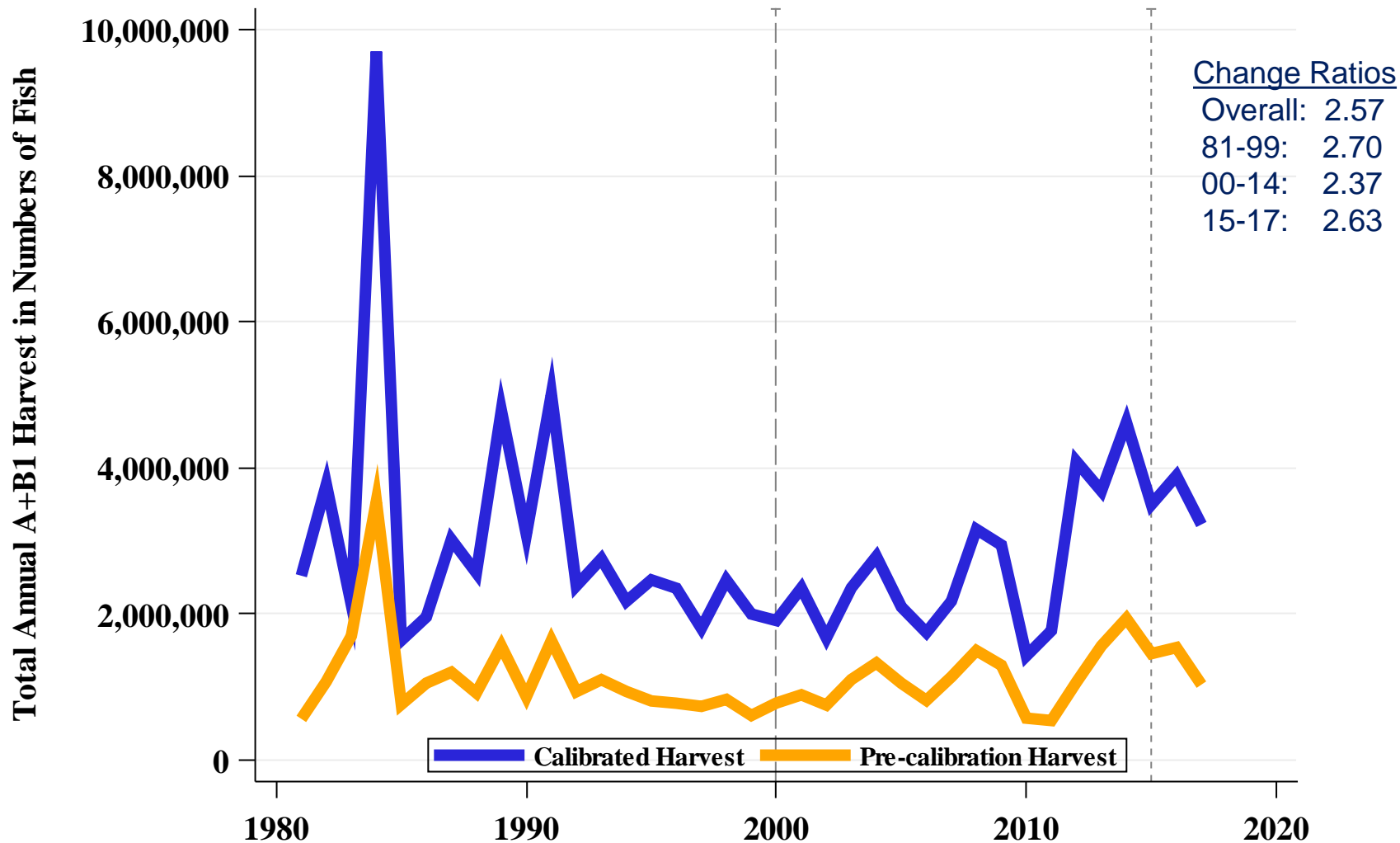
# Cobia Harvest



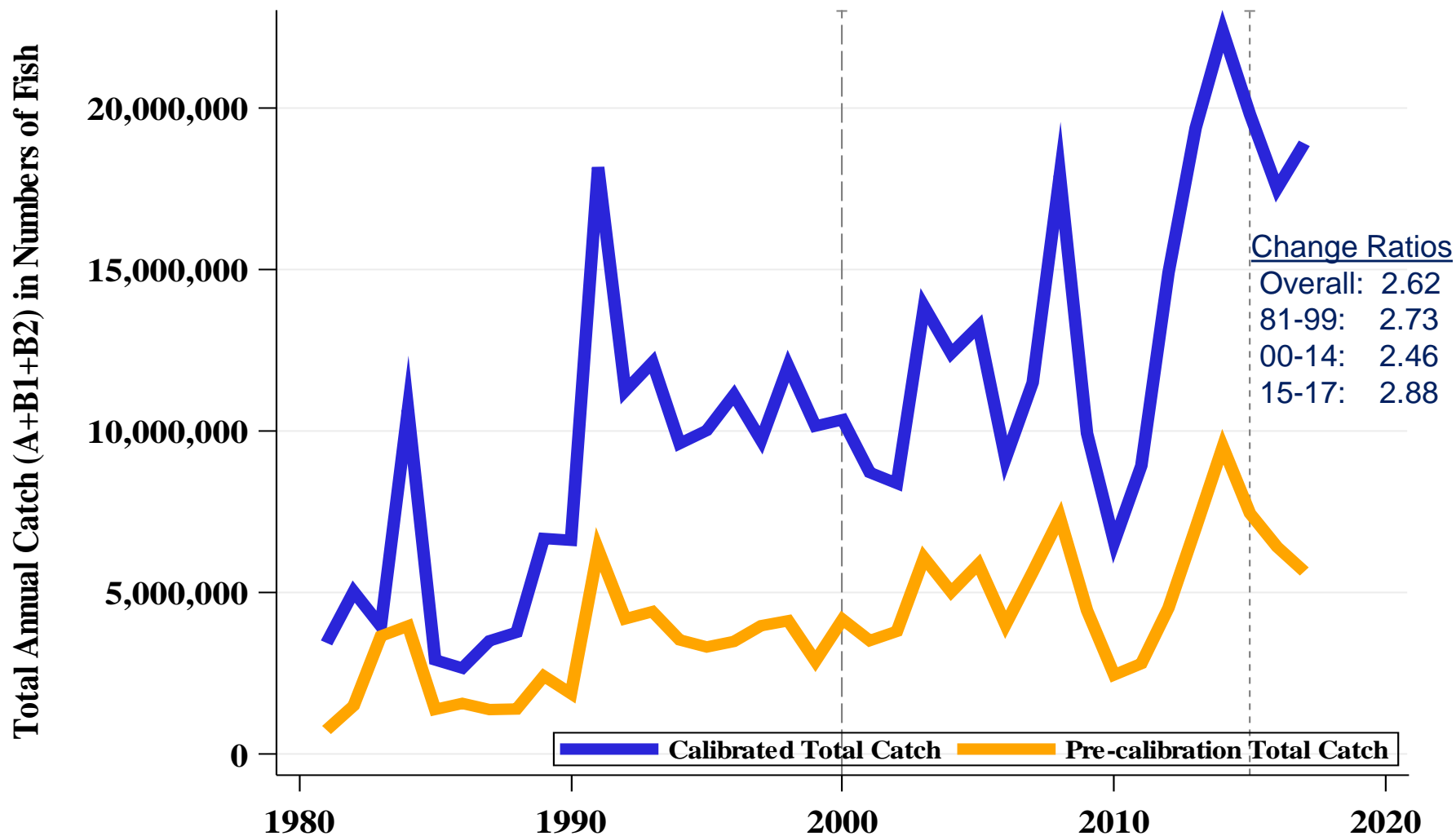
# Cobia Total Catch



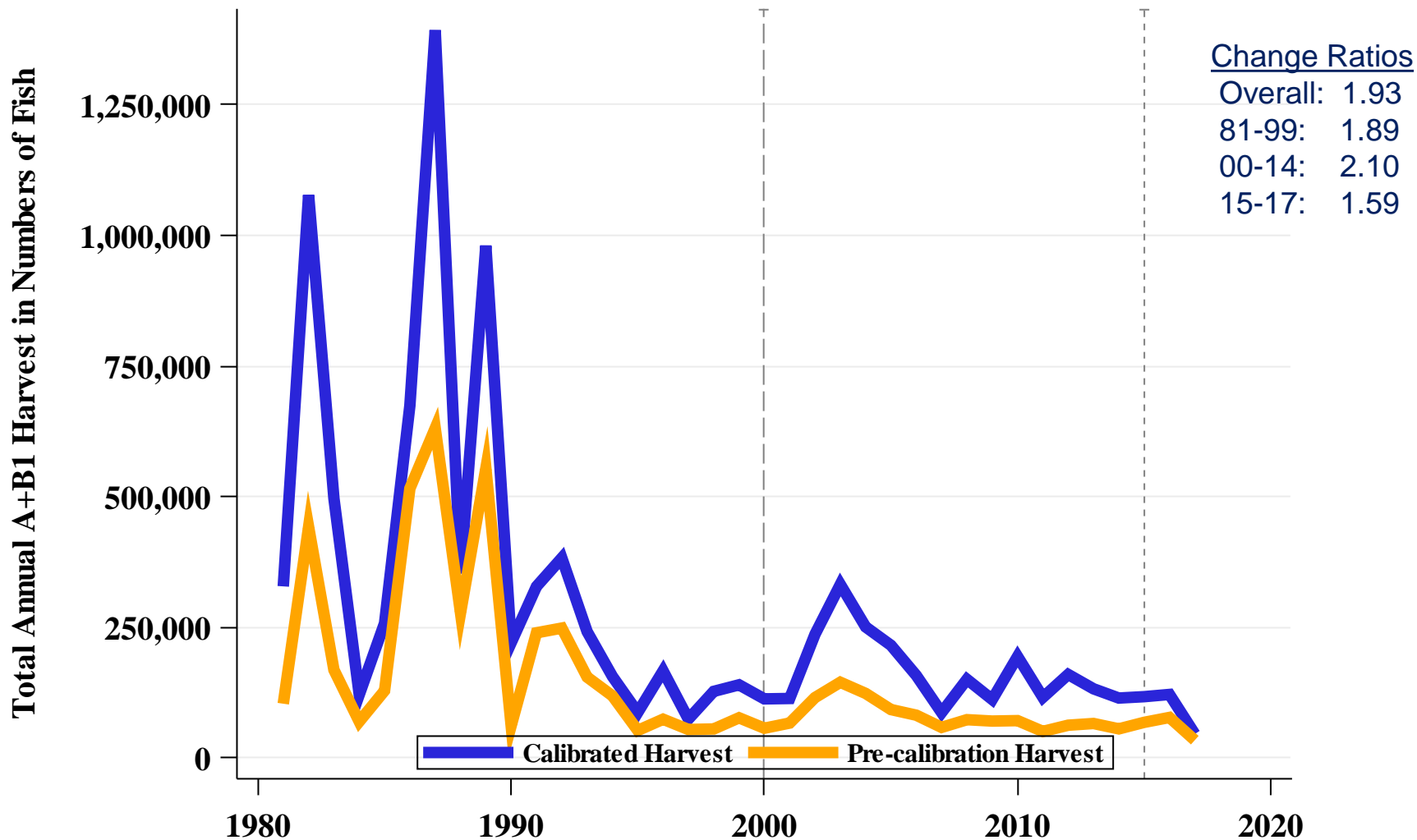
# Gray Snapper Harvest



# Gray Snapper Total Catch

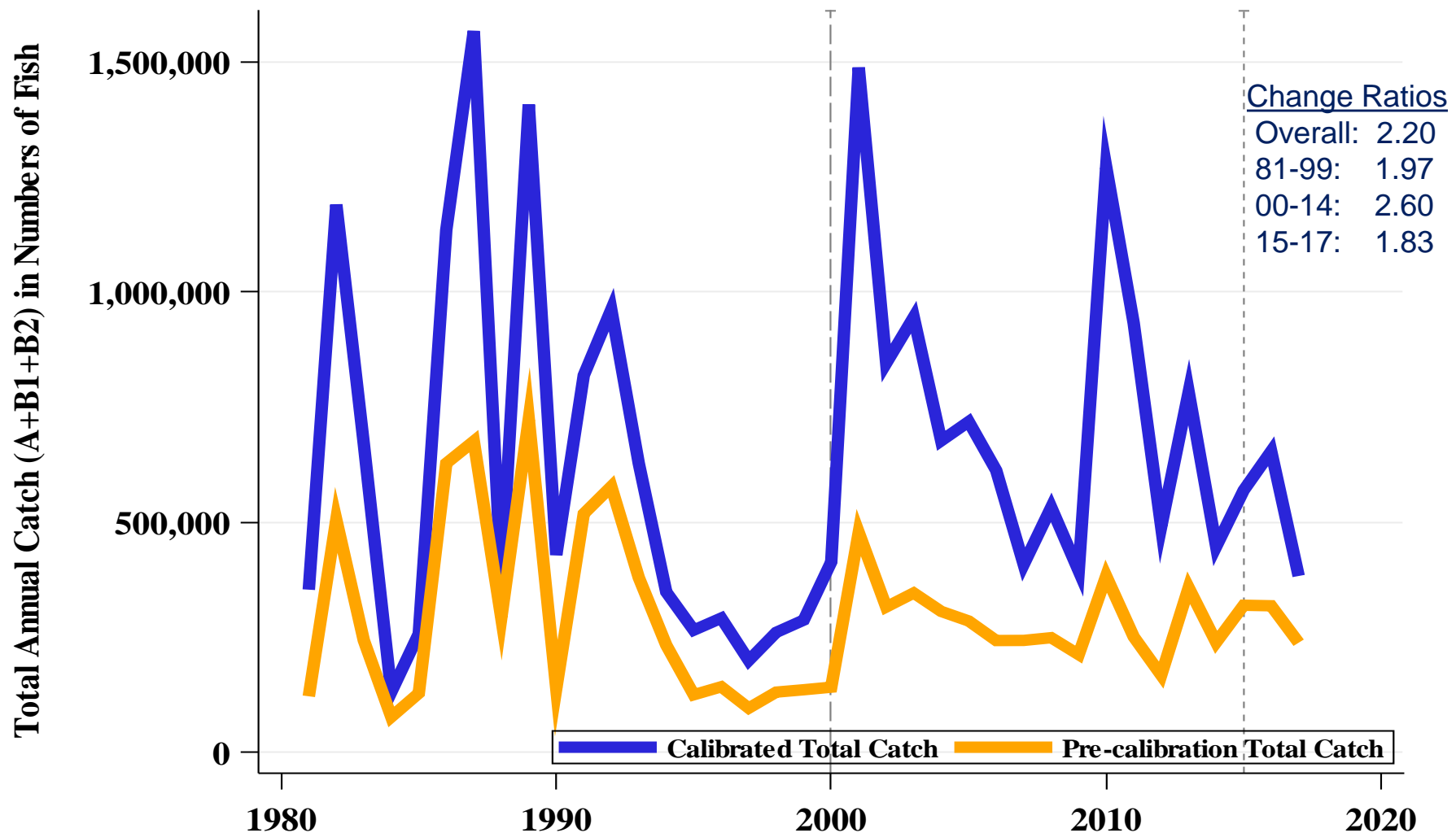


# Greater Amberjack Harvest

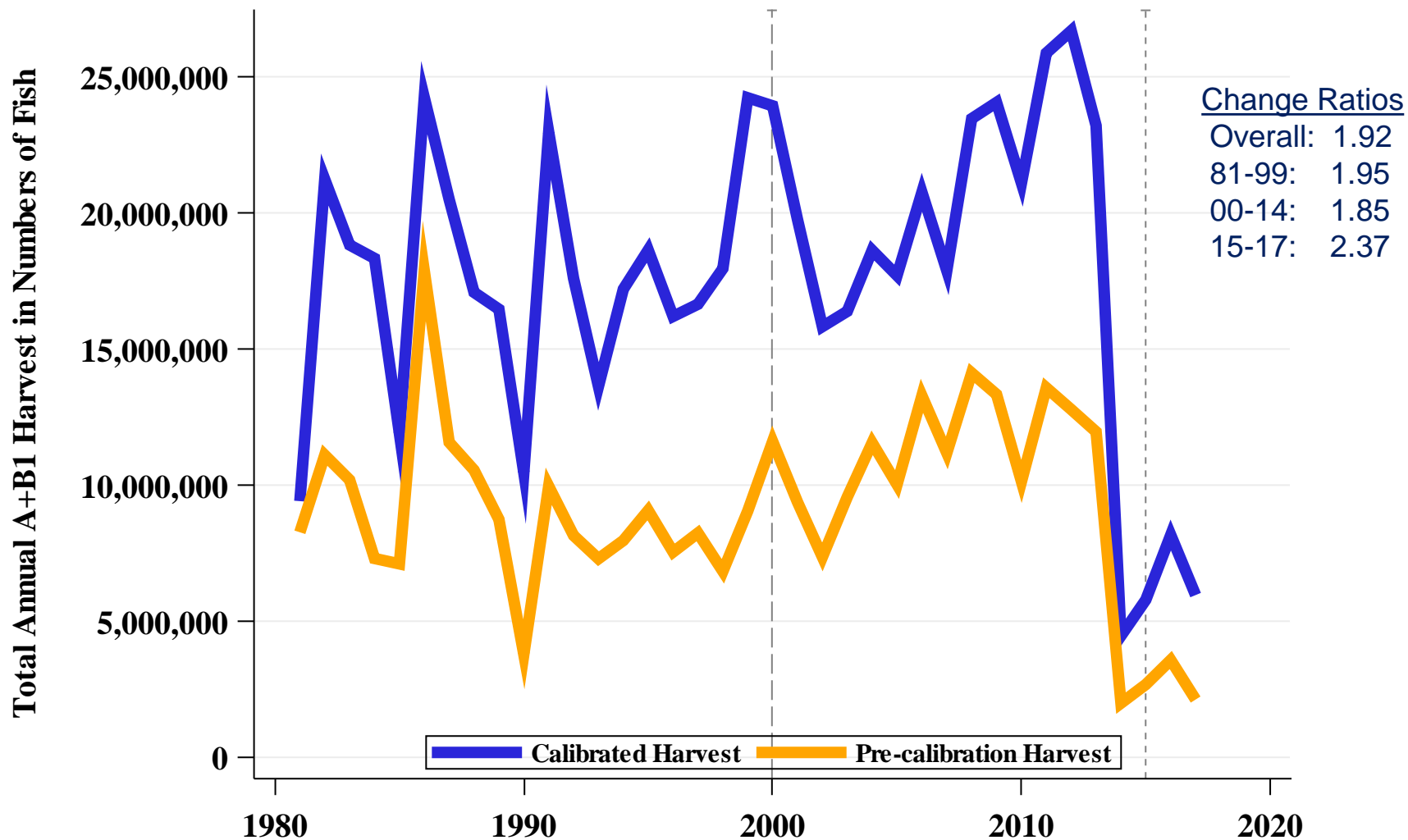




# Greater Amberjack Total Catch



# Spotted Seatrout Harvest



# Spotted Seatrout Total Catch

