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Marine  
Recreational  
Information  
Program

# NOAA Fisheries' Fishing Effort Survey Pilot Study and Next Steps

**Nov. 2, 2023**

Richard Cody  
Fisheries Statistics Division Chief

# FES Pilot Studies Report

Report includes two separate studies to evaluate potential sources of bias in Fishing Effort Survey:

- One-month fishing activity questions (one-month sampling waves)
- Changing the order of the 2-month and 12-month fishing activity questions



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# One-Month Waves Study Key Points

- Compared FES design to two options for one-month fishing activity questions
  - FES: asks about previous two-months
  - Experiment 1: asked about previous single month
  - Experiment 2: asked about previous two months individually
- Findings suggest the two-month reference period of the FES wasn't a likely source of bias.
  - Asking about previous two-months individually seemed to mitigate potential recall bias in one-month estimates.
- **Limitations:** Conducted in 4 states over 6 months with smaller sample sizes compared to the FES.

[Image: C. Baer](#)

# Question Order Change Study Key Points

- Revising order of questions in pilot resulted in **fewer observed reporting errors/illogical responses**.
- Resulting **effort estimates lower for shore and private boat** than estimates produced from current design.
- **Limitations:** Conducted over 6 months, smaller sample size than full FES administration, **results varied by state and fishing mode**.



Image: Tim Donovan/FL FWC

# Switching 2 & 12-month Fishing Activity Questions

## Experimental Questionnaire 1:

Shore:Private boat/  
12 month:2 month

## Experimental Questionnaire 2:

Private boat:Shore/  
2 month:12 month

## Experimental Questionnaire 3:

Private boat:Shore/  
12 month:2 month

## FES Question Order:

Shore:Private boat/  
2 months:12 months

**15** How many days did you go recreational saltwater fishing from the **SHORE** in **New Jersey?**

*The shore includes docks, bridges, causeways, beaches, banks, or any other shore-based place or area. Do not include freshwater fishing.*

☐ Did not recreational saltwater fish from shore in last 12 months → **Go to question 16**

Number of days saltwater shore fishing in **January and February of 2022**

Number of days saltwater shore fishing in **last 12 months**, including January and February

**16** How many days did you go recreational **saltwater** fishing from a private or rental **BOAT** that returned to shore in **New Jersey?**

*Do not include freshwater trips or trips where a paid captain or crew helped locate and catch fish.*

☐ Did not recreational saltwater fish from private boat in last 12 months

Number of days saltwater boat fishing in **January and February of 2022**

Number of days saltwater boat fishing in **last 12 months**, including January and February

**If you have more people in your household, continue to Household Member 2. If you have answered for all people in your household, please return your survey.**

# Study Results in New Jersey

Fishing Mode/Question Order	FES Effort	FES Percent Standard Error	Pilot Study Effort (Not for Management Use)	Pilot Study PSE	% Difference in FES v. Study Effort
Private boat (PR):Shore (SH) / 12-month fishing activity question asked first (12), then 2-month (2)					
NJ Shore	3,758,742	17.20	3,420,848	21.64	8.9% decrease
NJ Boat	2,184,077	15.26	1,707,021	21.57	21.8% decrease
Total	5,942,819	12.24	5,127,869	16.12	13% decrease
Private:Shore / 2:12					
NJ Shore	3,758,742	17.20	3,169,246	28.21	15.6% decrease
NJ Boat	2,184,077	15.26	3,166,267	18.36	44.9% increase
Total	5,942,819	12.24	6,335,513	16.83	6.6% increase
Shore:Private / 12:2					
NJ Shore	3,758,742	17.20	3,049,074	22.91	18.9% decrease
NJ Boat	2,184,077	15.26	1,564,094	18.74	28.4% decrease
Total	5,942,819	12.24	4,613,168	16.42	22.4% decrease

*The lower the PSE, the more confident we are in the estimate being close to the true value.*

# Follow-up Study & Next Steps

- Revised design administered concurrently with current FES over full course of 2024 (**larger sample size over longer duration**).
- Received funding at end of July 2023 to conduct in 2024.
- New study design is informed by results of the aforementioned previous pilot studies and additional cognitive interviewing.
  - Cognitive interviewing with random selection of anglers to evaluate thought process behind how they answer questions.
- Revised design includes **both questionnaire changes and increasing the administration of the survey** from every two months to monthly.
  - Study will determine **combined effects**, which allows for a more efficient transition/calibration process.
  - **Monthly sampling** is a priority of our partners and will produce **more frequent estimates and a shorter respondent recall** period that may also improve reporting error.



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# Survey Improvement

## Evaluate Methods

Continually evaluate existing methods through ongoing research. Recommend new or improved survey designs

## Develop and Test Methods

Test, review, approve, and **certify** new or improved survey designs

## Implement Methods

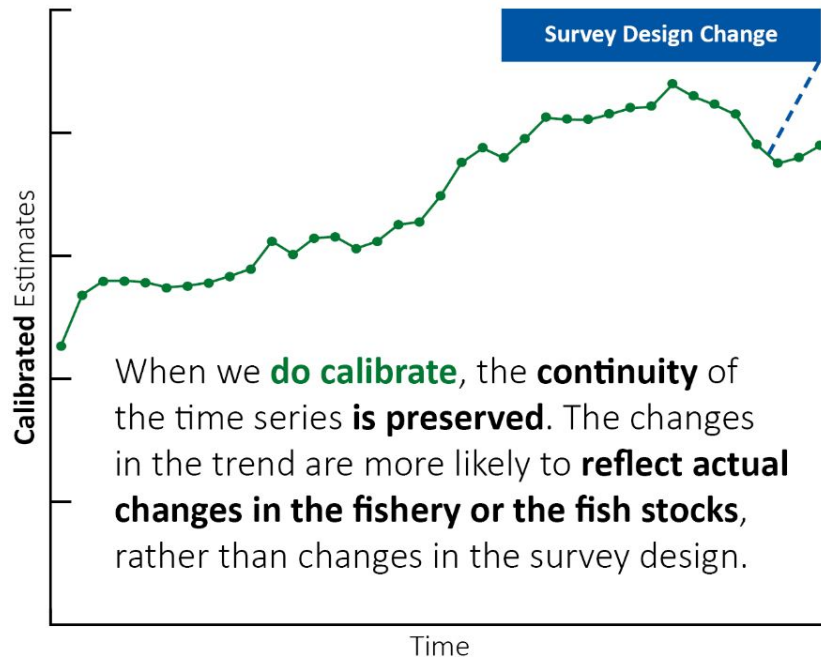
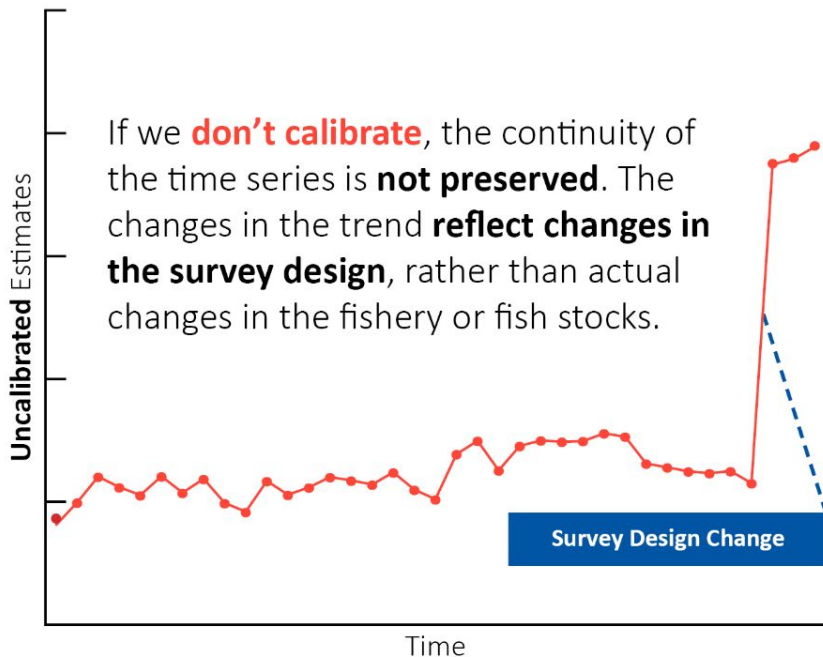
Establish a **Transition Plan** to describe how historical estimates will be placed into the units of the new survey design, ensuring a **consistent, long-term time series** of recreational catch

Note: Certification and transition are **formally adopted processes**.  
Learn more: [Recreational Fishing Survey Design Certification](#)



# Why Calibrate?

To maintain continuity between two sets of estimates:  
the historical time series and the estimates  
produced by a new survey design



# Follow-up Study & Next Steps

Existing **FES calibration** will be updated to account for revised design:

- Calibration update work has started and will continue as needed into 2024 and 2025 pending results from the 2024 follow-up study
- Revised FES design does not incorporate major changes compared to prior survey transitions (telephone to mail survey)
- FES calibration model will not need complete overhaul to incorporate changed design features

**Full implementation of an improved FES design** would occur **no earlier than 2026** and would be dependent on:

- Successful completion of the follow-up study and calibration
- Favorable technical peer review and updated FES Transition Plan developed in coordination with partners
- Fully calibrated historic time series of effort estimates (updated to reflect data from new design).



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# Assessment and Management Implications

- **Full potential impacts unknown** until we've completed follow-up study.
- Effort data from FES (where it is conducted) remains best (sometimes the only) available science for tracking relative year-to-year and long-term fishing effort activity trends.
- **Tracking Trends:** While the magnitude of the effort estimates may change from a revised survey design, fishing activity patterns over time (increases and decreases in activity) are expected to remain similar.
- **Stock status** relatively **consistent** when this trend info hasn't changed.
- Focus on **continued conversations with partners and programmatic improvements** to further mitigate disruption to assessment and management in light of continuous survey improvement.
- Opportunity to make fisheries management more **adaptive**.



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# Questions?



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