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Office of Science
and Technology

Marine
Recreational
Information
Program

An Introduction to the Marine Recreational Information Program

Oct. 30, 2024

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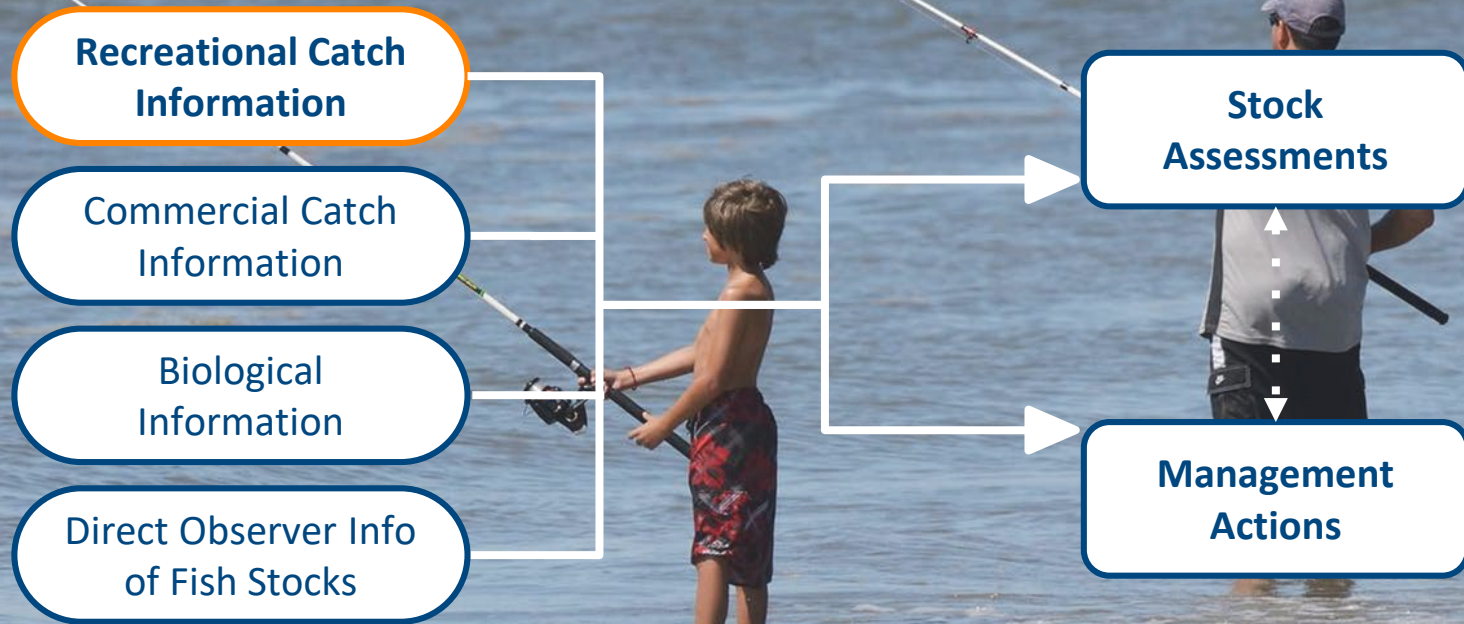
Introduction to the Program

- **State-regional-federal partnership** that develops, improves, and implements a **national network of recreational fishing surveys** to estimate **total recreational/non-commercial catch**
- Built on a **collaborative approach** toward:
 - Producing **regionally consistent** recreational catch and effort data to track year-to-year and **long-term patterns in fishing activity covering many species**
 - Providing critical **support to states and regional partners** to meet regional data needs, including **certification of state surveys, expert statistical support, and funding**



Credit: C. Baez

Our Role in Fisheries Science and Management



Survey Design and Data Collection



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Saltwater Recreational Fishing Data Collection Programs

NOAA Fisheries' Marine Recreational Information Program works with state and regional partners to develop, implement, and continually improve a national network of recreational fishing surveys used to estimate total recreational catch. These estimates help scientists and managers assess the health of our fish stocks and set rules to keep them sustainable.

Learn more at countmyfish.noaa.gov

**Saltwater Sport Fish
Charter/Guide Logbook
Program⁶**

**AK Sport Fishing Survey⁶
Port Sampling Projects⁶**

**HI Marine Recreational
Fishing Survey¹**

Fishing Effort Survey¹

**Guam, CNMI, and American
Samoa Creel Surveys⁶**

**Surveys Pending in Puerto Rico
and USVI**

**Puget Sound Sampling Program⁶
Ocean Sampling Program⁶**

**Ocean Recreational Boat Survey⁶
Shore and Estuary Boat Survey⁶**

CA Recreational Fisheries Survey⁶

HMS Catch Card Program⁶

**HMS Catch Card Program⁶
Additional LPS Biological Sampling¹**

Snapper Check⁶

Tails n' Scales⁶

LA Creel⁶

**Coastal Creel
Survey⁶**

**Southeast Region
Headboat Survey⁵**

**State Reef Fish
Survey⁶**

**Large
Pelagics
Survey¹**

**Access Point Angler
Intercept Survey¹**

**Fishing Effort Survey¹
For-Hire Survey¹**

PERMIT-BASED PROGRAMS

**Atlantic HMS Landings and
Tournament Reports²**

**Greater Atlantic For-Hire
Electronic Vessel Trip Reports³**

**Southeast For-Hire Integrated
Electronic Reporting Program⁴**

SURVEY ADMINISTRATOR

¹ NOAA Fisheries Office of Science and Technology

² NOAA Fisheries Atlantic HMS Management
Division

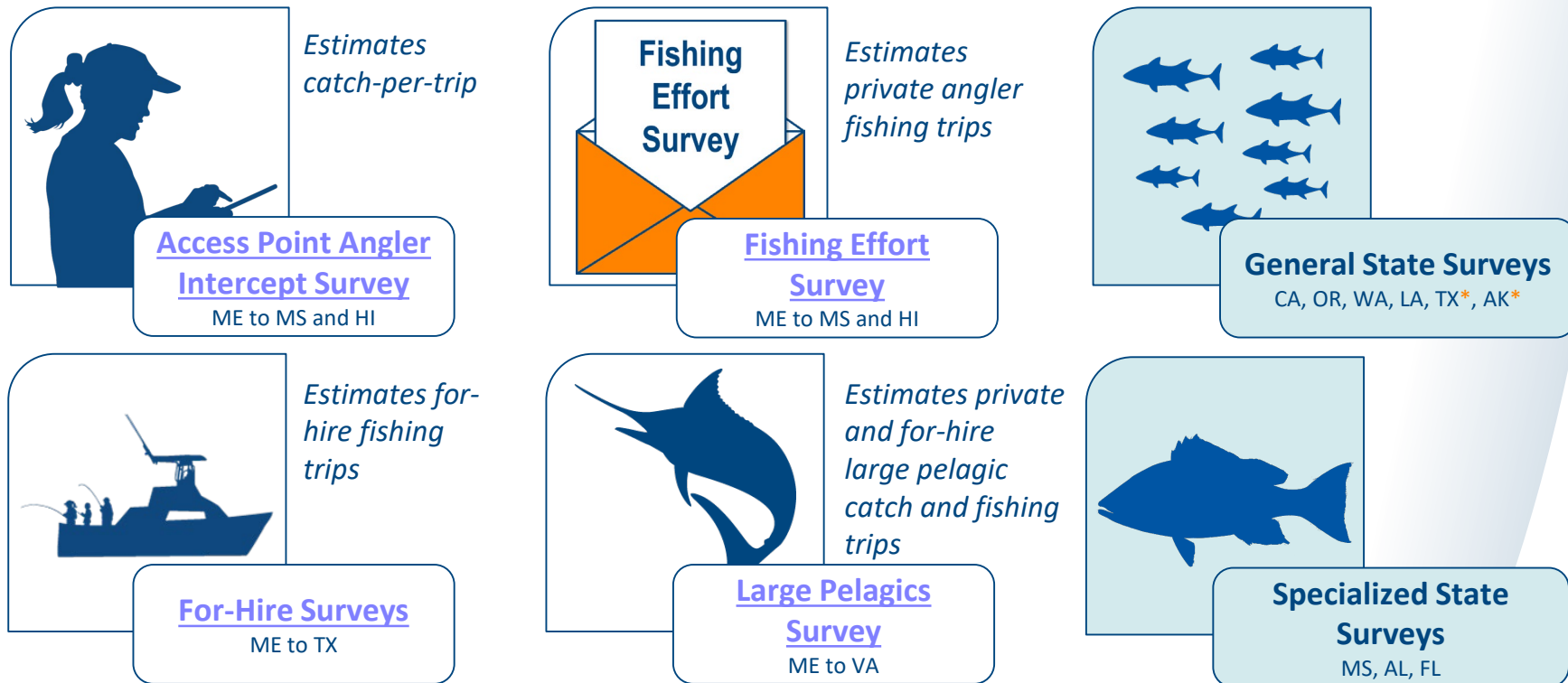
³ NOAA Fisheries Greater Atlantic Regional
Fisheries Office

⁴ NOAA Fisheries Southeast Regional Office

⁵ NOAA Fisheries Southeast Fisheries Science
Center

⁶ State/Territorial Agency

Data Collection Programs



*These state surveys operate independently from NOAA Fisheries and do not receive agency funding.

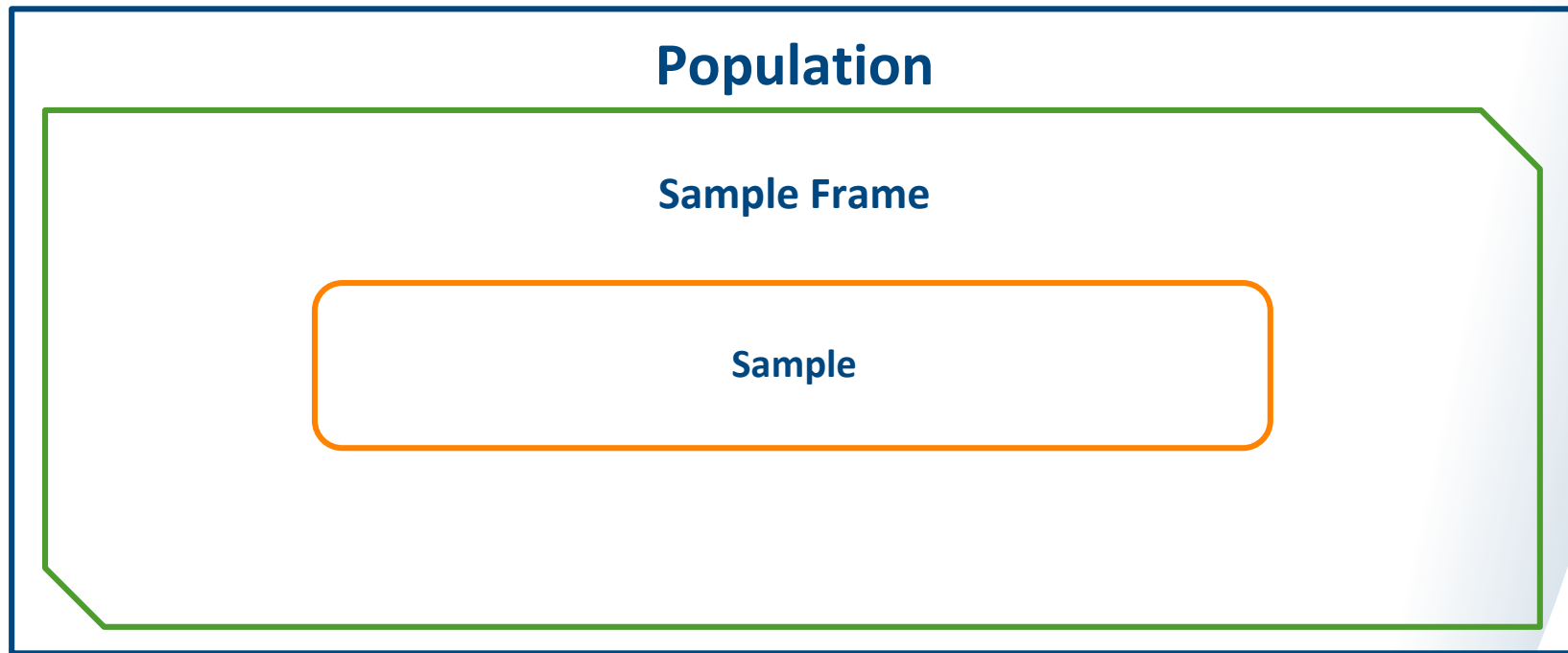
Probability-Based Sample Surveys

- Data are collected from a **randomly selected group** of a target population
- Statistical **weighting helps** assure each sampled person can be **representative** of the broader population
- Standard for conducting large-scale government surveys when full census not practical

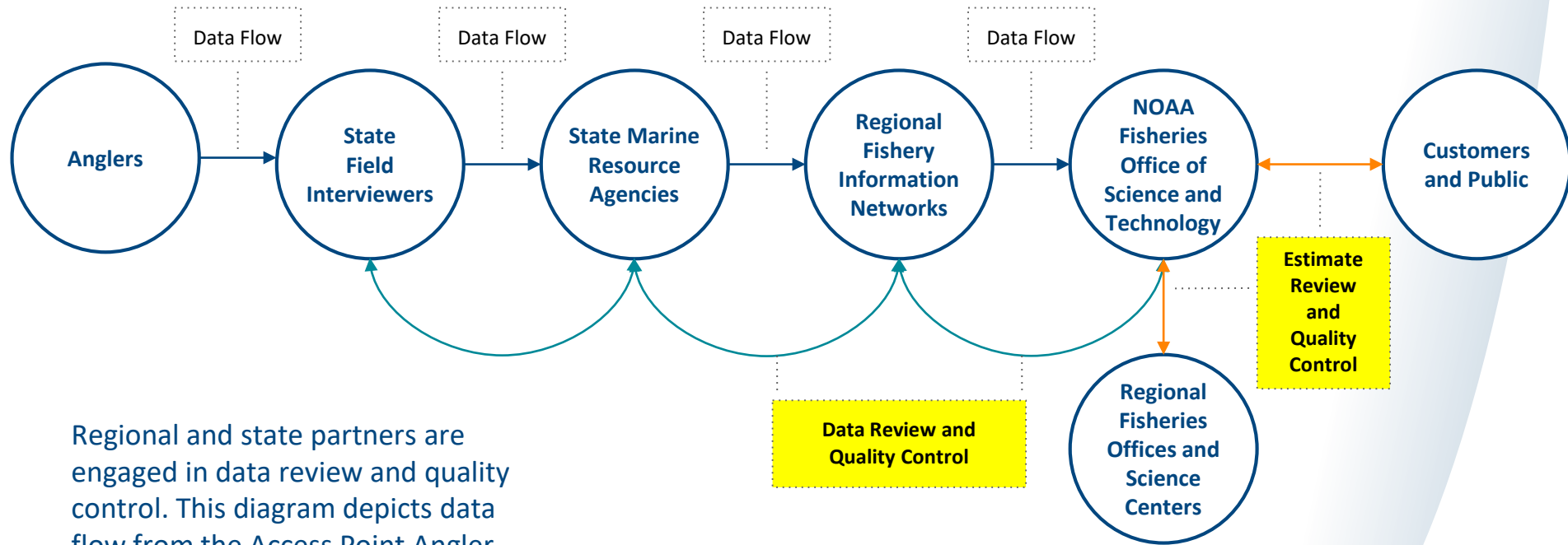


Credit: NOAA Fisheries

Sample Frame



From a Survey to an Estimate



Regional and state partners are engaged in data review and quality control. This diagram depicts data flow from the Access Point Angler Intercept Survey.

Recreational Catch Estimation



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Estimation

Estimating Total Recreational Catch



Estimated
number of fish
caught per
angler trip

X



Estimated
number of
angler trips

=



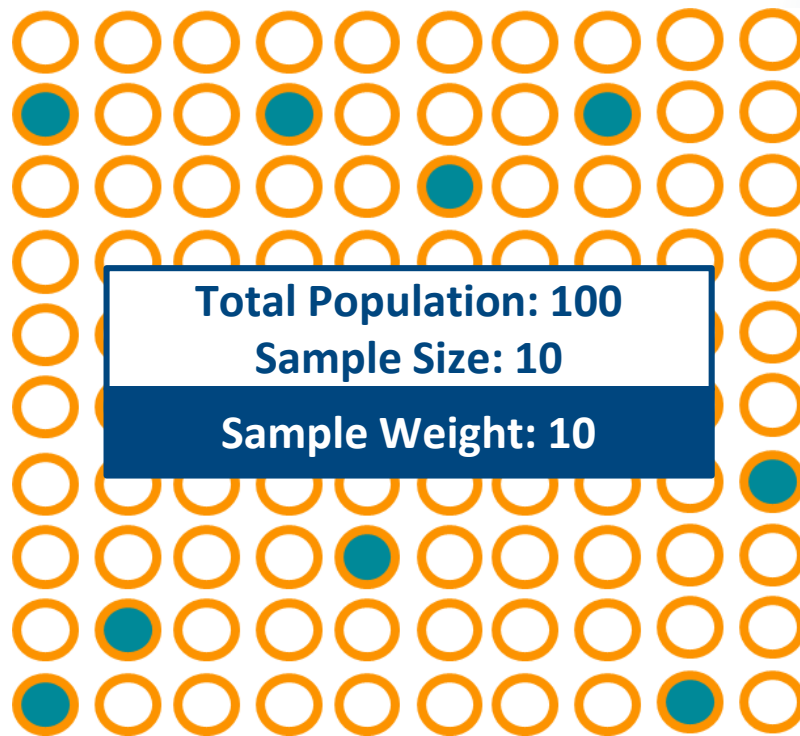
Estimated
total number
of fish caught



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Weighted Estimation

- This **standard statistical practice** allows us to draw inferences about an entire population through those surveyed



Learn more: [Estimation Methods Overview](#)

Forming Domains

Year

—e.g., 2022

Two-month Sampling Wave

—e.g., Wave 4 (July-August)

Geographic Sub-region

—North, Middle, or South Atlantic; Gulf of Mexico

State

Fishing Mode

—Shore, Private/Rental Boat, For-Hire

Area Fished

—Inland, State Territorial Seas, or the Federal EEZ

Species

Catch Type

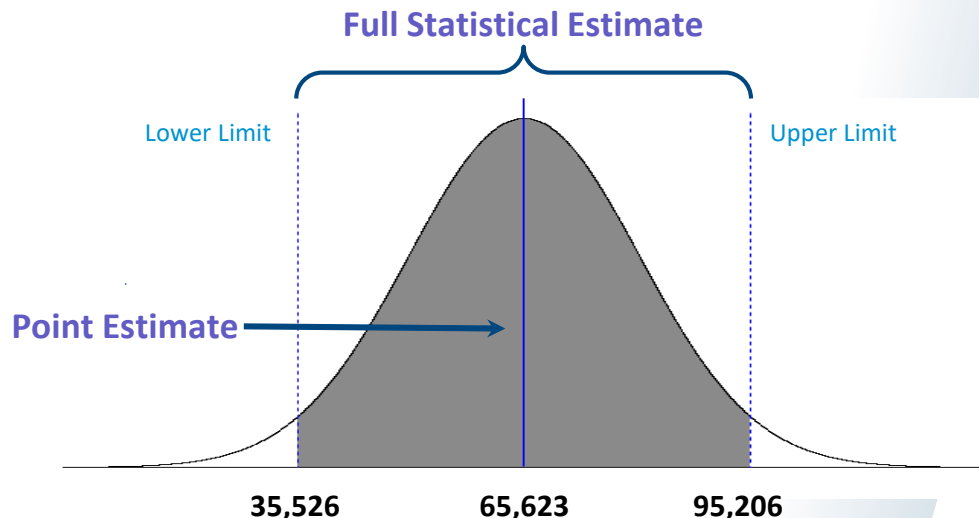
—Observed Harvest, Unobserved Harvest, Released Alive



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Statistical Uncertainty

- For every **point estimate** we produce, we also publish a **measure of uncertainty** to indicate how far each estimate is likely to deviate from the actual population value
- Different ways to express:
 - Confidence intervals
 - Percent standard error



Domain:

Summer flounder landings • State territorial seas •
Private boat • North Atlantic • 2021

Precision Standard

- Transparently publishing estimates' uncertainty for data users reduces risk of using highly imprecise estimates to inform fisheries management decisions

MRIP:

- Cautions use of estimates with a Percent Standard Error of 30 or above
- Does not support the use of estimates when the PSE exceeds 50 percent and in those instances, recommends considering higher levels of aggregation (e.g., across states, geographic regions, fishing modes, and/or years)



Public Query Tool

Estimate Status	Year	Fishing Year	State	Common Name	Cumulative Through	PSE Total Catch (A+B1+B2)	Does Total Catch (A+B1+B2) Meet MRIP Standard	Is Total Catch (A+B1+B2) Significantly Different From 0	Total Catch (A+B1+B2)	Total Catch (A+B1+B2) Lower 95% Confidence Limit	Total Catch (A+B1+B2) Upper 95% Confidence Limit
FINAL	2021	Calendar Year (Jan 1 - Dec 31)	FLORIDA	BLACK SEA BASS	ANNUAL	25.6	YES	YES	613,571	305,706	921,437
FINAL	2021	Calendar Year (Jan 1 - Dec 31)	GEORGIA	BLACK SEA BASS	ANNUAL	23.6	YES	YES	1,148,696	617,355	1,680,037
FINAL	2021	Calendar Year (Jan 1 - Dec 31)	NORTH CAROLINA	BLACK SEA BASS	ANNUAL	10.7	YES	YES	2,223,514	1,757,198	2,689,829
FINAL	2021	Calendar Year (Jan 1 - Dec 31)	SOUTH CAROLINA	BLACK SEA BASS	ANNUAL	16.9	YES	YES	2,096,656	1,402,159	2,791,152
FINAL	2022	Calendar Year (Jan 1 - Dec 31)	FLORIDA	BLACK SEA BASS	ANNUAL	52.6	NO	NO	1,928,096	0	3,915,886
FINAL	2022	Calendar Year (Jan 1 - Dec 31)	GEORGIA	BLACK SEA BASS	ANNUAL	45.1	CAUTION	YES	1,350,462	156,708	2,544,216
FINAL	2022	Calendar Year (Jan 1 - Dec 31)	NORTH CAROLINA	BLACK SEA BASS	ANNUAL	16.8	YES	YES	4,827,420	3,237,847	6,416,993
FINAL	2022	Calendar Year (Jan 1 - Dec 31)	SOUTH CAROLINA	BLACK SEA BASS	ANNUAL	16.6	YES	YES	1,939,804	1,308,669	2,570,938

Continuous Evaluation and Improvement



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Process to Identify Regional Data Priorities

- **Interagency Regional Implementation Teams identify regional data collection needs and priorities**
 - Teams - Atlantic Coast, Gulf of Mexico, Alaska, Pacific Coast, Pacific Islands, U.S. Caribbean, Atlantic HMS
 - Include membership from Fishery Information Networks, NOAA Fisheries, Commissions, States, and Councils
 - Plans updated at least every 5 years, but can be sooner if new priorities emerge/additional resources become available



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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 re-scaled 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](#)



Fishing Effort Survey Follow-up Study

- Revised FES design being tested throughout 2024 alongside current design
- Revised design:
 - Switches 2 and 12-month fishing activity questions
 - Distributed monthly (as opposed to every 2 months)
 - Based on results of previous pilot studies

FES Follow-up Study

- **Revised design producing improved data quality in alignment with pilot studies**
 - Large reduction in reporting errors and illogical responses
 - Respondents less likely to indicate more trips for 2-month fishing reference period than for the 12-month period
- **Large amount of data to analyze before fully informed comparisons can be made, including direction and magnitude of differences in effort estimates**

FES Timeline

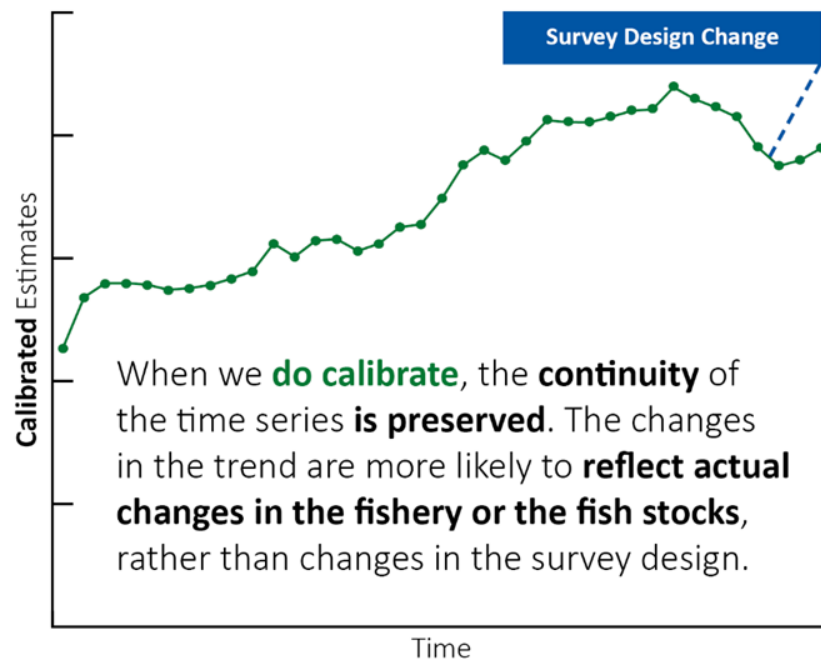
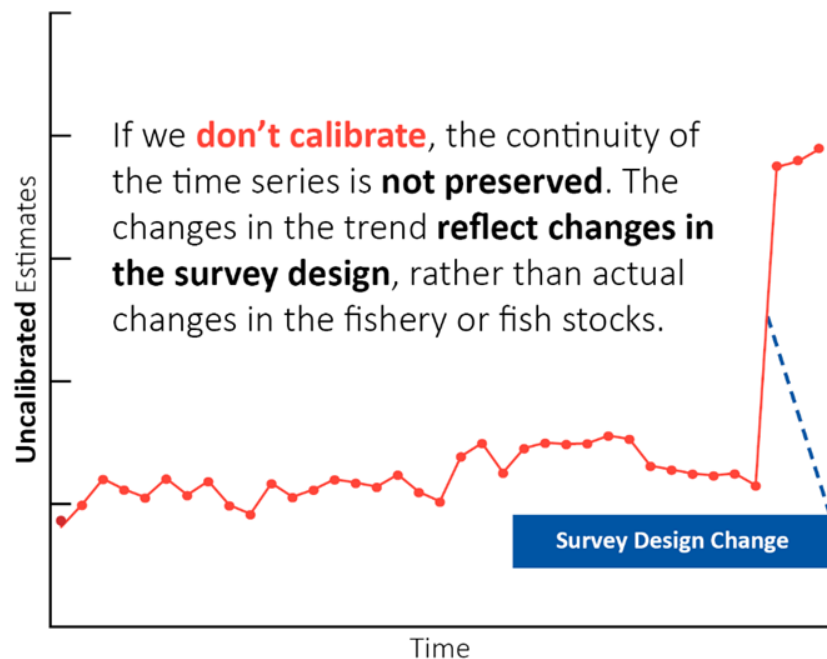
Actions	Timeline
Conclude study data collection	End of 2024
Work with regional partners on preliminary planning for potentially transitioning to a revised FES design; Begin calibration model development	2024/2025
Produce final 2024 estimates	Spring 2025
Produce public study report outlining key findings and estimates and initiate peer review; Finalize calibration methodology and initiate peer review	Summer 2025
Earliest new design could be implemented (pending favorable study results and peer review)	2026
Produce calibrated historical catch and effort estimates for use in subsequent assessments and management	Spring 2026 (normal release of final 2025 estimates)



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Why Calibrate?

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



Re-envisioning Recreational Fishing Data Partnership

- **Joint initiative to re-evaluate partnership approaches and transition to a new, collaboratively developed vision and action plan for the state-federal partnership that better meets regional needs**
- **Key national themes from information-gathering sessions to date, include need to:**
 - Improve trust, credibility, and engagement with partners and the recreational fishing community
 - Improve coordination between recreational fishing data producers and recreational fishing data users
 - Have a consistent, centralized, accessible regional data warehouse and access to microdata
 - Have consistent, timely, accurate, and precise catch and effort estimates that better meet regional needs
 - Improve biological and discard data collection and estimates
 - Develop adaptive fisheries management frameworks that better address data limitations and uncertainty
 - Determine how to best incorporate self-reported data/app data into assessment/management
 - Consider climate change impacts on species distribution
 - Retain survey samplers



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Remaining Re-envisioning Project Timeline

Actions	Timeline
1:1 or group information-gathering sessions with key partners	Summer/Fall 2024
Compile report with major themes and findings from information-gathering sessions to: <ul style="list-style-type: none">● Inform 2025 workshop agendas● Identify working groups● Propose potential immediate and long-term improvements	Winter 2024/2025
Form new working groups as necessary; revisit team structure and provide tasks/requests to existing recreational data teams	Early 2025
Host visioning workshops to develop shared vision and action plan	Summer 2025
Draft and circulate plan for public review	Fall/Winter 2025
Announce and transition to re-envisioned partnership	Early 2026



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Continued Improvement Throughout Process

Examples:

- Strengthening state partner review of federal preliminary catch and effort estimates in collaboration with ACCSP and GulfFIN
- Supporting development of regionally consistent for-hire logbook framework
- Supporting peer review and continued improvement of state surveys
- Commissioning independent review of national survey and data standards
- Re-evaluating MRIP team structures and composition
- Revising policy and procedures for updating surveys/transitioning to new surveys based on partner feedback
- Investigating improvements to recreational fishery discard and release data and effort estimates (IRA workshops)



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Resources



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Resources for Council Members

MRIP Organizational Framework

- [MRIP Teams](#)

Guiding Documents

- [Multi-Year Regional Implementation Plans](#)
- [Annual Implementation Plan](#) (FY25 plan forthcoming)

Recreational Data

- [An Introduction to MRIP Data](#)

Statistical Methods

- [Survey Statistics Overview](#)
- [Estimation Overview](#)
- [Statistical Calibration Overview](#)



Questions?

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countmyfish.noaa.gov



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