

Peer Review of the Marine Recreational Information Program Recreational Data Collection Standards

MAY 22, 2025

NATIONAL ACADEMIES OF SCIENCES, ENGINEERING,
AND MEDICINE





Ocean Conservancy

Science-Based Solutions for Fish and Fishermen

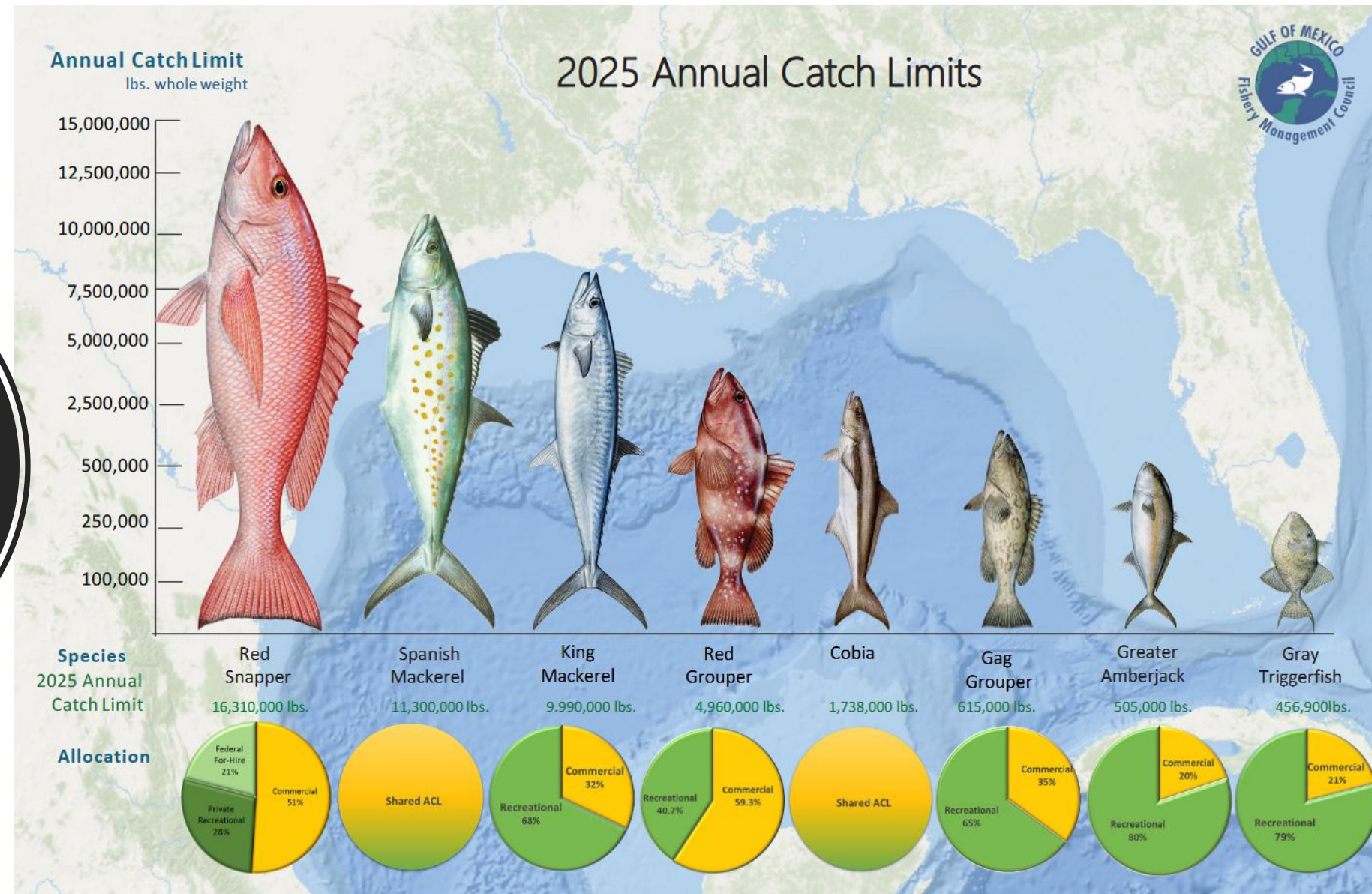
For over 30 years, Ocean Conservancy has worked to find practical solutions to the challenging problems facing our fisheries. Our vision is this—healthy fish populations and resilient ocean ecosystems that support people through thriving fishing businesses, provide ample fishing opportunities and deliver nutritious protein to the dinner plates of families throughout America and around the world for generations to come.



Recreational fisheries have an outsized impact on sustainability and management in the Southeast.



Timely, accurate
and precise
Recreational catch
data is essential
for sustainability in
the Southeast
region.



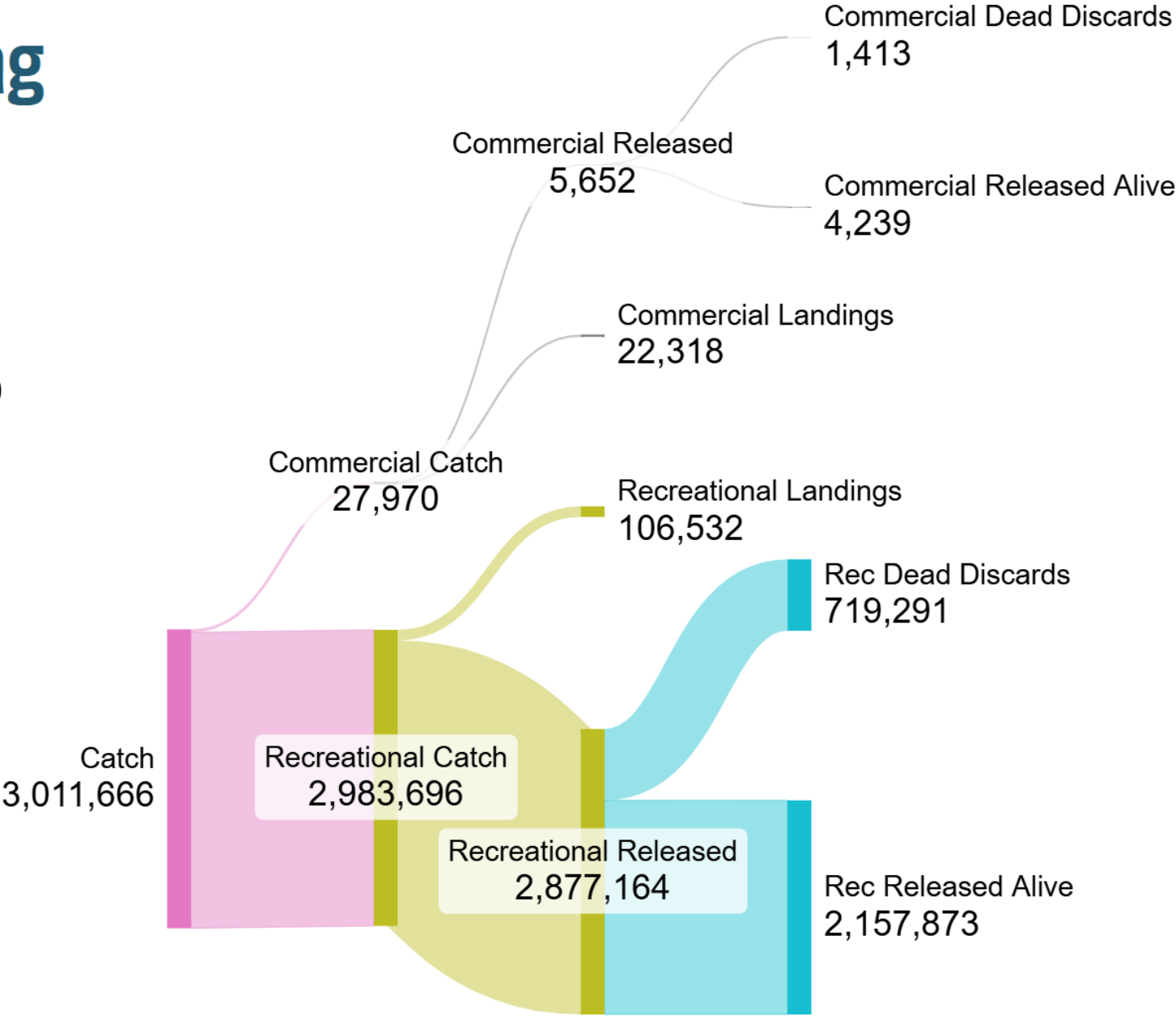
Grouper, Gag

Mycteroperca microlepis



Photo: <https://gulfcouncil.org/species/grouper-gag/>

numbers of fish (2023)



Sources:

Rec: MRIP (FES)

Com: Fisheries One stop Shop (FOSS)

Com. Mean weight and discard rates: SEDAR 72

*see SEDAR 72 for final integrated units

Local Management

- State management of federal EEZ, inconsistent seasons
- Two- and three-unit stock assessment models
- Multiple survey types

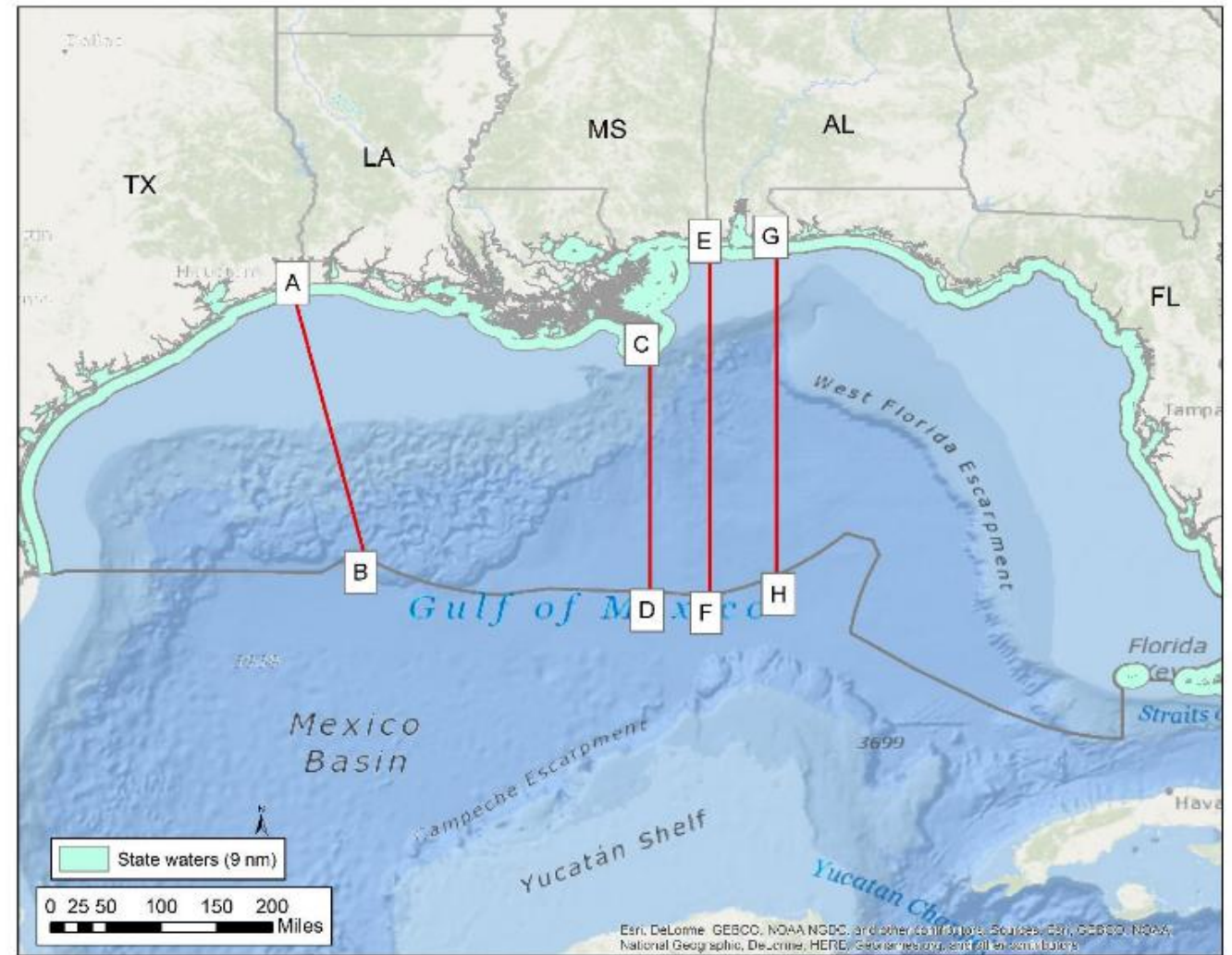


Figure 1. Map with green shading to identify reef fish management in state waters from federal waters, and established and proposed boundaries between states extending into federal waters. The gray line passing through points B, D, F, and H indicates the outer boundary for federal waters.

Recreational Data Systemic Challenges



Data Flow and Access



Timeliness



Calibration



Data Integration for Stock Assessments



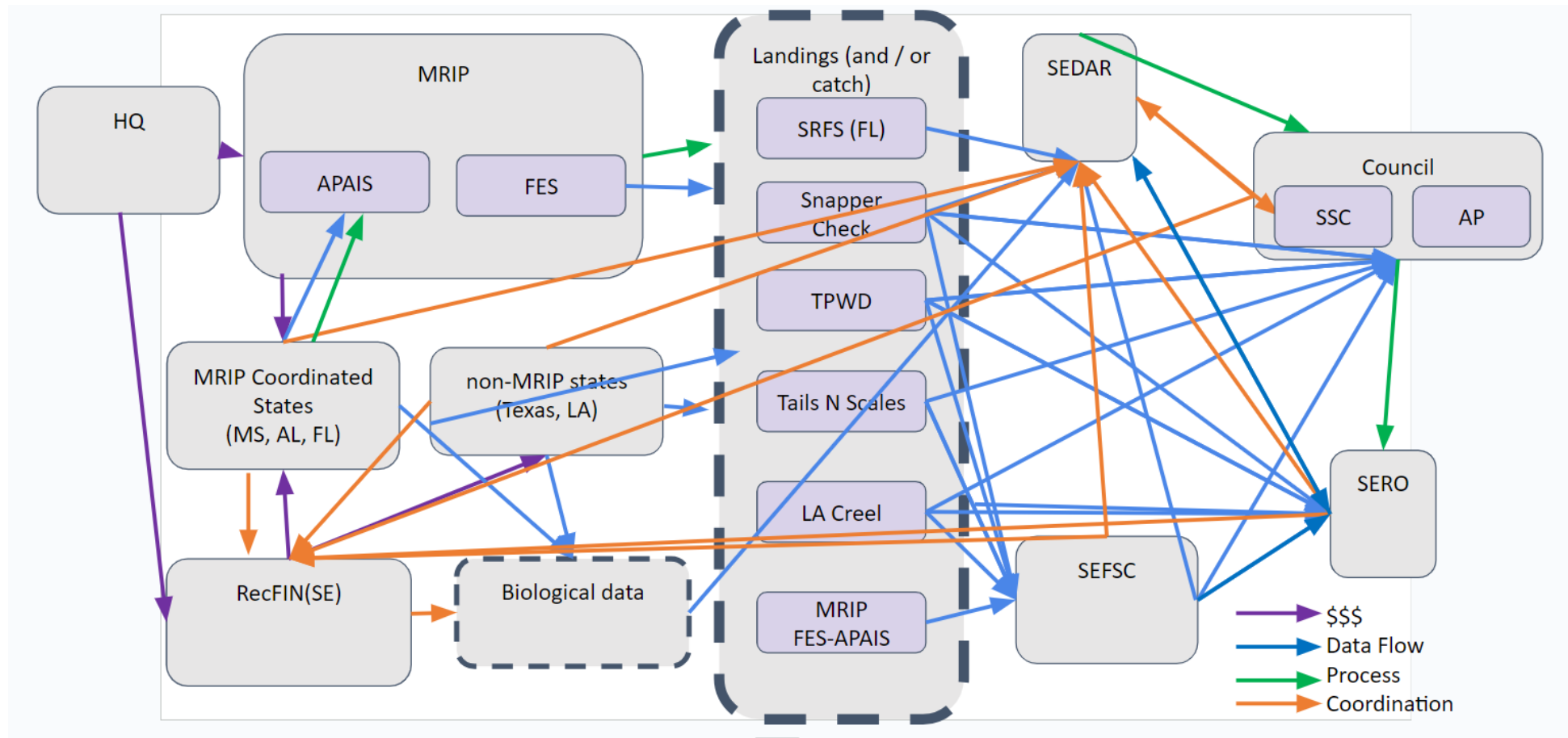
Uncertainty and Precision



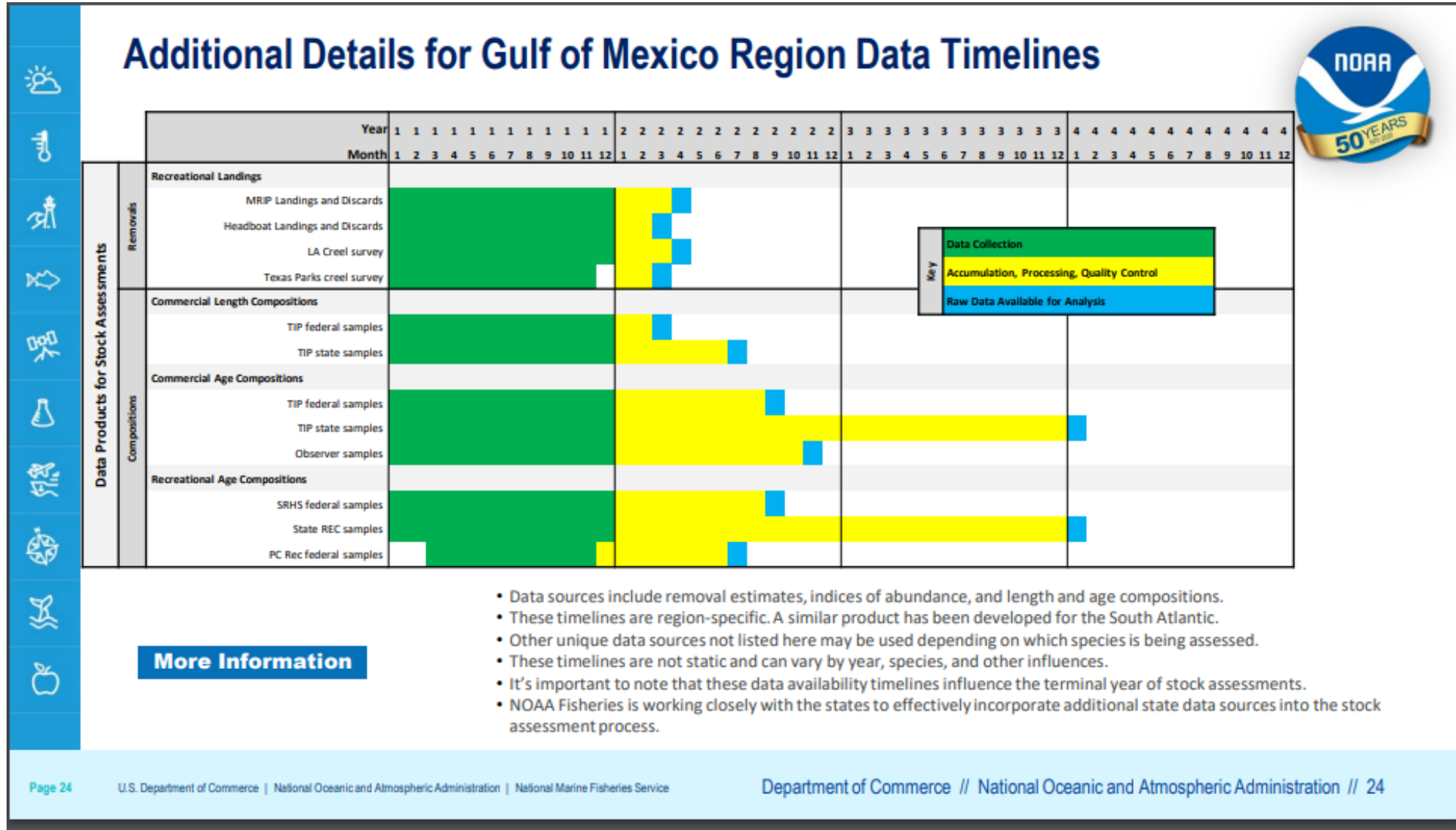
Effort

Data Flow

Gulf Red Snapper State Management

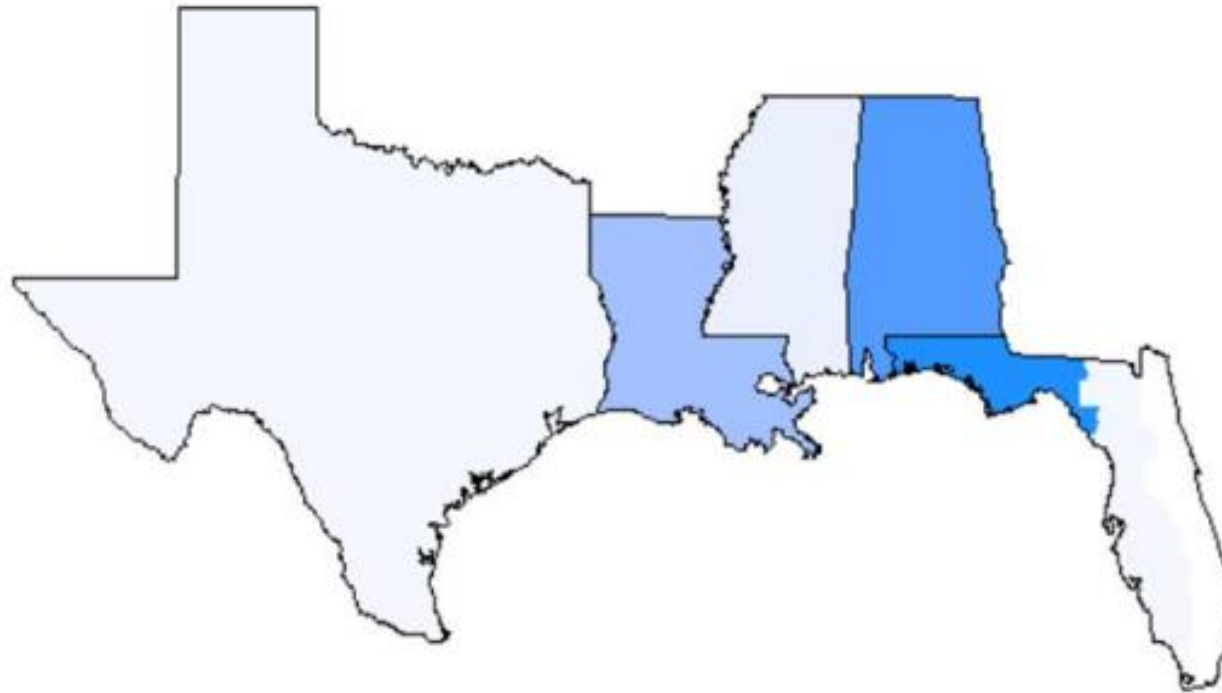


Timeliness



Common currency

General Recreational Landings (1981-2019)
Gulf of Mexico Red Snapper



Potential Issue?

“Angler Trips”

MRIP ≠ SRHS ≠ LA Creel ≠ TPWD



All computed differently.

NOAA FISHERIES

Total AB1
(Millions Fish)

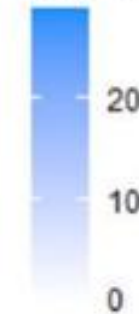
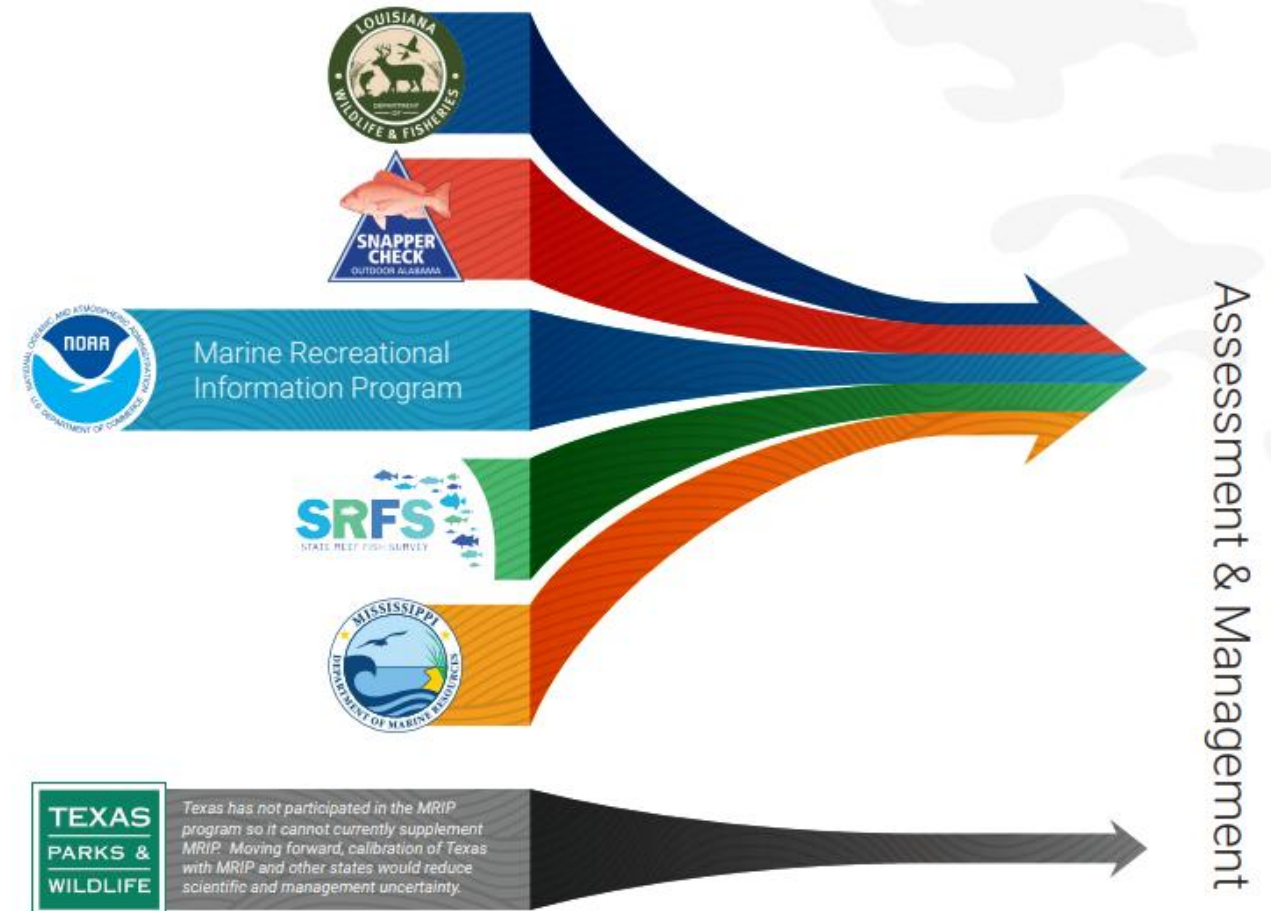


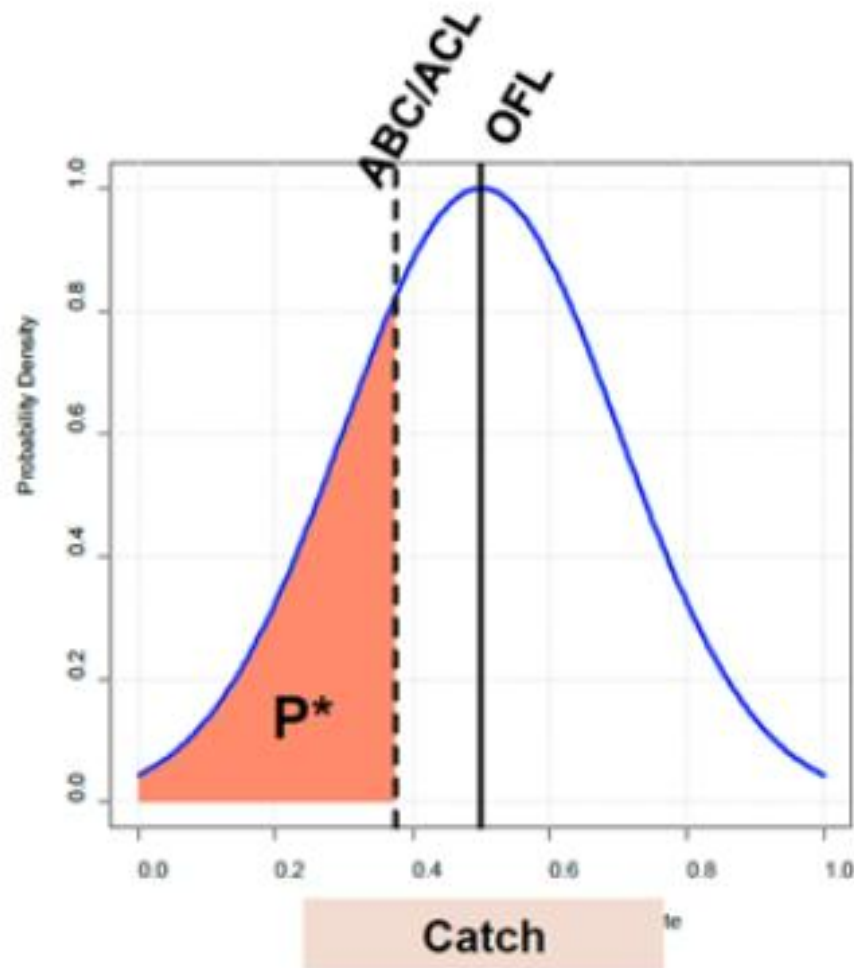
Figure 4. Distribution of general recreational landings (AB1) for Gulf of Mexico Red Snapper across all years (1981-2019) and in millions of fish (MRIP, TPWD, LA Creel).

Integrating new survey data

Gulf Red Snapper State Management

- Integration has yet to be defined – needs to be defined
- Units impact everything
- Initial allocation done in uncalibrated units
- Different methodologies carried out for each state
- Always new – always changing
- Solutions focused on replacing data, not integrating data, which causes data loss





Uncertainty is directly tied to legal requirements under MSA.

Data collection and stock assessment assumptions pertaining to recreational data have direct impacts to catch levels.

Uncertainty in recreational catch data is often constrained in stock assessments.

The primary challenge for in-season management is constraining effort, not uncertainty.

Red Grouper

Red Grouper									
Year	Fishing Year	Total Reported	Units	ACT	ACT %	ACL	ACL %	Closure Date	Data Source
2023		2,525,327		1,840,000	137.2	2,020,000	125.0	7/21/23	MRIP-FES
2022		2,719,962		1,840,000	147.8	2,020,000	134.7	8/30/22	MRIP-FES
2021		1,717,615		920,000	186.7	1,000,000	171.8	9/15/21	MRIP
2020		775,929		920,000	84.3	1,000,000	77.6		MRIP
2019		764,985		920,000	83.2	1,000,000	76.5		MRIP
2018		872,045		2,370,001	36.8	2,580,001	33.8		MRIP

Need reliable, standardized, accurate, precise,
and timely data to meet different needs

Stock Assessment

Landings (mortality)
Discards (mortality)
Indices of abundance
Biology

(every 3-5 years)

Management

Season forecasts
Annual catch limits monitoring
Allocation

(weekly-annual)

Recreational Management Systemic Challenges



Calibration – Units Matter



Transparency



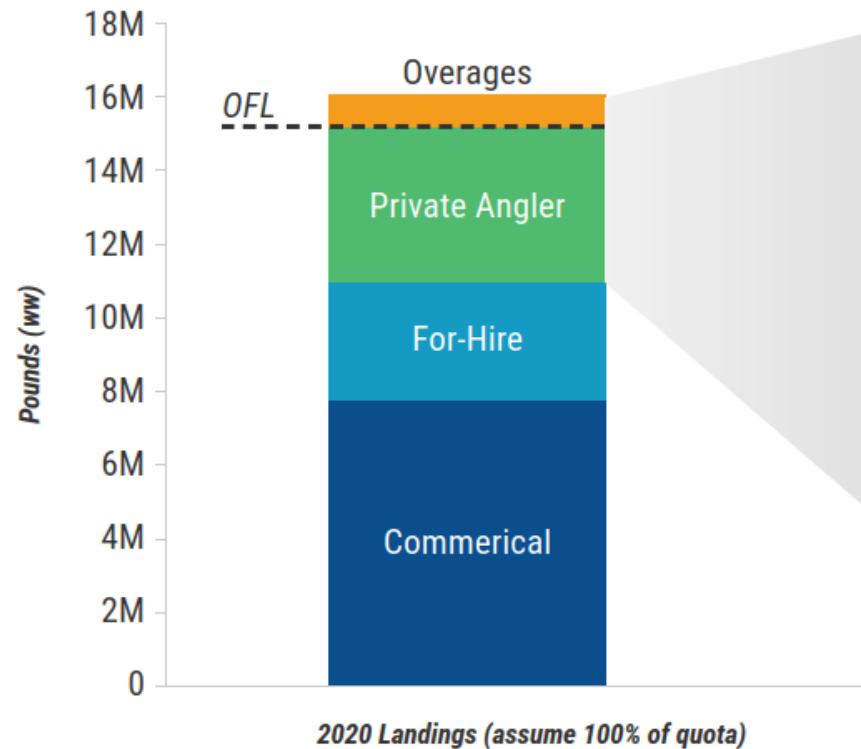
Public Perception



Politicization

Without calibration overfishing occurred.

Private angler landings from each state were not calibrated. When calibrated, landings data indicate overages in some states.



Despite underages by other sectors, overages from lack of calibration are still high enough to cause 2019 landings to exceed the OFL.

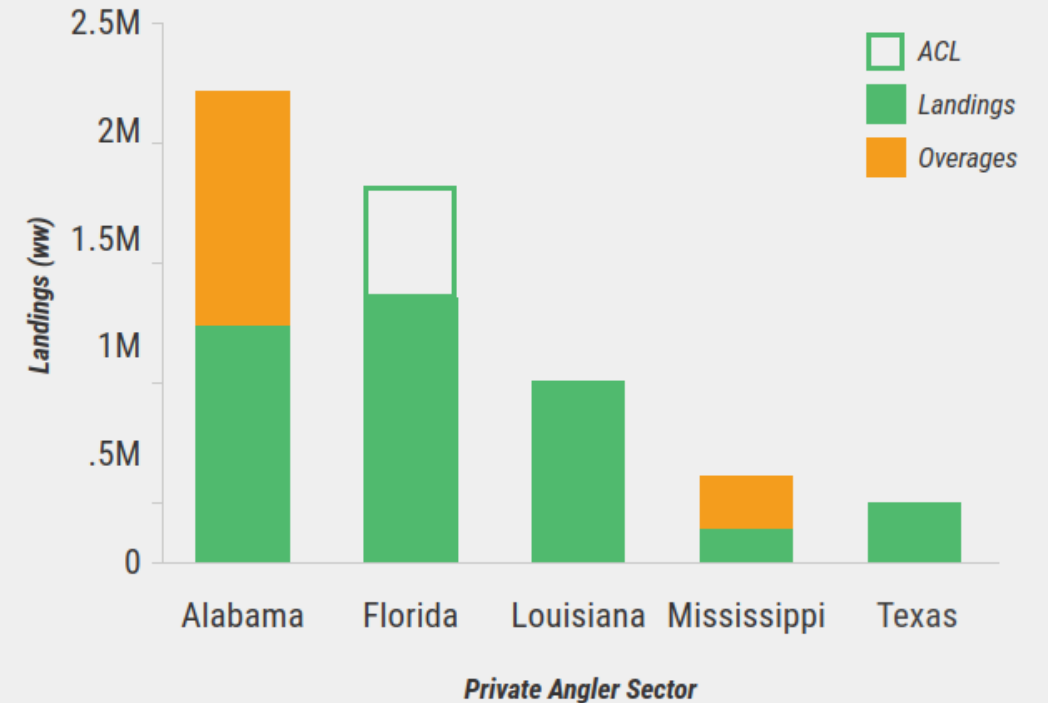
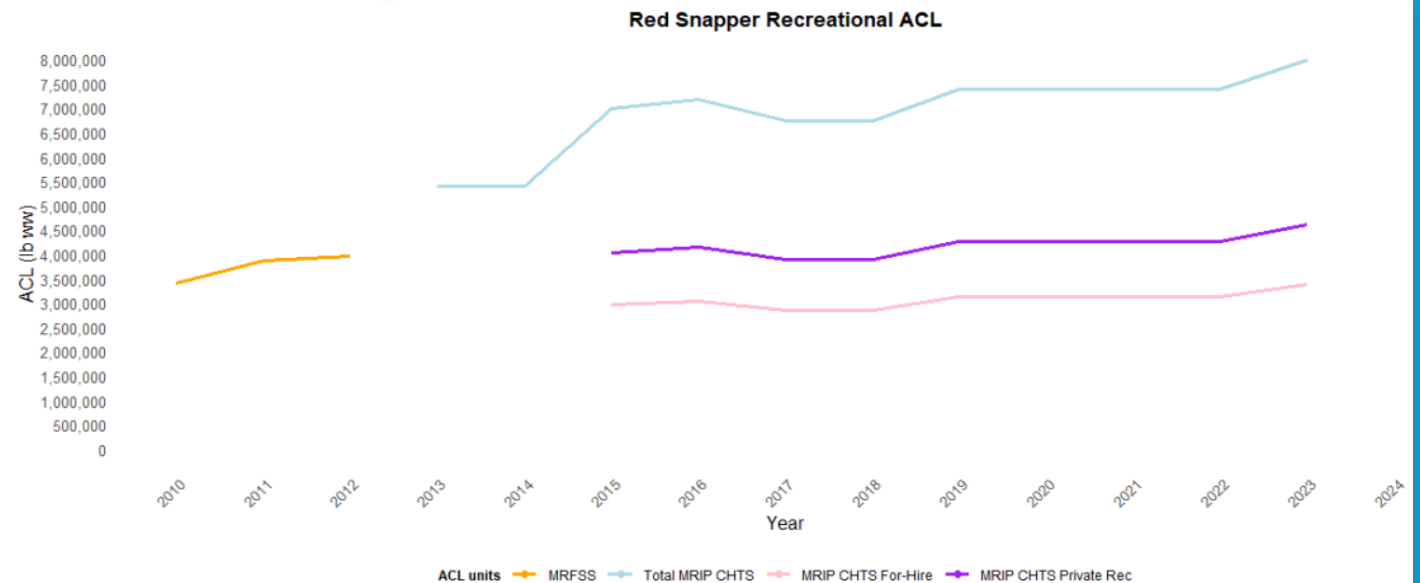


Figure 1: The calibrated landings for states are based on the calibration ratios passed by the SSC on August 11, 2020.

Transparency: Where are the data?

Piecemeal approach to displaying landings:

1. Landings without comparisons to catch limits
2. Inconsistent reporting of error
3. Cultural acceptance of mixing and matching units



Gulf of Mexico Red Snapper Private and State Charter Recreational Landings from State Survey Programs

The following landings are based on state survey program estimates as reported to NOAA Fisheries by each Gulf state. All landings are in pounds whole weight

Year	Texas	Louisiana	Mississippi	Alabama	West Florida
2018	254,970	736,714	131,914	986,298	2,007,049
2019	307,105	848,340	150,279	1,132,004	1,330,923
2020	229,725	777,259	142,044	1,106,679	1,512,387
2021	211,373	823,176	143,043	937,280	2,162,029
2022	158,452	801,911	129,057	423,851	1,605,799
2023	267,721	864,653	80,675	596,083	2,204,136

Source: https://www.fisheries.noaa.gov/s3/2025-01/Gulf_red_snap_Private_landings_thru23_Jan25update.pdf

Source: Presentation to the Gulf Recreational Working Group January 2025.

<https://gulfcouncil.org/meetings/january-2025-recreational-initiative-working-group-meeting/>

Public Perception

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RECREATIONAL FISHING DATA

Fishing Effort Survey Research and Improvements

This page outlines our previous and ongoing research on our Fishing Effort Survey. The FES collects private recreational fishing trip information to estimate recreational fishing effort. The FES is administered from Maine to Mississippi and in Hawaii.

New England/Mid-Atlantic, Pacific Islands, Southeast

On This Page

[Fishing Effort Survey Path Forward](#)[Why We Made the Change to a Mail Survey From a Telephone Survey](#)[Pilot Studies and Peer Review](#)[Transition from the Telephone Survey to Mail Survey](#)[Implications from the FES Transition](#)[More Information](#)

Fishing Effort Survey Path Forward

- We are conducting a [large-scale study](#) throughout 2024 to gain a clearer understanding of the differences in respondent recall and resulting effort estimates between the current design and a revised design (based on results from prior studies)
 - "[Evaluating Measurement Error in the MRIP Fishing Effort Survey](#)" is one of several studies NOAA Fisheries conducted to evaluate potential sources of bias in the FES as part of our continuous improvement process. This report was published in August 2023.
- The revised design changes the order of two fishing effort questions and also increases the administration of the survey from every two months to monthly
- Monthly sampling provides the flexibility to produce more frequent estimates, which is a priority of our regional partners. A shorter respondent recall period may also minimize reporting errors.
- It's important to determine through this study the combined impacts on reporting errors of more frequent sampling with changing the order of questions
- [NOAA Fisheries' guidance to fisheries managers and stock assessors who currently use FES data](#) is to continue using existing FES data until the follow-up study has been completed, the new design peer reviewed, and the historical estimates have been calibrated. We recognize there are

Source: <https://www.fisheries.noaa.gov/recreational-fishing-data/fishing-effort-survey-research-and-improvements>



Politicization

- Red Snapper is one of the most iconic stocks in the Southeast.
 - Processes have become overly politicized.
 - Congress has supported many initiatives to improve data collection but has also considered limitations of data use which could have impacts the existing standards.
-

Example: Uncertainty in data

Estimate Status	Year	Fishing Year	Fishing Area	Cumulative Through	PSE	Does Angler Trips Meet MRIP Standard	Is Angler Trips Significantly Different From 0	Angler Trips	Angler Trips Lower 95% Confidence Limit	Angler Trips Upper 95% Confidence Limit
FINAL	2020	CALENDAR YEAR (JAN 1 - DEC 31)	OCEAN (<= 3 MI)	WAVE 1	64.2	NO	NO	25,895	0	58,479
FINAL	2020	CALENDAR YEAR (JAN 1 - DEC 31)	OCEAN (> 3 MI)	WAVE 1	78.6	NO	NO	18,829	0	47,835
FINAL	2020	CALENDAR YEAR (JAN 1 - DEC 31)	OCEAN (<= 10 MI)	WAVE 1	28.6	YES	YES	948,218	416,685	1,479,751
FINAL	2020	CALENDAR YEAR (JAN 1 - DEC 31)	OCEAN (> 10 MI)	WAVE 1	37.8	CAUTION	YES	273,867	70,964	476,770
FINAL	2020	CALENDAR YEAR (JAN 1 - DEC 31)	INLAND	WAVE 1	20	YES	YES	1,919,746	1,167,205	2,672,286
FINAL	2021	CALENDAR YEAR (JAN 1 - DEC 31)	OCEAN (<= 3 MI)	WAVE 1	47.1	CAUTION	YES	11,742	902	22,581
FINAL	2021	CALENDAR YEAR (JAN 1 - DEC 31)	OCEAN (> 3 MI)	WAVE 1	61.5	NO	NO	11,104	0	24,489

[MRIP QUERY OUTPUT](#)

Standard 7.2.2 is critical!

The relative standard error, or RSE, is a measure of precision provided with all estimates. RSEs accompanying estimates have the following color codes:

- **Green:** RSEs less than 30
- **Yellow:** RSEs 30 to 50
- **Red:** RSEs over 50.

Users should view estimates with increasing caution as RSEs increase beyond 30. Large RSEs (those above 50) indicate high variability around the estimate and therefore low precision.

Existing Recreational Fishing Survey and Data Standards solve many systemic challenges

*Applicability

	Data Flow and Access	Timeliness	Calibration	Uncertainty/Precision	Transparency
1. Survey Concepts and Justification					Documentation
2. Survey Design	Describes processes	Describes processes			Documentation
3. Data Quality		Describes processes		Certification – changes to data collection programs	Documentation
4. Transition Planning			Prevents veiled overfishing	Transition Plan – adapts to changes to data collection programs	Documentation: Calibration model/ratios
5. Review Process				Improvements can reduce uncertainty	Documentation
6. Process Improvements					Documentation
7. Access and Information Management	Defines data elements	Standard 7.2.1 defines timeliness*		Standard 7.2.2 defines PSEs	Documentation <u>DATA</u>

MRIP data standards do help overcome those challenges.

Adherence to standards remains a challenge.

Adherence: Gulf Surveys Checklist (Standards 1-5)

		Supplemental Survey					Role of GulfFIN Centralized Warehouse
Standard	Detail	AL – Snapper Check	FL – SRFS	LA – LA Creel	MS – Tails n’ Scales	TX – TX Creel	
Standard 1: Survey Concepts and Justification	1.1: Planning	Met - 11/2/2021	Met – 10/5/2018	Met – 11/2/21	In progress - 9/28/23	Does not exist	A centralized warehouse could support a clearinghouse for survey documentation and Gulf States could partner in ensuring adherence to standards.
	1.2: Paperwork Reduction Act Compliance	Each state varies with respect to this standard according to state regulations					
Standard 2: Survey Design	2.1: Sampling	Met - 11/2/2021	Met – 11/2/21	Met – 11/2/21	In progress - 9/28/23		
	2.2: Data Collection						
	2.3: Estimation						
	2.4: Evaluation						
Standard 3: Data Quality	3.1: Processing, Editing, and Quality Control	Included in Certification Packet	Included in Certification Packet	Included in Certification Packet	Included in Certification Packet		
	3.2: Quality Assurance						
Standard 4: Transition Planning Per Policy Directive 04-114-01		Gulf State Transition Plan initially released: October 12, 2022 Gulf Transition Research Plan (September 24, 2024)					Clear identification of transition needs can be used to prioritize funding in both Transition and Implementation Plans.
Standard 5: Review Procedures	5.1: Certification Per Policy Directive 04-114	Conditionally Certified – June 25, 2018	Certified – October 5, 2018	Certified – December 21, 2017	Certified - June 15, 2018	Does not exist	Including meta and micro data and methodologies and formulas will eliminate back and forth of data and methodology exchanges.
	5.2: Annual Reporting	Unknown	Unknown	2022: Met – 3/16/2023 2023: Met – 11/27/2024	Unknown	Unknown	Inclusion of meta and micro data can result in automated performance reporting and possibly eliminate the need for manual reporting.

Adherence: Gulf Surveys Checklist (Standards 5.3-7)

Standard	Detail	Supplemental Survey					Role of GulfFIN Centralized Warehouse
		AL – Snapper Check	FL – SRFS	LA – LA Creel	MS – Tails n’ Scales	TX – TX Creel	
	5.3: Peer Review. Peer-Review Procedures have been implemented for FES/APAIS.	Unknown.	Unknown	Unknown	Unknown	Unknown	Clear identification of areas that do not adhere to standards and can be used to prioritize funding.
Standard 6: Process Improvement	6.1: Process Improvement Plan	Should be included in annual reports.					Clear identification of proposed changes can be used to prioritize funding in both Transition and Implementation Plans.
	6.2: Unplanned Modifications	Should be in annual report (e.g., hurricane reduces sampling). Scale of modifications could trigger re-certification, program is supposed to submit a letter.					
Standard 7: Access and Information Management	7.1: Microdata	Unknown	Unknown	Available online: LA Creel Data Query Louisiana Department of Wildlife and Fisheries	Unknown	Unknown	Can publish data as they become available to support meeting the standard. Convert to consistent data currencies for ACL comparisons
	7.2: Estimates	Unknown	Unknown	Includes PSEs and warnings (Standard 7.2.2)	Unknown		
	7.3: File Formats	Unknown	Unknown	Unknown	Unknown		
	7.4: Attribute Values and Formats	Unknown	Unknown	Unknown	Unknown		
	7.5: Information Management	Unknown	Unknown	Unknown	Unknown		

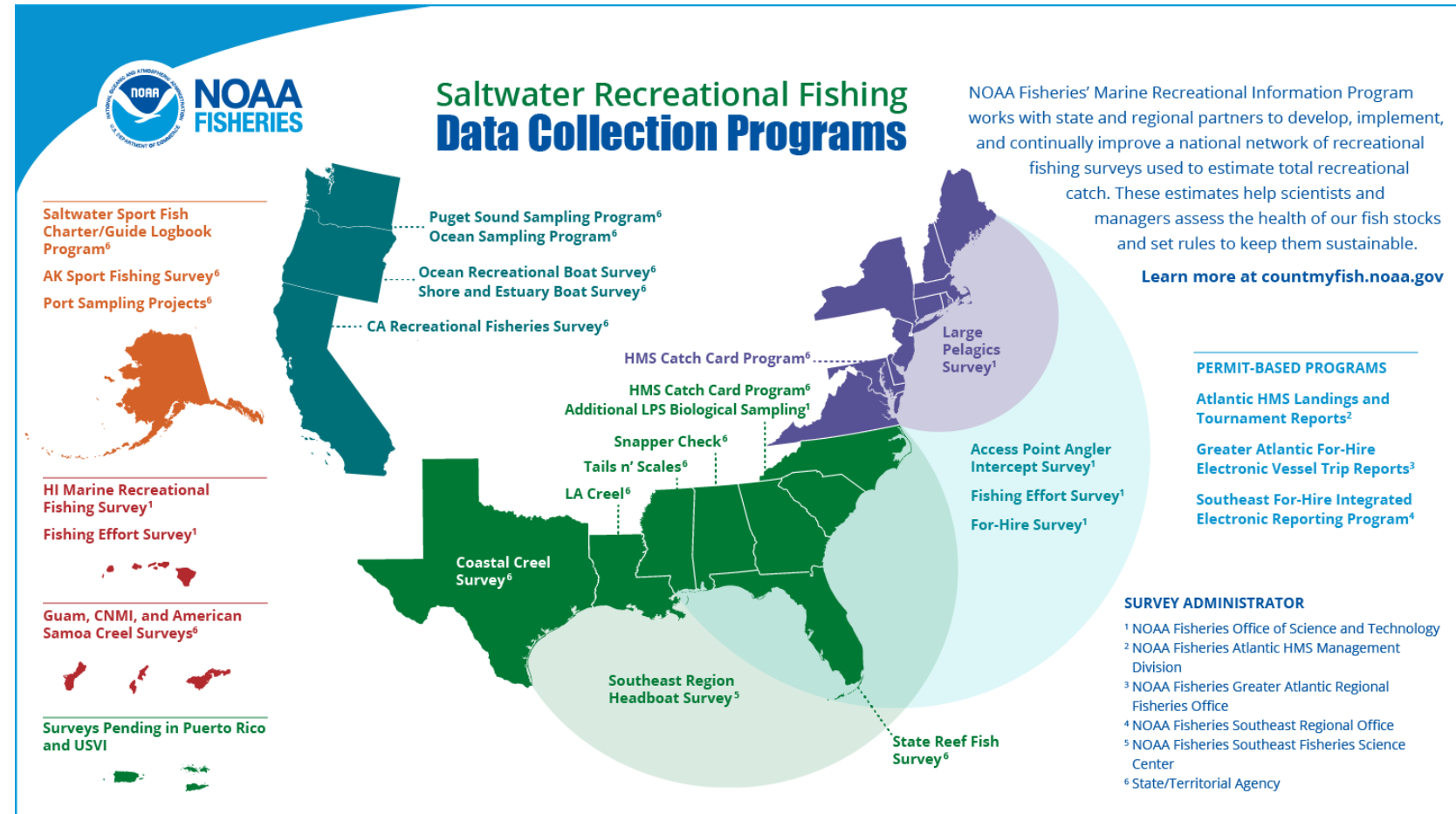
Beyond standards

Data is nested inside a bigger process.

MRIP is a partnership

“NOAA Fisheries’ Marine Recreational Information Program is the state-regional-federal **partnership** that develops, implements, and continually improves a national network of recreational fishing surveys to estimate total recreational catch.”

The pieces are moving, but everything is happening independently; there isn't orchestration among the pieces.





Public focus

How do we improve *data that is collected*?

- MRIP-FES Transition
- State Survey
- IRA funded projects (Effort, Discards)
- Pilot Projects
- Study fleets
- Voluntary Apps

Most critical needs

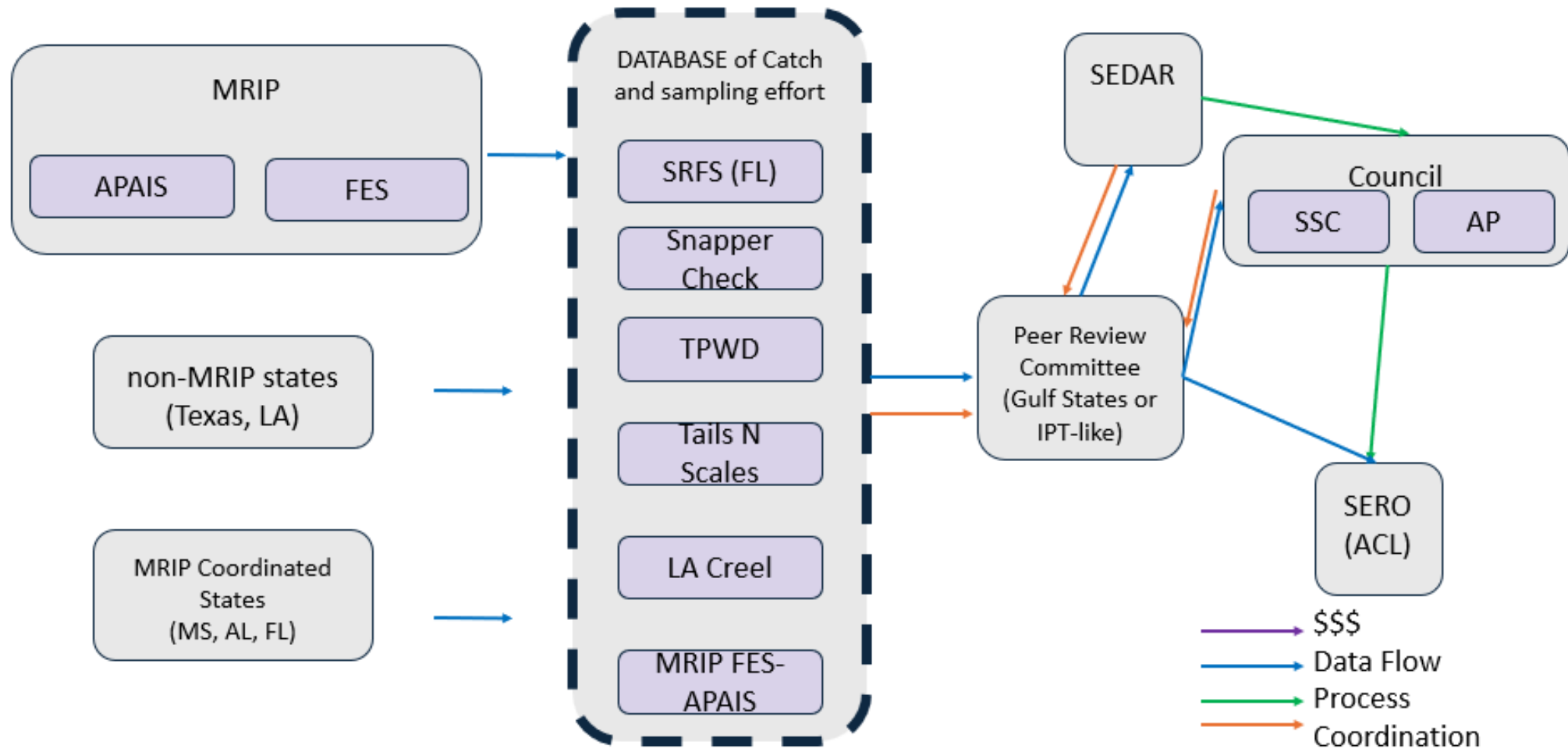
How do we improve *the data collection system*?

- Centralized database
- Integration of the data
- ***Adherence to data collection standards**
- Coordinated and cooperative approach
- Review and adaptation

Standards focus on improving the data that we collect, but that is only part of the problem.

Solution: Data Flow

Gulf Red Snapper State Management





Benefits

Investments in recreational data capacity help deliver benefits to the data collection enterprise and ultimately improve angler satisfaction while ensuring sustainable fisheries.

- Modern Fish Act \$3.5 Million
- Great Red Snapper Count \$10 Million
- IRA Data Collection \$20 Million

Conclusions

- Existing standards are largely sufficient, slight modifications could strengthen standards.
 - Timeliness, expectations, calibration
- Adherence to the standards across data partners should be the focus effort.
- Beyond standards
 - A framework is need to ensure success of standards (integration, central database).
- Looking ahead
 - Non-probability sampling

Thank you

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